

## ELECTRONIC WARFARE ANTENNAS



From countermeasures to electronic attack, Fractal Antenna Systems is at the forefront of electronic warfare.

### Fractal Antenna Technology

A fractal antenna uses fractal geometry, a self-similar complex pattern built from the repetition of a simple shape. The inherent qualities of fractals enable the production of high performance antennas that are 50 to 75 percent smaller than traditional antennas.

Fractal antennas are also reliable and cost-effective. Antenna performance is attained through the geometry of the conductor, rather than with the accumulation of separate components or elements, which increases complexity and potential failure points.

Fractal Antenna Systems provides a variety of products suitable for EW applications, and also works directly with defense and intelligence customers to create customized solutions. From design and production to testing and implementation, Fractal Antenna Systems applies physics, math, design, and advanced tools to develop the most powerful and versatile antennas available.

For more information on our capabilities, please contact us directly at 781-275-2300.

In Electronic Warfare (EW), disrupting communications is a daunting task because of the plethora of frequencies exploited by the enemy. Fractal Antenna Systems provides innovative high-power, wideband antennas that allow defense and intelligence customers to adapt to ever-increasing threats and changing requirements. Compact, versatile, rugged, and field-proven, fractal antenna technology is excellent for EW applications.

Fractal antennas provide superior wideband performance in a small package. The wideband capability of fractal antennas allows for smaller antennas that have up to 200:1 bandwidths, and can handle hundreds of watts of power. Therefore, fewer antennas are required to meet existing and new threats. Plus, fractal antennas are inherently well matched, typically with VSWR less than 3:1. No matching/tuning units are required. Alternative antenna technologies are generally not wideband, but multiband, a compromise that restricts future capabilities as enemies expand the frequency ranges at which they operate.

The combination of wide frequency range and small form factor thwarts the ability of the enemy to understand the capability of fractal antennas. Compact and rugged enough to be mounted or embedded in a variety of locations, fractal antennas can be used for vehicle, marine, airborne, fixed, or personnel-worn applications.

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## ELECTRONIC WARFARE

### UAB™ Antenna

Extreme wideband and omnidirectional performance with superior gain. Operates with or without a ground plane over a 25:1 frequency range, from VHF to microwave. Compact form factor packaged in a 7.7 inch-diameter, 10 inch-high radome weighing 4.8 pounds. Up to 250W input power. VSWR less than 2:1.

### UAD™ Antenna

Extreme wideband performance with up to 250W power handling and superior gain. Operates over UHF to microwave. Low profile of 5.7 inches and easily concealable in a 7.7 inch-diameter radome. VSWR less than 2:1.

### UGS™ Antenna

Single antenna integrated with an unattended ground sensor (UGS) providing superior omnidirectional long-range performance. Operates over high HF through VHF. Innovative raised phase center design minimizes ground losses, while improving radiation pattern and launch angle. Easily deployed in a compact, lightweight package measuring 2.5 inches in diameter and 3 feet in height.

### RFsabre™

With outstanding lower frequency gain and less than 3:1 VSWR over a very wide frequency range, the RFsabre antenna delivers great performance in a distinctly compact form factor. The vehicle-mounted version can survive impacts with solid objects at speeds up to 25 MPH. Geared for security, communications, signal gathering, and high power transmit applications. New hanging or tripod mounted versions available.

## ABOUT FRACTAL ANTENNA SYSTEMS

Fractal Antenna Systems was founded by Dr. Nathan Cohen, and supplies products for the world's most demanding wireless applications. Backed by one international and six U.S. patents, plus numerous patents pending, Fractal Antenna Systems is the recognized pioneer in fractal technology, with extensive research and field experience. Fractal Antenna Systems is a privately held company headquartered in Bedford, Massachusetts, USA.