

STEERABLE ELECTRONIC ATTACK PHASED ARRAY – SEAPA

Precision electronic targeting and engagement for congested environments

Today's battlespace is more complex and congested than ever. Warfighters are competing with threats that are difficult to detect, and these threats sometimes operate in or near friendly airspace where broad spectrum jamming would cause unintended effects.

SRC has developed a surgical RF solution that can target and disrupt hostile systems with precision, while ensuring the safety and continued operation of friendly systems in the airspace and across the electromagnetic spectrum.

The SEAPA system uses configurable beamforming to track and engage multiple targets simultaneously with individual narrow beams. Unlike omni-directional systems, the SEAPA technology provides advanced navigation warfare (NAVWAR) capabilities while actively minimizing unintended impact to non-targeted systems.

APPLICATIONS

SRC's SEAPA system operates in the same frequency bands as the Global Navigation Satellite System (GNSS) and can deliver surgical position, navigation and timing (PNT) disruption, making it ideal for a wide variety of defense operations in congested airspace:

- Air and missile defense
- Counter-UAS
- Critical infrastructure protection

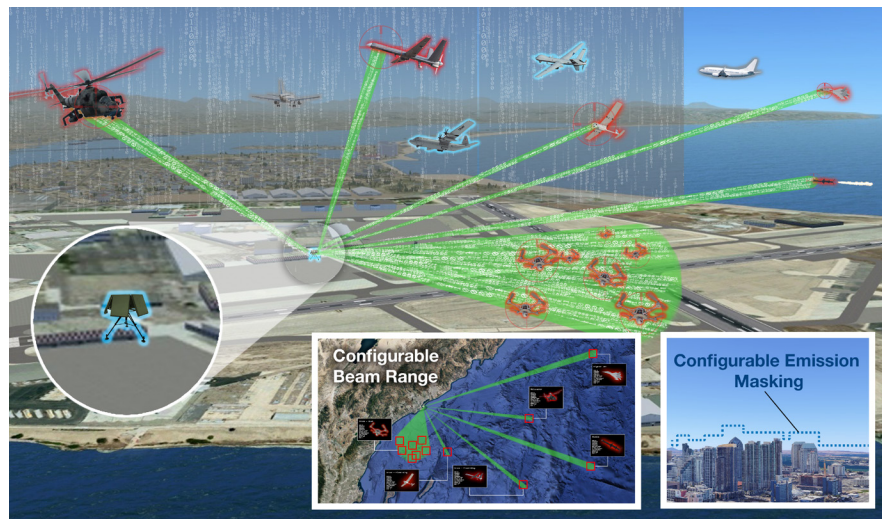
EMISSION MASKING

The SEAPA system is able to predefine digital emission masks, restricting the system from emitting RF in protected locations. This gives the system the ability to operate in designated areas while ensuring beams do not interfere with civilian or non-hostile systems like commercial aircraft.

BEAMFORMING

Using advanced waveform generation, the system is able to control the width and range of individual RF beams. Beams are also electronically steerable in both azimuth and elevation, allowing the system to track targets in flight. The beam width can be narrowed to 20° for precision effects, and widened up to 60° for larger targets, like UAS swarms.

THE SEAPA SYSTEM CAN OPERATE IN CONGESTED AIRSPACE, TARGETING SPECIFIED TARGETS WITH NARROW, SURGICAL RF BEAMS



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BENEFITS

- Precision surgical RF beams affect only intended targets
- Predefined area of operations (AOR) emission masks protect key friendly RF systems from unintended interference
- Can engage targets at both short and long range simultaneously using variable power beams

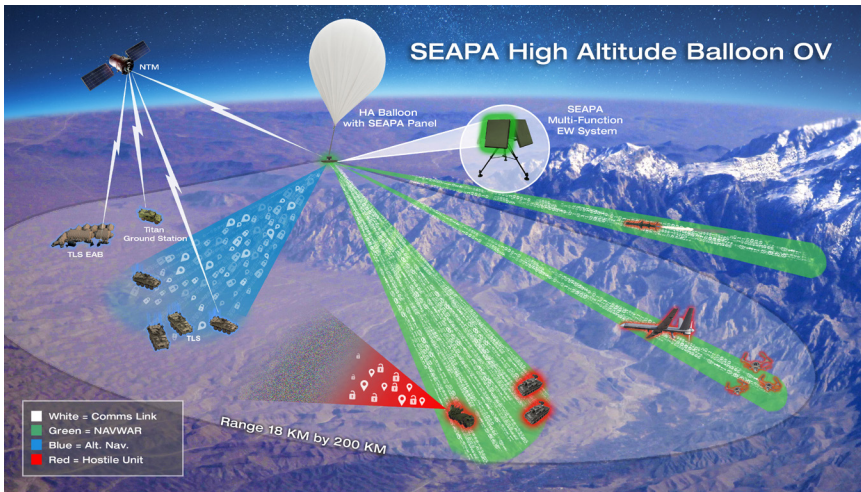
SPECIFICATIONS

- Operational Frequency:
 - L band
 - GNSS bands
- System size:
 - Height: 5 ft 6 in
 - Diameter: 6 ft
- System weight: 462 lbs
- Temperature range: -40°C to +65°C
- Power requirements:
 - Max: 1060W
 - Typical: < 500W

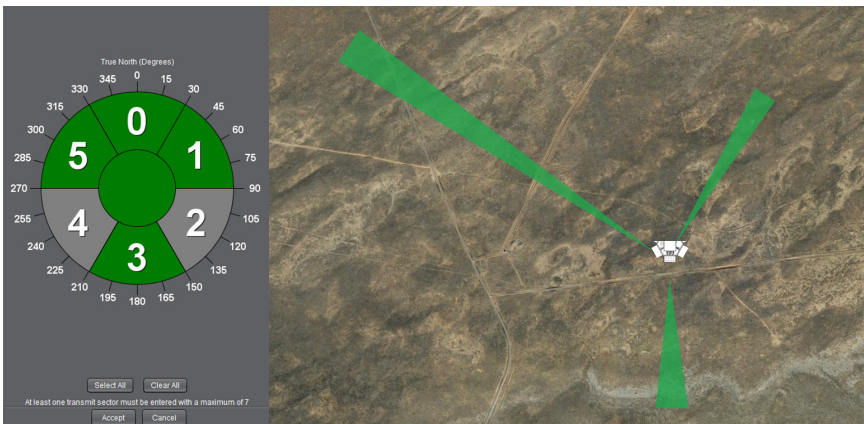
FEATURES

- Electronically steerable beams in azimuth and elevation give 360° full hemispherical coverage
- Variable beam width from 20° to 60°
- Variable beam ranges
- Emission masking prohibits beams from entering restricted airspace
- Phased array antennas surgically engage individual targets with directed RF beams
- Cued by any external air surveillance radar
- Able to attack multiple targets simultaneously
- Low power consumption
- Modular, scalable panel design
- Multiple configurations
 - Fixed site
 - On-the-move
 - Expeditionary
 - Shipboard
- Built-in test

BELOW: A SEAPA panel can be deployed on a High Altitude Balloon. From this vantage point, the SEAPA system can employ offensive NAVWAR techniques against hostile targets, while providing alternative PNT for friendly forces.



BELOW: The SEAPA user interface allows operators to select up to seven individual transmit sectors to precisely control and monitor the system's emissions.



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