COMMON ELECTRONIC ATTACK RECEIVER

CEAR performs **real-time jamming analysis** for true-to-life training against the RF threats of today and tomorrow

SRC has more than 35 years of diverse experience in electronic warfare, ranging from award-winning, ground-based jammers like the CREW Duke, to both the original and more modern Electronic Warfare Integrated Reprogramming Databases (EWIRDB). We lead the EW intelligence production and reprogramming cycle with next-generation tools that assist analysts in data processing, manipulation and visualization. And, we provide mission planning support and threat simulator receivers, otherwise known as electronic attack receivers (EAR), which support airborne training and operations to keep our pilots safe from surface-to-air missile (SAM) attacks.

Since 1998, we have produced over 100 EARs for Air Force and Navy threat simulator programs. The Common Electronic Attack Receiver (CEAR) is the next-generation system in our electronic countermeasure receiver product family.

Common Electronic Attack Receiver
The self-contained CEAR system contains both a signal processor and a wideband, reprogrammable

radar receiver. Providing electronic countermeasure detection for the threat simulator, CEAR processes radar returns, automatically detecting, discriminating and evaluating signals received from the target aircraft. Detected waveforms include range and velocity deception, amplitude modulation, chaff, and noise. It also supports reactive threat simulation, creating a more realistic training environment to better prepare our warfighters for an actual SAM attack.

To further assist with training, CEAR records its output data products for use in post-mission analysis and aircrew feedback.

CEAR IS THE NEXT-GENERATION SYSTEM IN SRC'S ELECTRONIC COUNTERMEASURE RECEIVER PRODUCT FAMILY

COMMON ELECTRONIC ATTACK RECEIVER

Built to Last

CEAR has been built to last. It is compatible with existing threat simulators, such as the Joint Threat Emitter (JTE) and Unmanned Mobile Threat Emitter (UMTE); and is expandable to other simulators like the Miniature-Multiple Threat Emitter System (Mini-MUTES), MUTES and the Threat Radar Emitter Simulator (TRES) / Reactive Threat Receiver (RTR), and the yet-to-be developed systems of tomorrow. CEAR's ruggedized design has been tested against strict U.S. military standards, including:

- MIL-STD-461E, Requirements for the Control of Electromagnetic Interference, Characteristics of Sub-systems and Equipment

- MIL-STD-810G, Test Method Standard for Environmental Engineering Considerations and Laboratory Tests

BENEFITS

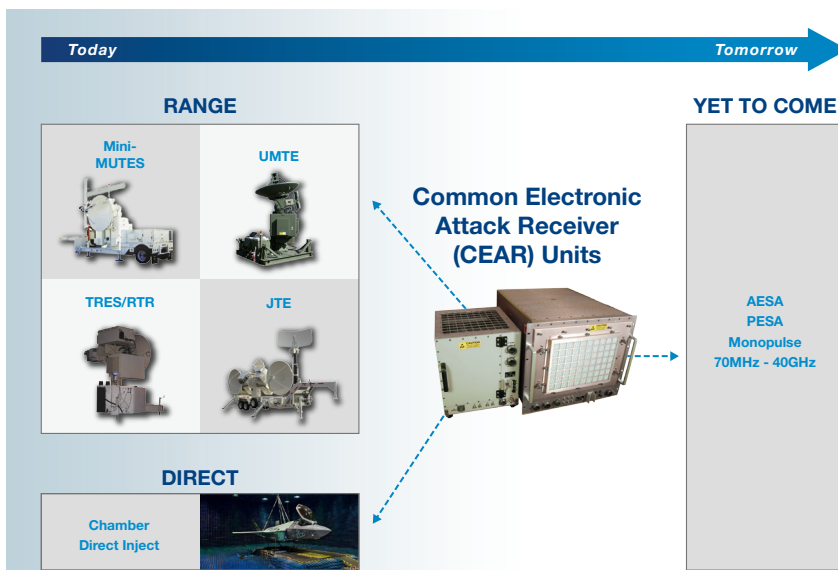- Common design works with multiple simulators, reducing lifecycle and logistics costs

- Designed to support current systems as well as the next-generation of advanced threat simulation platforms

- Works with both range and direct inject configurations

SPECIFICATIONS

- RF Coverage: 2 to 18GHz across 4 channels

- Interface: Ethernet, RS232, RS422

- Instantaneous Signal Bandwidth:
  - 5MHz normal operation
  - 30MHz for noise analysis

- RF Tuning Increments: 100kHz

- Size: Various options available including standard 19" rackmount and custom chassis

- Operating Environment:
  - -20°C to +50°C operating
  - -40°C to +85°C non-operating
  - 0% to 95% humidity, non- condensing
  - Shock and vibration rated

- Power Consumption: <360W

FEATURES

- Multiple real-time electronic counter-countermeasures techniques to better simulate the real threat

- User programmable and configurable via Ethernet

- Flexible field reprogrammable digital signal processor design using field programmable gate arrays

- Doppler, non-coherent and continuous wave processing

- Analog and digital log video output

- Automatic transmitter frequency tuning

- Built-in test for go/no-go status and automatic fault isolation

- Ruggedized, all-weather enclosure for open-air ranges; shock and vibration resistant

Today — Tomorrow

RANGE — **YET TO COME**

Mini-MUTES | UMTE

TRES/RTR | JTE

Common Electronic Attack Receiver (CEAR) Units

AESA PESA Monopulse 70MHz - 40GHz

DIRECT

Chamber Direct Inject

SRC