

ESP - Electronic Surveillance Payload

The ESP is an ESM payload developed for UAV applications. The primary purpose of ESP is to provide the Enemy Electronic Order of Battle (EOB) through emitter identification and location.

Functional Description

The ESP is designed to operate as a stand-alone ESM system integrated with UAV systems and is based on the Saab Avitronics Emitter Location System (ELS) with an improved probability of intercept (POI) for search radars.

The airborne portion of the ESP acquires and analyses radar emissions. Emitter data is transferred via the UAV data link to the ground based Remote Terminal (RET) for the display and control of the system.

The ESP consists of an acquisition and analysis receiver, as well as a controller integrated into a single unit with a nose mounted interferometric antenna array.

Features

- Low mass and volume
- Intra-pulse channel switching for a single pulse DF capability
- High DF accuracy using a combination of phase and amplitude comparison techniques
- Pulse Doppler Radar handling capability



- High sensitivity

ESP provides the following functions

- Acquisition, analysis and precision DF of emissions from search, tracking and fire control radars.
- Accurate bearings and signal parameter measurement of emitters.
- Gathering and recording of detailed emitter data for ESM/ELINT analysis.
- High POI for search radars using the wide open acquisition receiver.
- Onboard mini flash data recorder.

Specifications

Frequency Coverage: 0.5 - 18 GHz

Frequency Measurement Resolution: 1 MHz

Instantaneous Bandwidth: 1 GHz or 100 MHz Narrow Band

Direction Finding: 1° RMS Class above 2 GHz 3.5° RMS @ 700 MHz

Field of View (fully calibrated): AZ 210° (in 3 sectors) EL 70°

Antennas: Phase amplitude matched

Physical Characteristics

Dimensions

ESP Controller: 343 x 127 x 193 mm

Mass

ESP Controller: 10 kg

Antenna Array: 6 kg

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