RAKAS
RADAR JAMMING AND DECEPTION SIMULATOR

TRAINING OF EW OPERATORS UNDER JAMMING/DECEPTION
EFFECTIVE ELECTRONIC ATTACK (EA) IN RADAR AND
COMMUNICATION BANDS
HIGH SENSITIVE ELECTRONIC SUPPORT (ES) IN RADAR AND
COMMUNICATION BANDS
RADAR SIMULATION AND TARGET TRACKING FEATURES
INTEROPERABILITY IN A SINGLE EW SYSTEM FOR BOTH RADAR AND
COMMUNICATION BANDS
RAKAS

RAKAS is a simulator system designed for training of RADAR, Electronic Warfare and Communication operators. General functions of the subsystems (working together in a single shelter) composing the RAKAS system are as follows:

RETSIM, enables the training of RADAR operators on Electronic Counter Measure techniques by applying various predefined or user-programmable Electronic Attack techniques.

RADSIM, enables the training of the target platform operational staff and RADAR ES operators by simulating the electromagnetic radiation of the threat radar system.

RADED is a subsystem which detects radar systems (including modern radars) in the inventory and provides the necessary parameters for the application of Electronic Attack to the radar systems (including modern radars) in the inventory.

RAKAS MEDSIS, enables make detection in communication band, provide and transfer necessary parameters to RAKAS METSIM for the application of Electronic Attack techniques.

RAKAS METSIM is a subsystem which enables the training of communication operators under the jamming and deception conditions and enables the evaluation of the jamming and deception techniques developed for threat / target communication systems.

STTS (Stabilized Target Tracking System) is composed of Stabilized Directional Antenna Platform (SDAP) and Target Tracking System (TV-IR camera and DF antennas) which is installed on SDAP. SDAP is used for steering the TV-IR system, DF Antennas, RADSIM and RETSIM antennas to the target and tracking the target. STTS is also performing auto target tracking ability with the TV and IR cameras.

Main Features

- Radar ES and EA capabilities
- Communications ES and EA capabilities
- Steerable Turret for Mobile Target tracking with Optical Sensor and Radar ES
- Auto target tracking with the RADAR ED system or the cameras
- Jamming during target tracking with Radar EA on a Turret structure
- Two interchangeable operation consoles
- Operation on Naval (helicopter deck) and Land (8x8 land platform) Platforms
- Suitable for tactical environments
- Automatic antenna elevation structure
- Detailed Built in Test
- Operation capability with multifunction system structure in a single shelter
- Pre-Mission Planning Software
- After-Mission Record Analysis Software
- Target and Jamming Technique Libraries

Technical Specifications – Radar EA

- Frequency Range: C to J Bands
- Target Emissions: Pulse, CW, FMCW, chirp, pulse doppler, amplitude coded, phase coded, OOK, LPI
- EA types: RGPO/I, Angle Deception, VGPO/I, False Target, Spot, Barrage and Swept Noise
- Technical Specifications – Radar ES
- Frequency Range: C to J Bands
- DF Accuracy: 3° RMS (@ 2-6 GHz), 2° RMS (@ 6-18 GHz)
- Sensitivity: -60 dBm (WB), -70 dBm (NB)
- Measured Emitter: Frequency, Pulse Width, PRI, ASP, Modulation on Pulse, Polarization

Technical Specifications – Communication EA

- Frequency Range: HF and V/UHF
- Jamming Types: Continuous, Look-Through, Target Triggered
- Jamming Modes: Spot, Sequential, Multiple, Barrage, Reactive
- Jamming Resources: Tone, Step Tone, Triangular, Ramp, Noise, Recorded Voice.
- Deception Capability: Deceiving Talents: Analog deception resources (Microphone, recorded voice, recorded IF)
- Effective jamming against FHSS (Frequency-Hopping Spread spectrum) signals
- Effective jamming against DSSS (Direct Sequence Spread spectrum) signals
- Effective jamming against GNSS signals and satellite hand terminals

Technical Specifications – Communication ES

- Main Features: Spectrum Search, Signal Detection, Spectrum Monitoring, Narrow Band Digital Recording, Narrow Band Signal Analysis
- Frequency Range: HF and V/UHF
- Measured Emitter Parameters: RF, Modulation Type, Signal Amplitude, Bandwidth
- Demodulation: FM, AM, LSB, USB, ISB, CW

Technical Specifications – Radar Simulation

- Frequency Range: C to J Bands
- Scanning Simulation: Circular, Raster, Sector, Helical, TWS, Conical, LockOn, Spiral
- IMOP simulation: Amplitude, frequency, PSK

Environmental Specifications

- Operational Temperature: -30°C / +50°C
- Storage Temperature: -30°C / +60°C
- Humidity: 90% (non-condensing)
- System/Unit Design To Comply With MIL-STD-810F And MIL-STD 461/464 Military Standards For Naval And Land Platforms