EJDERHA - HPEM WITH NLJD

HIGH POWER ELECTROMAGNETICS (HPEM) WITH NON-LINEAR JUNCTION DETECTION (NLJD) SYSTEM

PROTECTION AGAINST IEDs IN ROUTE CLEARANCE OPERATIONS FOR MOVING PATROL TEAMS, VEHICLE CONVOYS OR MANEUVERING UNITS
EXCELLENT DETECTION RANGE AND SENSITIVITY
NEUTRALIZATION OF SUSPECTED ELECTRONICS DEVICES FROM SAFE DISTANCES
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ASELSAN’s Non-Linear Junction Detection (NLJD) System and High Power Electromagnetics (HPEM) System are integrated together to cooperate for combining Detect & Attack operations against circuitry of improvised explosive devices (IEDs) as being the first unit at the front of critical convoys/troops. The system is integrated on a Land Rover Defender vehicle.

ASELSAN’s two state-of-the-art advanced systems, High Power Electromagnetics (HPEM) and Non-Linear Junction Detection (NLJD) System, integrated on a single platform operates fully autonomous via a user-friendly software. This unique software is specially designed for quick operational needs.

Non-Linear Junction Detection (NLJD) Subsystem:

Non-Linear Junction Detection (NLJD) System is used for detection of circuitry of Improvised Explosive Devices (IEDs) in Route Clearance Operations applying semiconductor junction detection technology (via detecting and analyzing harmonics of the reflected signals (harmonic radar)) combining with optimized frequency set according to the IED scenarios, special algorithms and database for target selectivity.

- Detecting the presence of electronics devices regardless of whether the target device is radiating, hard wired or even switched off.
- Detecting semiconductors (non-linear junctions) in electronic circuits by emitting specially selected frequency signals which induce the non-linear junction into emitting harmonic signals at two and three times the fundamental frequency (2nd and 3rd harmonics) via its very high sensitive receiver to pick these harmonic frequencies.
- Utilizing advanced algorithms and large database to provide low false alarm rate.
- Scanning all available operating frequencies and measuring the ambient signal levels to automatically select the optimum frequency in order to provide more accurate analysis.

EJDERHA High Power Electromagnetics (HPEM) Subsystem:

EJDERHA High Power Electromagnetics (HPEM) System generates extremely high-amplitude electromagnetic fields in specific frequencies and directs them to the potential targets such as electronic circuits of Improvised Explosive Devices (IEDs), surveillance systems, computers, IT components, automotive electronics (vehicle engines) with its specially designed directional antenna-reflector set and has the effect on these targets such as suppression, predetonation, resetting the control system, durable blocking, stopping the operation.

EJDERHA High Power Electromagnetics (HPEM) System consisting of a high power DC charger, a Marx Generator, an antenna and a reflector. EJDERHA HPEM System generates high-frequency high-power electromagnetic waves by releasing instantaneous (in nsecs) high energy pulses.

Main Features:

- Fully autonomous cooperation
- Easy-to-use software designed for quick operational needs with complete control capability
- Excellent detection range with very high sensitivity
- Specially designed directional antennas
- Advanced discrimination algorithms and large database minimizes false alarms
- Automatic power control provide more accurate analysis
- Automatic frequency selection capability
- Frequency hopping capability
- Continuous Wave (CW) transmission removes the risk of missing a target
- Neutralization from safe distances
- Advanced BIT (Built-in-Test) capability

Technical Specifications:

- Frequency Range : Customized according customer requirements and scenarios
- Output Power : Customized according customer requirements and scenarios
- Power Control : Manual or Auto
- Military Standards (MIL-STD-810G)