

Description of the Application

By the instant application, 4-D Security Solutions, Inc. ("Applicant") is seeking Commission authorization to establish a new experimental license.

Specifically, Applicant proposes to establish the proposed fixed radar facilities as described in the application in South Plainfield, New Jersey and Burlington, Wisconsin. It should be noted that Applicant is a United States security system integration and development corporation, and the proposed facilities will be utilized to test a suite of equipment.

IAI/ELTA's EL/M-2129 and EL/M-2105 surveillance radars will be installed at Applicant's facilities in New Jersey and Wisconsin to experiment and develop a Surveillance Unit ("SU") that will operate the above-mentioned radars at the quick halt. The objective is to develop radar equipment which would protect the borders of any given country against the type of terrorist attack which was recently experienced in Mumbai, India. The facilities will be experimental in nature and will be intended to develop radar homeland security systems providing protection for sensitive installations, borders and coastline. SU works as a standalone command and control subsystem, or as a remote command and control subsystem to a stationary command and control system deployed elsewhere. This unit will provide operators critical information of potential targets of interest within view of a selected area. Graphic display of these potential threats allows the operator to plan a coordinated response to the situation if needed. The EL/M-2129 and EL/M-2105 radars will be tested to operate on an experimental basis for use in the SU operations.

Therefore, Applicant believes that the proposed experimental facilities will allow Applicant to develop radar equipment which will be of a great value to the United States and its allies in preventing terrorist attacks in all terrains and environments - from the desert of the U. S. Southwest to the forest of the Northern Border. Applicant believes that the experimental facilities hold a great promise to contribute to the state of the art to prevent such attacks. Under these circumstances, Applicant respectfully requests that the Commission grant the proposed experimental facilities for a period of five (5) years. Questions regarding these plans should be directed to:

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CTO of 4-D Security Solutions, Inc.
908-822-1075

Or

Mr. Richard Becker
Counsel for 4-D Security Solutions, Inc.
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Ground Surveillance Radar Family ■ ELM-2105



■ DEFENSE & SELF-PROTECTION

General

ELTA Systems' ELM-2105 is a family of tactical Ground Surveillance Radars (GSR) that is an extension of the ELM-2127 radar family, designed to provide 360 degrees coverage with just one rotating radar.

Featuring a high updated rate of targets, the ELM-2105 delivers high probability of target interception and supports the missions of military forces and para-military law enforcement units.

The ELM-2105 lightweight, all-weather, movement detection radar is designed to detect, alert and monitor intruders' movements in protected and selected zones of interest.

This solid state, continuously rotating Low Probability of Interception (LPI) dual-beam radar is rapidly deployed and features low power consumption.

The ELM-2105 radar can be locally or remotely controlled either as a standalone radar or integrated in a larger ground surveillance network.

Features

- Simple installation and fast deployment
- Track While Scan up to more than 200 targets.
- 360° continuous coverage.
- Standalone or integrated with other surveillance systems
- Operates 24/7 in rough terrain and all weather conditions
- Lightweight, portable, carried by one person
- Remote operation by wire or by wireless communications
- Low Probability of Interception (LPI)
- High reliability – full solid-state design
- Events recording (optional)
- Quick and easy training

Ground Surveillance Radar Family ■ ELM-2105



ELM-2105 radar for surveillance vehicle



ELM-2105 on top of a tower

Performance	ELM-2105	ELM-2105ER
Detection Range		
- Walking person:	up to 5000 m	up to 8000 m
- Vehicle:	up to 8000 m	up to 10000 m
Min. detection range:	50m	50m
Min. detected velocity:	1 km/h	1 km/h
Range resolution:	4m, 8m	4m, 8m
Range accuracy:	0.5m	0.5m
Azimuth Beam Width:	10°	7°
Azimuth accuracy:	0.5°	0.5°
Altitude coverage:	10°	8.5°
Sector coverage:	360°	360°
No. of tracked targets: (more on request)	200 by TWS	200 by TWS
Track Update Rate:	4 Sec (average)	5 Sec (average)

Applications

Military and Para-Military

- Border monitoring
- Protection of military camps, bases and sensitive sites
- Ambush or raid as early warning on movements of hostile forces
- Support to border police at international passes: airports, harbors, ground passes

Assets Protection

- Power plants
- Communication centers
- Diamond mines
- Oil fields
- Prisons
- Water reservoirs

Specifications

Frequency:	X Band
Transmitted power:	10W Peak ; 1W Average
Weight:	~25 kg
Dimensions:	350(W) x 600(H) x 360(D)mm
Energy consumption:	~80W
Operating voltage:	20 to 32 VDC
External communications:	LAN
MTBF Calculated:	>5000 hrs

Installation Options

Fixed installation - on a tower, fence, building, pole or on the ground on a tri-pod

Mobile installation - on a stationary vehicle

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MDSR - Movement Detection & Security Radar ■ EL/M-2129

CAPTURE EVERY MOVEMENT



■ DEFENSE & SELF-PROTECTION

General

ELTA's EL/M-2129 is a coherent Pulse Compression, ground-based radar for military, paramilitary and security applications. The radar detects and monitors movements inside areas of interest.

The EL/M-2129 automatically detects moving targets, such as walking persons, vehicles and flying objects (gliders and helicopters) at ranges of up to 30 km.

The EL/M-2129 has two versions:

- 5W transmitted peak power
- 25W transmitted peak power with extended detection ranges

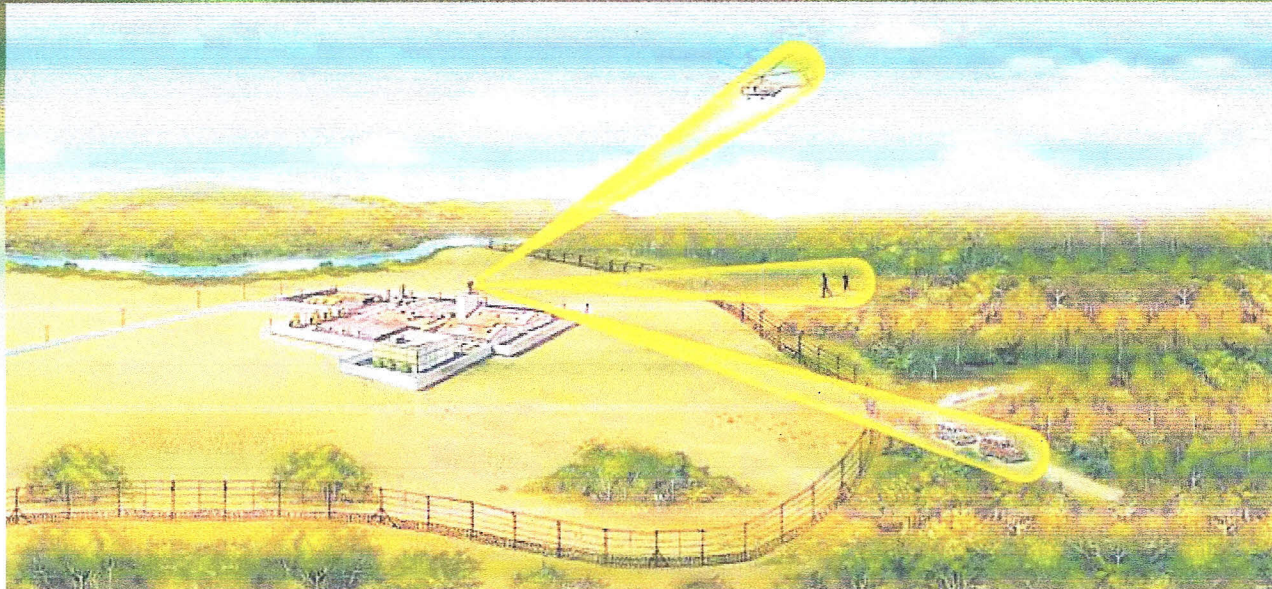
The radar can also support artillery fire correction by detecting shell impact location.

Incorporating ELTA's vast experience in surveillance radars and utilizing modern radar technologies, the EL/M-2129 is lightweight, easily deployed, user-friendly, reliable and cost-effective. The radar operates 24 hours a day, even under poor weather and low visibility conditions.

Features

- Uninterrupted operation under all weather conditions
- Rain rejection algorithm
- Automatic detection
- Lightweight and easily deployed
- Standard power source
- Local and remote operating capabilities
- Friendly HMI based on Windows 2000 / XP
- Definition of areas of interest as alarm zone
- Target rejection inside areas defined as non-interest zones
- Implementation of 2D and 3D background digital maps (optional)

MDSR - Movement Detection & Security Radar ■ EL/M-2129



Applications

- Integrated into multi-sensors security systems, as part of Elta's eBOSS (electronic border security system) products, providing for Borders and Sites overall protection system suits.
- Stand-alone and integrated into systems, providing for Battlefield surveillance, tactical intelligence and Field artillery fire correction.

Performance

	EL/M-2129	
	Tx= 5W	Tx= 25W
Detection Range		
- Walking Person	8 km	10 km
- Helicopter	15 km	16 km
- Light Vehicle	15 km	17 km
- Heavy Vehicle	24 km	30 km
- Artillery shell (155mm)	10 km	12 km
Range Accuracy	25m	25m
Azimuth Accuracy	0.5°	0.5°
Sector Search (Operator Selected)	10Y to 350Y	10Y to 350Y
No. of tracked targets	> 100	> 100

Specifications

Frequency band	: X band
Antenna	: 60 cm x 40 cm ; 31 dB gain
Transmitted peak power (Tx)	: 5W or 25W
Processing	: FFT, CFAR, TWS
Weight	: 30 kg (approx.)
Power consumption	: 90W (@ 18-30 Vdc) For Tx=5W 110W (@ 18-30 Vdc) For Tx=25W



Installation

Three basic installation options are available :

- **Fixed installation**
On a tower or on top of a building, monitoring the area around the site.
- **Portable installation**
The radar is deployed on a tripod, in any location. The deployment procedure is very simple and takes less than 10 minutes
- **Mobile installation**
On a light vehicle, Jeep or Landrover, operating when not in movement.

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