New Active Radar Reflector
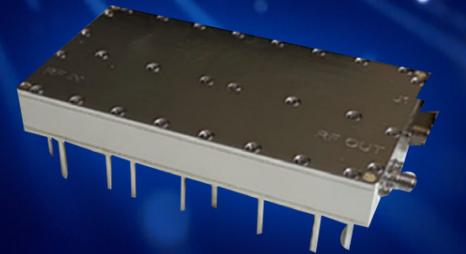
NARR-01

KAREL Advanced Technologies

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The NARR-01 is a broadband Active Radar Reflector operating within the 2–18 GHz frequency band. Designed to amplify and retransmit radar signals with a configurable Radar Cross Section (RCS), it is a game-changing solution for realistic training, deception, and defensive saturation.

Key Capabilities:

- **Realistic Target Simulation:** Mimics authentic aerial threats for live-fire exercises and radar operator training.
- **IADS Activation:** Provokes enemy Integrated Air Defence Systems, drawing their attention and response.
- **Deception & Diversion:** Misleads enemy systems, encouraging them to waste high-value assets on a decoy.
- **Swarm Complexity:** Adds confusion and overwhelms radar systems when deployed in groups.
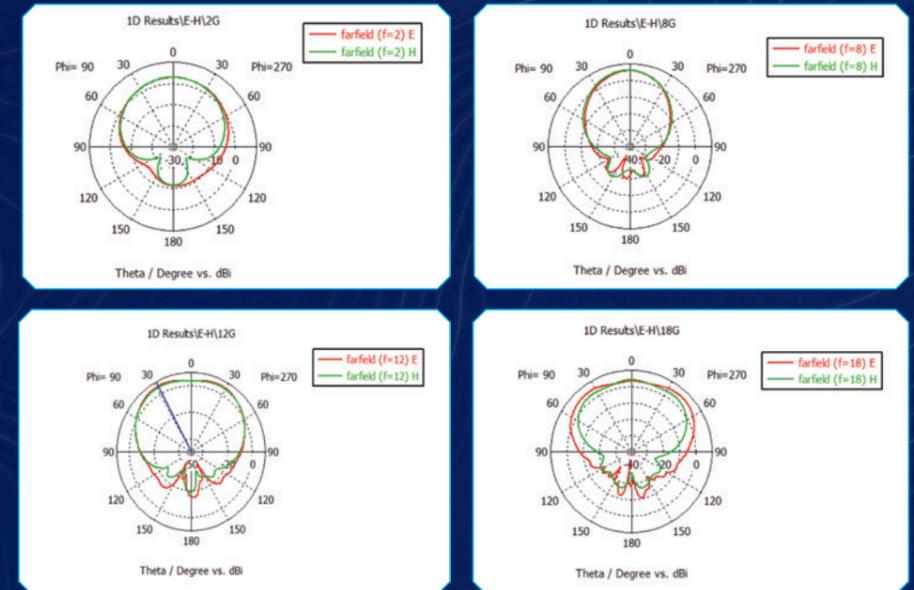
Programmable Intelligence:

Gain levels are adjustable:

- Before flight via serial connection or
- In-flight via RS-232 or HOT NOSE (High/Low) interface from Banshee aircraft.

Performance Visualization:

Antenna patterns for 2,000 MHz, 8,000 MHz, 12,000 MHz and 18,000 MHz are below.
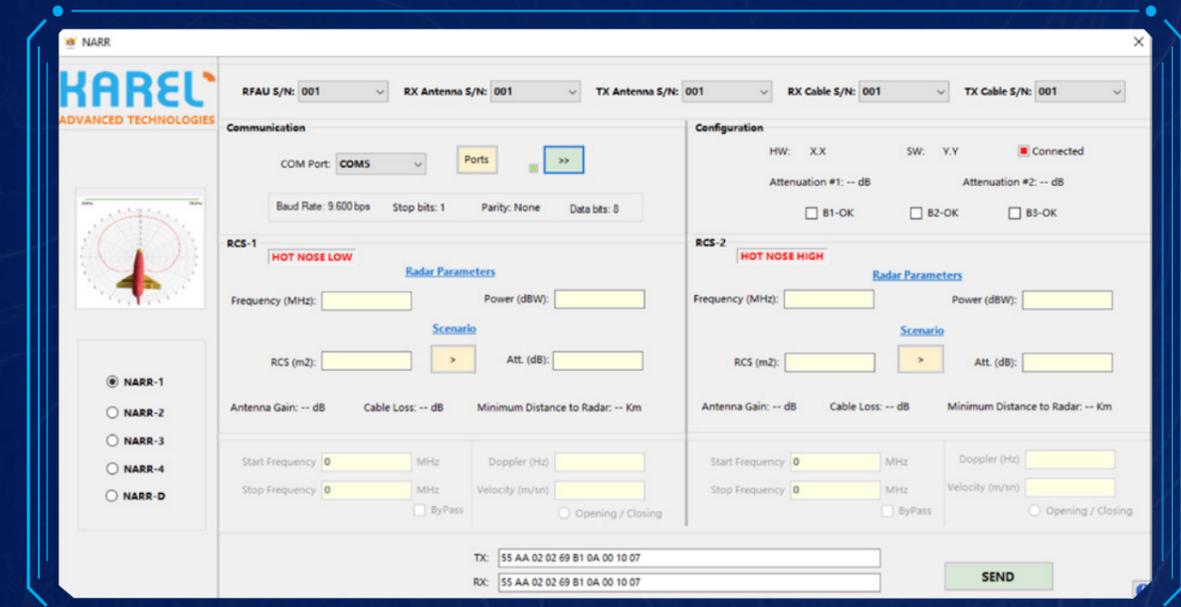

Deployment-Ready:

Optimized for UAVs and Target Drones, the NARR-01 delivers reliability, realism, and tactical disruption in any modern air defense engagement scenario.

Mission Planning Software:

The NARR-01 is equipped with Mission Planning Software that calculates the required attenuation to achieve the desired RCS based on the following parameters:

- Radar operating frequency,
- Radar Effective Radiated Power (ERP),
- Desired RCS,
- Antenna gain, and
- Cable losses

Additionally, it calculates the minimum distance required to approach the radar while maintaining the desired RCS.

TECHNICAL SPECIFICATIONS		
Model		NARR-01
Configuration		RF Amplifier Unit (x1) and Antennae (x2)
Frequency Range		2 – 18 GHz
Gain		> 60 dB
Gain Resolution		1 dB
Output Power		≥ 29 dBm (@ electronic unit output)
Maximum RF Input		15 dBm
Noise Figure		< 10 dB
Polarization		LHCP / RHCP
Scintillation		Yes
Antenna Gain		-1.2 – 5.9 dBi
VSWR		1:1.55 max
Axial Ratio		1.95 dB max
In-flight Programming		Yes
Interface		RS-232, Banshee HOT NOSE
Dimensions	RF Amplifier Unit	96x66x24(mm)
	Antennae	40x71mm
Weight	RF Amplifier Unit	280 grams
	Antennae	130 grams
Operating Voltage		12 – 24 VDC
Power		12 Watts