

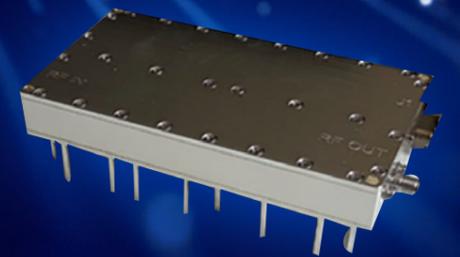
New Active Radar Reflector

NARR-02⁺

KAREL Advanced Technologies

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KAREL Advanced Technologies



The NARR-02 is a broadband Active Radar Reflector that offers the enhanced ability to operate across the entire 2-18 GHz frequency band or within a specifically selected sub-band of 1, 2, or 4 GHz width. 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.

The gain level and the frequency sub-band can be adjusted through a serial communication channel either before or during flight. For pre-flight adjustments, two gain values are configured. During flight, the operator can select one of the two RCS values as the working RCS by changing the HOT NOSE HIGH/LOW setting of Banshee aircraft from the ground.

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.

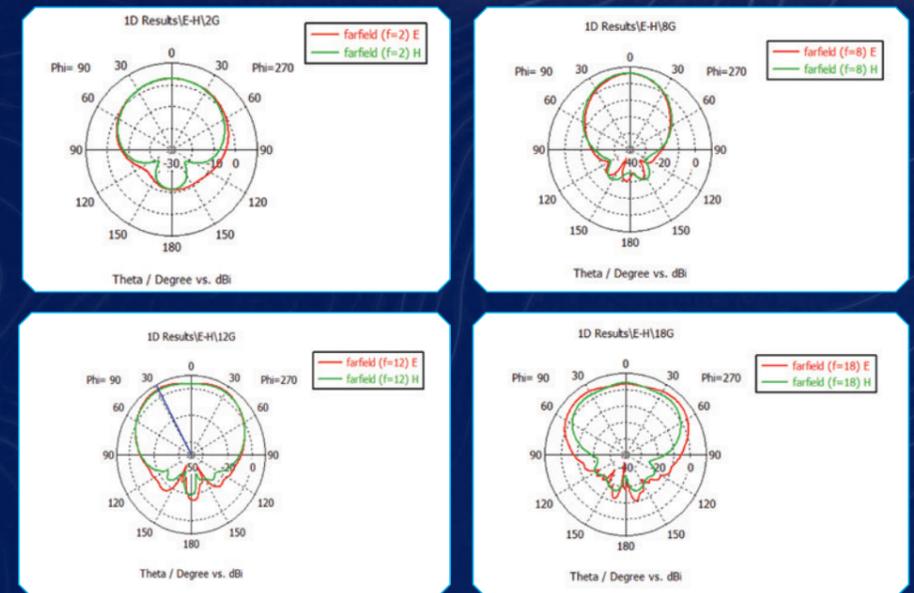
Programmable Intelligence:

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:

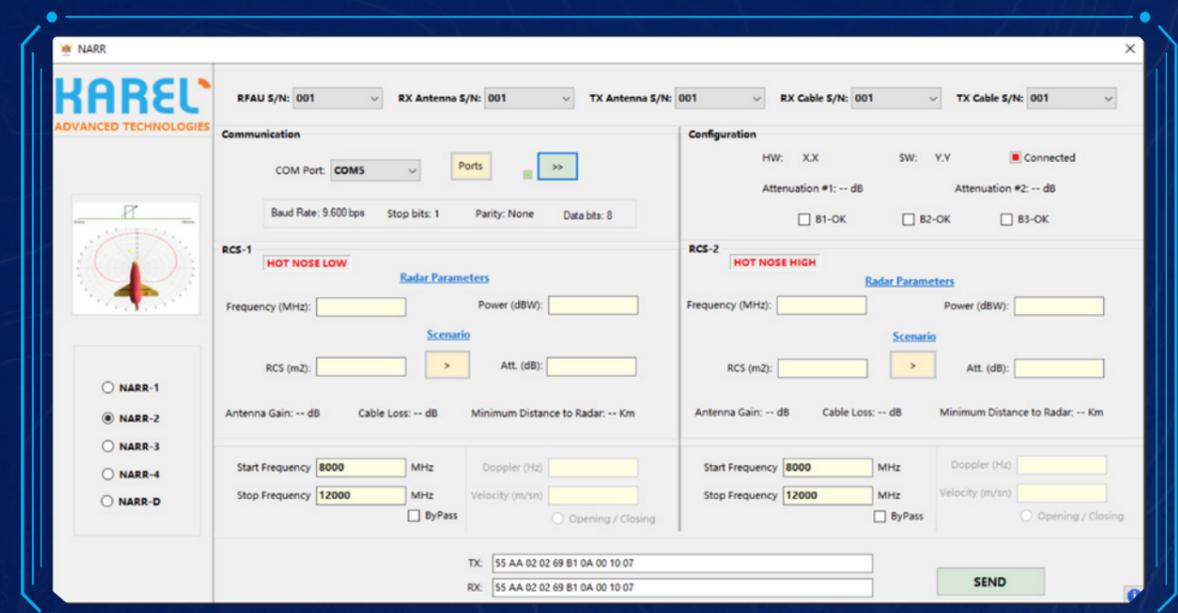
Optimized for UAVs and Target Drones, the NARR-01 delivers reliability, realism, and tactical disruption in any modern air defense engagement scenario.

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-02
Configuration	RF Amplifier Unit (x1) and Antennae (x2)
Frequency Range	2 - 18 GHz
Gain	> 60 dB
Frequency sub-bands	1 GHz, 2 GHz, 4 GHz , 16 GHz
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	<i>RF Amplifier Unit</i> 122x66x22 mm <i>Antennae</i> 40x71mm
Weight	<i>RF Amplifier Unit</i> 300 grams <i>Antennae</i> 130 grams
Operating Voltage	12 - 24 VDC
Power	12 Watts