



Active radar homing emulator

Target augmentation

The active radar homing emulator (ARHE) is a payload designed and produced by QinetiQ Target Systems. When integrated to an aerial target platform, the ARHE allows for a realistic representation of an active homing missile threat to fully exercise a surface- or air-based electronic warfare system or for the activation of warning systems to evaluate the latest automatic defence systems.

ARHE can be remotely controlled to switch ON/OFF and between both sweeping and target acquisition modes by the target operator. Easily integrated into QinetiQ's Banshee target system, it can provide a fast mobile radar source that can be operated at altitudes as low as five metres to simulate sea skimming attacks, or multiple units can be operated simultaneously to provide multiple threat scenarios.

The system operates in X band and can be installed to provide either vertical or horizontal polarisation, and a variety of radar pulse configurations can be programmed into the system to enable operation against a variety of receiving equipment. It is easily tailored to suit individual customer requirements.

Key features

- Versatile
- Suitable for use on land and at sea
- Designed for easy installation to Banshee target
 - readily adapted to other platforms
- Adaptable
- Various radar pulse/polarity options
- Dependable
- Proven technology with a cost-effective radar emulation solution

Specifications

Remote control commands	ON/OFF, sweep and target acquisition modes
Power supply requirements	12 volt DC, 1.0 A (typical)
Operating temperature	-20°C to +50°C
Relative humidity	<80% @ 40°C
Operating frequency	9410MHz ±30MHz (X band)
Peak output power	2.2KW (typical)
Modulation	PON
Antenna polarisation	Vertical or horizontal
Antenna gain	20dBi
Antenna 3dB beam width	15° (typical)
PRF	500 Hz to 10 KHz (adjustable)
Pulse width	0.08 µs

The following RF output parameters can be programmed via a computer interface.

Parameter	Function	Minimum value	Maximum value	Description
A	PWM mode	-	-	Selects input control mode, default = Switch
B	Track PRF	500 Hz	10 KHz	Tracking mode pulse repetition frequency
C	Scan PRF	500 Hz	10 KHz	Scanning mode pulse repetition frequency
D	Scan sweep	50 ms	5 s	Scanning mode total period in seconds
E	Scan active	1 ms	Scan Sweep	Scanning mode transmission active time in seconds
F	Jitter time	0	±50 µs	Maximum random jitter time added to each transmitted pulse

Note: Due to continuous process improvement, specifications are subject to change without notice.

Collaborating with QinetiQ

At QinetiQ we bring organisations and people together to provide innovative solutions to real world problems, creating customer advantage.

Working with our partners and customers, we collaborate widely, working in partnership, listening hard and thinking through what customers need. Building trusted partnerships, we are helping customers anticipate and shape future requirements, adding value and future advantage.

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For further information please contact:

QinetiQ Target Systems
The Boulevard, Orbital Park,
Ashford, Kent TN24 0GA
+44 (0)1233 505600
QTS-Commercial@qinetiq.com
www.QinetiQ.com/targetsystems