



CHAMELEON

RADAR TARGET AND
ECM SIMULATORS



Features

- Enhanced ECM and radar target signal generation
- 500 MHz to 40 GHz coverage
- 10-bit amplitude DRFM technology
- 1.2 GHz bandwidth
- IFM/Log video receiver
- READ/WRITE control to DRFM memory
- Complex radar target modelling, chaff and clutter
- Full GUI Implementation
- Large number of Programmable ECM techniques including:
 - RGPO/I
 - VGPO/I
- Coordinated RGPO/I-VGPO/I
- Noise: Spot Barrage, Swept, Blinking, Velocity, Burst
- Inverse gain
- Range/frequency false targets
- Amplitude modulation
- Range, Velocity and Range/ Velocity Bin Masking
- Synthetic CW and stretch pulse
- Pulse capture and synthesis
- Active and Passive Decoys
- User - defined ECM techniques

Overview

CHAMELEON provides a complete solution for radar target generation and ECM signal generation in one package. Using a multiple channel, multi-DRFM architecture, Chameleon is able to simultaneously generate complex radar targets together with jamming signals.

The simulator features 3D radar target modelling with true multipoint scatterers, clutter, and ECM signal generation using a full software GUI running under Windows. With its PowerPC technology, CHAMELEON provides real-time, high performance signal generation with the ability to create your own synthesized RF outputs using a unique DRFM READ/WRITE interface facility. Emitters can then be programmed directly or periodically switched on and off using an event script. Emitters can be sequenced together to provide a dynamically changing environment over time. Data is stored on the PC hard disc for re-use.

CHAMELEON is ideally suited for hardware-in-the-loop and radiating applications for radar and ECM test, evaluation and training.

Technical Specification

RF Characteristics

- Standard 2 - 18 GHz continuous operation with expansion to 0.5 - 40 GHz
- 1.2 GHz instantaneous bandwidth
- IFM/LOG video threshold receiver
- -50 dBm input sensitivity
- >100 dB output dynamic range
- 0 dBm output power (typical)
- < -50 dBc harmonics/spurious

DRFM Features

- >11 msec memory depth
- <0.5 ns delay resolution
- User read/write to memory
- Maximum Doppler velocity >9,000 m/s
- Doppler resolution = 0.5 Hz
- Programmable system thresholds
- Pulse and CW operation
- Doppler Correction

Target Generation Features

- Full GUI Implementation
- Coherent Doppler targets
- Range extent target models
- 3-D targets with 6 DOF movements
- Multi-scatter target models (up to 24 points)
- 24 point scatterer target models
- JEM line models using user definable I/Q data pairs
- Realistic Chaff mode
- Clutter (main beam, ALR)
- Multiple range targets
- Swerling Fluctuations
- Variable RCS

ECM Features

- Full GUI Implementation
- Large number of Programmable ECM techniques including:
 - RGPO/I
 - VGPO/I
 - Coordinated RGPO/I-VGPO/I
 - Noise: Spot Barrage, Swept, Blinking, Velocity, Burst
 - Inverse gain
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Additional Specifications

- Optional PRI Predictor
- Optional DF Interfaces (Amp/Phase/ Monopulse/Mechanical)
- Remote control interface
- VxWorks™ real-time processing
- Built-in test
- 110-240 VAC operation
- 19" rack mountable
- In-production availability



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ULTRA | Intelligence & Communications

 ultra.group | sales@ultra-us-gbs.com