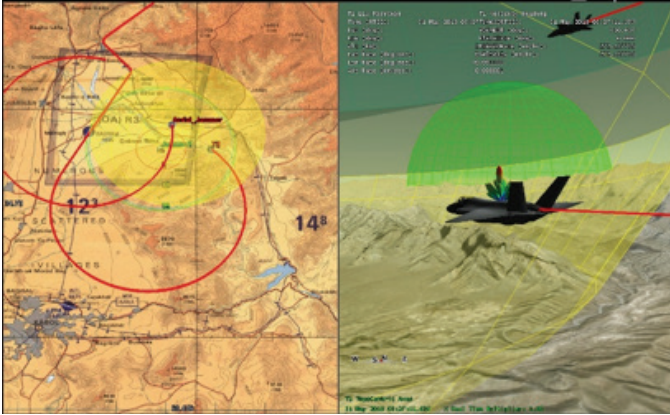


CAST Coherent Jammer

*Multi-Frequency Interference
Generator*

CAST

NAVIGATION



System Features

- Supports up to 8 complete antenna elements.
- Up to eight independently controlled jamming waveform types can be generated for each element.
- Interference Generators can be stationary or dynamic.
- Each jammer can be assigned an initial speed, altitude, and stationary or dynamic trajectory.
- Jammer signals are transmitted commensurate with the GNSS signal assigned to each of the individual antenna elements.
- Each interference source's magnitude and type of modulation are operator selected.
- >130db of Interference Signal Power.
- Each jammer can operate in either real-time mode or in canned mode.
- Broadband Noise signals are optimized to deliver Gaussian amplitude distribution with adjustable power output levels.
- Interference scenarios are 100% repeatable to assure consistent results.
- Coherent Jammer Waveforms are created using CAST proprietary FPGA technology to produce a clean waveform with very low intermodulation noise.

Coherent Jammer System

CAST's Coherent (phase-controlled) Jammer is designed to facilitate and support the testing and integration of both military and commercial, multiple-element anti-jam antenna sub-systems such as Controlled Reception Pattern Antennas (CRPAs), as well as single element Fixed Reception Pattern Antenna (FRPA) systems.

This is accomplished via a very precise, phase-controlled composite RF signal(s) (GNSS and Interference) output that are fed directly to the antenna electronics unit or directly to the anechoic chamber radiators.

The CAST Coherent Jammer system can be fully integrated into any CAST product or retrofitted to a previously fielded CAST system. The CAST Coherent Jammer system is precisely controlled via an Ethernet interface.

The CAST Coherent Jammer system can also be configured to be operated as a stand-alone unit, thus providing a powerful enhancement to existing test and simulation capabilities.

The CAST Coherent Jammer Software allows the user to define and control multiple interference parameters including output signal waveform types, output power level, jammer location, speed, heading and motion. Each of the individual jammers can also be programmed to turn on or off (pop-up) during the course a scenario.

The Interference signals for each of the antenna elements are spatially offset and phase-coherent with respect to the physical dimensions of the antenna element spacing, thus enabling the user to present an accurate and proper signal to the unit(s) under test...even under high dynamic conditions.

CAST COHERENT JAMMER

Multi-Frequency Interference Generator

System Specifications

Output Frequency L1, L2 and L5

Maximum Signal Dynamics

- Velocity 1000 m/s
- Acceleration +/- 150,000 m/s²
- Jerk +/- 150,000 m/s³

Signal Level

- Jammer Signal Range 173dB
- Jammer Signal Level -203dBW to -30dBW

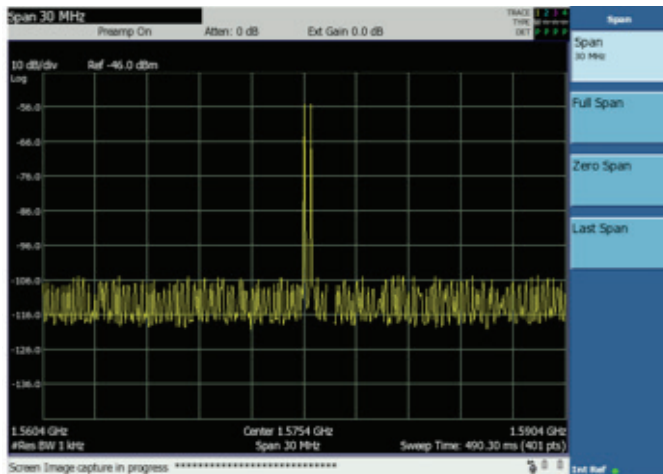
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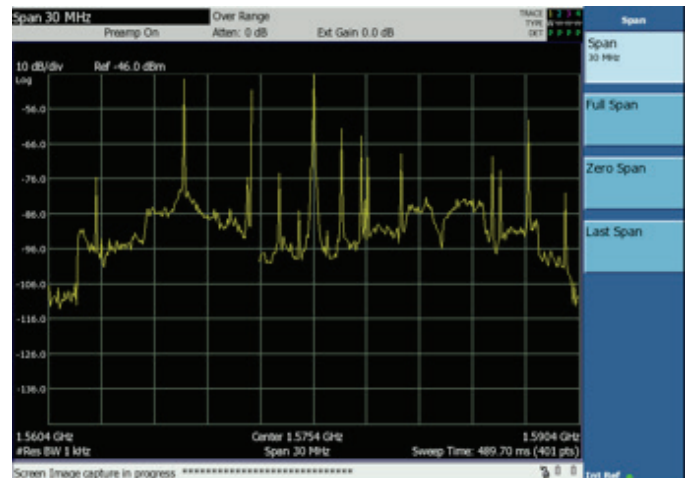
Signal Accuracy

- Pseudorange 1 mm
- Pseudorange Rate 1 mm/s
- Delta Pseudorange 1 mm
- Interchannel Bias < 1 mm
- Uncontrolled Bias < 1 mm
- Bias Repeatability (initial) < 1 mm
- Bias Stability (operational) < 1 mm

Modes of Operation				
Mode	Sweep Type	Rate	Duty Cycle	BW
CW				
Pulsed CW		0.01Hz - 100kHz	1% - 99%	
Swept CW	Sinusoid, Triangle, Ramp Up/Down	0.01Hz - 100kHz		0.01Hz - 20MHz
FM Noise				0.00Hz - 20MHz
Pulsed FM Noise		0.01Hz - 100kHz	1% - 99%	0.01Hz - 20MHz
WB Noise				24MHz
Binary Shift Phase Key				24MHz



Example of CAST Dual CW Tone Waveform



Example of Commercial Dual CW Tone

CAST Navigation, LLC
 One Highwood Drive, Suite 100
 Tewksbury, MA 01876
 Tel: 978 858-0130
 Fax: 978 858-0170
 Email: sales@castnav.com

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