

Real-time TSPI data collection
on non-cooperative targets

CW Doppler Radar

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The BAE Systems CW Doppler Radar is an advanced tracking radar that provides accurate time, space position information (TSPI) data on a variety of non-cooperative targets. While primarily intended for tracking ballistic targets, it is also capable of providing highly accurate track data on other types of targets including rockets, missiles and aircraft at long ranges. With the addition of the Multi-Frequency Ranging option (MFR), the radar can make direct range measurements on moving targets, adding another dimension to the capabilities of Doppler radar.

The CW Doppler Radar provides a direct measurement of target radial velocity and TSPI in real-time.

- Performs active tracking in real time of airborne targets, rockets, mortars, bombs, and conventional munitions.
- The 320-watt version tracks 155mm projectiles in excess of 40km in true operational conditions with a 10dB signal-to-noise.
- Available in various outputs ranging from 20W to more than 1200W.
- Provides automatic calibration.
- Detects, separates and measures both positive and negative Doppler frequencies to permit measurement of incoming and outgoing targets.

Key Features

- Manufactured in the U.S.
- No annual software subscription or dongle cost
- Ambient cooling with continuous operation up to 50 degrees Celsius
- Quick-Look data available immediately after mission
- Real-time tracking of single objects and data collection on multiple objects
- Optional direct range measurement using multi-frequency technique. Maximum ranging distance >100 km (unambiguous)
- 4 deg to 1 deg beam width
- All solid-state components
- Rugged, weatherproof enclosures
- The system is gun rugged
- Modular construction for easier repairs
- System withstands shock, dust, sand, humidity, rain, salty air
- Highly mobile configuration (1hr set up/break down)
- Highly stable operating frequency derived from Phase-Locked Dielectric Resonator Oscillator (DRO)
- Automatic correction for pedestal mislevel
- PC-based processing architecture eliminates obsolescence issues and simplifies addition of custom post-mission processing software
- Processing software for 3-D analysis on multiple objects
- Projectile spin analysis
- External ballistic analysis using MPM trajectory model
- Warranty with proven sustainment support



ANTENNA (320 WATT)

- Type: Microstrip Array
- Polarization: Linear
- Transmitter Power, Variable (Max): 55 dBm
- Antenna Gain (Max): 41 dBi
- Beamwidth: 4.4 x 4.4 to 1.1 x 1.1 deg.
- Transmitter Type: Solid State
- Transmitter Source: Phase-locked DRO (PLDRO)
- Transmitter Frequency: 10.250 - 10.450 GHz
- Transmitter Frequency Stability: ± 5 PPM (better stability optional)
- Receiver Configuration: Coherent I/Q
- Noise Figure: < 3 dB
- Receiver Bandwidth: 0.7 – 210 kHz (10 – 3000 m/s)
- Receiver Option: Multi-Frequency Target Ranging
- Dimension: Variable, depending on power and beamwidth
- Designed for continuous operation (100% duty) at elevated temperatures

ANTENNA PEDESTAL

- Motion: Angular Velocity 30 Deg/s
- Elevation Angular Velocity: 30 Deg/s
- Azimuth Angular Acceleration: 30 Deg/s²
- Elevation Angular Acceleration: 30 Deg/s²
- Azimuth Range: ± 240 Deg - Continuous Azimuth Movement Available
- Elevation Range: -5 – >90 Deg
- Azimuth Angular Accuracy: < 0.25 mrad 1 SIGMA
- Elevation Angular Accuracy: < 0.25 mrad 1 SIGMA
- Timing & Synchronization: IRIG-B/GPS

OPTIONS

- X-Band Capability
- Mobile or Fixed Configuration
- IA Compliance

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Intelligence & Security

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