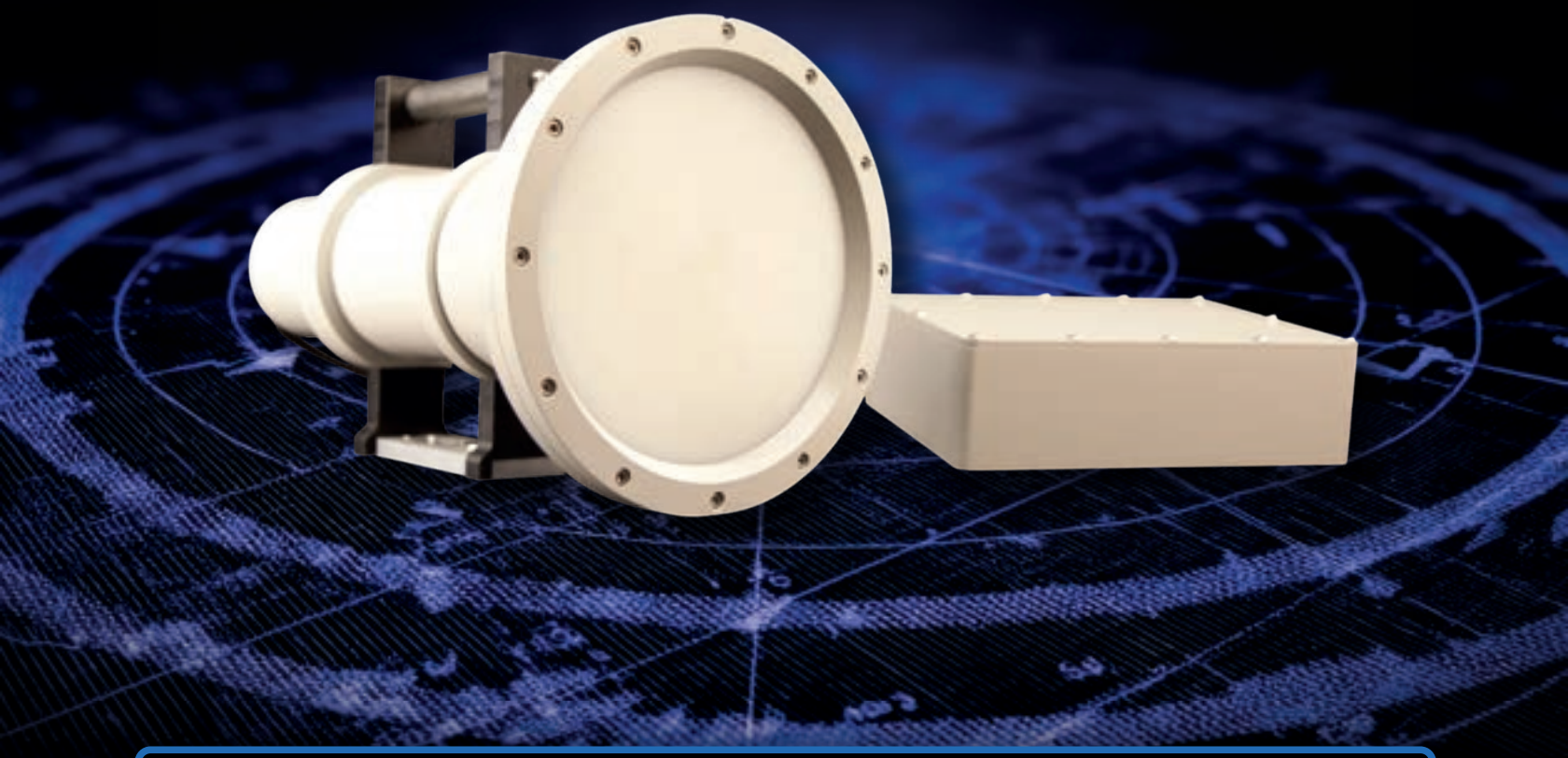
SYDOR

TECHNOLOGIES



INFINITION 35 GHz DOPPLER RADAR BR-3503

COMPLEX MEASUREMENTS—CRITICAL RESULTS

FEATURES

- 3x better resolution than a 10.5GHz radar
- Useful on very small projectiles down to 1 mm
- Suitable for indoor or outdoor use

APPLICATIONS

- Ammunition Testing
- Armor Testing
- Muzzle Velocity & Residual Velocity Measurement
- Strike Velocity

ABOUT THE 35 GHz DOPPLER RADAR BR-3503

The BR-3503 Doppler radar antenna utilizes the Doppler principle to measure the velocity of moving objects. This radar can be used in a variety of application such as projectile muzzle velocity, in-bore measurement, very short range velocity measurement, etc. It is a great alternative to optical chronographs. The BR-3503 is compact as well as easy to deploy and use. It works at 35.5 GHz and provides more than 3 times better resolution than a 10.5GHz (XBand) radar, and can therefore be used on very small projectile calibers (ex: 1 mm spheres). The BR-3503 is particularly well suited for interior ballistic ranges where very short range measurements (down to few meters) are performed. It can also be used outside for short and medium range measurements, depending on projectile caliber.

When used in conjunction with Infinition's junction box and TestCenter Doppler processing software, it provides a powerful tool for velocity analysis of moving objects.

Projectile velocity can be measured inside the gun barrel by using the BR-3503 in combination with a reflector, which is typically a metal plate made out of standard 1/8 inch thick aluminum sheet. Special accessories can be provided to properly align the radar beam and the reflector to achieve optimum results. Typically, inbore measurement can be performed for 20 mm caliber and above.

The BR-3503 has been designed for short range applications. The following table summarizes the expected range performance for different projectile calibers. Actual performance can vary slightly based on projectile shape and material as well as test conditions.

PRODUCT SPECIFICATIONS

- Antenna Gain: 28 dBi
- Antenna Type: Lens Horn
- Beamwidth: 4 x 4 degrees
- Polarization: Circular
- Transmitter Output Power: > 0.1 W
- Transmitter Source: Gunn, CW
- Modulation: None
- Frequency: 35.5 GHz (nominal)
- Stability: +/- 0.1%
- Receiver Noise Figure: < 8 dB
- Radial Velocity Coverage: 30 - 3000 m/s
- Operating Temperature: -20 to 50 degC
- Supply: 115 VAC 60 Hz 0.3A (North American Model) 230 VAC 50 Hz 0.15 A (European Model)
- Dimension (Antenna Head): (L) 35.5 cm x (OD) 19 cm
- Dimension (Power Supply): 20 cm x 15 cm x 6 cm
- Weight:6.35 kg
- Approvals: FCC

INFINITION

Sydor Technologies is a proud distributor for Infinition

COMPLEX MEASUREMENTS—CRITICAL RESULTS