

SARBAR G2



Handheld Imaging Radar

SARBAR couples fast, electronic antenna scanning with on-board, real-time signal processing to provide live, streaming, radar image video

- Immediate evaluation of a target in real-time
- Factory calibration eliminates need for calibration in the field
- Accurate target orientation using laser alignment
- Fully portable and can set up in minutes
- Available with battery pack for completely autonomous operation
- Easy to use, learn, and operate

Revolutionary

SARBAR G2 is a sophisticated, second-generation, real-aperture radar system capable of generating high-resolution, two-dimensional, spotlight radar images at a rate of up to 10 images per second in real time with a noise floor below -70dBsm .



Portable

Use the SARBAR G2 to look under over and into targets. The SARBAR G2 is based on an X-Band FMCW radar using a novel array of antenna elements to form a large scan width without moving the antenna. The hand-held device provides very high RCS sensitivity with an image noise floor of less than -70 dBsm while generating zonal images of a target at close range with continuous, live-image updates.

Fast

SARBAR G2 routes the signal for each FMCW waveform through a unique switching pattern that completes a scan of the entire aperture in fewer than 80ms. This scheme is equivalent to a single antenna operating as a synthetic aperture radar (SAR) at a rate which exceeds ten SAR sweeps per second.



Measurement Capabilities

Sensitivity: <-70 Dbm/resolution cell size (high-sensitivity mode)

Update Rate: 8 images/second (high-speed mode)

Down Range Resolution: Approximately 1 inch (25mm)

Unambiguous Down-range Interval: 662 feet (200 meters) (high-sensitivity mode)

Dynamic Range: >55 dB

Waveform: FMCW chirp with simultaneous cross-range sampling

Cross Range Resolution: Approximately 2 inches (50mm)

Unambiguous Cross Range Interval: 8 feet (2.4m)

Image Display Zone: 4x4 feet (1.2x 2.4 meters)

RF Performance

Frequency Range 8 to 14 GHz

Transmit Power: 10 dBm

Receive Bandwidth: 2 MHz (16-bit sampling A/D)

Chirp Rate: 20 ms

Source: YIG-tuned oscillator

Receive Noise Floor: -70dBm

Collection Computer

Processor: PowerPC, 400MHz

Display Output: NTSC or PAL

Data Storage/Transfer: SCSI hard-disk drive, Ethernet, RS-232

Electrical/Physical

Power Requirements: 12 VDC nominal or 100 to 240 VAC 50/60 Hz, 100W

Display: 6.4-inch (160mm) TFT LCD, optional video goggles

Handheld Dimensions: 28 W x 12 H x 16 D inches (711 W x 305 H x 406 D mm)

Backpack Dimensions: 11 W x 6 H x 13 D inches (240 W x 152 H x 330 D mm)

Battery Life: 2 hours

Controls: Switches for sensitivity, dynamic range, collection, freeze mode, and calibration

Handheld Weight: 29 lbs (13 kg)

Backpack Weight: 20 lbs (9 kg)



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