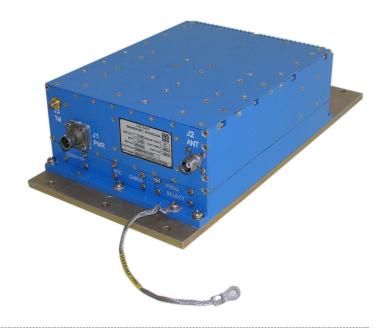
Meggitt Defense Systems

Electronic Systems > Projectile Tracking

AN/DSQ-50A Miss Distance Sensor Set



The AN/DSQ-50A Miss Distance Sensor Set is the reduced-size version of the proven AN/DSQ-50. The AN/DSQ-50A is the airborne element of the AN/USQ-104 RF Scalar Scoring System. Tracking data from the AN/DSQ-50A is transferred in real time to the AN/GSQ-228A scoring set, where it is captured and processed to produce scores for the user. The AN/DSQ-50A is designed for installation into all US Navy targets to acquire scoring information on passing projectiles and missiles. This sensor is ideally suited for installation into subscale targets where available space and weight are a concern. The AN/DSQ-50A is a non-cooperative, scalar miss-distance indicator (MDI) system capable of providing near real-time, accurate miss-distance, time and closing velocity data for high-altitude and low-altitude intercept scenarios. The AN/DSQ-50A operates against high-performance missiles as well as ballistic projectiles as small as 76 mm. The AN/DSQ-50A has the capability to operate in a live-fire training mission environments containing up to six target vehicles, each vehicle equipped with a MDI system. Each MDI operates without concern of interference from the other MDIs.

The AN/DSQ-50A consists of two functional elements; an MDI radar sensor to acquire the scoring information and a telemetry transmitter downlink to send the scoring information to a ground set.

Key features

- Reduced size, weight and cost from AN/DSQ-50
- Standard U.S. Navy scalar scorer for:

QF-4

BQM-74/Chukar

BQM-34

AQM-37

GQM-163

- Scoring range 0 to 22.86 m (0 to 75 ft)
- Scoring accuracy 0.31 m (1.0 ft)
- Multiple target application
 Six targets can operate within
 200 ft of one another
- Qualification
 MIL-STD-810 environmental
 MIL-STD-461 EMI
- Sea skimming or high altitude operation





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Specifications

Score Data

Туре Rf, non-cooperative, scalar

Scoring Missiles and projectiles (76mm and larger)

Scoring rate 90 projectiles per minute Scoring range 0 to 22.86 m (0to 75 ft)

Closing velocity 60.96 to 2438.40 m/s (200 to 8000 ft/s)

Accuracy

Miss distance 1.0 ft (rms) for 0 to 75 ft scoring range (0.31 ft)

7.62 m/s (25 ft/s) or 1% (rms) Velocity

Electrical

Radar transmitter

Frequency 2433.077 to 2433.913 MHz (six channels)

Power (peak pulse) 20 watts maximum at antenna

Pulse width 220 ns nominal Pulse repetition frequency 1MHz nominal

Telemetry

NRZL Format Bit rate 700 kb/s Bandwidth 1MHz

1435.5 to 1535.5 (L-band) and 2200.5 to 2289.5 MHz (S-Band) Frequency (tunable)

Power 6 maximum with 64.4 m (200 ft) minimum separation

Number of simultaneous targets

Power supply

Power consumption 65 watts (maximum)

Input voltage 22-32V dc, reverse polarity protected

Environmental

MIL-STD-810E, Method 514.4, Equipment Category 5 Procedure I Vibration Shock MIL-STD-810E, Method 516.4, Procedure I, Figure 516.4-4 for Flight

Vehicle Equipment Operation Test

Temperature limits

-54°C to +95°C (-65°F to +203°F) Non-operating -40C° to +71°C (-40°F to +159°F) Operating

Temperature/humidity/altitude MIL-STD-810E, Method 520.1, Procedure III, Table 520.1-5

MIL-STD-810E, Method 509.3, Procedure I Salt fog

Acoustical noise MIL-STD-810E, Method 515.4, Procedure II, Table 515.4-I Category D

Reliability 500 hours mean-time-between-failure (MTBF)

Physical Dimensions

> 20.83 cm (8.2 in) Length Width 16.08 cm (6.33 in) 7.62 cm (3.0 in) Height

Weight 5.89 kg (12.95 lbs) approximately

Specification subject to change - TCO Review # 136

Contact

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