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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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Our product competencies and services:

Ammunition Handling Systems | Thermal Management | Countermeasures | Towed Targets | **Electronic Systems**

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Specifications

Score Data

Type	Rf, non-cooperative, scalar
Scoring	Missiles and projectiles (76mm and larger)
Scoring rate	90 projectiles per minute
Scoring range	0 to 22.86 m (0 to 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)
Velocity	7.62 m/s (25 ft/s) or 1% (rms)

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	
Format	NRZL
Bit rate	700 kb/s
Bandwidth	1MHz
Frequency (tunable)	1435.5 to 1535.5 (L-band) and 2200.5 to 2289.5 MHz (S-Band)
Power	2 watts minimum
Number of simultaneous targets	6 maximum with 64.4 m (200 ft) minimum separation
Power supply	
Power consumption	65 watts (maximum)
Input voltage	22-32V dc, reverse polarity protected

Environmental

Vibration	MIL-STD-810E, Method 514.4, Equipment Category 5 Procedure I
Shock	MIL-STD-810E, Method 516.4, Procedure I, Figure 516.4-4 for Flight Vehicle Equipment Operation Test
Temperature limits	
Non-operating	-54°C to +95°C (-65°F to +203°F)
Operating	-40°C to +71°C (-40°F to +159°F)
Temperature/humidity/altitude	MIL-STD-810E, Method 520.1, Procedure III, Table 520.1-5
Salt fog	MIL-STD-810E, Method 509.3, Procedure I
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	
Length	20.83 cm (8.2 in)
Width	16.08 cm (6.33 in)
Height	7.62 cm (3.0 in)
Weight	5.89 kg (12.95 lbs) approximately

Specification subject to change - TCO Review # 136

Contact

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