BAE SYSTEMS

Man-portable Digital Interrogator (MDI)

The BAE Systems man-portable digital interrogator (MDI) is a compact, ground-to-air interrogator designed for use with man-portable and vehicle-mounted air defense weapons.

Description

It provides positive identification of friendly aircraft, facilitating rapid engagement of enemy targets at maximum distance.

Features and/or benefits

- Compact, lightweight, and rugged
- Man-portable and vehicle-mounted
- ISLS and RSLS processing
- Four days' stored code, automatic access
- Provides short- and mid-range performance
- Completely solid-state
- Digital processing
- Modes 1, 2, 3/A, C, and Mode 4 secure

The MDI features interrogator sidelobe suppression (ISLS) and receiver sidelobe suppression (RSLS) capabilities for superior accuracy while using small antennas. The MDI is compatible with all short-range air defense systems.

The MDI consists of a receiver-transmitter, a video processor, a reply processor, circuitry for timing and control, self-test, code memory, power conditioning, and a battery. All are packaged in a small, lightweight, rugged, belt-mounted unit. Extensive use of ASIC and MMIC technology achieves low power and small size.

A separate PC-based code loader is used to configure the MDI's operational parameters and, when the interrogator is used with a KIV-6 crypto module and supporting enclosure, load the Mode 4 mission code data. The MDI operator control is the interface for mode selection, initiation of challenges, and target identification. Security of the system's code memory is protected through predetermined code-erase protocols.

Specifications

Electrical	
Transmitting frequency	1030 ±0.2 MHz
Peak power output	10 watts
Duty cycle	Up to 1 percent
Receiver center frequency	1090 ±0.2 MHz
Sensitivity	-68 dBm
Physical	
Weight	6.8 pounds (3.0 kg)
Dimensions	
Height	8.62 inches (218 millimeters)
Width	6.81 inches (172 millimeters)
Thickness	3.85 inches (96 millimeters)
Environmental	
Temperature	40 degrees Celsius to +70 degrees Celsius
Vibration	Method 514, Procedure X, curve AX 3.5 Gs sinusoidal
	Per MIL-STD-819
Fungus	Meets MIL-STD-810
Salt spray	Meets MIL-STD-810
Humidity	95 percent at 60 degrees Celsius
	Per MIL-STD-810
EMC	Per MIL-STD-461E

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