



MSR 1000 I

(V)SHORAD IFF Interrogator

MSR 1000 I is a lightweight MkXIAS IFF interrogator designed for VSHORAD and SHORAD applications including man-portable missiles, Air Defence guns and fire control systems, embedded Air Defence weapon systems and Short Range Radars applications.

MSR 1000 I is a versatile device designed for a large scale of systems. Its modularity enables a one-box approach for all dismounted and embedded, very short and short range assets of a given military force. The reduced size and weight make it easy to integrate on existing platforms.

MSR 1000 I can operate with the full spectrum of available IFF modes:

- M1, M2, M3/A, MC
- M4 (crypto-computer required) or Secure Mode
- M5 Level 1 and 2 (crypto-computer required)
- MS
- Intermode A/C/S All Call, A/C only All Call
- MS and M5 squitter processing

The RF output power is 100 W when operating autonomously on battery and 200 W when powered by a platform.

MSR 1000 I can operate with or without COMSEC crypto-computer.

Interrogation modes

- MkXA (modes 1, 2, 3/A and C)
- MkXII (Mode 4)
- MkXIIA (Mode 5 Level 1 and Level 2)
- Mode S - Elementary and Enhanced Surveillance (UF11, UF4, UF5)
- Supermode capability
- Mode interlace patterns
- Intermode capability A/C-only All Call, A/C/S All Call
- Passive reception and processing of Mode S and Mode 5 Level 2 squitters

Transmitter

Transmitter output power	100 W on battery, 200 W with external power supply
Transmit frequency	1,030 ± 0.01 MHz
Output gain control	10 dB adjustable in steps of 1 dB
Duty cycle	1 % permanently

Receiver

Centre frequency	1,090 ± 0.5 MHz
Sensitivity	- 83 dBm
Dynamic range	70 dB

Standards compliance

STANAG 4193 parts I to VI, ICAO Annex 10

Crypto-compatibility

QRTK6NG M4/M5 crypto-computer (DoD AIMS 04-900(A) Option A Interface)

Physical characteristics

Weight	3 kg without crypto
Dimensions	101 x 178 x 250 mm (height x width x length)
Environmental range	Operation -40°C to +71°C, storage -55°C to +95°C (without battery) MIL-STD-810F rain/sand/dust/salt fog/immersion/moisture/ contamination by fluids/shocks (concrete ground)/vibration (vehicle, aero transport, helicopter), MIL-STD-461E EMC Nuclear EM Pulse resistant

Twin-box configuration available for integration on specific legacy platforms

Availability

Power-off/power-on modes, auto standby mode

Battery autonomy (crypto installed)	20 days, 24/24 standby, 20 interrogation cycles per day
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Interfaces

- 2 RF channels
- Ethernet LAN interface
- Serial interface
- Discrete interfaces
- Audio interface
- ASTERIX (034/048/007/253)
- GPS NMEA183 (DAGR interface)
- NTP
- DC 18-32 V external power supply or battery

Accessories

- Yagi antenna
- Flat antenna
- Rugged PDGA for configuration and SIF code loading
- Connection cables
- Battery charger
- Transport container
- Portable Test Bench