

IFF / Mode S Interrogator

PR-4000

Tellumat



The PR-4000 is a medium to long range IFF/Mode S interrogator. This 19 inch rack-mounted unit offers compatibility with various cryptographic computer types, including Mode 4 KIR Crypto Computer or custom National Secure Mode (NSM).

A dedicated engineering interface allows on-site configuration of the interrogator. A comprehensive Built-in Test (BIT) facility verifies the correct operation of the interrogator and aids in fault diagnosis and identification of faulty Line Replaceable Units (LRUs). Most LRUs can be replaced from the front. No additional tuning is required when a faulty LRU is replaced in the field.

SUPPORTED INTERROGATION MODES

Standard ATCRBS (Modes 1, 2, 3/A, C)

Civil and Military Emergency

Identification of Position

Secure Modes

Mode S

MAJOR COMPONENTS

Digital Sub-assembly
RF Power Supply Assembly
Receiver Assembly
RF Switch Assembly
Power Amplifier / Transmitter Assembly
BITE Card Assembly
Rear Panel Sub-assembly
Front Panel Sub-assembly



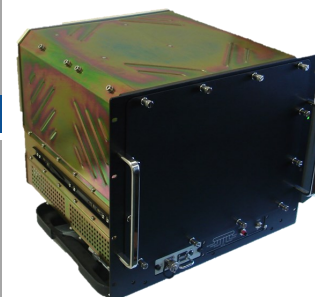
FUNCTIONAL CHARACTERISTICS

Interrogation Modes:	Modes 1, 2, 3/A, C Military and Civil Emergency Identification of Position NATO Secure Mode 4 (external Crypto Computer) National Secure mode (internal Crypto Computer) Mode S
Control and Data Interface	Asterix (Ethernet or EIA RS422)
Video Interface	Raw video or video symbols (EIA RS422)
Configuration and Diagnostics	Proprietary serial interface (Ethernet or EIA RS232)



TARGET DETECTION

Range Accuracy	< 70 m with precision of 7.5 m
Azimuth Accuracy Monopulse	< 2.5% of effective beam width of the antenna with precision of 0.005°
Sliding Window	< 10% of effective beam width of the antenna with precision of 0.09°
Target Range Resolution	75 m
Target Azimuth Resolution	40% of effective beam width of the antenna



TRANSMITTER / RECEIVER

Transmit Frequency	1,030 MHz ± 0.01 MHz
Transmit Power	160 W to 1,300 W switchable in 4 stages
Receive Frequency	1,090 MHz ± 0.5 MHz
Receive Sensitivity	-83 dBm Minimum Decoding Level

RELIABILITY

Mean Time Between Failures	> 5,000 hours (MIL-HDBK-217) Calculated
Mean Time to Repair	< 60 minutes
Integrity Monitoring	Comprehensive Built-in Test (BIT)

PHYSICAL CHARACTERISTICS

Mass Dimensions:	35 kg
Length	506 mm
Breadth	483 mm
Height	399 mm
Cooling Convention	Forced air cooling (integrated fans)

ENVIRONMENTAL/ ELECTROMAGNETIC

Operating Temperature	-20 °C to +55 °C
Environmental Qualification	As per MIL-STD-810F
Electromagnetic Compatibility	As per MIL-STD-461C and MIL-STD-462

POWER SUPPLY

Power Supply Input	110 Vac – 220 Vac, 50 Hz – 60 Hz
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