



The common module Identification Friend or Foe (IFF) interrogator represents a family of universal, All-Mode monopulse systems that can be found in the TTM line of products. Whether configured for shipboard, airborne or ground-based applications, our IFF can be used with common hardware and software modules for civil or military applications and includes interfaces as well as capabilities that support a wide range of configurations for any application.

IFF Interrogator

TTM Technologies' (TTM) IFF is a single unit configuration consisting of a Weapons Replaceable Assembly (WRA) or Line Replaceable Unit (LRU) designed to perform interrogator functions in conjunction with a Host Mission System (HMS). The system can be used as a standalone interrogator or can be coupled to a primary radar where both the primary radar sensor and IFF share the same antenna pedestal. In the latter configuration, the modes of operation for the IFF may be driven by the operational radar modes, the resulting antenna rotation rate and antenna scanning modes of the primary radar.

The IFF administers an auto-adaptive Interrogation Rate Management (IRM) capability when operating standalone or in conjunction with a multi-mode primary radar system to optimize IFF performance. This overcomes the limitations of operating in conjunction with variable scan-rate antenna systems.

The system delivers reply processing, target detection and tracking capabilities for all interrogator modes. TTM's interrogator makes use of a two- or three-channel secondary surveillance radar or monopulse antenna configuration for broadcasting interrogations and receiving replies.

Operating Capabilities

The common module IFF complies with all paragraphs of U.S. and international specifications that define required interrogator modes, performance, control, reporting and interface. All of TTM's IFF systems are compliant to STANAG 4193, ICAO Annex 10 Volumes III and IV for Modes 1, 2, 3/A, C and S. TTM's IFF systems are also certified for DoD AIMS specifications 04-900A and 17-000. The interrogator is designed to meet strict TEMPEST standards, EMC requirements of MIL-STD-461E and various military standards including: HERO, HERP, HERF, Electrostatic Discharge (ESD) and lightning.

IFF Interrogator

IFF Interrogator Main Features

- Connectors for two or three antenna channels (Sum, Difference and Omni)
- Internal cooling fans that receive ambient air from the host shelter or host platform
- Discrete signals to and from the platform



Dual Channel Ground-Based or Shipboard IFF System Configuration Main Features

- Dual common module interrogators and transponders
- Automatic interrogator switchover available
- Internal transaction manager
- Maintenance display unit and data logger
- Multiple platform and crypto interfaces



Technical Specifications

Surveillance Range	> 320 NM
Antenna Rotation Rate	0 RPM to > 150 RPM
Code Performance	Availability > 98%, reliability > 99%
Target Detection	≥ 99.5%
RF Output Power	3.2 kW (with single chassis configuration)
Receiver Sensitivity	< -87 dBm
ATR Format	1½
Weight	< 90 lb.
Temperature	-15°C and +55°C
Range Accuracy	< 45 ft.
Range Resolution	< 225 ft.
Azimuth Accuracy	< 0.06°
Azimuth Resolution	0.6° (with LVA antenna)

Nomenclature	Input Power	Application
AN/UPX-44(V)	270 VDCDR 110-24 VAC, 47-63 Hz	Airborne, Ground, Shipboard
AN/UPX-43(V)	110-240 VAC, 47-63 Hz or 400 Hz	Airborne, Ground, Shipboard
AN/UPX-505(V)	110-240 VAC, 47-63 Hz or 400 Hz	Airborne, Ground, Shipboard

TTM's IFF systems provide monopulse processing and tracking for superior performance with interrogator side-lobe suppression and receiver capability. The IFF provides an interrogation and processing capability for all Mark XIIA modes (Mode 1, 2, 3/A, C, 4 and 5 with Level 1 and Level 2 and Mode S, with elementary and enhanced surveillance) complete with multi-channel passive ADS-B reporting.

Interfaces

The IFF provides all interfaces for ground, shipboard or airborne applications and will interact with host platforms or site interfaces for the greatest capability.

Visit www.ttm.com for more information.



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