

AN/UPX-37 Digital Interrogator



Mark XII IFF interrogator for naval, land-based air defense, airborne surveillance, and air traffic control applications

The **AN/UPX-37 digital interrogator** is the U.S. Navy's standard interrogator.

Description

It replaces all AN/UPX-27 IFF interrogators in the fleet and also has been selected by the U.S. Marines and U.S. Air Force for multiple applications. It is upgradeable for Mark XII and next-generation IFF processing, including Mode S and Mode 5. The unit conforms with U.S. DoD, NATO, ICAO, and FAA requirements.

Its modular and digital architecture affords customized configurations and performance optimization for most applications: air defense, weapon systems, air traffic control, and range instrumentation. Digital target reports can be provided in addition to wideband video for subsequent passive and active decoding. The digital interrogator also provides amplitude monopulse for significant improvement in azimuth accuracy over conventional systems. The AN/UPX-37 digital interrogator operates autonomously or in conjunction with a host radar.

Features and/or benefits

- Open-architecture, VME-based modular design
- Extensive BIT, 98 percent fault detection
- Available options include Mode 5, Mode S, target data extractor, and Mode 4 evaluator
- Greater than 65 percent processing and memory reserves
- MTBF exceeds 5,000 hours
- MTTR less than 20 minutes
- MIL-STD-461D-compliant
- Fully compliant with DoD AIMS 63-1000A and STANAG 4193
- DoD AIMS-certified versions available

Digital Interrogator Family

Interrogator	SIF	Mode 4 Evaluator	Mode 5	Mode S	Target Data Extractor	Comments
AN/UPX-37	✓	Option*	Option	Option	Option	U.S. Navy replacement for AN/UPX-27
AN/UPX-41(C)	✓	Option	✓	Option	Option	
AN/UPX-42(C)	✓	✓	✓	Growth	✓	

*Requires external crypto computer

Specifications

Characteristics

Peak power output at antenna ports	
One transmitter module	33 dBm
Two transmitter modules	36 dBm
Adjustable by -9 dB in 1 dB steps	
Duty cycle	2.0 percent maximum
Receiver center frequency	1090 ±0.5 megahertz
Receiver bandwidth	-3 dB, 8 megahertz nominal
Sensitivity	-84 dBm minimum, 90 percent decode, measured at antenna port
Extractor instrumented range	>300 nautical miles
Power input configuration	115 or 230 Vac, <1100 VA, 47 to 440 hertz
Dimensions	14.75" width, 10.56" height, 18" depth
Weight	85 pounds maximum

Environmental

Altitude	
Operating	Up to 12,000 feet
Non-operating	Up to 50,000 feet
Temperature	
Operating	-28 degrees celsius to +65 degrees celsius
Non-operating	-40 degrees celsius to +75 degrees celsius
Shock	MIL-S-901D lightweight equipment
Salt fog	48-hour exposure
Humidity	90 percent relative
EMC	MIL-STD-461D

Performance Parameters

Capacity	1,000 targets per scan	100 in-beam targets
Reliability (naval sheltered)	Basic system	>5,000 hours
	Maintainability	<20 minute MTTR
Range accuracy	0.04 nautical mile	
Range resolution	0.06 nautical mile	
Azimuth resolution	Effective beamwidth plus seven PRPs (all modes responding)	

Support Services Available

Full support to field units available, by contract, for life of system
Two-level performance based logistics support available

Interfaces

Ethernet, RS-232, RS-422
Support services available

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