

# Identification Friend or Foe (IFF) product family

More than 80 years of innovation  
and IFF leadership

# BAE Systems offers a complete family of IFF systems for the **entire battlespace**.

BAE Systems’ Identification Friend or Foe (IFF) systems enable friendly forces to identify friendly platforms among potential targets. This provides critical time to counter an attack or prevent fratricide between friendly forces. U.S. and NATO forces utilize Mode 5, Mode S and legacy Mark XII modes to positively identify coalition forces and determine targets, both in the immediate battlespace and well beyond a pilot’s visual range.

BAE Systems is the **leading supplier of interrogators** to the U.S. Navy with more than 1,000 units in service.

Interrogator	SIF	Mode 4 evaluator	Mode 5	Mode S	Target data extractor	Comments
AN/UPX-37	✓	Option*	Option	Growth	Option	U.S. Navy replacement for AN/UPX-27
AN/UPX-41(C)	✓	Option	✓	Option	Option	U.S. Navy replacement for AN/UPX-37
AN/UPX-42(C)	✓	✓	✓	Option	✓	–
AN/UPX-45(C)	✓	Option	✓	✓	Option	Adds Mode S to AN/UPX-41
AN/UPX-50(C)	✓	Option	✓	✓	Option	Adds 3rd receiver for passive acquisition
AN/APX-122	✓	✓	–	–	✓	–
AN/APX-122A	✓	✓	✓	✓	✓	–

\*Requires external crypto computer

BAE Systems is a proud provider of transponders on U.S. Navy, Army, USAF, and Allied forces platforms with more than **16,000 units in service**.

Transponder	Mode S	Mode 4	Mode 5	ADS-B	M5I2 In, M5I2-b In, and UAT in growth
AN/APX-117	✓	External computer required	Growth	Growth	–
AN/APX-118	✓	✓	Growth	Growth	–
AN/APX-123	✓	✓	✓	Out	–
AN/DPX-7	✓	✓	✓	In & out	✓

BAE Systems is a **leading supplier of combined interrogator/transponders** for fighter aircraft worldwide with more than 5,000 units in service.

Combined interrogator-transponder system	Cryptographic computer	Interrogator SIF Modes and Mode 4	Interrogator Mode 5	Transponder SIF Modes and Mode 4	Transponder Mode 5	Transponder Mode s
AN/APX-111 (RT-1763B)	KIV-6	✓	Upgradeable	✓	Upgradeable	✓
AN/APX-111 (RT-1763C,D)	KIV-78	✓	✓	✓	✓	✓
AN/APX-113	KIV-6	✓	Upgradeable	✓	Upgradeable	✓
AN/APX-125	KIV-78	✓	✓	✓	✓	✓



Whether in the air, on the ground, or at sea Identification Friend or Foe systems are **key components to mission success**.



Airborne



Ground



Shipboard

### For fast-jet aircraft

AN/APX-111, AN/APX-113, AN/APX-125, AN/APX-126 Combined interrogator/transponder

### For transport aircraft, trainers, helicopters, and fighters (air-ground)

AN/APX-117A/118A (V), AN/APX-123A, AN/DPX-7 (Reduced Size Transponder)

### Stationary

AN/UPX-37, AN/UPX-41, AN/UPX-42, AN/UPX-45, AN/UPX-50 Digital interrogators

### Long-range ground and coastal radar

### Ships that require interrogators such as destroyers, frigates, and aircraft carriers

AN/UPX-37, AN/APX-117A/118A(V), AN/UPX-41, AN/UPX-42, AN/UPX-45, AN/UPX-50, AN/APX-123A, AN/DPX-7, OE-120/UPX antenna group

### For ships that only require transponders such as submarines, cargo ships, and patrol boats

AN/APX-117A/118A (V), AN/APX 123A, AN/DPX-7 (Reduced Size Transponder)

## Eight decades of IFF experience

A dynamically evolving technology

						AN/APX-124 F-16 transponder
					AN/APX-111(V) F/A-18, F/A-18E/F	AN/UPX-42 Digital interrogator
		AN/UPM-150 Test set			Mark XII Upgrades Korea, Turkey, Denmark, Norway	KIV-78 Mode 5 crypto
		AN/APX-77 E-2C Dual IFF system			KIV-6 Crypto computer	AN/APX-122 E2-D IFF interrogator
		AN/APX-72 AN/MPX-12A			AN/APX-113(V) F-16 USAF/NATO, Japan F-2 Taiwan IDF, F-15C	AN/APX-113(V) Mode 5 F-16 ANG, MIDS/IFF compatibility
			AN/APX-46 AN/TPX-50 ESCAN IFF antenna		UK Sea King CIT	AN/UPX-41 Mode 5 Digital interrogator
			AN/APX-19 AN/APX-76 AN/TPX-46 SEEK IGLOO interrogator		F/A-18 transponder	AN/APX-123 Mode 5 Common transponder
ABK transponder	AN/APX-35	AN/APX-64 Special IFF systems	B-2 Special transponders	AN/TPX-54 E-2C IFF production	AN/UPX-37 Digital interrogator	Mid-air collision avoidance system
LANAC Height reporting IFF	AN/APX-34 Invisible dipole antenna invention				F-15K CIT	AN/APX-122 Mode 5/S upgrade
MK III IFF system	MK X IFF system	Air-by-Air IFF systems	NCTR IFF systems	MK XII TIP	F/A-18E/F CAS	UAV transponder
MK V IFF system	MK X (SIF) system	MK X IFF system	E-2C Display processor	MK XV Concept definition	Mode 5 Brassboard flight demonstration	AN/APX-117/118 U.S. Navy/Army Common transponder (CXP)
1940s	1950s	1960s	1970s	1980s	1990s	2000s
						2010s
						2020s
						AN/APX-123 ADS-B upgrade
						AN/APX-122 Mode 5/S upgrade
						AN/APX-111(V) Mode 5 CIT upgrade
						AN/DPX-7 Triton (BAMS) UAS transponder
						AN/UPX-50 Mode 5/S 3 Channel digital interrogator

# BAE Systems' AN/DPX-7 Reduced Size Transponder is our latest IFF transponder product.

The future of IFF is a system that is **affordable, effective, easy to upgrade, and features reduced SWaP.**

BAE Systems' AN/DPX-7 Reduced Size Transponder is a reduced size, Mark XIIA/ Mode S/ADS-B transponder with an embedded ADS-B IN capability that can reduce procurement, upgrade, and life cycle costs.

- Reduced SWAP makes the AN/DPX-7 an ideal solution for UAVs, RPAs, and helicopters but available for integration on all platforms
- Lower cost and easy to upgrade
- Meets all current Mark XIIA, Mode S and ADS-B requirements



BAE Systems' Reduced Size Transponder can support ADS-B In applications or be used as a cooperative sensor in an UAS sense-and-avoid system.

Feature	Currently fielded military transponders	Reduced size transponder
Lower cost		✓
Reduced size, weight, and power		✓
Higher reliability		✓
LRU scalable to support multiple functions		✓
Selectable platform interface module to reduce integration cost	✓	✓
Modes 1, 2, 3/A, C, 4 and 5 Level 1 and 2	✓	✓
Mode S Level 2 and interface to TCAS II systems	✓	✓
Elementary and enhanced surveillance	✓	✓
ADS-B Out	✓	✓
AIMS 03-1000 certified	✓	✓
FAA TSO-C 112 and TSO-C 166 certified	✓	✓
MIDS compatible	✓	✓
1090MHz receive for ADS-B, ADS-R, TIS-B		✓
Growth to 1090MHz receive for M5L2 or M5L2-B		✓
Growth to UAT ADS-B In		✓
Integrated GPS		✓

## For more information contact:

BAE Systems

Dhanraj Gobin  
450 Pulaski Road, M/S GNY010171  
Greenlawn, NY 11740

**T:** 631 262 8195

**E:** dhanraj.gobin@baesystems.com

**W:** baesystems.com/IFF

Cleared for open publication on **04/21**

BAE Systems | Identification Friend or Foe (IFF) product family

Not export controlled per ES-C4ISR-050520-0102

## Disclaimer and copyright

This document gives only a general description of the product(s) and service(s) and, except where expressly provided otherwise, shall not form any part of any contract. From time to time, changes may be made in the products or the conditions of supply.

BAE SYSTEMS is a registered trademark of BAE Systems plc.

©2021 BAE Systems. All rights reserved.

Various platform photos courtesy of U.S. Air Force and U.S. Army.  
CS-20-A90-10