

ARCHIVED REPORT

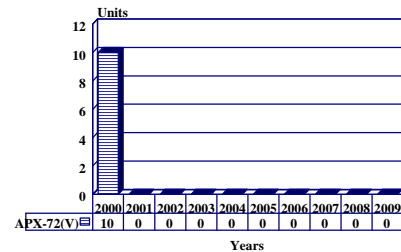
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APX-72(V) - Archived 03/2001

Outlook

- In limited production and service; ongoing logistics support
- Superseded by APX-100(V), APX-101(V), and APX-111(V) in newer aircraft
- Spares support and limited FMS for the next several years

10 Year Unit Production Forecast
2000 - 2009



Orientation

Description. The APX-72(V) is an airborne identification friend or foe (IFF) transponder.

Sponsors

US Navy
 Naval Air Systems Command
 NAVAIR HQ
 47123 Buse Road, Unit IPT
 Patuxent River, Maryland (MD) 20670-1547
 USA
 Tel: +1 301 342 3000

US Army

Army Aviation & Troop Command
 St. Louis, Missouri (MO)
 USA
 US Air Force
 Warner Robins Air Logistics Center
 Robins AFB, Georgia (GA) 31098
 USA
 Tel: +1 912 468 1001

Contractors

Associated Aircraft Manufacturing & Sales Inc
 784 NW 57th Court
 Ft. Lauderdale, Florida (FL) 33309-2092
 USA
 Tel: +1 305 772 6606
 Fax: +1 305 772 1633
 (Current manufacturer)

Status. Limited production ending.

Total Produced. Through 1999, approximately 46,325 units were produced.

Application. Various tactical rotary- and fixed-wing aircraft.

Price Range. US\$21,000 per unit.

Technical Data

Dimensions

	<u>Metric</u>	<u>US</u>
Weight:	6.8 kg	15 lb
Dimensions:	146 x 162 x 230 mm	5.7 x 6.4 x 13.4 in

Characteristics

Frequency:	1090 MHz (transmit) 1030 MHz (receive)
Power:	27 dBW (nominal)
Dynamic Range:	>50 dB
Sensitivity: Artillery/Mortars	-90 dBV (nominal)

Design Specifications. The APX-72(V) airborne IFF transponder has been widely used on US military aircraft and certain civil aircraft and is commonly used as the transponder for the Mark XII interrogator/transponder system used on interceptor aircraft. The APX-72(V) system supplies the aircraft with the automatic radar identification, position identification, emergency signals, and altitude reporting provided to all AIMS interrogators within the IFF system's operational range. Thus, military and civil air traffic controllers are

provided with traffic control and vehicle identification data and automatic altitude reporting, regardless of the radar or weather environment.

Operational Characteristics. The APX-72(V) receives, decodes and replies to the characteristic interrogations of operational modes 1, 2, 3/A, C, and 4 (KIT-1A/TSEC computer is required for Mode 4 operation). The lightweight (15 lb) and compact system is completely self-contained within an airtight casing.

Variants/Upgrades

No known variants have been identified.

Program Review

Background. The APX-72(V) has been in production for over 15 years. Initially designed by Bendix, it has also been produced by Honeywell and then Hazeltine. Hazeltine was the sole producer from the late 1970s until 1989, when Associated Aircraft acquired the manufacturing rights. While Rex Systems was awarded a contract for 84 systems in 1984, it never delivered on the contract due to a dispute that arose over the company's contention that proper documentation was never supplied. The Navy terminated the contract the following year for default, leading to various company appeals that eventually led to a judgment in its favor.

The Common Avionics Identification Friend or Foe (IFF) Transponder R&M Improvement Program. In a series of *Commerce Business Daily* announcements in November and December 1998, the Battelle Memorial Institute announced that it was conducting a study for

the US Air Force to assess and ultimately enhance the functionality, reliability, and maintainability of IFF transponders for Air Force applications. A potentially significant acquisition and logistics cost savings could be achieved developing a Common IFF (CIFF) transponder to replace four IFF transponders currently in the Air Force Inventory (APX-64(V), APX-72(V), APX-100(V), and APX-101(V)). The existing systems are installed in approximately 6,000 aircraft representing 26 different Mission Design Series (MDS). By replacing each of these functionally similar systems with a Common IFF system, significant life-cycle cost savings could be realized by reducing the technical data maintenance, spare parts inventory, support equipment and training costs. The study would result in an initial assessment to determine the appropriate feasibility and engineering approach to achieving a common IFF transponder.

Funding

No recent funding has been identified.

Recent Contracts

No recent contracts have been identified.

Timetable

<u>Year</u>	<u>Major Development</u>
1965	Bendix begins manufacturing APX-72(V)
1974	Honeywell outbids Bendix to assume production
1976	Hazeltine awarded APX-72(V) manufacturing rights
1989	Associated Aircraft acquires manufacturing rights
1996	Production of units for spares continues
1998	RFI for Common IFF Transponder Improvement Program
2000	End of production

Worldwide Distribution

The largest user of the APX-72(V) has been the **US**. All three services employed the system on older aircraft. More modern IFF systems, such as the APX-100(V) and APX-101(V), as well as combined transponder/interrogator designs such as the APX-111(V), APV-113(V), and APX-114(V), have superseded the APX-72(V) in most newer aircraft applications.

Forecast Rationale

Procurement meets the limited need for spares of the APX-72(V), but the program's life is limited by several factors. The design is over 30 years old, and has been replaced by newer MK XII transponders, such as the AlliedSignal APX-100(V) and the Teledyne APX-101(V), in most US military applications. Associate Aircraft Manufacturing & Sales of Ft. Lauderdale, Florida, took over production of the APX-72(V) from Hazeltine in 1989. The company had been building about 75 RT-859A/APX-72(V)s a year, and refurbishing about 125 units annually.

Spares support and foreign sales should be the mainstay of the APX-72(V) for a while longer. While Associated

Aircraft can provide new-production units, demand is shifting to refurbished units and spare parts. Most users are selecting the APX-111(V) as the interrogator/transponder for next-generation IFF operations. The large number of systems in use, however, will support limited activity in spares and some replacement acquisition. The APX-72(V) is expected to remain in service for the next several years.

The study to develop a Common IFF system will have minimal impact on the APX-72(V) because of the age and longevity of the equipment. Most are carried on platforms that probably would not receive the new equipment.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR PRODUCTION

Designation	Application	Thru 99	<u>High Confidence Level</u>				<u>Good Confidence Level</u>				<u>Speculative</u>		Total 00-09	
			00	01	02	03	04	05	06	07	08	09		
APX-72	VARIOUS ACFT (UNSPECIFIED)	46325	10	0	0	0	0	0	0	0	0	0	0	10
Total Production		46325	10	0	0	0	0	0	0	0	0	0	0	10