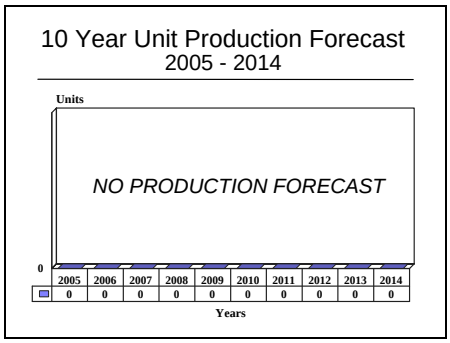
APS-784 - Archived 10/2005

Outlook

- System's main requirement has been fulfilled
- Significant long-term production unlikely



Orientation

Description. I/J-band helicopter-borne radar for naval ASuW (anti-surface vessel warfare) and ASW (anti-submarine warfare).

Sponsor

Minestero Della Defesa
Office for Military Production
Via XX Sepembre 123
Pal Eserceto
I-00100 Rome
Italy

Licensee. No license for the production of APS-784 has been granted.

Status. In production and service.

Total Produced. Approximately 27 produced through 2002 for flight demonstration and testing purposes and deployment.

Application. The APS-784 is a multimode naval surveillance system designed for anti-surface vessel, anti-submarine, over-horizon-targeting, search-and-rescue, and navigation applications. It equips the European Helicopter Industries (EHI) EH 101 (Italian Navy versions only) in ASW and Airborne Early Warning (AEW) forms.

Price Range. While the exact cost of the system has not been reported, it is estimated to be US$2.5 million per unit, based on price comparisons with similar systems.

Contractors

Galileo Avionica SpA, http://www.galileoavionica.it, Via Albert Einstein, 35, Campi Bisenzio, 50013 Italy, Tel: + 39 05589501, Fax: + 39 0558950600, Email: galileoavionica@galileoavionica.it, Prime

Technical Data

Design Features. The APS-784 is an I/J-band system that uses pulse compression and automatic Track-While-Scan techniques. It consists of four line-replaceable units with an integrated Identification Friend or Foe interrogator. APS-784 employs a coherent TWT transmitter with pulse-to-pulse frequency agility and both linear and circular polarized radiation. Its main functions are 360-degree search and tracking, missile launch assistance, and weather detection.

Variants/Upgrades

APS-784E. This is an AEW variant of the basic APS-784. The system reportedly has enhanced search capability for surface and airborne targets.

HEW-784. This variant offers such additional features as over-the-horizon targeting, inverse synthetic aperture functions, and tactical air defense. The system has undergone flight trials.

Program Review

Background. The Italian companies SMA and FIAR have combined to form Consorzio ELIRADAR to produce a radar system for the Italian Navy's version of the EH 101. Segnalamento Marittimo ed Aereo (SMA) developed an advanced capability for ASuW radar and supplied most of the systems for Italian Navy ASW helicopters such as the AB-212 and ASH-3D. It also exported many systems abroad for both fixed- and rotary-wing operations. FIAR has produced Bendix radars under license from the USA.

The first prototypes of the APS-784 were delivered in 1992, and test flights commenced on an ASH-3D flying testbed. Production systems for EH 101s of the Italian Navy were originally scheduled for delivery in 1996. The actual in-service date of the ASW EH 101 was dropped back to 1998. These delays were due to problems with the helicopter, not the radar.

During 1991, the possible development of an Italian-equipped derivative of the Sikorsky SH-60B was announced. Designated the ASH-60 Leonardo, this was a possible alternative to the troubled NH90 program and would equip Italian frigates that were unable to serve as a base for the larger EH 101. The Italian Navy initially announced a requirement for 64 helicopters in this category. Subsequent events verified that the ASH-60 program never reached the developmental stage, and that the Italians would remain committed to the EH 101.

The HEW-784 variant began flight trials in 1999. The system was known to be under contract for four additional Italian Navy EH 101 helicopters. The Italian order for EH 101 helicopters for the Navy was formally placed in October 1995, and deliveries began in 2000. Of the 16 aircraft originally ordered, eight were to be the ASW/ASuW variants, most likely fitted with the APS-784. The nation has an option for six additional ASW helicopters. This order should keep production of the radar system steady for the next several years.

While there were apparently no new orders, production of APS-784 continued through 2002 for existing orders.

Funding

APS-784 development was funded as a private venture.

Recent Contracts

No recent contracts for this program have been identified.

Timetable

Month	Year	Major Development
	1986	EH 101 prototype maiden flight
	1987	Consorzio ELIRADAR announces APS-784
Apr		EH 101 rolled out at Yeovil
Aug		EH 101 selected by Canada for feasibility study
Sep	1988	EH 101 first flight
	1990	EH 101 Prototypes 5/6 flown with mission avionics
	1991	ASH-60 Leonardo announced
	1992	Italian EH 101 procurement reduced to 16
	1996	APS-784 deliveries commence
	1998	Deliveries of production aircraft to Italian Navy begins
	1999	Flight trials of HEW-784
	2003	Deliveries of ASW EH 101 to Italy completed

Worldwide Distribution

The **Italian Navy** acquired the system for its fleet of EH 101 helicopters. This is the only known requirement. **Japan** may acquire the system for its newly acquired fleet of EH 101s.

Forecast Rationale

The APS-784 helicopter-borne ASuW (anti-surface-vessel warfare) and ASW (anti-submarine warfare) radar performs a variety of functions, including anti-surface vessel and anti-submarine operations, over-the-horizon targeting, search-and-rescue, and navigation. The APS-784E is an airborne early warning (AEW) variant of the basic APS-784, and reportedly has enhanced search capability for surface and airborne targets. While no orders for the enhanced version have been reported, it is possible that at least two of the systems have been incorporated into Italy's EH 101 fleet.

Deliveries of the last of Italy's ASW/ASuW EH 101s have been completed. With Japan's selection of the EH 101 for its requirement of 14 mine countermeasures helicopters, a new market may have opened up for the APS-784, but this has yet to be confirmed.

With a number of other nations showing interest in the successful EH 101, the export market for the APS-784 could yield new orders. However, with no major contracts awarded in some time, the future of these systems may have already been determined.

Ten-Year Outlook

No further production is expected.

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