

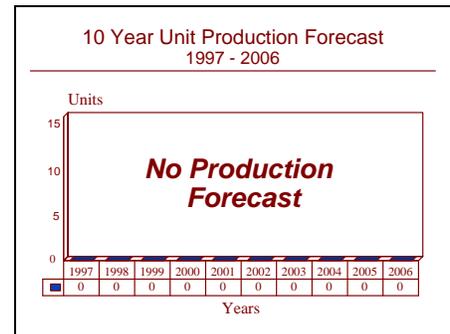
ARCHIVED REPORT

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Prophet - Archived 8/98

Outlook

- Out of production since 1993
- The Prophet platform, the Sea King helicopter, ended production in 1996



Orientation

Description. Lightweight radar warning receiver for helicopters and fixed-wing aircraft designed to provide rapid warning of imminent attack by locked-on pulsed and CW radar associated threats, with octantal indication of the threat direction.

Sponsor

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Contractors

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Licensee. No known production licenses had been granted.

Status. Possibly still in service on existing Sea Kings, but may have been replaced by more capable systems developed since 1993.

Total Produced. Total production is estimated at 100+ systems with most used by the UK Royal Navy.

Application. Known platforms include Royal Navy Sea King Commando helicopters and unidentified Middle Eastern MiG-21 aircraft. Prophet was also specified as the baseline radar warning system for the BAe Hawk series.

Price Range. The Prophet system is thought to be less than US\$100,000.

Technical Data

Characteristics

Azimuth coverage:	360 degrees
Elevation coverage:	+/- 30 degrees
Standard frequencies:	E to J bands
Optional frequencies:	K and M bands
DF accuracy:	To within 45 degrees
Power requirement:	28 V dc 80 W
Weight:	7 kg (15.4 lb)

Design Features. Prophet is a modular, cost-effective system for the detection of pulsed and CW radar emissions in the E to J bands. The system design includes chaff and IR interfaces together with the ability to integrate laser warning, hostile fire indication and additional frequency coverage. The system is specifically designed to operate in the dense battlefield RF environment of the 1990s. A four-port antenna system is employed, using signal amplitude comparison techniques to derive bearing.

The processor is designed to extract the data necessary to recognize the presence of real threats with a high degree of confidence. Prophet has a low false alarm rate. An audible warning of the presence of a threat is provided by a tone generator and fed into the aircraft's internal communications system. The microprocessor management

system also carries out the data loading and bearing computations and controls the input/output devices.

The display uses light-emitting diodes to form an array of three characters on each of three lines. These display up to three threats simultaneously. The information for each threat includes an arrow indicating the direction of the threat relative to the aircraft heading and a three-character alphanumeric indicator. In addition, Prophet information can be displayed on HUD and color multi-functional displays.

Operational Characteristics. Prophet was designed to reduce the vulnerability of aircraft and helicopters to radar-associated threats. It provides very rapid and unambiguous threat warning and enables the appropriate countermeasures to be initiated.

Variants/Upgrades

There are currently no variants of or upgrades to this system. However, Prophet is a modular system lending itself to continual upgrading. Provision is made for the

inclusion of laser warning and additional frequency band coverage.

Program Review

Background. Initial development work on the Prophet RWR commenced in 1980. The system was acquired by the Royal Navy for service in the Arabian Gulf and was the subject of successful evaluation by the French Navy. Prophet formed Racal's entry to the British Army helicopter RWR competition. This particular contract was finally won by Ferranti with the AWARE-3 system.

Prophet saw active service in a combat environment as a result of its use by the Royal Navy and was produced to meet a Middle Eastern requirement for the replacement of the Soviet Sirena system in MiG-21 aircraft. There are reports that Prophet has been specified as the RWR fit for the Brazilian AMX aircraft, but this is denied by the manufacturers.

Prophet was specified as the baseline RWR for installation in the Hawk 100 and Hawk 200 aircraft. These are being supplied to Saudi Arabia (60) and Malaysia (30). In common with all other sales of Hawk aircraft, these carry the rival Sky Guardian 200 radar warning receiver. There is no known case of any variant of the Hawk family being delivered with the Prophet system fitted.

During December 1990, Prophet was fitted to a number of Royal Navy helicopters serving in the Arabian Gulf as an emergency addition to their EW capability. Eighteen Sea King Commando transports and two Sea King AEW helicopters were so equipped. A large number of other British helicopters received RWRs in addition to their normal EW kit at that time, so it is possible that Prophet installations exceeded those known. However, the

majority of these emergency fits were Sky Guardian (reflecting the strength of GEC-Marconi Defense Systems and the advantages of a large existing production run). This left little room for future Prophet procurement by the UK armed forces.

During 1992 and early 1993, a large number of Royal Navy Sea King helicopters were deployed to Bosnia to provide logistics support for British troops conducting

military operations in support of United Nations humanitarian efforts and other UN initiatives. These aircraft all had been fitted with Prophet but are now observed to have been re-equipped with US-built EW equipment. This is reported to reflect Royal Navy dissatisfaction with the performance of Prophet. There has been no indication of any activity on Prophet since that time.

Funding

Prophet was developed as a private venture using corporate funding.

Recent Contracts

No contractual information has been made publicly available.

Timetable

	1980	Development started
	1986	Adopted by Royal Navy
Jul	1989	Ordered by Middle Eastern country for MiG-21
	1993	Prophet system ends production

Worldwide Distribution

Over 100 Prophet systems have been produced with the bulk going to the **UK Royal Navy** on the Sea King ASW helicopters. Some small foreign sales also occurred.

Forecast Rationale

A major factor in favor of Prophet is the degree to which it filters out non-hostile or background transmissions. The problem with most RWR systems in its class is that they respond to far too many interceptions without sufficient discrimination. The result is an almost continuous stream of alerts losing the genuine threats in the noise. Prophet was specifically designed to reduce this false alarm rate, greatly increasing the utility and value of the system. However, since Prophet was introduced, this capability has been duplicated by its rivals, removing a major commercial advantage.

Production for the Royal Navy and the MiG-21 order is complete and there appears to be little prospect of new orders emerging. Forecast estimates that a certain amount of limited production was carried out, probably ending in 1995.

As of 1997, it is safe to assume that the Prophet system is now out of production. In the unlikely event of any new orders, the company would likely fill them using units it already has in stock.

Ten-Year Outlook

No further production is planned for this program.

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