ARCHIVED REPORT

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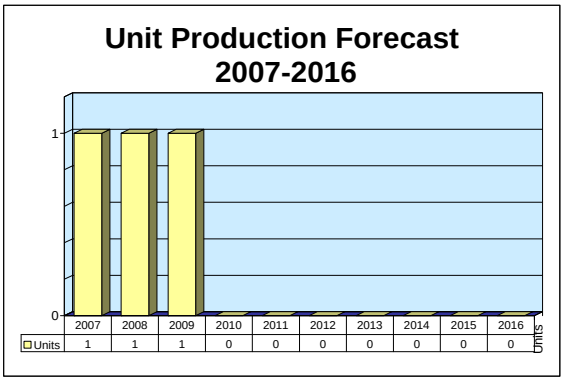
Sabre ESM/ECM - Archived 10/2008

Outlook

- Some production possible in the years ahead, especially for the French Navy
- Last known production, for Royal Netherlands Navy, likely completed
- Barring any news of new contract awards, this report will be archived in October 2008



Orientation

Description. Integrated EW system with electronic support measures (ESM) devised to intercept and provide accurate bearing information and an electronic countermeasures (ECM) system for tracking and jamming multiple threats.

Status. In service.

Total Produced. An estimated 10 shipsets were produced through 2006.

Application. Sabre is designed for current and future medium-to-large multirole warships in littoral and open-water environments or extended missions.

Platform. Suitable for installation on frigates, fast attack craft, and other small vessels.

Price Range. The cost is estimated at $5 million, based on averaging current contractual arrangements and the cost of comparable systems.

Contractors

Prime

Thales	http://www.thalesgroup.com, 45, rue de Villiers, Neuilly-sur-Seine Cedex, 92526 France, Tel: + 33 1 57 77 80 00, Fax: + 33 1 57 77 86 59, Prime

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Contractors are invited to submit updated information to Editor, International Contractors, Forecast International, 22 Commerce Road, Newtown, CT 06470, USA; rich.pettibone@forecast1.com

Technical Data

Characteristics

Frequency range	0.5-18 GHz
Threat-handling capacity	6 per 180º sector

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Maximum radiated power	180 kW
Azimuth coverage	360 degrees
Sensitivity	-62 dBmi (typical)
Bearing accuracy	2º (2-18 GHz); 4º (0.5-2 GHz)

Characteristics. The Sabre integrated system consists of a lightweight ESM subsystem, a mast-mounted antenna unit, a masthead ESM processor assembly that incorporates a microwave receiver, an ESM equipment cabinet that houses digital direction finding and pulse train analysis circuitry, port and starboard jammer assemblies, two inboard ECM equipment units, and an operator console.

According to the manufacturer Thales, Sabre's ESM system features high-sensitivity radio frequency (RF) detection, accurate direction finding, state-of-the-art signal parameter analysis, and an advanced operator-machine interface.

The ECM system has a phased-array transmitter with high-radiated power, a steerable antenna with polarization control, an advanced digital radio frequency memory (DRFM)-based techniques generator, and a wide range of noise and deception jamming capabilities.

The system can present intercepted threat data for current mission analysis or record it for post-mission analysis. Surveillance information can be relayed to combat direction systems and to other friendly force ships and aircraft.

Program Review

Background. In December 1998, it was reported by Racal (Sabre's first producer) that the Netherlands, Brazil, and undisclosed Asian customers had placed $80 million in orders for its naval EW systems. The company would provide the Sabre system to the Royal Netherlands Navy (RNLN) for use on its De Zeven Provincien class LCF air defense and command frigates. The 1998 purchases for Brazil and Far Eastern customers reportedly involved Racal's somewhat similar Cutlass ESM and Scorpion ECM systems. The first of the Sabre shipsets for the RNLN were subsequently delivered in late 2000.

In June 2000, Racal was taken over by Thomson-CSF, which soon became Thales. Along with the acquisition, Thales picked up Racal's developing ESM/ECM systems, including the Sabre system.

Thales has also set up a joint venture with the French manufacturer Direction des Constructions Navales (DCN) to undertake international shipbuilding projects, starting with the Italian-French Project Horizon. This would suggest that Sabre might stand a good chance of being installed in the future on new ships, such as Project Horizon, resulting from Thales' shipbuilding joint venture.

Four De Zeven Provincien class ships were constructed from 2002 to 2005. All of these were installed with the Sabre system.

Funding

Sabre was developed for U.K. Royal Navy requirements, presumably using government funding.

Contracts/Orders & Options

Contractor	Award ($ millions)	Date/Description
Racal	50.0	Dec 1998 – Contract for at least four Sabre shipsets for the Royal Netherlands Navy De Zeven Provincien class LCF air defense and command frigates. Deliveries began in late 2000.

Timetable

Month	Year	Major Development
Dec	1998	Contract for Sabre from Royal Netherlands Navy
Jun	2000	Thomson-CSF takes over Racal, becomes Thales

Month	Year	Major Development
Late	2000	Deliveries of Sabre for RNLN order begun
	2002	Scheduled first delivery of De Zeven Provincien class frigate
	2005	Work on De Zeven Provincien class frigates likely completed
	2007-2009	Possible production for as yet unidentified nations

Worldwide Distribution/Inventories

The Sabre system is believed to be in service with the **Royal Netherlands Navy**, and is very likely to be used by the **French Navy** for its various frigate programs.

Forecast Rationale

The Sabre electronic support measures/electronic countermeasures system (ESM/ECM) intercepts, tracks, and jams multiple incoming threats to naval vessels. Sabre was ordered by the Royal Netherlands Navy (RNLN) for use on its De Zeven Provincien class frigates in 1998. It is believed that production of the final two of these ships was completed by the end of 2005; Sabre was likely installed on four frigates for the RNLN.

Since this is the last known contract award for Sabre, there has been little mention of the system in public sources. However, the system itself is still viable and the capabilities it provides are very much in demand. As naval surveillance missions increase for security forces worldwide, so will the need for advanced defense systems. Consequently, some production is possible for the years ahead, especially for the French Navy.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION

Designation or Program	High Confidence				Good Confidence			Speculative			
	Thru 2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	Total
Thales												
Sabre <> International <> Navy												
	10	1	1	1	0	0	0	0	0	0	0	3
Total	10	1	1	1	0	0	0	0	0	0	0	3