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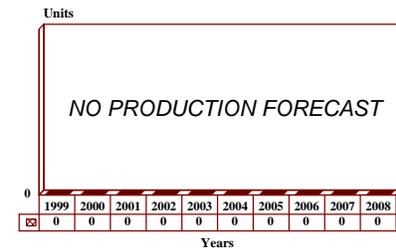
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RB-12(V) - Archived 8/2000

Outlook

- Latter variant believed to remain in limited production
- Paramilitary applications possible source of sales
- **Barring any future activity this report will be archived next year, 2000**

10 Year Unit Production Forecast
1999-2008



Orientation

Description. J-band, manportable, close-range ground surveillance radar.

Sponsor

Thomson-CSF

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Licensee. No production licenses are known to have been granted.

Status. The RB-12A is no longer in production. The RB-12B is believed in production and service.

Total Produced. An estimated 237 RB-12 systems have been built.

Application. The RB-12 is a close-range ground surveillance radar for the automatic detection of pedestrians and ground vehicles, as well as low-flying light aircraft and unmanned air vehicles. It is a light, highly mobile system for battlefield use and for the protection of high-value rear-area establishments.

Price Range. The unit cost of an RB-12 system could not be determined from available information.

Technical Data

	<u>Metric</u>	<u>US</u>
Characteristics - RB-12B		
Range (Pedestrian):	3 km	6.6 mi
Range (Vehicle):	6.4 km	14.1 mi
Weight:	32 kg	70 lb
Characteristics - RB-12B		
Moving Target Detection Speed:	3 to 100 km/h	2 to 62 mi
Frequency:	J-band (10 to 20 GHz)	
Measurement Accuracy (Azimuth):	±1 deg	
Measurement Accuracy (Range):	±20 m	
Antenna Rotation Speed:	8 deg/sec	
Preprogrammed Sector Widths:	4.5, 90 and 180 deg	
Power Supply:	24 V DC, 22 W	
Average Power:	25 mW	

Design Features. The RB-12A has a flat tripod-mounted antenna capable of surveying 30-, 60- and 120-degree sectors within a 360-degree axis. Up to a maximum five km, range can be localized to within 10 m, with target range and bearing determined by Doppler shift. The solid-state coherent pulse transmitter operates in the J-band and has five available frequencies selectable by operator switching. Mean power is 35 mW using a 24 V battery that yields a life of about 10 hours between changes. Power consumption is 15 W. The system is dust- and sandproofed in accordance with GAM T 13. The radar head and drive mechanism are watertight when immersed in water up to one m deep. The command console is rainproof. The RB-12A is fitted with an audio alarm informing the operator of a

target presence moving within the area under surveillance. Its total weight (four assemblies) is about 28 kg.

Operational Characteristics. The RB-12A may be used in either a standalone configuration or through remote operation by telephone landline. Using the handheld control console with its built-in keyboard, azimuth and range of the target can be achieved, as well as identification of the target characteristics by means of Doppler shift analysis. Its temperature range is -40° to +70° C.

(NOTE: For details of the active RB-12B, see the Variants/Upgrades section below.)

Variants/Upgrades

Infrared Camera for the RB-12A. An infrared camera can be added to the RB-12A radar; it is automatically aimed at the correct azimuth determined by the radar. This is claimed to give the operator the ability to verify radar identification by passive means.

RB-12B. A mobile battlefield surveillance radar derived from RB-12A but featuring increased range

(from 5 to 6.4 km), enhanced target acquisition, and improved display technology. Surveillance management is fully programmable, and target tracking can be achieved against targets traveling up to 100 kph. It offers 25 mW power and a faster antenna speed than the RB-12A (8 degrees/sec). At 32 kg, the system is some 14 percent heavier than its predecessor.

Program Review

Background. The RB-12 (later to be called the RB-12A) was exhibited at Satory in June 1985 and thereafter underwent a series of trials and demonstrations to 10 prospective users. Production started in 1987 for a launch customer, probably the French Army. During December 1988 the Venezuela National Guard ordered the RB-12A for border security and surveil-

lance. In 1990, a small batch was ordered for the Zimbabwe Army. The RB-12A was one of the systems deployed to Saudi Arabia as part of Operation Daguet, the French contribution to the 1991 Persian Gulf War.

In October 1991, Thomson-CSF announced the introduction of a new variant of the RB-12 radar. Designated RB-12B, it featured increased range and

significant improvements in target acquisition capability. The penalty for these improvements was an increase in all-up weight from 62 to 70 pounds. The two radars were marketed in parallel during 1991-93, but by mid-1993, the decision had been made to discontinue sales efforts on the earlier version. Accordingly, the RB-12B radar became the only version of this system available on the market.

During 1994 and 1995, the French government grew increasingly concerned over the prospect of illegal immigration from the North Africa littoral. This was

heightened by the rapidly deteriorating security situation in Algeria which, the French government feared, would result in a significant influx of refugees. The security aspects of the situation were enhanced by the probability of such refugees being infiltrated by extremists intent on mayhem. As a result, the French government instituted a study on the improvement of coastal surveillance along the French Mediterranean littoral. The acquisition of additional RB-12 radars for this role was a major item for consideration, but it is not known whether discussions led to a procurement initiative.

Funding

RB-12 was developed using company funds. The French government has likely made no investment in the program other than the purchase of systems for the French armed forces. Specific monetary figures are not available.

Recent Contracts

No recent contractual information has been identified. Sales numbers indicated in this report are estimated, and details (aside from year of purchase and export nation) are not released.

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
	1985	RB-12 prototype produced
Jun	1985	Shown at Satory exhibition
Sep	1986	Prototype demonstrations begin
	1987	Production launch scheduled
	1988	Ordered by Venezuelan National Guard
	1990	Ordered by the Zimbabwe Army
Oct	1991	RB-12B introduced
	1993	RB-12A radar discontinued in favor of RB-12B

Worldwide Distribution

France. (estimated 120 RB-12A and 80 RB-12B sets for French Army [and Air Force?] use)

Venezuela. (estimated 25 RB-12A sets for the Venezuela National Guard)

Zimbabwe. (estimated 12 RB-12A sets for the Zimbabwe Army)

Forecast Rationale

Developed in the mid 1980s, when the importance of situational awareness began overshadowing the development of weapon systems, the RB-12(V) was part of a family of ground-based surveillance radars. As one of the two major producers of such systems (the other being the United States), France designed the RB-12(V) to conduct defense of coastal flatlands and military installations.

The RB-12(V) met with little international response after its initial appearance at a military exhibition in 1985. Similar systems, such as the RASIT, enjoyed substantial success compared to the RB-12(V). France remains the prime operator of the system, believed still in use by both the Army and Air Force. Limited sales of the RB-12(V) to Venezuela and Zimbabwe are indicative of its weak export potential.

Major procurement of the RB-12(V) is highly unlikely, due to both the low demand for ground surveillance radars and outdated components. The requirement for spares and replacements should maintain the RB-12(V) until the turn of the century, at which time the program will likely be dropped.

Ten-Year Outlook

A forecast is withheld due to lack of information, although the system is believed to remain in limited production. **Barring any future activity, this report will be archived next year, 2000.**

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