

ARCHIVED REPORT

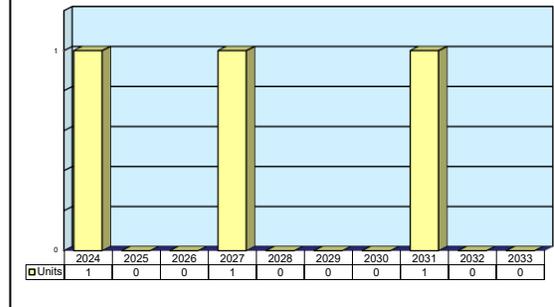
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TRC 6200/6500 Series

Outlook

- Special operations forces the most likely market for the latest variants
- Look for upgraded variants in the future
- Sales projection based on spares market
- Currently seen as a retro model and has seen lagging sales as a result

Unit Production Forecast
2024-2033



Orientation

Description. The TRC 6200/6500 series of tactical wideband interceptor and direction finders can monitor all radio communication signals in HF, VHF, and UHF bands, including frequency hoppers. The series also provides early warning and force or platform protection.

Status. In production and operational service.

Application. Monitors all radio communication signals in HF, VHF, and UHF bands, including frequency hoppers.

Sponsor

Thales
31 Place des Corolles-CS 20001
Tour Carpe Diem
Paris 92098
La Defense Cedex
France
Tel: + 33 1 57 77 80 00
Fax: + 33 1 57 77 86 59
Website: <http://www.thalesgroup.com>

Price Range. Speculative estimate of \$550,000 based upon comparison with similar systems.

Contractors

Prime

Thales	http://www.thalesgroup.com , Tour Carpe Diem, 31 Pl des Corolles, CS 20001, Paris, La Defense Cedex, 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, 75 Glen Road, Suite 302, Sandy Hook, CT 06482, USA; rich.pettibone@forecast1.com

TRC 6200/6500 Series Archived FEB**Technical Data****TRC 6200 Specifications**

Frequency Band: Direction Finding	300 kHz - 30 MHz in HF 20 MHz - 3 GHz in V/UHF
Frequency Band: Monitoring	9 kHz - 30 MHz in HF 20 MHz - 3 GHz in V/UHF
Instantaneous IF Bandwidth	20 MHz in HF 40 MHz in V/UHF
Interception Scanning Speed	40 GHz/s in V/UHF 150 MHz/s in HF
DF Scanning Speed	2.5 GHz/s in V/UHF 50 MHz/s in HF
FFT Resolution	From 781 Hz - 50 kHz in V/UHF From 390 Hz - 1.5 kHz in HF
Sensitivity	< - 120 dBm
DF Accuracy	< 1° RMS instr (HF/VHF/UHF)
Mod Recognition	AM, FM, USB, LSB, ISB
Demodulation	OOK, DPSK, P/2 DBPSK, P/4 DQPSK, QAM, FSK, CPM, MSK, GMSK
Decoding	More than 120 demodulators and decoders
Recording	Wideband, narrowband, audio
Sensor Size	(LxWxH) 50x32x14 cm
Weight	< 15 kg
Power Supply	11 V - 30 VDC
Consumption	< 100 W
DF Antenna	ANT184X, Nomad, ANT205 ANT187, ANT266X for tactical installations ANT194X, ANT 186 for fixed installations
Operating Temp	-20°C to 55°C
Climatic & Mechanical	MIL-STD810F
Radion Electric	MIL-STD461F

TRC 6500 Specifications

Frequency Band	0.5 - 30 MHz Up to 30 MHz instantaneous bandwidth providing 100% of PoI and LPI signals
Super Resolution Direction Finding and Monitoring Able to Cope with Multiple Co-channel Sources	
Spatial Filtering and Fading Cancellation	
Automatic Single Site Location (SSL)	

TRC 6200 Compact Wideband Direction Finder

Source: Thales

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TRC 6200

Source: Bernard Rousseau/Thales



TRC 6500 Wideband HF COMINT/DF Sensor Fixed Station

Source: Thales

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Variants/Upgrades

TRC 6100. Early model replaced by the TRC 6200.

TRC 6200. Enhanced compact model, highly mobile and modular.

TRC 6300. High-performance V/UHF interceptor and direction finder.

TRC 6460. High-performance V/UHF interceptor and direction finder.

TRC 6500. Wideband HF communications intelligence and direction finder.

ARAMIS. An advanced scalable, strategic, high-performance interceptor and direction finder.

Design Features. The TRC 6200 provides communications intelligence and direction finding in a single compact sensor. It can be used in a wide range of configurations (fixed, transportable, vehicular, dismounted, airborne, and shipboard). It has been designed to be operated by either skilled operators from electronic warfare units or nonspecialist users involved in self-protection.

The system is basically composed of one or several antennas (DF and/or monitoring antenna), a sensor unit

(with optional battery for autonomous configuration), and a display (laptop). The sensor unit can be mounted on the antenna mast itself and remotely operated from a laptop through an Ethernet cable.

The TRC 6200 can be used in a stand-alone configuration or in networked configuration with other DF sensors. It is fully compatible with a TRC 6000 software tool kit and its libraries for signal analysis, code analysis, and offline ID.

Program Review

Considered part of the Thales TRC 6000 series of direction finders, the TRC 6200 was originally built as a next-generation follow-up to the TRC 6100 wideband digital direction finder. The enhanced system is more portable (allowing for greater use) and is modular in design (allowing for quicker repairs or upgrades).

The TRC 6200 was reportedly tested around June 2006 by French Special Forces, which gave it a "thumbs up." It was introduced to the market at Eurosatory 2008 as part of the TRC 6200-NOMAD manpack communications intelligence system.

The system is said to have been procured by Brazil in June 2010.

Thales Wins Contract to Develop Strategic HF Radio Location System

In April 2012, Thales was awarded a contract by the defense ministry of a European country to develop a new high-frequency radio location system. The contract would be implemented in phases over a 10-year period.

Under the agreement, Thales would replace several legacy HF radio location systems with a single solution drawing on the latest technologies. Built around a network of TRC 6500 COMINT/DF receivers, the new strategic system would comprise a fixed subsystem and a mobile subsystem, with several COMINT/DF receivers in each subsystem.

The TRC 6500 COMINT/DF receiver provides geolocation data on all types of radio emissions in the HF band (1-30 MHz), as well as simultaneous signal interception, classification, and monitoring. With its modular, scalable architecture; advanced antenna processing; high-resolution direction finding; and single site location (SSL) technology, the TRC 6500 reportedly meets the most demanding COMINT requirements. The same receiver is the baseline product for the ARAMIS, the complete HF radio interception and location solution available from Thales.

Several nations in Europe, Africa, and elsewhere have reportedly selected the TRC 6500 receiver to meet their HF radio interception and location needs.

Patroller UAV Goes for More Payload Integration

During the Paris Air Show in June 2013, Sagem announced that it was looking to further payload integration work on its Patroller unmanned aerial vehicle and target upcoming domestic and international programs following successful integration and trials of a communications intelligence payload. The COMINT payload was thought to be the Thales TRC 6200 wideband direction finder.

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Thales Introduces New Scalable, Strategic HF DF and Monitoring Solution

Around early 2018, Thales was believed to have released ARAMIS, which is an advanced COMINT system for interception of ground and sky wave communications in the HF frequency band. It allows HF transmissions to be monitored, identified, located, and

listened to within a range of several thousand kilometers.

ARAMIS is based on the latest generation of HF COMINT/DF sensors (TRC 6500), with full HF band digitalization and "super resolution" direction finding and monitoring. It reportedly provides 100 percent probability of interception – even on LPI signals.

Funding

Development funded by Thales, with likely assistance from the French government.

Contracts/Orders & Options

No recent contracts valued over \$5 million have been identified.

Worldwide Distribution/Inventories

Used by **French Special Forces** units. It is reported by Thales to be in operation with more than 30 (undisclosed) countries, including possibly **Brazil** and **Indonesia**.

Forecast Rationale

Thales' combat wideband direction finders were initially tested by the French Special Forces and units of the French Foreign Legion, with great success. The series includes the TRC 6200 as well as the TRC 6300, TRC 6460, and TRC 6500. Brazil reportedly procured the system in 2010. Indonesia is also believed to be a user.

The TRC 6500 series might see a modest level of market success with smaller countries with limited budgets that need to shift equipment around depending on the mission application.

The COVID-19 pandemic has likely had no impact on sales of this system.

Looking forward, it would appear that special operations forces represent one of the best prospects for sales. Overall, the system appears to have become less popular over the years, with most sales constituting spares units. No major contract has been announced in recent years.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR UNIT PRODUCTION												
Designation or Program	Thru 2023	High Confidence				Good Confidence			Speculative			Total
		2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	
Thales												
TRC 6500 <> TRC 6500 <> TRC 6200 <> Armed Services												
	20	1	0	0	1	0	0	0	1	0	0	3
Total	20	1	0	0	1	0	0	0	1	0	0	3