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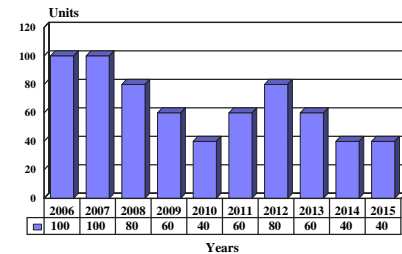
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AHL-21(25) - Archived 4/2007

Outlook

- Following the trend of similar systems in other regions, AHL-25 is likely to be procured in high numbers over the next few years
- South Korea is expected to keep increasing its defense budget over next few years, emphasizing investment in new technology
- Samsung Thales increases its presence in South Korea with multiple orders for a variety of electronics defense systems

10 Year Unit Production Forecast
2006 - 2015



Orientation

Description. The AHL-21(25) is an advanced handheld laser rangefinder that provides high accuracy and high detection probability with an eye-safe Raman-shifted laser.

Status. Operational, in production.

Total Produced. An estimated 830 systems are believed to have been produced through 2005.

Application. The AHL-21(25) provides fast and portable target acquisition for small tactical forces.

Price Range. Exact unit price could not be determined at this time. Cost could be around \$33,000, based on the price of comparative systems such as the U.S.-built PVS-6.

Contractors

Prime

Samsung Thales	http://www.samsungthales.com , 17-20th Floor, Daechi Bldg, Daechi 4-dong 899-11, Seoul, Gangnam-gu, Korea, Republic of (South), Tel: + 82 2 3458 1114, Fax: + 82 2 3458 1188, Prime
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Technical Data

Specifications	Metric	U.S.
Dimension	210 x 200 x 105 mm	8.3 x 7.9 x 4.1 in.

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Weight	2.5 kg	5.5 lb
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Specifications (continued)

Transmitter	
Type	Raman shifter laser
Wavelength	1.54 μm
Pulse per minute	20
Pulse energy	10 mJ
Receiver/Display	
Detector type	InGaAs-PIN diode
Maximum detection range	25,000 m
Minimum detection range	50 m (adjustable)
Range accuracy	5 m
Multiple return	indication - >1 echo
Low voltage	indication <20Vdc
Sight	
Magnification	7x
Field of view	7 deg
Reliability	
MRBF	> 100,000 times
Operating temperature	-32 +52° C
Storage temperature	-57 +71° C
Goniometer	
Azimuth/elevation	6,400/ \pm 450 mil
Accuracy/resolution	+2/+1 mil

Design Features. The advanced handheld rangefinder features an eye-safe Raman-shifted laser. The unit comes with an adjustable tripod, is easy to operate, and can be quickly installed and disassembled. The AHL-21(25) has been developed and produced in accordance with Korean military specifications and ISO-9001.

Adding to its potential desirability under severe warfare conditions, the maximum detection range is extended

and the operational and maintenance functions are all enhanced with the latest technology. The AHL-21(25) also features self-diagnosis and failure detection capabilities along with a magnetic north-finding feature. The unit is further designed to interface with RS-232 and RS-422.

Optional features include a standard battery, a battery charger, a carrying case, and an external power supply cable.

Program Review

Background. The AHL-21(25) was designed and produced by Samsung Electronics Company, Seoul, Korea, and has been marketed to foreign militaries via the Samsung Web site and through promotional literature. At the time of the system's introduction, however, the U.S. Army and other forces worldwide were projected to purchase several hundred units of rival rangefinders such as the PVS-6 (MELIOS).

Based on the number of PVS-6 units in use by Saudi Arabia and Canada, Korea could have approximately 450 AHL-21(25) units in use at this time.

Since introduction of the system in the mid-1990s, no contracts or production information has been made publicly available. A low rate of production can be assumed for ongoing Korean Army procurement.

Joint Venture with European Defense Giant Improves Prospects

In mid-2000, Thomson-CSF purchased 50 percent of Samsung Defense Electronics, providing South Korea with access to the company's worldwide marketing organization. This joint venture was expected to provide a full range of systems and equipment in the fields of optronics, military communications, naval combat systems, and air defense systems. It was not known what part AHL-21 may specifically play in this operation, but all of Samsung's programs should benefit from this substantial entry into world defense markets.

In 2002, the new Samsung Thales Company introduced the upgraded AHL-21, the AHL-25. Consequently the

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AHL-21 ceased to be mentioned in company promotional material. It was therefore believed that the older system had been put aside in favor of the newly classified system.

From 2003 on, Samsung Thales reinforced its place among top defense producers with a number of major orders for its systems in South Korea. While the

AHL-25 was not specifically mentioned in press articles about these developments, similar technology was, and the overall impression was that the company had been steadily gaining market presence with the nation's defense planners. Furthermore, South Korea has been boosting its defense budget significantly, presumably to help pay for modernizing major segments of its military forces.

Significant News

South Korea Significantly Increases Its Defense Budget – In order to meet a changing threat environment and force structure, South Korea has begun steadily increasing its defense budget. Spending, which was at \$14.85 billion in 2003, had reached \$17.93 billion by 2005. This trend is expected to continue over the next several years. (FI, 4/05)

Samsung Thales Strengthens its Position – The successful joint venture of Samsung and Thales has enjoyed an increasingly dependant relationship with the South Korean defense forces. In addition to selling a number of its defense electronics products for a number of land, sea, and air applications, the company also recently acquired international standards certificates for engineering, design, software development, manufacture, installation, and integration of electronic defense systems. This strengthens their position as a significant global competitor. (Samsung Thales, 10/05)

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Funding

Development/procurement funding figures for the AHL-21(25) variants have not been released.

Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
Sep	1992	Samsung begins development of AHL-21
	1993	Litton's PVS-6 production commences
	1994	PVS-6 put into use by U.S. Army, Saudi Arabia, and Canada
	1995	South Korean Army begins using AHL-21
	1998	Samsung begins marketing AHL-21 overseas
	2000	Thales strengthens joint venture with Samsung
	2002	AHL-25 introduced
	2006-2015	Production of AHL-21(25) ongoing

Worldwide Distribution / Inventories

Based on the number of units of the comparable rangefinder, the PVS-6, in use by the Royal Saudi Army and the Canadian Army, the **Korean Army** could have approximately 450 AHL-21(25) units in use at this time. Export customers, though likely, have not been identified.

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Forecast Rationale

Production of Korea's AHL-21(25) handheld laser rangefinder should be steady over the next several years. Similar systems and laser-based technology devices from other countries have been experiencing a real upswing in demand in recent years. Although there have apparently been no major contracts made public through open sources, Samsung Thales has likely been successfully promoting the system to a number of client nations above and beyond South Korea.

The original system, AHL-21, was upgraded and designated AHL-25. Presumably, it is this newer model that will be produced from now on.

Domestic Production Gives AHL-25 a Major Edge Over the Competition

As a "home-grown" system, the rangefinder may always have an edge over any competition in South Korea from such other major EO systems producers and exporters as ITT and Raytheon. South Korea has made self-reliance in national defense a major concern. Funding increases

in the country's recent defense budgets have been oriented at strengthening the ability of the nation to maintain an independent national defense capacity that will someday have to do without the current degree of support from the U.S. The 2005 defense budget of \$17.93 billion is a significant increase from 2003's \$14.85 billion. Thus, development and purchases of needed systems like the AHL-25 are likely to continue.

Helping with the prospects of an improving export market outlook for the company and its products, Samsung Thales recently acquired the international standards certificates required to develop, produce, and sell electronics systems outside its borders.

Without detailed information on military requirements, contracts, and production, however, it is difficult to offer an accurate production forecast beyond noting that the system is most likely in an active phase of procurement. The 10-year projection of 660 systems should be viewed as speculative at best.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR PRODUCTION

Designation	Application	Thru 05	High Confidence Level				Good Confidence Level				Speculative			Total 06-15
			06	07	08	09	10	11	12	13	14	15		
AHL-21(25)	RANGEFINDER (VARIOUS)	830	100	100	80	60	40	60	80	60	40	40	660	