

ARCHIVED REPORT

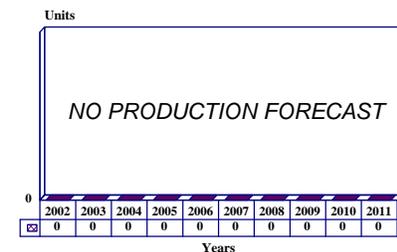
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PVS-4 - Archived 02/2003

Outlook

- Replaced by PAS-13 Thermal Weapon Sight
- Some production possible for spares and replacement
- Barring any future activity, this report will be archived next year

10 Year Unit Production Forecast
2002 - 2011



Orientation

Description. The PVS-4 Starlight Scope is a night vision weapon sight.

Sponsor

US Army
 Communications-Electronics Command (CECOM)
 Ft. Monmouth, New Jersey (NJ) 67703-5000
 USA
 Tel: +1 201 532 2634

Contractors

Northrop Grumman
 (formerly Litton Electro-Optical Systems)
 Garland Operation and
 Varo Optical Systems Division
 2203 W. Walnut Street
 Garland, Texas (TX) 75042
 USA
 Tel: +1 214 487 4654
 Fax: +1 214 487 4103
 Web site: <http://www.northropgrumman.com>

Status. Possible production for spares and replacement parts.

Total Produced. Over 159,200 units had been produced through 2001.

Application. Provides individual small arms with passive sighting and target-viewing capability.

Price Range. The estimated price ranges are from US\$2,521 to US\$4,000 per set.

Technical Data

Design Features

	<u>Metric</u>	<u>US</u>
Dimensions		
Length:	30.5 cm	12 in

	<u>Metric</u>	<u>US</u>
Width:	10.2 cm	4 in
Height:	11.4 cm	4.5 in
Weight:	1.818 kg	4 lb
Performance		
Magnification:	3.6x	
Range, Man-Sized Target		
Starlight:	365.6 m	400 yd
Moonlight:	548.4 m	600 yd
Field of View:	14.5° circular	
Battery Type:	2 AA	
Tube Type:	Gen II MX-9644	
Photocathode:	S-25	
Resolution:	28-32 lp/mm	
Photo Response:	450 mA/lm	
Focus Distance:	from 6.5 m	
Operating Temp:	-40°F to 110°F	

Design Features. The PVS-4 offers passive sighting and target-viewing capability through the use of second-generation (GEN II) 25 mm image intensifier tubes. The tubes magnify available light, such as moonlight or starlight, so that the user has vision in darkened environments. The image tube of the PVS-4 can be adjusted manually, but the sight has an automatic gain control feature which maintains a constant level of illumination under changing light conditions. This frees the user from having to readjust the illumination every few minutes from dusk to dawn. The PVS-4 is designed for use with 5.56 mm and 7.62 mm rifles, light and medium machine guns, and rocket and grenade launchers. It can be modified to accept other lens sizes. The sight features muzzle flash protection to prevent damage to the intensification tube when the weapon is fired. The protection circuit is designed to rapidly

recover so that the user can see the hit of the fired round.

Operational Characteristics. When mounted on individual weapons, the PVS-4 scope allows accurately aimed fire to be delivered during hours of darkness. The system is easy to install and remove, using suitably designed brackets which require no modification to the weapon. Daylight boresighting of the weapon is attainable using a protective objective daylight cover. The PVS-4 is primarily designed for use with the M-14 and M-16 rifles, the M60 machine gun, the M249 squad automatic weapon, the M203 grenade launcher, and the M72A1 rocket launcher. The system, powered by two standard AA batteries, can be used in the handheld mode, or tripod-mounted for night surveillance. Fielding is two per infantry squad.

Variants/Upgrades

PAS-13. Thermal imaging technology continues to advance and surpass image intensification technology, and thus the PVS-4 has, since 1996, been effectively

replaced by the PAS-13 (see separate report). The PAS-13 is a thermal weapon sight (TWS) built by Raytheon.

Program Review

Background. The PVS-4 is a second-generation night vision sight that replaced the PVS-2 Starlight Scope. The PVS-2 was developed in the 1960s and used extensively in the Vietnam War. Engineering development of the PVS-4 began in 1975, and product deliveries in 1978. The system is currently in production and service with the US Army and US Marine Corps, as well as in other countries.

While the PVS-4 was considered cutting-edge upon its introduction, many combat arms leaders found serious fault with it. Commanders were forced to evaluate whether the scope would assist in mission accomplishment or stand in its way. More and more, the protective cases used to store the individual systems were opened only for inventory purposes.

With the production of the PAS-13, which started in 1996, the PVS-4 has become increasingly obsolete.

Funding

While US funding for night vision equipment continues to rise dramatically, none has been allocated for PVS-4 in many years.

Recent Contracts

There has been no recent identifiable contract activity for the PVS-4.

Timetable

<u>Year</u>	<u>Major Development</u>
1975	Development of PVS-4 begun
1978	Production delivery begins
1996	Production of the PAS-13 (PVS-4's replacement) begins
2002	PVS-4 production ends

Worldwide Distribution

China, Lebanon, Saudi Arabia, Thailand, and Yemen all possess unknown quantities of PVS-4s. The **US Army** has an estimated inventory of 64,000 PVS-4 sights, while the **US Marine Corps** maintains a smaller, unknown quantity of the sight.

Forecast Rationale

After a long and full production life, with large procurement from the US Army and Marine Corps and several foreign nations, it appears that the end has now come for the PVS-4 night vision weapon sight. The system has been virtually replaced by Raytheon's more advanced PAS-13 for which the US Department of Defense (DoD) committed US\$35.3 million in procurement funding for FY01.

While there is still some chance of very limited production for spares and replacement, it is much more

likely that the entire line has been stopped. With over 150,000 systems produced throughout its life, it does leave a substantial legacy. As is often the case with electronic systems, it was simply made obsolete by such systems as the PAS-13 which, among many other attractive features, includes embedded GPS and real-time video. Barring any future activity, this report will be archived in February 2003.

Ten-Year Outlook

ESTIMATED CALENDAR YEAR PRODUCTION

Designation	Application	Thru 01	<u>High Confidence Level</u>				<u>Good Confidence Level</u>				<u>Speculative</u>		Total 02-11	
			02	03	04	05	06	07	08	09	10	11		
PVS-4	Prior Prod'n:	159200	0	0	0	0	0	0	0	0	0	0	0	0