

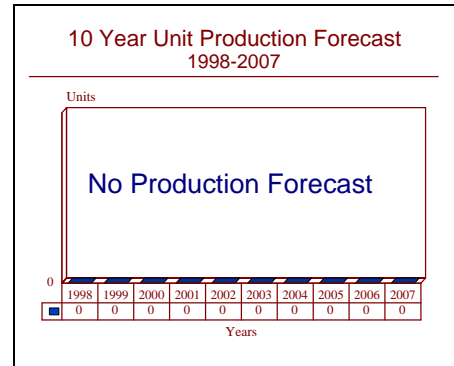
# ARCHIVED REPORT

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## ASN-130A - Archived 8/99

### Outlook

- Production complete
- Support of host aircraft will continue into 21st century
- **THIS REPORT WILL BE DROPPED NEXT YEAR, 1999**



### Orientation

**Description.** Carrier Aircraft Inertial Navigation System (CAINS).

**Sponsor**

US Navy  
 Naval Air Systems Command  
 Arlington, Virginia (VA)  
 USA

**Contractors**

Litton Guidance & Control Systems  
 5500 Canoga Avenue  
 Woodland Hills, California (CA) 91367  
 USA  
 Tel: +1 818 715 4040  
 Fax: +1 818 715 2019

**Status.** Production complete.

**Total Produced.** Approximately 1,761 units have been produced.

**Application.** AV-8B, EA-6B, F/A-18, and F-14D aircraft.

**Price Range.** Approximately US\$700,000, based on an average of contracts placed in the mid-1980s (unadjusted dollars).

### Technical Data

	<u>Metric</u>	<u>US</u>
<b>Specifications</b>		
Weight:	35 lb	15.89 kg
Dimensions:	42.7 cm x 28.7 cm x 19.0 cm	16.8 in x 11.3 in x 7.5 in
Volume:	0.0196 m <sup>3</sup>	0.7 ft <sup>3</sup>
Accuracy:	1 nautical mile/h CEP	

**Design Features.** The ASN-130A CAINS is composed of a P-1000C platform, G-1200 gyro, A-1000 accelerometer, and a 16-bit LC-4516C digital computer with 30K memory. The system relies heavily on a

design that includes hybrid circuits, advanced inertia gyroscope and accelerometer, and simplified platform configuration. The digital databus is MIL-STD-1553, and operates at 10 MHz.

**Operational Characteristics.** The system has demonstrated 30 arc/second performance in the attitude and

heading reference mode, as well as 4 arc/minute performance in the gyrocompass mode in over 500 flights aboard the AV-8B. Navigational accuracy aboard the aircraft has remained within 1 nautical mile per hour. Mean time between failures (MTBF) has been calculated at 1,950 hours.

## Variants/Upgrades

No variants or upgrades have been identified.

## Program Review

**Background.** The ASN-130A CAINS is a third-generation inertial guidance system used on US Navy advanced aircraft, namely the AV-8B, F/A-18 and F-14D. It also replaced the ASN-92 CAINS on EA-6B aircraft.

The system served the US Navy well for almost 15 years as its standard INS for several carrier-based aircraft. However, it was superseded by Litton's ASN-139

CAINS II on new-production aircraft with the award of an initial production contract in August 1989.

Contract activity during the 1990s has consisted only of repair/spare parts work. In August 1992 and February 1993, such contracts were awarded to Litton Guidance & Control Systems. Each was worth about US\$6 million, and was to last for one year.

## Funding

No recent funding has been identified.

## Recent Contracts

None identified since the following:

<u>Contractor</u>	<u>Award (\$ millions)</u>	<u>Date/Description</u>
Litton	6.1	Feb 1993 – Delivery order for the repair of 25 line items (parts) of various nomenclatures in support of the ASN-130A. Completed Feb 1994. (N00383-87-G-K054-0030)

## Timetable

<u>Month</u>	<u>Year</u>	<u>Major Development</u>
	1978	First F/A-18 RDT&E aircraft flown
	1980	First production F/A-18 aircraft flown
	1981	First AV-8B prototype aircraft flown
	1983	Approval obtained for EA-6B modification
Oct	1983	Marines began AV-8B flight tests
	1989	ASN-139 CAINS II began to supersede ASN-130 in new aircraft
Early	1990s	Low-level support continued
Feb	1994	Last reported repair contract completed

## Worldwide Distribution

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The ASN-130 CAINS was installed primarily aboard **US Navy, Canadian, Spanish, and Australian** F/A-18 aircraft. The Marines' and the Spanish Navy's AV-8B Harrier IIs were also equipped with the system, as were the **UK's** Harrier GR5/GR7s.

## Forecast Rationale

Those aircraft types equipped with the ASN-130A – the EA-6B, AV-8B, and the F/A-18A/B/C/D, and F-14D – will be, for the most part, operational at least through the first decade of the 21st century. Thus the CAINS will remain in service for some time. The entry of the

ASN-139 CAINS II into production, however, signified the end of the ASN-130A's manufacturing life. No news of significant activity has surfaced for several years, and no production is forecast.

## Ten-Year Outlook

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The forecast chart has been omitted. **THIS REPORT WILL BE DROPPED NEXT YEAR, 1999.**

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