

**LN-100R Embedded INS/GPS**

*The LN-100R reduces aircraft power consumption by one third and increases the MTBF by a factor of ten over the system being replaced*



The state-of-the-art replacement for all ARINC 561 inertial navigation systems (LTN-72 and Carousel IV).

**Overview**

The LN-100R is designed as a “Form, Fit, and Function” replacement for the commercial ARINC 561 inertial navigation systems. The unit is a specially packaged version of the highly successful LN-100G embedded GPS inertial system in mass production for multiple military applications for the US Government and other nations worldwide.

The LN-100R can be supplied with an embedded all-in-view GRAM-SAASM GPS system module, or it will operate with an external standalone GPS receiver. Originally developed for the US Navy P-3 INS replacement program (RINU), it has also been installed in the US Marine Corps C-130 aircraft, US Coast Guard C-130, and HU-25 aircraft.

A number of international P-3 operators have also elected to update their P-3 aircraft with the LN-100R.

Over 800 units have been delivered to date, with production rates as high as 50 per month.

The LN-100R reduces aircraft power consumption by one third and increases the MTBF by a factor of ten over the system being replaced.

The reduction in cost of ownership allows for an immediate return on acquisition cost and a full payback in less than five years.

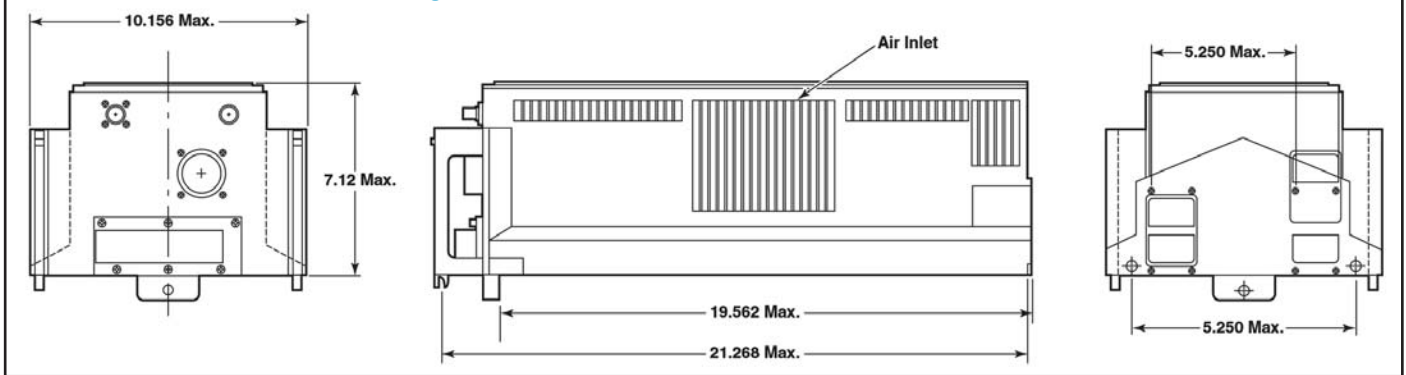
The LN-100R is designed to fit in a standard ARINC 561 mount and can be installed in place of older systems with virtually no aircraft modifications.

**Mechanical Features**

- Fits in a standard ARINC mount with no modifications
- No change to rear DPX connectors. New front signal connectors and RF connector
- All modules accessible from the top
- Cooling air 4.0 pounds per minute at 50°C (nominal)
- Core LN-100G in front with missionized electronics in rear
- Four spare card slots; interconnect provision for a spare 128-pin I/O connector; and I/O section modularized for future growth

## LN-100R Embedded INS/GPS

### LN-100R RINU Outline and Mounting



### Mechanical Characteristics

	<b>LTN-72</b>	<b>P-3/C 130 RINU</b>
Length	20.06 in. (50.95 cm)	20.06 in. (50.95 cm)
Width	10.15 in. (25.78 cm)	7.12 in. (18.08 cm)
Height	8.66 in. (21.97 cm)	7.12 in. (18.08 cm)
Weight	59 lb (26.6 kg)	40.7 lb (measured) (18.3 kg)
Power	375W	95W dissipated
Spare Card Slots		4
LRU Removal	Captive hardware	Captive hardware
GPS Battery Access		Replaceable from front
Parts Derating		89°C max. T at 55°C ambient and 4 lb/min of ambient cooling air

### Operating Ranges

- Acceleration 16g all axes
- Attitude (all axes) Unlimited
- Roll, Pitch, Azimuth Rate >400°/sec
- Roll, Pitch, Azimuth Acceleration >1500°/sec<sup>2</sup>

### Outputs

- Digital ARINC 561/575 & 429  
2 dual Mil-Std-1553/  
4 RS-422
- Analog/Discrete ARINC 561 compliant,  
plus additional heading  
outputs

### GPS Receiver

- SPS or PPS receiver
- Antenna IF or RF
  - Operating Frequencies L1/L2
  - Anti-spoof/Enhanced Anti-jam P(Y)
  - Channels 12
  - Correlators/Channel 10

### Power, Running

95W - 115 Vac

### Cooling

Air-cooled

### Environmental Requirements

DO-160

### Power, Running

95W - 115 Vac

### Cooling

Air-cooled

### Environmental Requirements

DO-160

### Navigation Processor

PowerPC™ 603

### Software

Ada language

### Maintenance

Two-level extensive BIT; no flightline test equipment required

### Calibration Interval

No scheduled calibration required

### Operational Service Life/MTBF

20+ years/17,400 (AIC)

For more information, please contact:

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