

## 3000U Serializer

The Model 3000U altitude serializer connects to the existing mode C encoder in the aircraft. It converts the graycode into a decimal format and sends it to the GPS receiver using a serial connection. It will function with Trimble, Garmin 150, Northstar, and Apollo GPS receivers.

- Northstar has tested and approved the 3000U for use with its GPS receivers
- Garmin has tested and approved the 3000U for use with its approach approved GPS receivers
- Trimble navigation has tested and approved the model 3000U for use with its GPS aviation receivers
- Il Morrow has tested and approved the model 3000U for use with all of its GPS aviation receivers

*Note: Please contact ICARUS if transponder is a Narco AT-50 or 50A or a Wilcox 1014*

**P/N 3000U**



### Specifications

Weight	5 oz.
Operating Temperature	-20° C to +55° C
Power Requirements	10 to 30VDC @ 20 mA (must be fused)
Mount	Any orientation: uses four screws
Converts Altitude	-1200' to 62,000'
Impedance	< 100K input on all code lines
Baud Rate	9600/2400/1200 baud one reading per second
Data Format	RS-422 balanced output & TTL output suitable for RS-232
Protocols	Trimble, Northstar, Garmin, & Apollo GPS receivers
PIN Configuration	P1 on unit DB15M; P2 on unit DB15M; P3 on unit DB9M
Size	4.2" x 3.00" x 1.00"



## See Mode C Encoder Simulator

The ICARUS See Mode C Encoder simulator generates grey codes just like a real encoder except you can dial in any altitude using the two front panel switches. This eliminates the need to pump up the encoder when you want to test a transponder, GPS, serializer preselector, altitude alerter, or just the Mode C wiring harness.

**P/N See Mode C**

## NavAlert II

Display is designed to require no dedicated panel space. It will mount between the artificial horizon and the directional gyro or HSI and will actually overlay the lower portion of many horizons. A remote processor is mounted in an encoder-size enclosure. A single knob requiring a 3/8" hole is used by the pilot, to control all functions of the NavAlert II.

Display mounts to panel using two #6 screws on 3.17" centers that match the King KI-525A and Kg 258/259 spacing. Display may be mounted using existing screws that mount the HSI or horizon. One small hole is required for three wires to connect to the NavAlert II processor unit.

- The pilot enters the current barometric pressure in inches or hectopascals using the unit's switch. The current encoder altitude corrected by barometric pressure may be displayed in either window and serves as a backup altimeter
- The target altitude may be changed and displayed in the right window. Target altitude can be set in units of 1,000' or 100'. The NavAlert's switch is always "hot" to set in a new target altitude. The previous GPS display will return after the new target has been set
- There is also a visual and audible "Gear" alert as the aircraft descends below 1,000' above the destination airport

### Display Size

- 3.5" W x 0.64" H x 0.47" D
- TSO approval is pending

### The following GPS parameters may be displayed on either NavAlert II window

- Time to waypoint
- Distance to waypoint
- Ground speed
- Ground track
- Waypoint ID
- Track error with turn direction arrow
- CDI with track error (0.3 or 1.0 nm full scale)
- Target altitude
- Option: VOR/LOC/GS display

### P/N NA2000-1



## ICARUS IRU-525

Save 15 hours with ICARUS IRU-525

1. Install spacers
2. Plug IRU-525 onto HSI
3. Attach cover

The IRU-525 is a VOR/GPS switching device that mounts directly on the rear of the Bendix-King KI-525A HSI, the display portion of the KCS-55A gyro compass system. The existing HSI P1 and P2 cables plug directly into the rear of the IRU-525. The use of the IRU-525 will reduce the installation time of a GPS receiver by eliminating the need to wire to an external relay device. The IRU-525 may be driven by a Mid-Continent MD41 series control head ACU (without relays) or by an individual NAV/GPS switch and annunciators.

### Fabricate the GPS wiring harness on your bench

Most of the GPS wiring harness can be fabricated on the bench, minimizing in-aircraft wiring requirements. It is estimated that the use of the IRU-525 will save 10 to 15 hours in a typical GPS installation. All of the OBS signals used by the King and Garmin receivers are accommodated by the IRU-525. In some cases, the wiring harness can be fabricated prior to the aircraft's arrival at your facility. A DB-37M connector on the rear of the KI-525 connects to the GPS receiver outputs, the GPS/NAV annunciators/ selector switch, and the autopilot inputs. The IRU-525 is powered by the existing NAV flag power signal that already goes to the HSI. There is an ILS override input to force NAV receiver selection when an ILS frequency is selected. There is also an autopilot sensitivity output that switches between the GPS and LOC receiver.

The GPS Display signal required by the KLN-89B and 90B is accommodated. A quick disconnect positronics DB-37F mating connector, machined connector pins, and hood are provided with the IRU-525.

### Includes OBS resolver signals for King/ Garmin receivers

All of the OBS resolver signals are switched. Both the 30 Hz and the 30/400 Hz combo models of the KI-525A HSI are supported. The KNS-80/81 DME enable circuit is also built-in. An external module is available that provides for the King mandated load resistors when a KX-165 receiver is used. This small module mounts on the hood of the DB-37F connector and eliminates the need for additional relay poles when a KX-165 is used. This module also has extra relay poles if they are required.

### Fail safe design

The IRU-525 has a fail safe design that uses an additional pole in the relays that drive the HSI needles and flags (except To/From) that insures that the appropriate relays activate or deactivate when the GPS/NAV switch is moved. If a relay fails to operate or sticks, neither the GPS nor the NAV annunciator will illuminate, warning the pilot of a failure.

All signals required by the KI-525A that are not switched between the VOR and GPS receivers are passed directly through the IRU-525. This insures that the compass card, heading synchro, bootstrap, power, and course datum signals will function properly.

### Works with any GPS receiver

The IRU-525 will function with any GPS receiver that can drive the KI-525A display. The King, Garmin, Trimble, II Morrow, and Northstar IFR GPS approach approved receivers are compatible with the IRU-525. Other receivers that are approved for en route and terminal IFR operations are also compatible with the IRU-525 and KI-525A.

### P/N IRU-525

