AG NAV

LiNav Specifications

Main

CPU:	Intel Atom 1.6 GHZ
SATA Hard Drive:	Flash 2 GB to 32 GB
RAM:	1GB
LCD Screen:	6.5" Full colour, sunlight readable, LED backlit

Communication

Serial:	4 x RS232 serial ports
USB (2.0):	2 x USB ports
Keypad:	Electrometric tactile keypad, 6 soft keys for program navigation, 3 control keys: on/off, brightness, up/down
Other:	Remote Boom Switch

Mechanical

Dimensions:	179 mm (W) x 134 mm (L) x 38.455 mm (H)
Material:	Aluminum Alloy
Mount:	Chassis mount bracket Adjustable Ram Mount
Enclosure:	Dust proof and splash proof
Weight:	1.5 kg

Power

Input voltage:	10-30 VDC (Reverse Polarity Protected)
Operating Temp:	14 °F to 149 °F (-10 °C to +65 °C)

Ask about the P-500 GPS Engine by AG-NAV for information regarding signals and accuracy.

The LiNav is a DGPS navigation system designed to meet the specific requirements for general aerial survey. The LiNav system provides the pilot with swath, directional guidance, and other navigational information required to carry out precise aerial applications.

The LiNav consists of a compact, intelligent Moving Map Display with keypad, a choice of AG-NAV's light bars (steering indicators) to suit the application and type of aircraft, and a stand-alone DGPS receiver system. The LiNav system is used with a variety of DGPS receivers incorporating OmniStar L-Band satellite differential or WAAS and/or Coast Guard Beacon.

LiNav uses the popular PNAV software with customized data output that has proven user-friendly and successful in general survey application. The software features:

- Real-time 3D navigation program
- Pre-flight simulator and planning program
- Utilities for uploading and downloading data
- Set up survey area
- Define line direction
- Automatically generate flight lines to cover area
- Rotate area in direction of flight
- Four flying modes: Map, Grid, Line, Waypoints
- 3D guidance

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How It Works

Theory

LINAV uses a horizontal cross-track indicator for XY (left/right) directions and a vertical bar for the Z direction (altitude). Horizontal navigation is performed using a pre-defined Flight Plan as a horizontal reference. The vertical (or altitude) reference is obtained from a gridded (using Geosoft) image of the area.

Reference Grid File

The reference altitude grid file can be generated using various methods.

1. Tie Lines of the survey area can be flown and the GPS altitude data gridded using Geosoft. This Tie Line Grid file can then be used by LINAV to provide pilots with exact vertical navigation to ensure Flight Lines intersect Tie Lines.

2. USGS 30 arc second digital elevation data can be purchased from the internet. This data should then be gridded using Geosoft and used by the LINAV as an accurate vertical navigation reference.

3. Any other local "digital elevation data" converted into a Geosoft grid file can also be used.

The altitude (or vertical) data for the LINAV is the GPS altitude. The LINAV is commonly used with real-time differential corrections, resulting in sub-meter DGPS data.

The Main Display shows the aircraft overlaid on the Flight Planned area. The third dimension is shown with an additional vertical 'deviation' bar on the Main Display. This vertical bar indicates the difference between the aircraft altitude and the reference altitude. If the aircraft is above the reference altitude, the bar goes down and if the aircraft is below the reference, the bar goes up. As with Horizontal Navigation, the Pilot 'follows the bar'. The scale of both navigation bars can be set by the pilot in order to control accuracy.

Recorded Data

The LINAV can record aircraft Flight Path by storing X, Y, Z, altitude difference and heading to disk. This file can then be imported into Geosoft for verification and printing purposes.

The LiNav has proven for years to be user-friendly and successful in all applications that require accurate navigation. With excellent support from AG-NAV, you will feel that we are always with you to find the best solution for your challenges.

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