



SPAWAR
Systems Center
San Diego

NAVSSI Lite

The Navigation Sensor System Interface (NAVSSI) is a U.S. Navy system that distributes highly accurate navigation data to shipboard systems and provides an electronic display of Digital Nautical Charts for use by the ship's navigation team. NAVSSI is deployed aboard over 70 surface combatants. It is a highly capable and robust system that supports many interfaces and is designed to meet the Navy requirements for Electronic Chart Display and Information System-Navy (ECDIS-N). However, the standard NAVSSI hardware suite is too large and expensive for many applications. In response to the need for integrated navigation systems aboard many platforms that will not receive NAVSSI, the Navy has ported the NAVSSI software to a smaller, less expensive suite of hardware. This new system, called NAVSSI Lite, provides a completely scalable solution capable of being tailored to the specific needs of the vessel class. A wide range of combinations may be built; the following are some examples:

- **Minimalist Approach**—This option may be used on small craft such as launches, FMS Missile Boats, LCACs, or the new In-Shore Boat Unit (IBU) (figure 1).
- **ECDIS but No 19-inch Rack**—This option may be used on small ships, such as Mine Warfare Vessels, Coastal Patrol craft, or supply ships that require accuracy but have limited interfacing requirements (figure 2).
- **19-inch Rack, but No Chartserver**—This option may be used on larger vessels that require both ECDIS and interfacing capabilities, such as FFGs (figure 3).
- **19-inch Rack with Chartserver, Embedded Inertial Navigation System (INS), and Remote Bridge Workstation (BWS)**—This option may be used on larger vessels that require ECDIS but that also need significantly more capability, such as National Imaging and Mapping Agency (NIMA) chart distribution (figure 4).

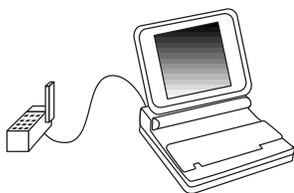


Figure 1

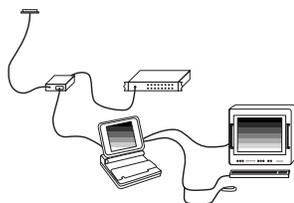


Figure 2

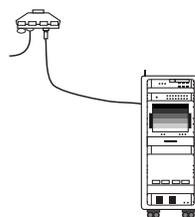


Figure 3

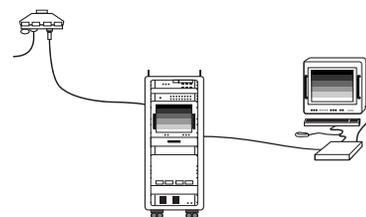


Figure 4

NAVSSI LITE FEATURES

- Provides a Y-code-capable Global Positioning System (GPS) receiver
- Provides a human/machine interface for the GPS receiver
- Can display ship/radar data overlaid on a Digital Nautical Chart (DNC)
- Has a flexible software design that requires minimal new code
- Supports a remote monitor
- Meets requirements of Digital Chart Navigation (DCN)
- Supports raster and vector digital chart products
- Provides output interfaces to send navigation data to other user systems
- Supports auto-piloting and collision avoidance
- Serves charts to other shipboard users of NIMA data
- Uses available, low-cost Inertial Navigation System (INS) or gyro data to aid the GPS receiver

For additional information, contact:

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This technology may be the subject of one or more invention disclosures assignable to the U.S. Government.

Licensing inquiries may be directed to
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