

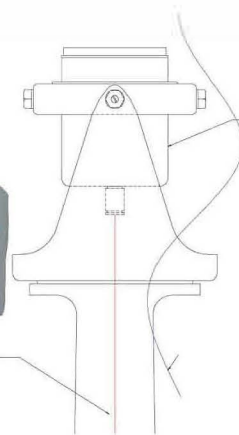
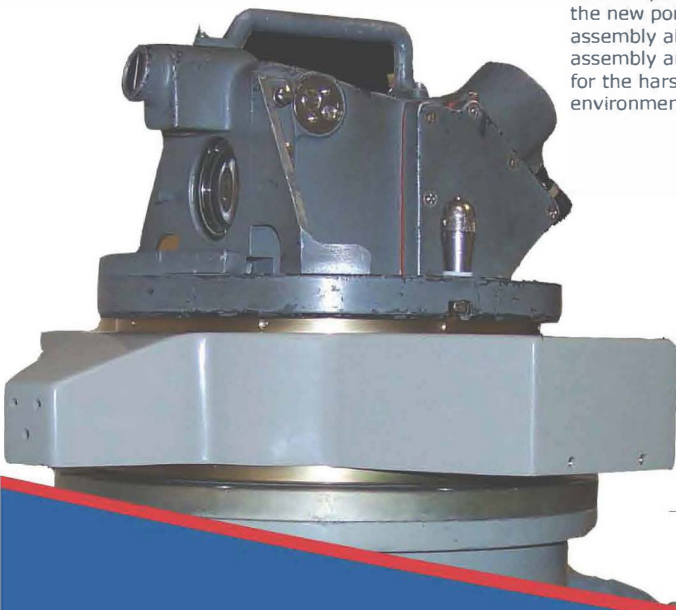
The TBT was originally designed for the U.S. Navy's SPAWAR Systems Center Atlantic. Innovative and effective solutions; now that's what Geodesicx is all about!

## GX-970 True Bearing Transmitter... Geodesicx's innovative electronic pelorus

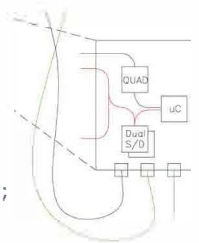
### Advanced Vision-Based Navigation Technology

IALA's World Wide Radio Navigation Plan states that "an 'electronic pelorus' ... would enhance the functionality of the traditional shipboard compass for taking bearings of fixed and floating objects, by capturing bearings that would then be automatically recorded for use within the electronic navigation system. An integrated electronic pelorus must be capable of visually sighting an object and transferring a line of position (LOP) to an electronic navigation system display, possibly by pulling a trigger or pressing a button."

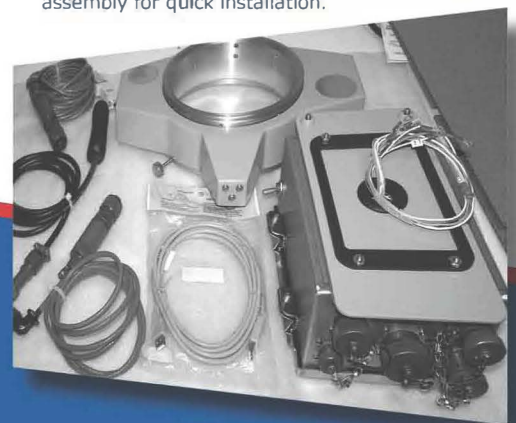
The compact design of the new portable sighting assembly allows for easy assembly and is designed for the harsh shipboard environment.



GYROCOMPASS REPEATER



The TBT Delivers:  $\pm 0.1^\circ$  accuracy; automatic time tagging of each bearing measurement; and easy assembly for quick installation.

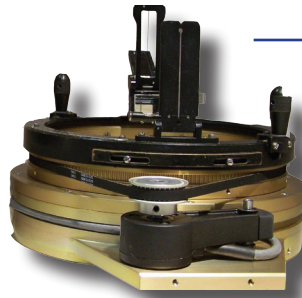


The TBT kit quickly mounts to the pelorus stand and repeater, converting the existing hardware into an electronic pelorus.

### Improved Accuracy

Introducing Geodesicx's True Bearing Transmitter (TBT). Submarines have always had the ability to obtain accurate bearing information of shore-based navigation aids through the periscope. Our TBT, which combined with existing pelorus hardware, provides surface ships with the same capability. Developed for rapid installation, the improved precision of the visual bearings provided by the TBT translates directly to improve fix accuracy.

# Geodesicx's advanced technology solutions integrate seamlessly with new or legacy systems and data interfaces.

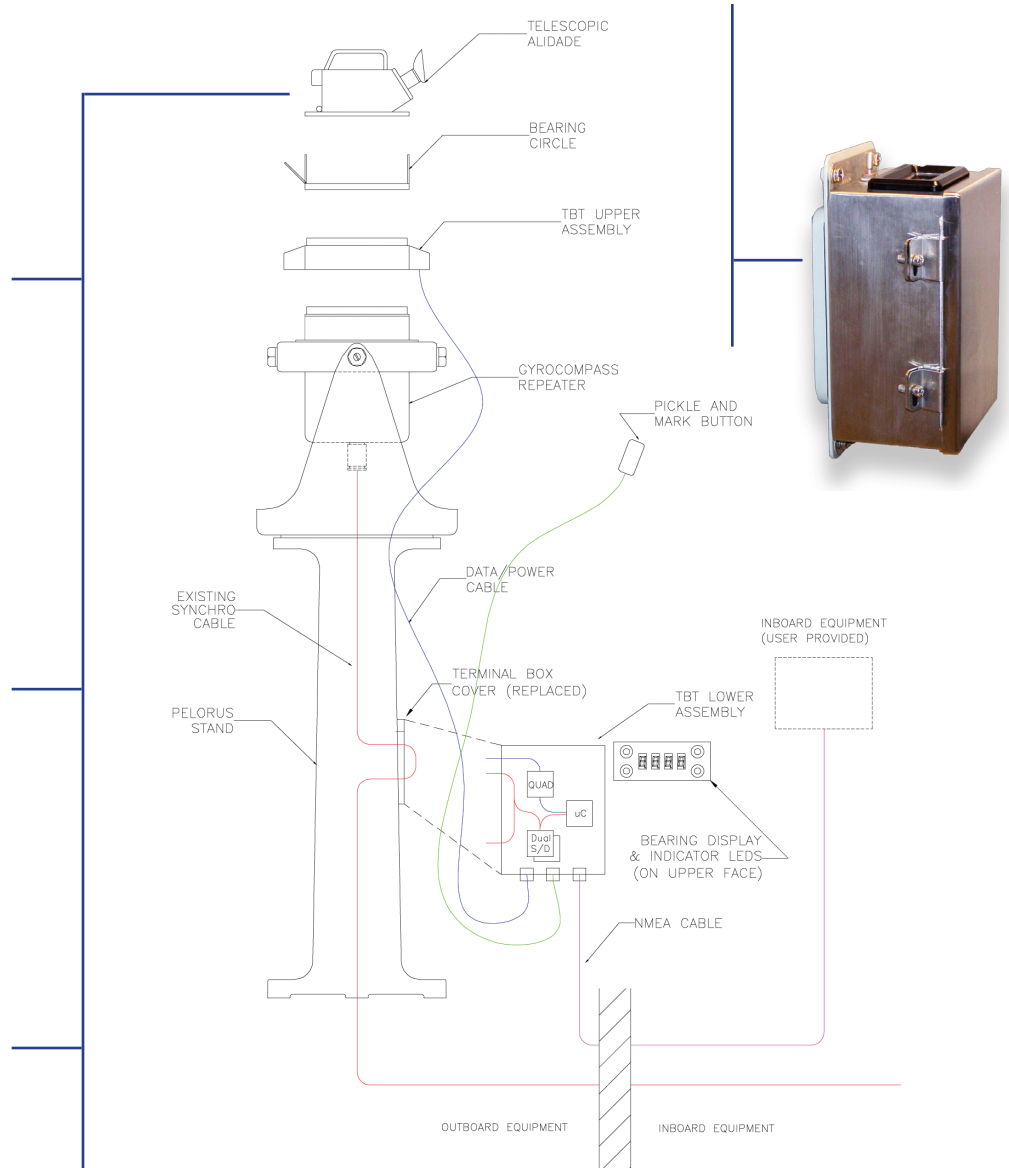


▲The TBT consists of two main assemblies: the portable sighting assembly, mounted to the top of the gyrocompass repeater; and a permanently installed lower assembly on the base of the pelorus stand.

▲The True Bearing Transmitter provides an electronic data link between the ship's pelorus-mounted gyrocompass repeaters and the navigation equipment. It is installed, as needed, as a temporary fixture onto the face of a gyrocompass repeater. Once aligned, the TBT transmits continuous bearing information to electronic charting systems and optionally flags the bearing with a mark indicator when the operator presses the mark button.

▲The top assembly is affixed to the compass repeater and then a sighting device, such as a bearing circle or telescopic alidade, is mounted to the top assembly. The electronics in the top assembly measure the relative bearing from the pelorus to the target navigation aid.

▲The lower assembly receives own-ship's heading from the synchro-to-digital converters, combines this with the relative bearing from the upper assembly, and then provides the resulting true bearing over a serial data link to electronic charting systems.



▲The TBT lower assembly replaces the stock cover over the junction box on the base of the pelorus. It contains the power supply for both assemblies, the synchro-to-digital converters, the operator controls and indicators, and the operating firmware.



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