



Parker Maritime Position and Attitude Control

Vessel Reference System

Parker Maritime

establishes a vessel 3D reference system. This coordinate system is based on the vessel centreline, rudder stock and reference plane based on main deck. All measured items are connected to this coordinate system. The reference system is secured by permanent targets. This simplifies installation of new equipment.

Static Gyro, Pitch and Roll Calibration / Verification

Our GPS / Glonass-based heading and pitch system enables continuous vessel heading device monitoring. In combination with special developed software, it is a simple way of checking the heading devices while the vessel is alongside.

It is independent of onshore reference points because our GPS antennas are onboard the vessel. The simultaneously logged data from the vessel and our GPS system are imported to the Parker AttCon software. Report is issued on site soon after the survey is completed. Prior to this survey, a common coordinate reference system is established onboard. [Read more.](#)

The results are presented as figures and graphs. The survey personnel onboard can immediately verify the results and, if they wish, enter the obtained C-O values into the vessel system. If necessary, a new verification survey can be carried out immediately.

Accuracy expectations depend mainly on antenna positions, undiscovered time discrepancies and multipath. Expected accuracy: Heading $0.23^\circ/L$ RMS, roll/pitch $0.46^\circ/L$ RMS, where L is antenna separation in meters.

Dynamic Attitude Verification

Parker Maritime has developed a four antenna GPS attitude verification system, AttConPRH, in collaboration with the Hydrographic Service of the Norwegian Mapping Authority (NHS), designed for doing dynamic vessel attitude sensor verification like Pitch, Roll and Heading. This system enables a complete verification of the vessel attitude sensors during realistic movements of the vessel. Report is issued on site soon after the survey is completed. [Read more.](#)

DGPS / RGPS check on vessels - while vessel is alongside

Coordinate points will be established and related to a known global reference frame (e.g. WGS84, current epoch) anywhere in the world. Our GPS equipment will be used for logging, typically through the night prior to the DGPS health check. Thus, we avoid the reliance on national grids. The vessel observations together with our observations are imported to the Parker PosCon program. Then, C-O as well as the quality determination of the observed data is calculated. Report is issued on site soon after the survey is completed. [Read more.](#)