

Gyrodata's High-Precision Rate-Gyroscopic Technology has been developed further to offer operators an optimum high-tech solution for:

- » Rig-Time Savings
- » Safer Drilling Operations
- » Real-Time Gross Error Detection

The second generation Gyro-Guide GWD40™ incorporates new firmware and data processing techniques for a significant increase in capability and functionality, including:

Memory Multishot Survey on the Outrun

Through a new communication link, the system can now be instructed to run a memory multishot survey while tripping out of the hole – providing numerous benefits:

- » Definitive, high-accuracy survey from section TD to surface with each run verifies and qualifies both MWD and GWD performance during the drilling operation
- » Survey data is improved by applying MSC (Multi-Station Correction) calculations during the out-run operation
- » Immediate knowledge of accurate wellbore position increases safety and confidence in decision making
- » Additional services per run with no added rig-time can also eliminate the need for some separate gyro runs

Increase in Inclination Operating Range to 40 Degrees

New data processing software, the CAP™ system (Continuous Adaptive Processing), doubles the inclination capability of Gyro-Guide to 40 degrees during the drilling operation.

GWD40™ Provides Additional Time Savings

Data processing enhancements have reduced the Pumps-Off surveying time.

Features:

- » Gyro-Guide GWD40™ is a fully integrated guidance system housed in the MWD tool string— providing high accuracy rate-gyro steering while drilling
- » Proven ruggedized rate-gyro and accelerometer sensor array with a proprietary shock isolation system
- » Provides continuous toolface data from vertical while drilling and full surveys when required
- » Communicates in real-time through the host MWD mud pulse or EM telemetry system

GWD40™

**Advanced
Collision
Avoidance**



- » IMT Mode allows accurate survey operations in areas with excessive BHA movement, such as on floating structures and in riser-less applications

Benefits:

- » Gyro-Guide GWD40™ saves considerable rig-time and provides a safer operation by eliminating the need to use wireline gyros to orient or steer drilling assemblies
- » Rate-gyro accuracy assures precise wellbore guidance for collision avoidance and accurate wellbore placement while drilling.
- » Gyro-Guide GWD40™ sensors can run closer to the bit in the MWD string since they are not affected by magnetic interference and require no spacing collars
- » Gyro-Guide GWD40™ operates in conjunction with most MWD systems, providing operators with greater flexibility in the selection of suppliers
- » Gyro-Guide GWD40™ performance, when combined with the MWD data, provides detection of gross errors

Specifications

Sensors: Three axes of rate-gyro and accelerometer sensors.

» **System accuracy at maximum inclination:**

Azimuth	± 1.0°
Inclination	± 0.1°
Gyro Toolface	± 1.0°
Gravity / High-Side TF	± 0.1°

» **Maximum inclination:** 40°

» **Probe OD:** 1 7/8"

» **Pressure rating:** 20,000 psi

» **Temperature:** 150° C / 300° F with no time constraints