

ADVANCED MINING TECHNOLOGIES

The logo for Advanced Mining Technologies (AMT) features the lowercase letters 'amt' in a bold, italicized, white sans-serif font. The letters are set against a dark blue square background that is partially offset to the right and bottom, creating a layered effect.

amt

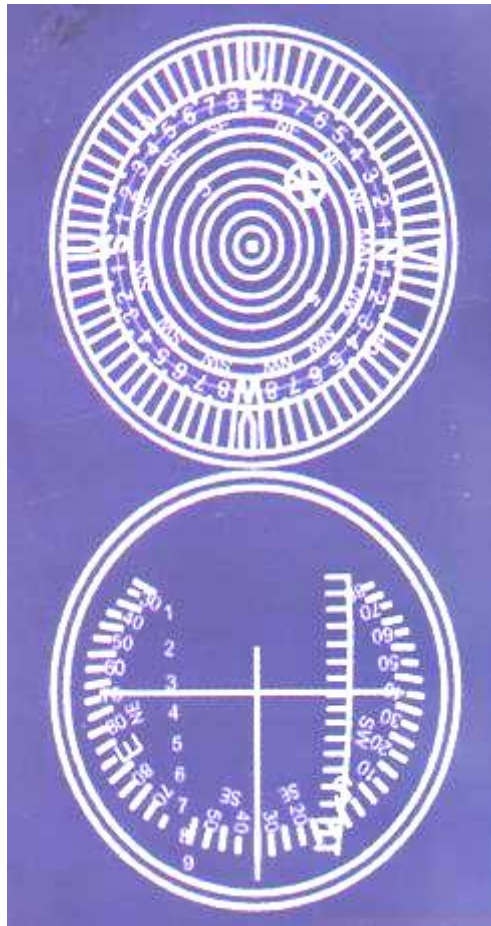
Drill Guidance System

The Survey Tool with a future

By: Henk Verhoef

Advanced Mining Technologies

Pre 1990 – Single shot Camera



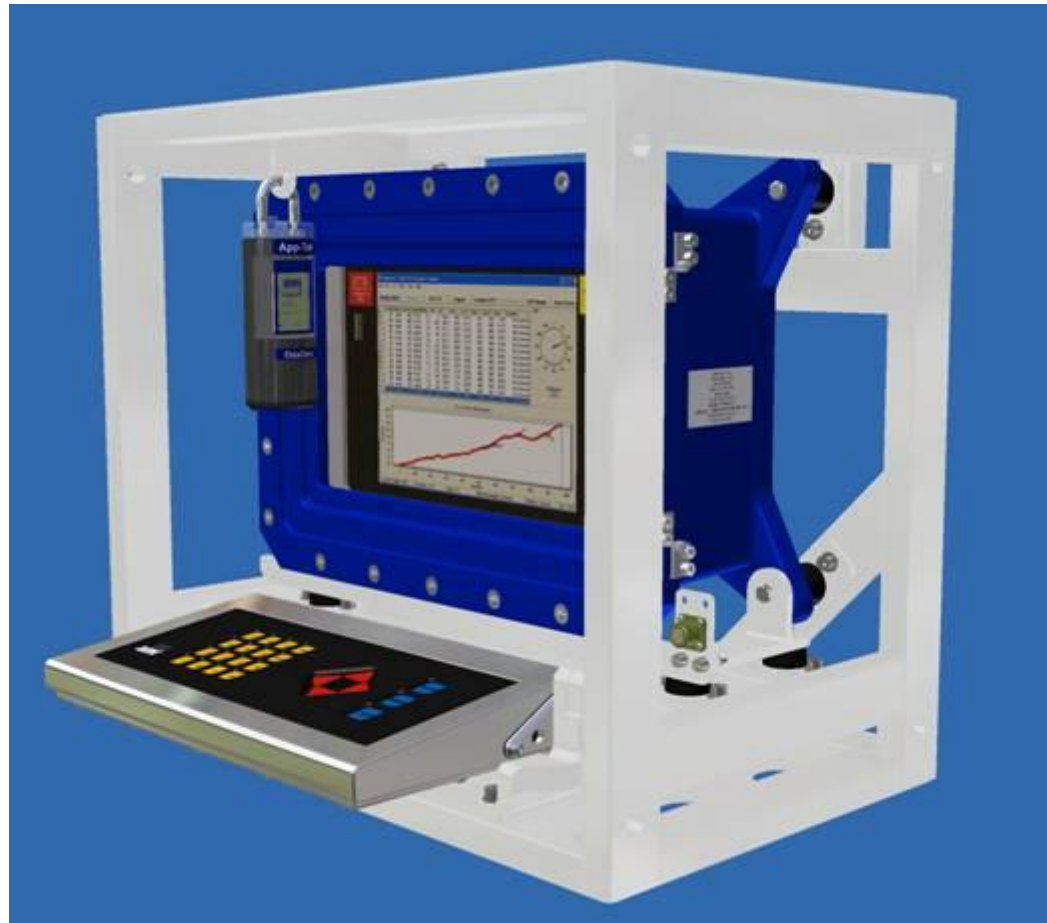
1990 – 1995 DDM Acoustic



1995 – 2004 DDM MECCA



2004 - Drill Guidance System



Technical Issues - Certification

- **Compliance with Australian and overseas Standards**
- **Ex d i a m s**

Technical Issues – Downhole Design

- **Sensor issues**
- **Material issues**
- **Electrical power issues**
- **Space restriction**
- **Vibration issues**
- **Two way communication issues**

Technical Issues – Communications

- **Acoustic (Sound)**
- **Mud/pressure pulses**
- **Wire line**
- **Electromagnetic waves**
- **MECCA drill rods**

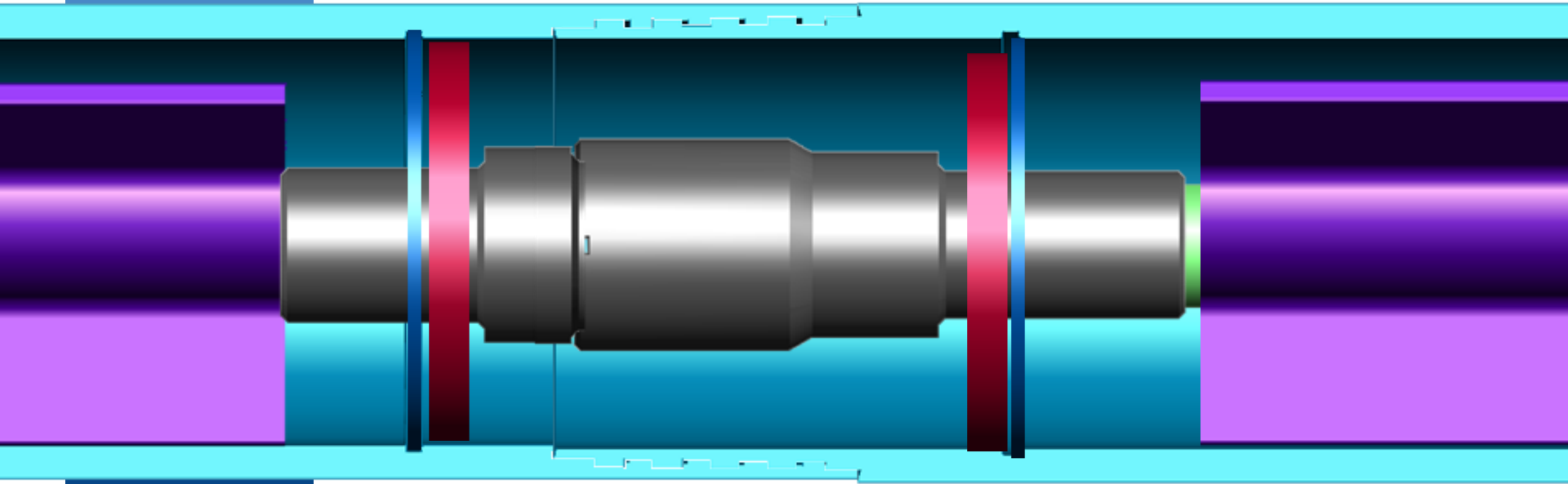
Technical Issues -Communications

Modular Electrically Connected Cable Assembly (MECCA)



Technical Issues - Communications

Modular Electrically Connected Cable Assembly (MECCA)



Technical Issues – Survey Sensors

- **Magnetic and gravity measurements**
- **Gyroscopes**
- **Accelerometers**

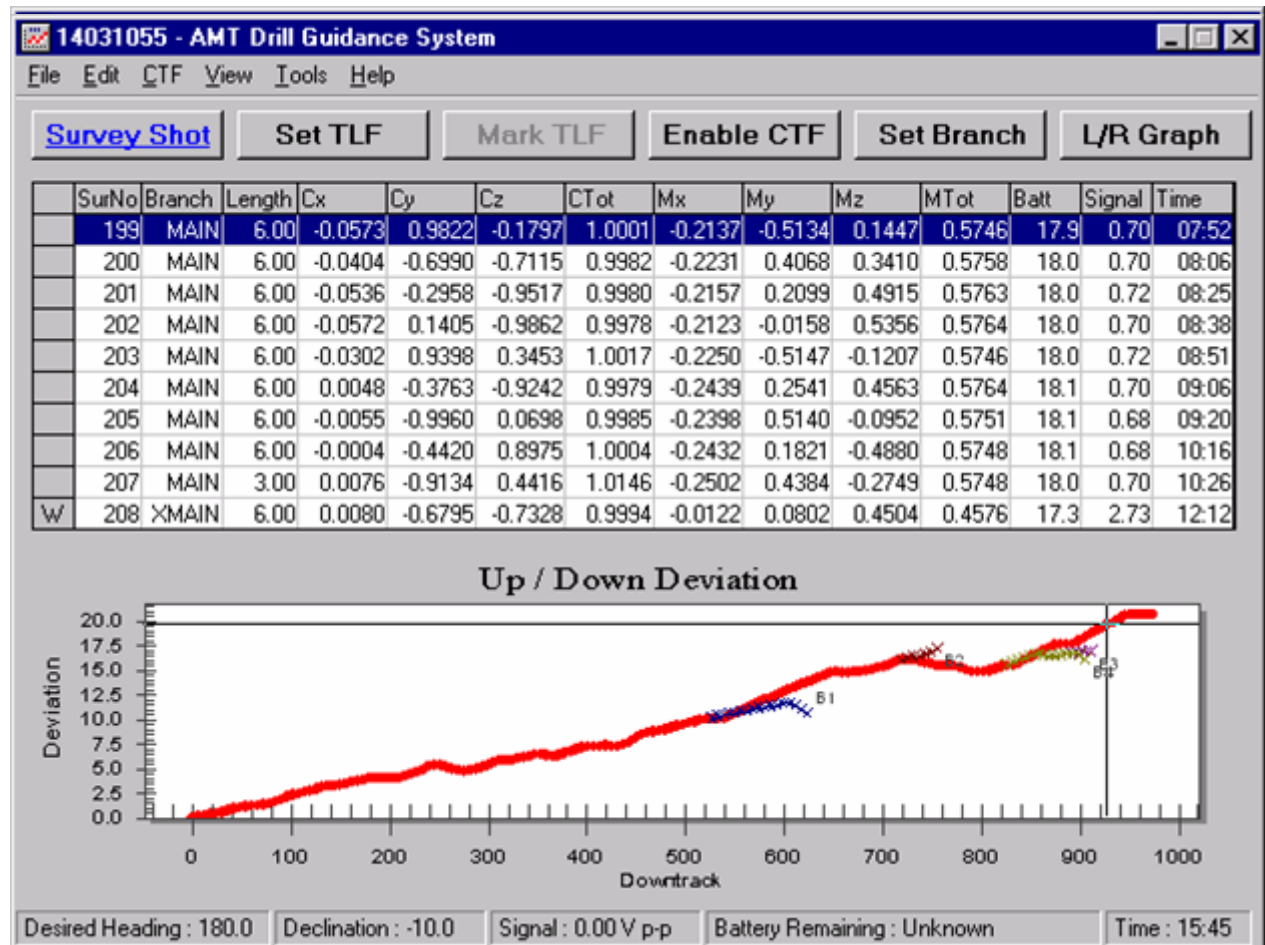
Design Issues – Future

- **Geophysical sensors**
- **Roof and Floor distance detection**
- **Drill rod counting system**
- **MWD gas contents measurement**
- **Drill rig monitoring**
- **Etc.**

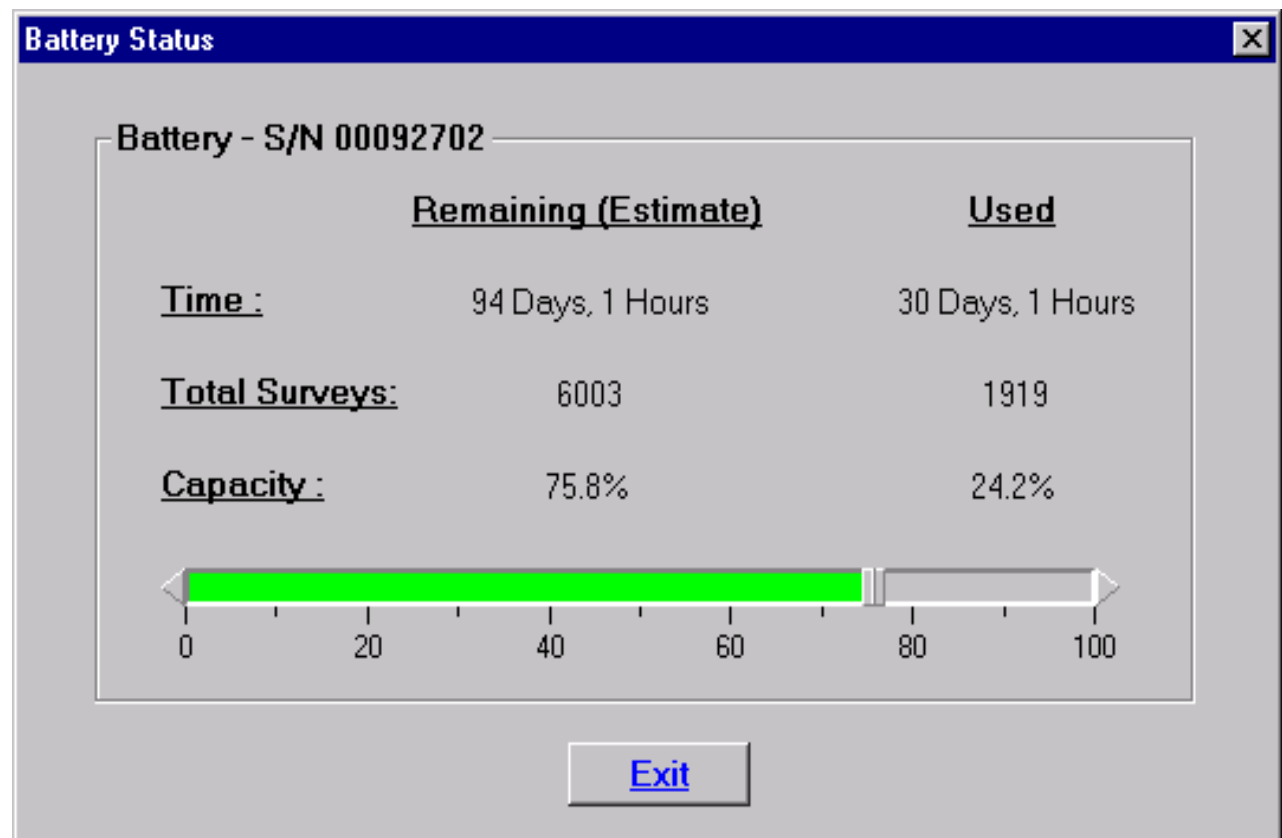
Design Issues – Flexibility

- **Multiple Language Support**
- **Program flexibility and upgrades**
- **Bore hole planning or guidance**
- **Communication protocol and data transceiver hardware**
- **Etc.**

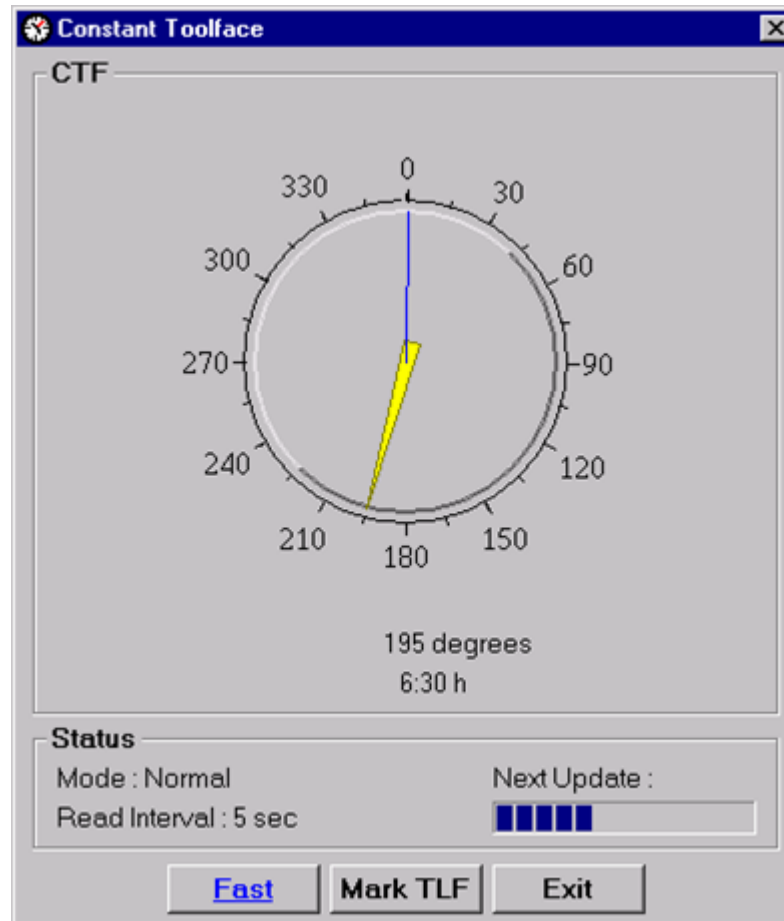
Numeric display / Borehole graphs



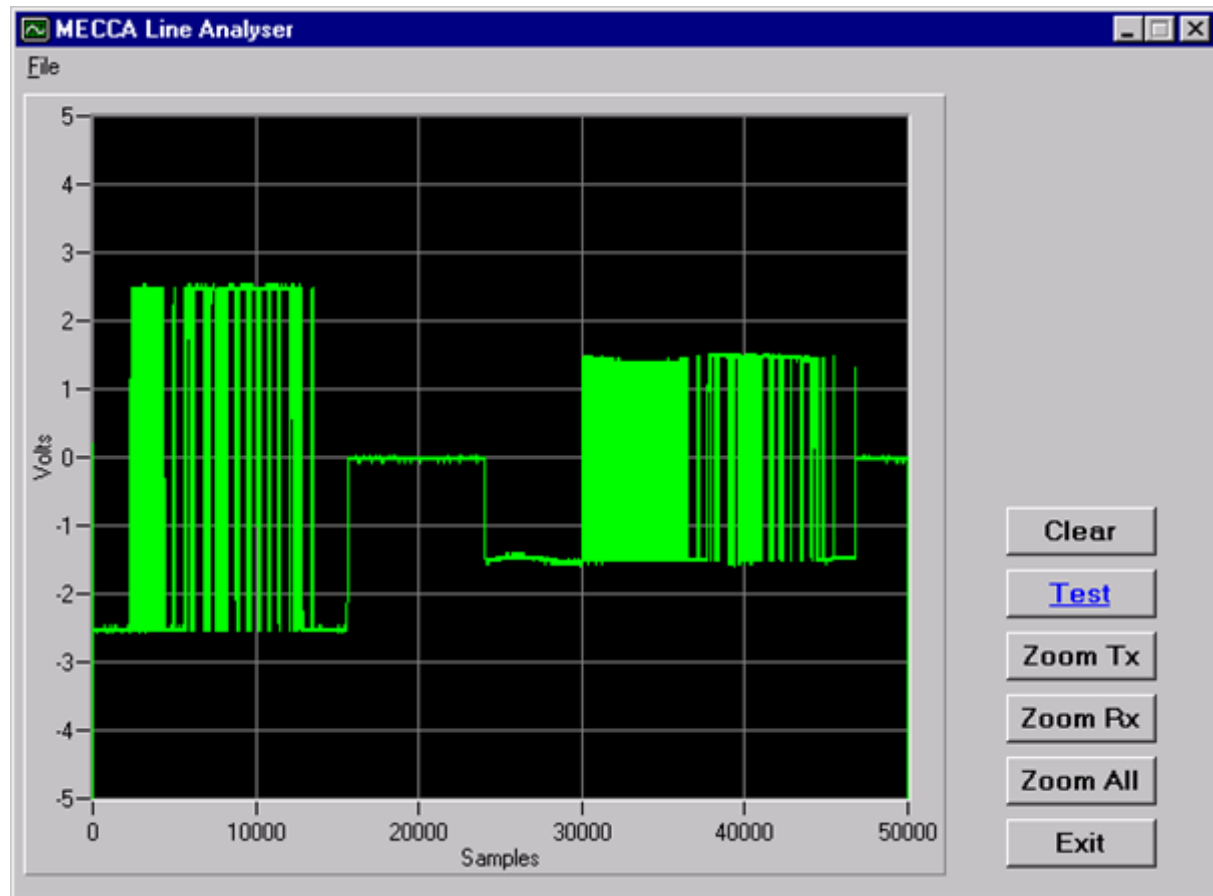
Downhole Battery Management



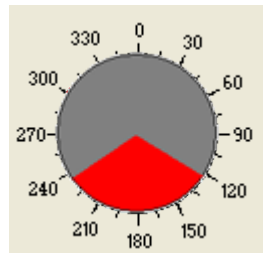
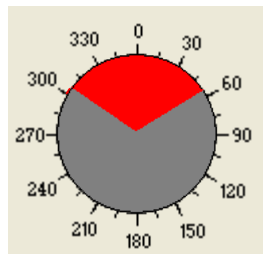
Continuous Toolface Display



Built in Diagnostics tools



Focussed Gamma Sensor



Gamma [Close]

Gamma	CPS	GTF
<u>Gamma 1:</u>	340	0
<u>Gamma 2:</u>	51	180

Progress:

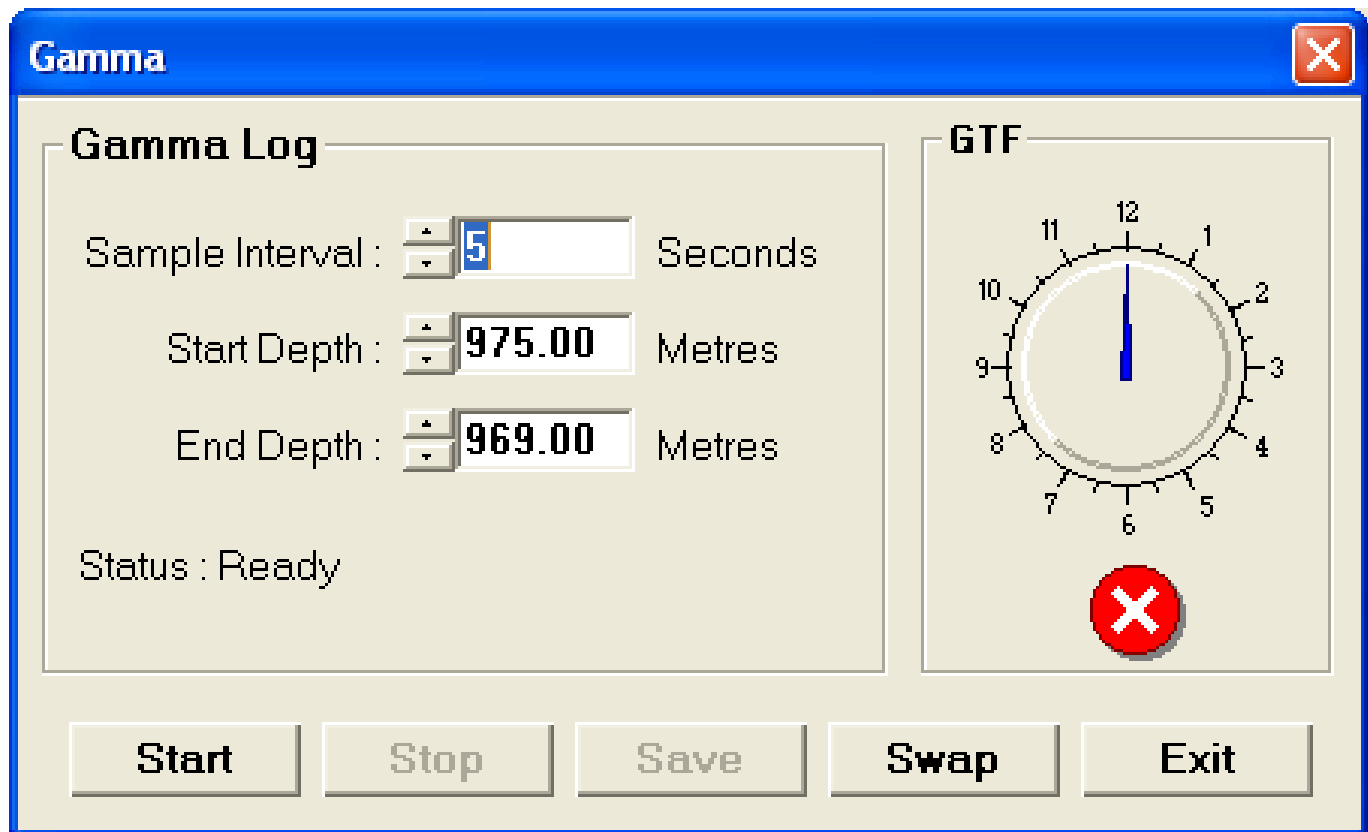
Read Interval:

GTF

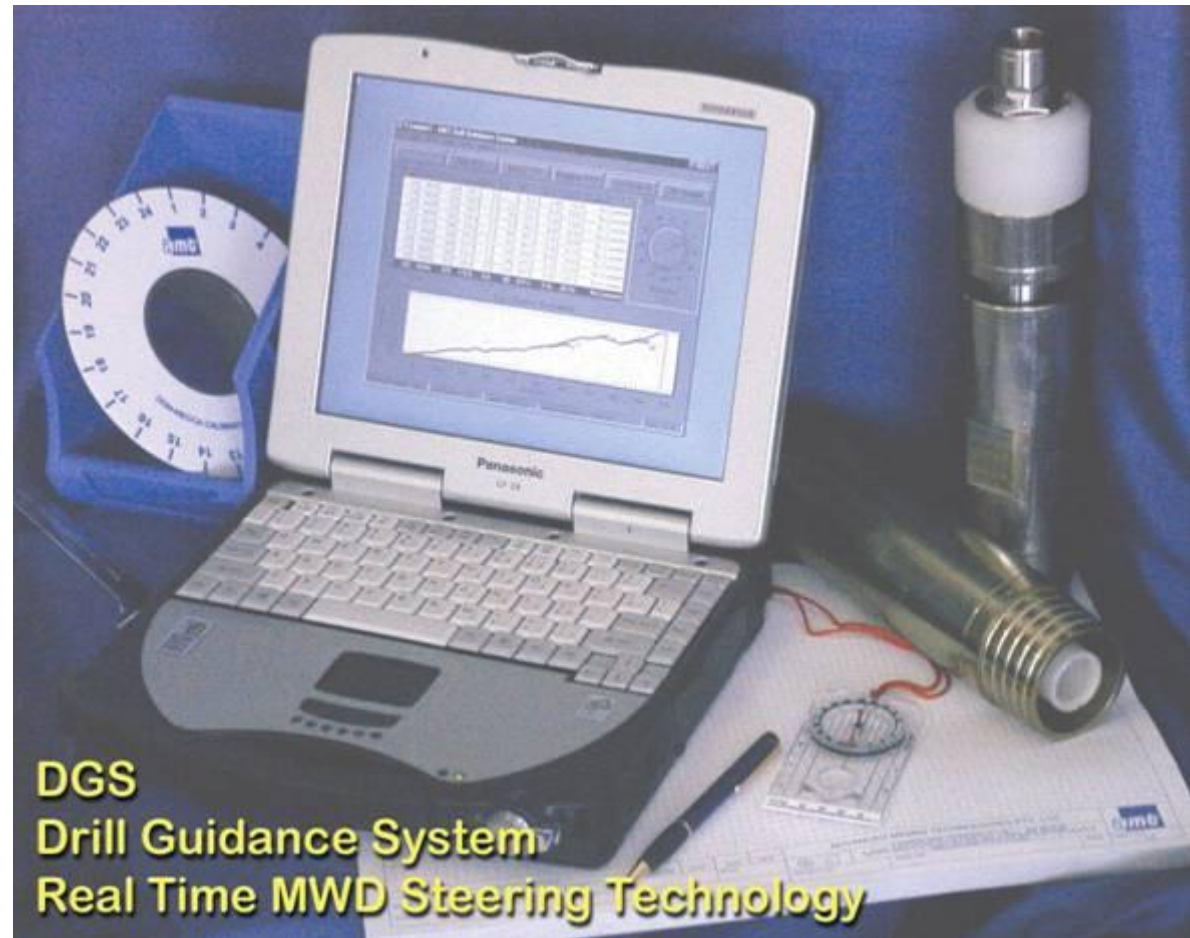
180 degrees
6:00

Start 1 Start 2 [Save](#) Exit

DGS – Gamma Logger



Surface to in-seam capabilities



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