

ELECTRONIC MULTISHOT TOOL (EMS)

Designed to meet the demands of the borehole survey market, the EMS probe provides high accuracy definitive survey information, before you case the well - in time to make any directional course corrections.

It provides a cost effective alternative to photomechanical wellbore survey tools, eliminating the need for film developing, yet fits in Peewee size running gear. The EMS also provides extended operational performance over conventional electronic multishot products on the market.

The EMS can be readily connected to any Windows (95/98, 2000, XP, ME) compatible computer. Using the DMS Drillog™ survey and graphics software, survey output formats can be customized by the user. These can include a variety of parameters and plots including time, depth, inclination, azimuth, gravity highside, magnitude and dip of earth's magnetic field, probe temperature and raw data output for each sensor. The EMS can also be used in conjunction with a handheld palmtop style computer when a PC is not required.



APPLICATIONS AND BENEFITS

The EMS represents a new generation of downhole survey technology and offers a number of benefits including:

- ***Low Cost alternative to existing systems, while maintaining compatibility with them (including all running gear).***
- ***High reliability and reduced operating costs through the use of established sensor technology and service policy.***
- ***Superior performance due to sensors and calibration.***
- ***Modular hardware and software provides ease of use and flexibility***
- ***Small Size for slimhole and short radius applications***
- ***High Temperature Capability (can also be used with low cost thermal shields)***

- **Built in system level QA checking features and troubleshooting.**

**Electronic Multishot
Survey Tool (EMS) Summary**

Typical Instrument Accuracy

Inclination	: +/- 0.1°
Raw Azimuth	: +/- 1.0° (Inc >20°, Dip <70°)
Toolface	: +/- 0.1°

Operating Features

Instrument OD	: 1.0"
Instrument Length	: 36" max (incl battery housing)
Through conductors	: 4 min
Pressure Case OD	: 1.75" (incl thermal shield)
Pressure Rating	: 20000 psi
Data Storage	: Calibrated sensor data
Parameters	: G _{x,y,z} , B _{x,y,z} , Temp, Battery Voltage
Shot Capacity	: upto 5000 surveys
Power Source	: 6 AA Alkaline Battery Cells
Battery Life	: 40 Hrs (shot dependant)
Max Hold Off Time	: 200hrs
Surface Equipment	: PC Compatible Portable Computer With Windows 95/98, 2000, XP, ME

Sensors

**DMS Triax microsilicon accelerometer and
DMS triaxial magnetometers.**

Environmental

Temperature	: 0 - 400°F (With thermal shield)
Shock	: 1000g, 1/2 sine 1mS
Vibration	: 20g rms 5-500Hz

Note: Performance data is based upon measurements in a controlled environment and field results may vary