

The Next Generation MWD Kit

Powered by Mudlink Telemetry

The ultimate in rugged design. The Vertex MWD kit has the highest mud pulse data rates available for independent directional companies. 4 bits/second, that's 24 second full surveys and 2-3 second telemetry updates



The new benchmark in MWD platforms, rated to 175° C, rotary connectors, and in a retrievable system using a patented lock down muleshoe that is configurable for release. Other features include, continuous INC, continuous AZ while drilling, real time shock/vib, integrated gamma logging software, resistivity integration, integrated depth tracking, drilling dynamics, and pressure options No other pulse kit can compete.

Easy to learn, operate and assemble, with a low operating cost. Vertex has eliminated the need for expensive to operate, depth limited EM and dual telemetry systems. Get out of the legacy platform and in the new benchmark with Vertex Downhole.



“The new Vertex ‘continuous link’ real time inclination and azimuth with a mud pulse system, gives operations the same time and efficiency savings as ‘pumps off’ EM surveys.”

Rig Floor Display

- Class 1 div 2, Atex Certified
- 19" touch screen display
- Wireless, with wired backup option
- Dual digitizer decoding
- Most advanced pulse recognition and detection on the market

Pulser

- High speed brushless
- Full memory capability
- Configurable flow switch
- Strongest pilot valve on the market
- No depth or mudweight limitations
- High LCM capabilities, tested up to 810 lb/barrel

Rig MWD Specifications

Temperature.....	175°
Survival temperature.....	(-40°C to 185°C)
Pressure.....	20,000 standard 30,000 option
Vibration, random.....	20G RMS 10 - 100 HZ
Shock.....	500G, 1m Sec, half-sine
Operation voltage.....	18 - 30V
Memory.....	48 MB
Inclination accuracy.....	(± 0.10) while drilling (± 0.25)
Azimuth accuracy.....	Spread at 90 Deg Inc..... (± 0.25) while drilling (± 0.25)
.....	Spread at 10 Deg Inc..... (± 0.50) while drilling (± 0.25)
.....	Spread at 5 Deg Inc..... (± 1.00) while drilling (± 0.25)
Dip angle spread.....	(± 0.50)
Total g field spread.....	2.50 mg
Toolface accuracy.....	gravity highside..... (± 0.50)
.....	magnetic toolface..... (± 1.00)
Total magnetic field accuracy.....	3.00 mgauss
RPM measurement.....	2-200 (± 2% of value)
Shock and Vib measurements.....	1-100 G
Pilot valve push pull.....	200 lbs push 160 lbs pull

Pulse Positioning Method

Pulse Widths Showing True Bits Per Second

	1.2	1.0	0.8	0.6	0.5	0.375	0.25	0.15	0.125
M-ary Pulse (Tensor based systems)	0.3	0.5	0.7	0.9	X	X	X	X	X
Vertex Mudlink	0.36	0.6	0.86	1.08	1.2	1.8	2.4	4.0	4.8

■ Excellent decoding capabilities, 95% or better ■ Does not work.
■ Limited decoding, 70% or better, limited to depth, limited pulse tracking.

Tools vs. Depth

Bit rate vs. Depth: true bits per second (based on industry feedback)

	2,000	4,000	6,000	8,000	10,000	12,000	14,000	16,000	18,000	20,000
M-ary Pulse (Tensor based systems) Max bitrate	0.9	0.9	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.3
Dual telemetry Tools	12.0	10.0	8.0	4.0	0.7	0.7	0.7	0.7	0.7	0.5
Vertex Mudlink mud pulse only	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	2.4	2.4

Estimated cost to operate (based on industry feedback)

	bitrate	cost per day
M-ary Pulse (Tensor based systems)	0.9 bits/sec	\$ 240
Dual telemetry tools	8.0 bits/sec	\$ 2,000 +
Mudlink mud pulse only	4.0 bits/sec	\$ 340

