

Rapid Deployment of Broadband Communications for Oil/Gas Exploration and Drilling Operations

Reliable data communications are critical for drilling and exploration operations in today's digital oil field. Data is vital for efficiency, safety of the drilling teams, and the ability to rapidly deploy and periodically re-deploy communications to new drilling locations – all of which help reduce costs and downtime.



Data is essential at every step in operations. While drilling, a team of oil company employees and contract drillers use data to monitor vibration and pressure downhole, ensuring stability and avoiding catastrophe. Access to the corporate infrastructure for map data, e-mail, and video conferencing can increase efficiency. Video surveillance promotes safety and security for both personnel and assets. Ultimately, having reliable, flexible communications reduces stoppage time.

Traditionally, drillers in remote areas have relied on VSAT communications that can cost upwards of \$500-\$1000 per day and provide insufficient data capacity for the demands of the modern oil field.

Communications must be reestablished with each new rig deployment or movement of an existing rig, which can happen several times a week on an active field running numerous rigs. Ideally, the crew in the field can do this re-location themselves, without the need for resources to be scheduled from the networking team.

The Quick Deploy (QD) Positioner from Cambium Networks supports rapid deployment of broadband connectivity. Networks with QD can be set up and periodically moved to new locations safely and quickly -- ensuring optimal alignment and link reliability. Immediately after powering up, the system scans the horizon and automatically locks onto the incoming RF signal from the remote end with no human intervention



required (typically in less than 3 minutes). Also, the system maintains optimal alignment by periodically confirming the best signal available.

Compatible with both Point-to-Point (PTP) and Point-to-Multipoint (PMP) wireless broadband solutions from Cambium Networks, the QD Positioner can also be integrated with existing fixed broadband networks where available, and be used to prove connectivity with existing well heads. For example, an operator may have a fixed PMP network connecting hundreds of wells in a field. The QD Positioner can connect with each drilling rig and use the same access points as the fixed network. With Cambium's cnMaestro network management system, operators can manage the performance, configuration, and status of the broadband network with real-time visibility and SCADA process control and monitoring.

There are several mounting options operators can select for the QD Positioner, including a standard pole mount option:



1. Tactical deploy tripod mast,
which can be located on
the ground



2. Hand crank-up mast
which can be mounted to
the side of a trailer or
temporary shelter



3. Trailer-mounted mast
that can be pulled behind
a vehicle incorporating
solar panels and battery

The QD Positioner provides rapid ROI for operators by reducing or eliminating the time and resources needed for exploration and drilling applications. The faster communications can be established, the sooner the customer can start running their analytics and continue field operations. Maximizing network uptime and minimizing the need for on-site personnel translates monetarily to each remote site, saving companies hundreds or thousands of dollars in daily operating costs.



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