

Measurement Technology NW designs and manufactures sophisticated testing and measurement instrumentation systems for a variety of commercial, research, and government clients worldwide.

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Your source for advanced winch line control and monitoring systems

Project Profile – Moss Landing Marine Laboratory

You're off the coast of California in 8,000 feet of water aboard the R/V Point Sur, a 135' oceanographic research vessel operated by the Moss Landing Marine Laboratories. Over the side of the ship is a 3/4" wire rope attached to a multi-core sediment sampling unit that has been descending at 60' per minute for the last 2 hours. When sonar reports showed the package was approximately 30' above the ocean floor the winch came to a stop, and now, it's showtime. All eyes are focused on winch monitors that track the multi-core's final slow, controlled drop to the bottom and the beginning of the sampling process.

"Make a mistake during a coring cast," cautions Richard Muller, Marine Superintendent of Moss Landing Marine Labs, "and especially in deep water, you've blown half a day. To be successful, our winch operators need precise, real time winch data to have a clear picture of what's going on at the end of the wire. Our old winch data acquisition system was quickly becoming obsolete, and since we were installing a new CUBE6 winch from Markey Machinery, we decided to investigate new winch monitoring equipment too. **Measurement Technology NW** stood out as the only qualified group who could assist us with our needs."



Measurement Technology NW engineers visited the R/V Point Sur, discussed the situation with the ship's Marine Technicians and crew, and agreed to continue having all three ship winches monitored and controlled from the bridge. A new PC software program was developed that interfaced with rugged LCI-90 line control hardware, transforming the received serial data into a graphical display of line payout, speed, and tension. This exciting program, called WinchDAC, also features cast data logging capabilities that made it easy for scientists aboard the R/V Point Sur to match collected samples with information about where and when they were obtained.

"We were very pleased with the way the system worked on our last voyage," confirmed Richard. "The graphical WinchDAC display was perfect for executing the fine, detailed work we must do to gather undisturbed cores, and the program also let us verify at a glance that winch operations were remaining in safe zones."

Measurement Technology Northwest's exclusive winch monitoring system is a highly versatile platform that displays line tension, payout, and speed for multi-winch installations through a central operator computer interface. Signals from count and force sensors mounted on each winch are captured and converted into engineering units by an LCI processor, and the resulting data is communicated through a serial interface to a central PC with an optional touch-screen display. There, WinchDAC software generates a user-friendly graphical interface showing speed, tension, and payout alarm status.



The WinchDAC program has the ability to log and summarize cast data, replay the time history plot for line payout, speed, and tension from past casts on a second screen, calibrate winch tension and count sensors directly from the central computer (multi-winch version only), and allows operators to customize the display to their specific requirements.

The WinchDAC software package has been developed to accommodate any winch configuration involving one to eight separate winches.

“We deal with a great many vendors,” added Richard, “and Measurement Technology NW is about as good as it gets. We needed this new system to come together and perform the first time out, and they listened to us, worked hard, figured out the problems, and delivered a great product.”

Measurement Technology NW produces a wide range of precision line control products, including the LCI-90 and LCI-100 series, WinchDAC, and more. To learn how we can help your company improve the odds of success, contact us at 206-634-1308, or send an email inquiry to ICI@mtnw-usa.com.

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