

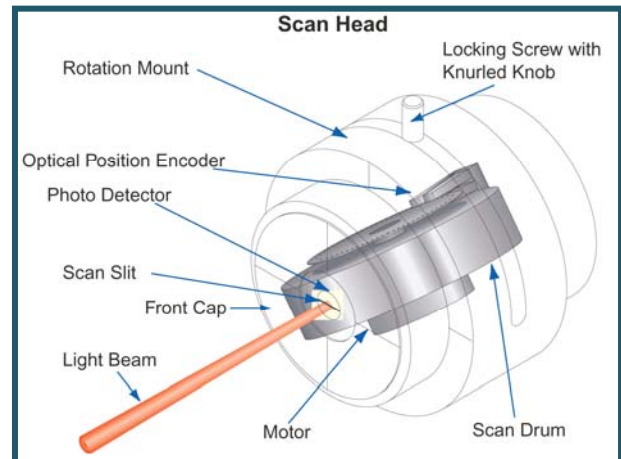
Technical Note

NanoScan Reliability and Service

Photon's laser beam profilers are known for their accuracy of measurements. NanoScan has become the *de facto* standard for measuring spatial beam properties of continuous wave lasers. Their measurement values have been independently verified to be accurate to better than $\pm 2\%$. Yet the reliance on these precise measurements indicates the need to ensure that NanoScan operations are problem-free and that the units continue to provide accurate measurements over time. So, Photon offers unsurpassed service support that includes calibration service and a toll-free hotline.

Photon prides itself on the reliability of our instruments, which is the reason NanoScan's precursor BeamScan became the industry standard for beam diagnostics. Our proprietary, phase-locked-loop (PLL) design ensures built-in calibration, which is why there are BeamScan units built in 1984 that continue to provide accurate beam width values. The DC motor used in NanoScans is designed to last indefinitely. It's rated at 10,000 rpm, but operates at only 600 rpm (10 Hz). The motor is so smooth and quiet that people standing near the operating instrument have asked, "What type of array detector do you use?" (Array detectors are CCD or CID devices that pick up the entire beam without mechanical motion; they typically lack the resolution of scanning aperture instruments).

Since the exact effects of time and operating environments are unknown, Photon offers a comprehensive calibration service during which we determine a unit's reliability. Our factory-trained technicians will compare your instrument to Photon's standards at the time of its manufacture, verifying the beam diameter readings and tracking performance over time.



During the optional calibration procedure we:

- ◆ Clean the scan head aperture (dust and environmental contaminants affect performance)
- ◆ Check for uniformity of the scan head detector
- ◆ Perform minor electronics upgrade and repair.
- ◆ Place a calibration service label on the instrument to indicate when the next service is due.
- ◆ Provide a "Certificate of Calibration" verifying the performance of your NanoScan.

When you purchase a laser beam profiler from Photon, such as a NanoScan, we want you to feel confident that it was the right decision for many years to come. Technical assistance will always be as easy as calling 1.800.374.6866 (U.S. only). We continue to service units that were manufactured when Photon began in 1984, and we are committed to being around a long time to service your instrument—should you require it.