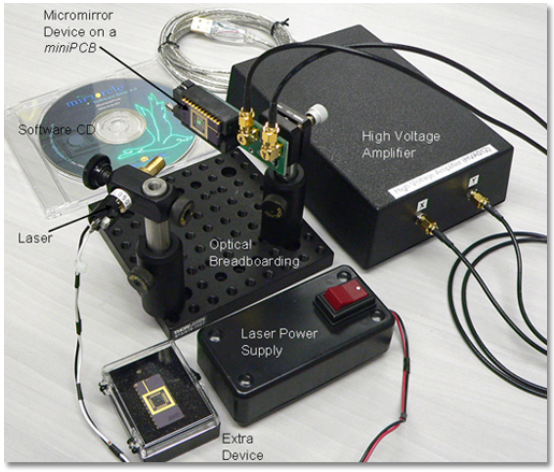
Mirrorcle Technologies Using the DT9812-10V for MEMS Product

Application:

Mirrorcle Technologies, Inc. www.mirrorcletech.com provides a variety of optical microelectromechanical system (MEMS) products and services, including single and dual axis mircomirror scanners and low-inertia reflectors.



Scanning two axis (tip-tilt) micromirror is an important technology that can be used in many industries. Analog scanning allows their mirrors to position at arbitrary angles up to ~10° of mechanical rotation in two orthogonal axes, or two rotational degrees of freedom. For a laser beam deflected from the micromirror, this implies up to ~20° of beam deflection (steering.) When a wide-angle lens is employed, field of view of over 45° for each axis is easy to achieve.

The system is capable of displaying a variety of vector graphics as well as multi-frame animations at arbitrary refresh rates. Scanners can be operated in point-to-point vector scanning or resonant and rastering modes. The system is highly adaptable to projection on various surfaces and in a variety of applications, including projection on specially-coated transparent surfaces. The ultra-low power consumption of the MEMS devices makes the system highly portable and miniature - the kit is very light-weight and fully mobile when used with a laptop computer

Solution:

Mirrorcle Technologies selected the DT9812-10V USB module for the analog I/O portion of their system because of its high-accuracy, low-cost, and portability. Offering 8, 12-bit analog inputs, 2, 12-bit analog outputs, 16 digital I/O lines, and one 32-bit counter/timer, this module provides Mirrorcle Technologies with all the data acquisition capability they need in a small package. With up to 50kHz throughput rates on both the analog inputs and the analog outputs, the DT9812-10V gives the performance required for most applications. The shielded, rugged enclosure with Phoenix connectors provides the necessary noise immunity for even the harshest environments.

Learn More About the DT9812-10V

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