



Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

*InstraView*SM REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at www.instraview.com ↗

WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. www.artisanng.com/WeBuyEquipment ↗

LOOKING FOR MORE INFORMATION?

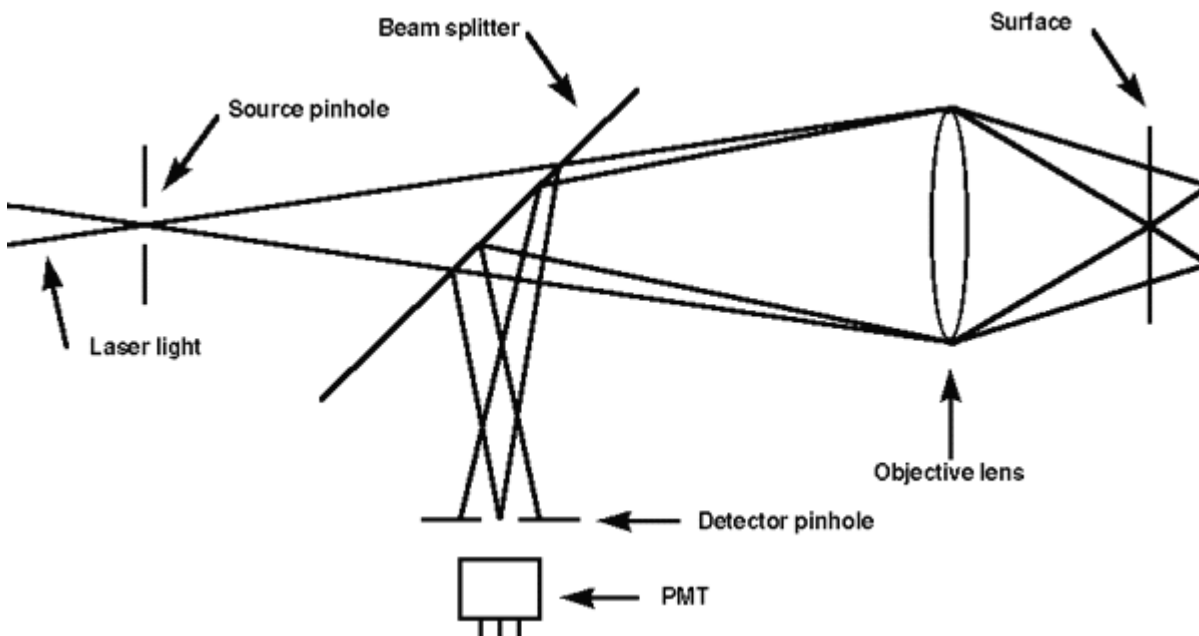
Visit us on the web at www.artisanng.com ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

Contact us: (888) 88-SOURCE | sales@artisanng.com | www.artisanng.com

LIS - The Technical Stuff

Principle of Confocal Laser Scanning Microscopy

Unlike a conventional white light microscope, a laser confocal microscope is a point illumination and a point detection system.

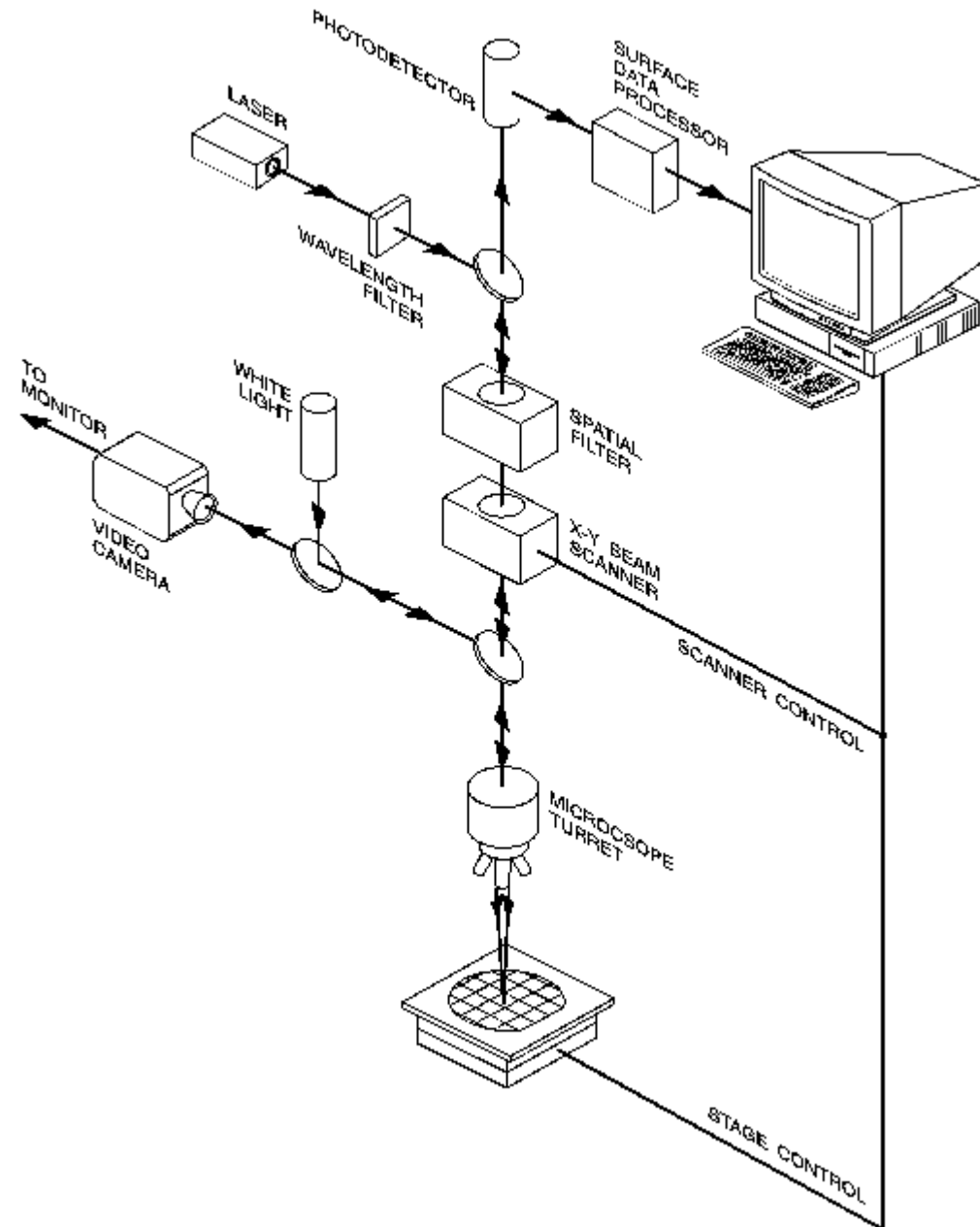


The incoming laser light passes through an illumination pinhole to a microscope objective lens and forms a diffraction limited spot on the sample surface located at the focal plane of the objective lens. The reflected light (shown as a solid line) passes back through the same objective lens. It is then redirected by the beam splitter, focused onto a detection pinhole and collected by a photomultiplier tube (PMT). If the sample surface is moved out of focus, the reflected light (depicted as a dashed line) reaching the pinhole is defocused and therefore does not pass through; consequently, the PMT receives little signal. This very narrow depth-of-focus provides the machine with very fine Z resolution, which makes it possible to discriminate a chrome pinhole defect against a pinspot defect. By scanning the laser spot across a predefined field-of-view rapidly, a 512 x 512 pixel 2D image can be generated at the rate of 13 frames per second. Since the image is acquired one point at a time, a confocal microscope has better XY resolution compared to a regular white light microscope because signals from different spots on the sample will not interfere with each other.

The System Diagram

The system diagram (see below) reveals that integrated white light/laser confocal imaging system uses a 25-milliWatt air-cooled, multi-line argon (Ar) ion laser as the light source. A 25-um pinhole serves as both the illumination and the detection pinhole. The laser beam is scanned across the surface of the wafer. A photomultiplier monitors the reflected light intensity and feeds the data to the high-speed

Ultrapointe surface data processor that is connected to a system computer. A series of scans, or "slices", each taken with a slight change of focus, or Z stage position, can be used to construct a 3D image of the surface. A high quality white light microscope generates a video image for comparison with the digital confocal laser image. Both the white light and laser image can be captured, digitized, and saved on the computer. The automated robotics system, XYZ stage, and the optical system are designed to handle 4-, 5-, 6-, and 8-inch wafers. The easy-to-use software running on a Silicon Graphics UNIX workstation allows a user to generate defect maps, perform alignments, and drive to defects previously found by an automated wafer inspection tool. The software provides single button control on most of the operations.



*Copyright 1997 Ultrapointe Corporation. All rights reserved.
 Information in this document is subject to change without notice.
 Other products and companies referred to herein are trademarks
 or registered trademarks of their respective companies or mark holders.*



Artisan Technology Group is your source for quality new and certified-used/pre-owned equipment

- FAST SHIPPING AND DELIVERY
- TENS OF THOUSANDS OF IN-STOCK ITEMS
- EQUIPMENT DEMOS
- HUNDREDS OF MANUFACTURERS SUPPORTED
- LEASING/MONTHLY RENTALS
- ITAR CERTIFIED SECURE ASSET SOLUTIONS

SERVICE CENTER REPAIRS

Experienced engineers and technicians on staff at our full-service, in-house repair center

*InstraView*SM REMOTE INSPECTION

Remotely inspect equipment before purchasing with our interactive website at www.instraview.com ↗

WE BUY USED EQUIPMENT

Sell your excess, underutilized, and idle used equipment. We also offer credit for buy-backs and trade-ins. www.artisanng.com/WeBuyEquipment ↗

LOOKING FOR MORE INFORMATION?

Visit us on the web at www.artisanng.com ↗ for more information on price quotations, drivers, technical specifications, manuals, and documentation

Contact us: (888) 88-SOURCE | sales@artisanng.com | www.artisanng.com