

# Visual Inspection System

NULINE VIDEOSCOPE



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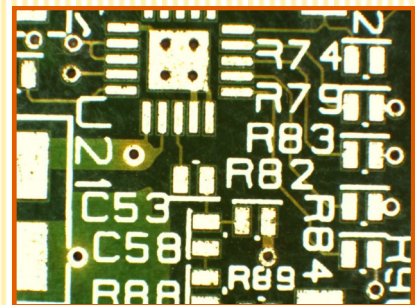
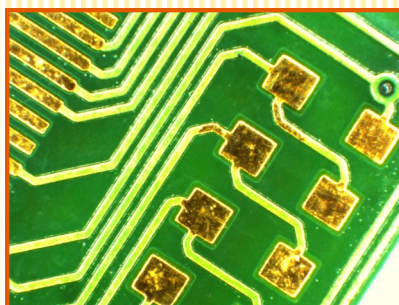
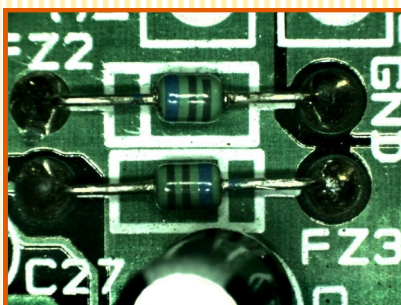
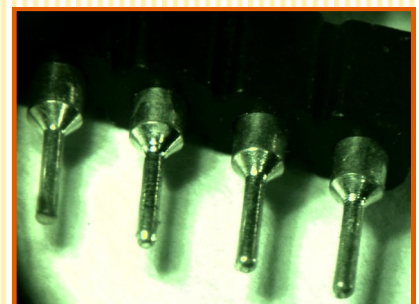
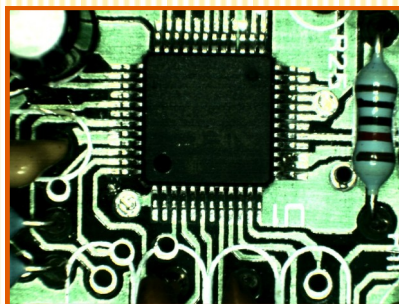
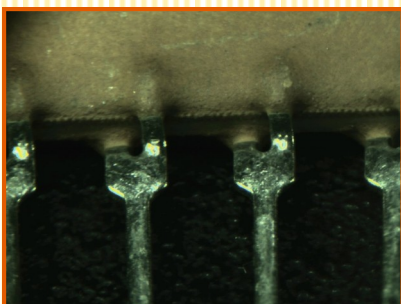
The PCB Industry continues to adopt increasingly higher levels of integration and thus achieving greater components density. As a consequence, the tolerance on PCB assembly is reduced and keeps becoming tighter and tighter. This results in an increased need for reliable and accurate visual inspection of PCBs.

On our basic product, Nulinescope is a monocular continuous zooming optical inspection system, with a high definition color CCD Camera and TV system together. Having a long working distance and a wide field of view, very fine definition output is provided. An added advantage over the stereo-microscope is minimal eye-strain where faster and simpler inspection process is the requirement.

Nulinescope is a high performance microscope based Inspection system with Vertical and 45 Deg slant (3D) viewing of objects. Its CCD/APS sensor and LCD/TFT capable of 7X to 70X of magnification. This system can be used for visual inspection of electronic components like ASICs, ICs, Transistors, Diodes and Bio medical components, Lens, jewelry and many more....

The microscope will give clear, distortion free, true color images on the integrated LCD-TFT monitor. The system includes a high resolution camera to capture the magnified image of the object. The image can be captured on a computer with USB interface option.

- ♣ Power Supply 230 V/50Hz
- ♣ Built-in SMPS Power supply
- ♣ High resolution CCD Camera
- ♣ LCD Display Monitor
- ♣ Variable intensity LED Light
- ♣ Fluorescent/ LED Ring Light (Optional)
- ♣ USB Interface (Optional)
- ♣ X-Y Table (Optional)



# Technical Specification



## CCD Camera

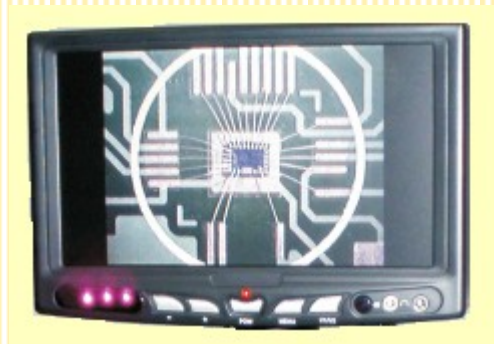
Image Sensor: 1/3 inch CCD Sensor  
Total Pixel: 537 X 597  
Signal to Noise Ratio: >560dB  
Gamma Correction: 0.45  
White Balance: ATW 3200 ~ 10000<sup>0</sup>K  
Scanning System: 625 Lines, 50 Fields/Sec  
Operation Humidity: within 85% RH  
Power Source: DC +12V/ 3.6W max

**WIDE FIELD OF VIEW... HIGH RESOLUTION...**

## Video Display Unit

Type: LCD TFT  
Size: 7 Inch Diagonal  
Format: 16:9  
Brightness: 300 Nits  
Resolution: 480X234

LCD monitors are available in 10/15/17/19 inch sizes  
with XGA resolution



**Ring Fluorescent Lamp**



**Ring LED Lamp**



**Variable Intensity LED  
Illuminator**

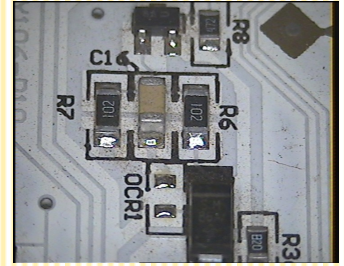
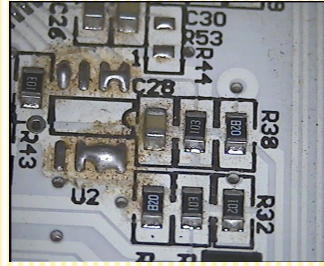
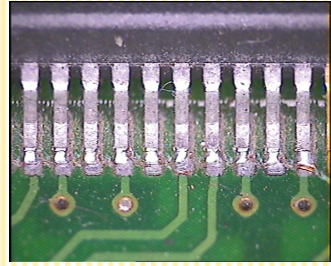
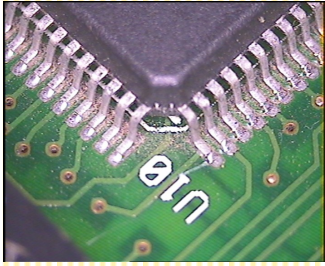
## Illumination

The Ring Fluorescent lamp will help to view the object under inspection in true color. The Ring LED has intensity control. Ring lamps are connected to AC socket power outlet.

Power Consumption: 5W  
Power Source: AC 230V/ 50Hz

Variable Intensity LED illuminator mounted on a flexible arm is powered by DC supply and the intensity can be adjusted by from panel knob. The LED can be focused on small objects to view finer details.





## Viewing Angle

The product is capable of 7X to 70X of magnification which helps the user to inspect very fine size components and their structures. The high magnification is suitable to inspect the component's surface defect like scratches, dusts, pits and

The users can have the 45 degree viewing angle which makes the inspection process easy to check the components under inspection in 3D View.



## X-Y Table

X-Y Table helps to position the object under inspection along X and Y direction easily without touching the object.

X-Y table can be fitted easily on to the Nulinescope base unit

Travel along X direction 200mm  
Travel along Y direction 150mm

## USB Interface/ PC Interface

Nulinescope can be directly connected to a USB enabled personal compute or laptop with the USB interface cable supplied, for seamless integration with PC Graphics

The interface card is bundled with the image capture software Multiviewer and Camera Watcher.



**NOTE: ALL SPECIFICATION SUBJECT TO CHANGE**