



Video Microscopes

Sept 2015

Choosing a video microscope comes down to more than just cost. You are buying hardware your department will be using for years to come and it is important to get the right system.

Many in **research (often universities)** need lenses that can be moved from bench stand to boom stand and then on a new project to an optical bench or to a high speed camera. They may already have many different cameras and so connectivity is important. A modular system with multiple options including fluorescence imaging modules is important.

For bench top **Inspection** applications in the manufacturing environments it is important to have excellent image quality on a still or moving image. The field of view should cover a wide range to make it a versatile system. A good working distance and being able to angle the view on surface mount components is important. There shouldn't be any image delay on a High Definition system. Image capture should be available.

In areas where the work piece is **inspected and measured** but a pure metrology system isn't required, it is important to determine which way the measurement is carried out. Is the measurement to be carried out on the measuring stage with digital micrometers or in software? With a measuring stage a computer isn't required but the camera needs to give a reference point in the centre of the image called a cross-line. With a computer in the system, a camera with measuring software can measure on a live or captured image.

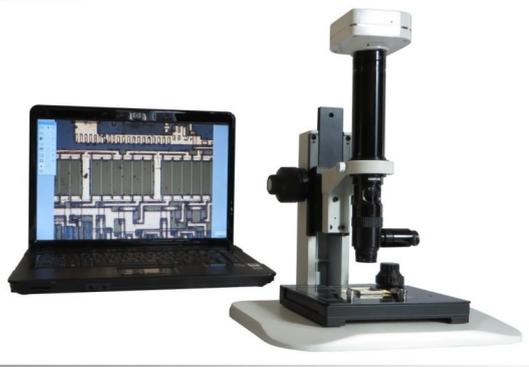
This document is a brief overview of 4 different systems and approaches. The first two use high quality machine vision zoom lenses which come in macro and micro versions. The terminology here can be a little misleading but in essence the macro systems use lens attachments at the bottom whereas the micro systems use infinity corrected objectives. The latter will generally have higher magnification but there is some overlap. It is always recommended to use micro systems for flat 2D items and macro systems for viewing 3D surfaces. The illumination is determined by the type of samples imaged. Researchers may wish to alternate between macro and micro applications but inspectors in a manufacturing environment may not.

NEW modular non-zoom lenses are now available and will assist in fluorescence, life science and very high magnifications applications. Camera mounts can be C, F, SLR or M42.



VM12x - Zoom Video Microscope

Simply the best optical system. All the advantages of its modular system configuration, excellent image quality and far too many accessories to mention in this small space. Macro and micro versions available. Shown here on tall track stand with fine/course focus. **Suitable for research , inspection & measurement, numerous camera options including high speed cameras, C and F-mount.** [VM12x data](#)



VM6x - Zoom Video Microscope

A tried and tested lens system. All the advantages of its modular system configuration, excellent image quality and many accessories. Shown here with co-axial illum. for semi-conductor inspection with ultra-stable stand with fine/course focusing. Macro and micro versions available. **Suitable for inspection & measurement.** Numerous camera options including USB and 2 MPixel HDMI, C and F-mount [Vm6x data](#)



VM10x - Zoom Video Microscope

A popular system for inspection and rework on electronics and components. Excellent clarity and depth of field. A large zoom ratio to view larger components yet able to zoom in to see very fine detail. Plan or angled viewing. **Suitable for inspection and rework.** Cameras are either high resolution PAL or 2 MPixel HDMI. [Vm10x data](#)



VM7x - Zoom Video Microscope

A quality budget system with or without co-axial illumination. Co-axial LED is inbuilt. LED ring light available. Steady stand with course focus. Image capture direct to the VGA camera. **Suitable for semi-conductor or small component inspection & measurement,** camera options including VGA, USB and 2 MPixel HDMI [Vm7x data](#)

There are many accessories, different cameras, stands, stages and illumination options

[Stands](#)

[Stages](#)

[Cameras](#)

[Illumination](#)

[Monitors](#)