

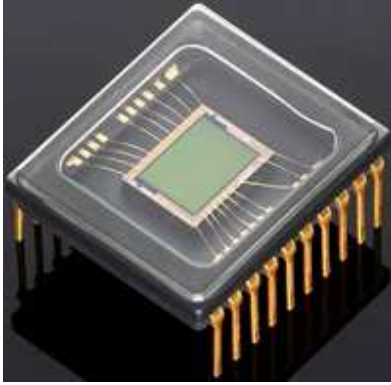
Digital Microscope

Digital Microscopy is the advanced technology that uses a CCD camera to output the image into a computer monitor. The major difference between the digital microscope and the conventional optical microscope is that, the image cannot be viewed directly through the eye piece lens. Image is output to a computer to view it on the screen. Low priced digital microscope and costly one are available to use in conjunction with a computer.

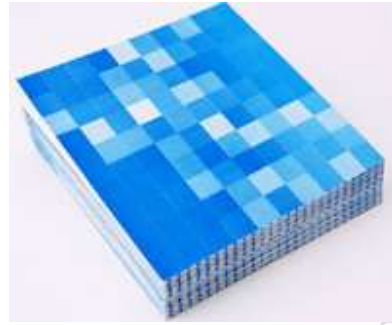
The digital microscope uses both optics and charge coupled device (CCD) to create the image. The image is first collected in the CCD which then outputs the image into the computer with a preloaded programme. An USB provision is given to input the image into the computer. The image can be seen in the computer monitor. Digital microscopes are low power devices for easy and quick observation of materials.



Resolution of the image depends on the CCD used in the digital microscope. With a 2 Mega pixel CCD, resolution up to 1600 x 1200 pixels can be obtained. Resolution also depends on the field of view of the lens used in the camera of the digital microscope. The pixel resolution is determined by dividing the horizontal field of view (FOV) by 1600. Most digital microscopes have limited resolution of 1.3 mega pixels.



CCD



Pixel

Image generated by the CCD can be recorded and stored in the computer. Usually an illumination source is present in the digital microscope, but external light sources can also be used to highlight the features of the object under study. Since the digital microscope has large depth of field (DOF), high magnification can be achieved.

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