

Dino-Lite AM413T review as published by The Association For Science Education in the March 2009 edition of the School Science Review, the ASE's journal for science education 11-19.

DinoLite Pro AM413T &
DinoCapture
Absolute Data Services Ltd
www.absolute-data-services.co.uk

£261.05 (ex. VAT)*

System requirements: Windows
Vista/XP/Server 2003; Max OS;
USB slot

One stall that really grabbed my attention at the ASE Conference exhibition was that of Absolute Data Services who were showing their range of digital microscopes manufactured by ANMO Electronics Corp. Numerous people had a go using the microscopes to look at their skin or objects on the table. What was surprising, perhaps, was the number who were, literally, gobsmacked by the quality of the images on display. I was one of those who was so impressed, I ordered a microscope as soon as I got home.

The DinoLite Pro is an unusual piece of ICT. As a digital microscope it combines the function of a microscope with that of a webcam and has powerful software (*DinoCapture*) to maximise the use of the microscope. The closest competitors that I have used are the Digital Blue Microscope and the Motic Play Microscope (both delivering good pictures in class). The biggest difference between the DinoLite and the cheaper microscopes that are available

is the image quality. The sensor of the microscope is larger than most digital microscopes at 1/3". By comparison, digital compact cameras often have a sensor size slightly larger at 2/3". The sensor has a maximum resolution of 1280 × 1080** pixels, that is 1.3 megapixels. As a consequence the images taken using the microscope are of a very high quality.

The DinoLite Pro has an in-built light source (LEDs), which provide a good quality whitelight source for viewing. Optical magnification is 10 to 50× with the ability to have digital zoom up to 230×*** (which is similar to competing models).

The DinoLite Pro itself resembles an elongated bullet; it does not come with a focusing stage and thus looks more like a webcam than a microscope.

This means that the microscope can be more manoeuvrable. As an example, we soon found that the microscope could be placed on the cheek, revealing freshly shaved whiskers (in my case). At 50× magnification and with high resolution this was impressive, if a little scary. The microscope is good at 50× magnification. For higher magnifications a stand is needed; I used a clamp stand to keep the microscope steady, although Absolute Data Services do sell attachments that hold the microscope in a more traditional way.

Students soon found that looking at their fingerprint they could see sweat being secreted by sweat glands and even the sweat evaporating! As the images are so clear they could easily be saved for displays or printed out at a decent size (A4 was perfectly adequate). The software that comes with the camera is easy to use and allows for video footage as well as time-lapse photography. There is an option to calibrate the software so that measurements can be taken of parts of the image. In practice this means that measurements as small as 10 µm can be made! In addition there are a number of different ways of measuring lengths and angles. Because the quality of the images is so good this means that I can see the microscope being used more often in lessons. The *DinoCapture* software also allows pictures to be annotated and saved in a variety of formats, and they can be mailed from within the software. Overall, I am extremely impressed with the DinoLite Pro, so much so that I am going to have to buy one for myself at home! If you are looking to upgrade or enhance your microscopy in school or wanting something to inspire students in science club, this is well worth buying!

Corrections to the review:

* The current UK list price for the AM413T at the time of reproducing the review is £260.95 (ex. Carriage and VAT)

** The AM413T image sensor resolution is 1280x1024 and not 1280x1080 as stated in the review

*** The maximum 230x magnification setting provides optical magnification and is not a digital zoom as suggested by the review. This is a major selling point and delivers the full image sensor resolution even at the highest magnification levels.

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