

Computer

Finding your Way Around the New Computer Microscope



If you click on the opening screen you move straight to the microscope and never see the following page.



Ladybirds and strawberries are among the least suitable specimens for the digital microscope. But their mothers loved them.



On the opening screen, select the camera or video button. Use the green arrow to return to your image collection.

When you open the box, *don't* plug in the QX3 microscope. The software has to be loaded from the CD first. Once it is installed, reboot for safety and then plug the microscope into the USB port. The microscope should now be recognised, and the green LED inside the top will come on. Click on the desktop icon to start the microscope. To access the page showing your picture collections, click on the 'back' arrow at the bottom left of the screen. Moving to the live microscope screen is done by clicking on the microscope button at the bottom right. The software displays at 800 x 600 pixels,

and should automatically adjust your screen. Images are obtained with a CMOS CIF image sensor inside the top of the microscope. It has a resolution of 352 x 288 pixels, but only the central portion is used and the resulting image is interpolated to give a final picture size of 512 x 384 pixels. There are three objective lenses on the microscope. The lowest magnification is ten times (10x). Then there's a sixty times lens (60x) and a lens at 200x. Say it 'two hundred times' [not 'two hundred ex']. Start off with the 10x lens in place. Adjust the image with the blue plastic focussing

knob, which is not as easy as you think. But then, you can't have everything. A light shines from above the specimen, and there's a button to change to lighting from below. To take a still photo, click on the camera button on the left, or press the green button on the front of the microscope. A video sequence is made by clicking the video camera button on the screen. To view a picture, click on the return arrow (bottom left) and you'll come to a screen with an icon that selects the image collection. Use the arrows to scroll to the image you want and double-click to display it. The export button allows you to



Paint gives a range of genuinely wacky options, but doesn't let you adjust contrast and brightness (two important functions).



The f/x option is equally wacky, and allows you to distort your precious pictures in many unmentionable ways.



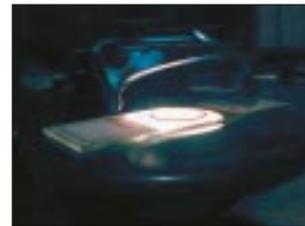
Creating a show with videos, stills and sound effects is an excellent facility. You'll love it, and so will your Gran.



Printing options are equally impressive. You can choose round labels (for badges and stickers) and print an image across four pages to make a poster.



Light from above is the default setting, and is always selected when the microscope is removed from its stand.



Transparent objects are best illuminated with the lamp installed below the stage. Try both.



A plastic strap meant for garden plants has been used to secure the microscope for a time-lapse video of growing plants. Set 1 frame per hour for rapid movement.

browse to the folder where you store your pictures, and to choose a name for the JPG file. The software remembers the destination folder when you reboot. You click the garbage-can icon to delete an image. On the right of the active screen is a time-lapse control, which allows you to speed up the action. The default rate of filming is 1 frame per minute, but the sliding bar gives a range from 1 frame per second (far left) to 1 frame per hour (far right). Playback is around 15 frames per second, so filming at 1 frame per second plays back at 15x normal time; 1 frame per hour plays back 24 hours in 1½ seconds. You can slide the microscope out of its stand and use it hand-held, or lay it down to make time-lapse videos of plant growth, germinating seeds, frog embryos, whatever (p 22). When the time-lapse rate is set for 1 frame per 30 minutes or more, the lamp goes out between shots, which is useful to keep a living specimen cool. Once you change the setting to 1 frame per 20 minutes or less, the lamp stays on continuously, which is helpful for warming growing seeds in a jar. Depending on settings, the system can record up to 1600 frames. Playback speed may be influenced by your computer, and you can make a video of the dial on a digital stopwatch to calculate the exact rates.

You've seen it on TV, now here's your chance to make a time-lapse movie of germinating cress seeds. It takes a week to do, so make sure nobody deletes your precious file.

