

# Megapixels!

## Filmless Photography gets a step closer.

A 35mm SLR film camera and a Nikon Coolscan is a popular combo for low cost high quality digital imaging. Digital cameras, though very useful for shooting and manipulating on the same day either cost the earth or don't give the necessary file sizes. Or that's what you thought. There are now two models which combine reasonable cost with exceptional quality, as Mike Stroud from the Digital Camera Company explains.

### Olympus C-1400L

Olympus has always been at the front of the photographic pack when it comes to quality, ergonomics and innovation. Their presence in the digital arena is no different. Since the release of the groundbreaking C-800L the Olympus Camedia range of cameras has offered unrivalled quality and resolution for your money. The C-1400L continues

Olympus C-1400L



the tradition. Packed into a body which is based upon the IS range of 35mm cameras, is a multitude of features that have so far been unavailable on mid-range digital cameras. This is the first high-resolution, single-lens-reflex digital camera to come within range of serious amateurs and small businesses. The resolution, a massive 1.4 million pixels presented as 1280x1024, returns astounding quality and definition. The autofocus, f/2.8, 3x power-zoom lens has a 35mm equivalent range of 36-110mm that uses the best of Olympus' legendary expertise to provide superb optics with a non-extending and non-rotating front element. Focus range in normal mode is 60cm to infinity or 30cm – 60cm in macro mode. The sensitivity of the camera is equivalent to ISO 100 film and metering is TTL centre-weighted with a spot-metering feature that provides for perfect exposure in unusual or extreme lighting situations. On top of all of this, there is a  $\pm 3$  step exposure compensation setting for that extra fine tuning. The pop-up variable power flash is TTL controlled and has red-eye reduction and fill-in modes.

At the 1280x1024 resolution there are two selectable qualities labelled

HQ (High Quality) and SHQ (Super High Quality). There is also a lower resolution setting, SQ (Standard Quality), which captures at 640x512 pixels. Images are stored on SSFDC (Solid State Floppy Disk Cards) or SmartMedia as they are now known, and will store at least 4x SHQ, 12x HQ or 49 SQ images on a single 4Mb card.

There are two operational modes, record and play, which are selected by a switch on the top plate.

Located in the centre of this switch is the main power button. Four buttons in a row alongside the viewfinder perform different functions in the different camera modes. An LCD display, also on the top-plate, shows information such as shots remaining, selected quality, battery condition and flash status. The TFT colour LCD monitor located on the back of the camera also has two functions. Primarily it allows the review of images stored in the camera but also provides a menu system for selecting image quality, setting the date and time (Yes, it is millennium compliant!), clearing or formatting the card and applying exposure compensation.

In record mode, using the camera is a dream, pick it up and it instantly feels right. The viewfinder, which has adjustable



dioptric eyesight correction, is bright and clear and has an autofocus / spot meter mark in the centre. The zoom control surrounds the shutter button and the spot meter button falls nicely under your right thumb. Half-depressing the shutter causes the exposure and focus to lock. Like any contrast-based autofocus system, performance in low-light can be variable and 'hunting' can occur. To overcome this, two 'quick-focus' buttons, set at 2.5m and 40cm, are provided. Two lights, one yellow and one green, beside the viewfinder provide focus lock confirmation and flash warning/ready. If the camera cannot achieve focus it will not fire the shutter. Fully pressing the shutter results in a subdued click and a momentary darkening of the viewfinder. This is followed by a flashing red lamp that indicates the camera is busy processing the image and saving it to the card – about 6 seconds in HQ mode. At the same time a preview of your image is displayed on the colour LCD. Even though this camera is a reflex SLR there is no mirror to flap around, instead Olympus use a beam splitter to route light to both the CCD and the viewfinder. This results in far fewer moving parts and a smaller and lighter construction as well as paving the way for the cameras impressive 1/10,000s top shutter speed. Other controls available in this mode are a 12-second selftimer with a warning lamp that flashes during the last few seconds, macro on/off and flash mode. When the SmartMedia card is full a flashing symbol appears in the top LCD and the camera will take no more pictures until space is made by deleting unwanted images or another card is inserted. In play mode the camera will display images on the colour LCD one at a time, stepping through them using the +/- buttons on the back or automatically by using the slide-show feature. In addition there is a nine-image index display which allows rapid location of a specific image. It is also possible to print an image directly from the camera to an attached Olympus P-300E dye-sublimation printer via the parallel port located under a cover on the left side of the



*Sharp photographic quality from the Olympus*

camera. Other connectors under the same cover are for an external power-supply or AC adaptor and for serial connection to a computer for downloading images. Transferring images from the camera can be done in one of two ways. The usual way is via the serial port and software is supplied with the camera to allow its connection to both Windows and Macintosh systems. Downloading a single HQ image (around 260k) takes about 35 seconds at 115k baud so a card full of HQ images will take 7 or 8 minutes. A much faster method is to make use of the optional Olympus PCMCIA adaptor which allows you to read the JPEG image files directly via a PCMCIA socket. These sockets are usually only found on laptop and notebook computers but can be added to most desktop machines for less than £200. Power is provided by four AA batteries and to overcome the problems associated with high battery usage in cameras with LCD screens, Olympus provide a set of high-power Ni-MH rechargeable batteries and a charger. The rest of the package consists of 2x 4Mb SmartMedia cards, neckstrap, lenscap, soft leather case, cables for Mac & PC and software on CD – all this for around £1,100 + VAT.

## Fuji DS-300

The Fuji DS-300 is a groundbreaking camera. This is the only camera to provide mega-pixel+ resolution with full manual control and system backup. Fuji has been in the professional digital camera market for some time with their popular DS-505 and DS-515 SLR cameras that are the result of collaboration with Nikon. The DS-300 shares the same 1.3 million pixel CCD as those top-line cameras and incorporates features only usually found on cameras of that type. There are two selectable resolutions – 1280x1000 or 640x480. Each of the resolutions can then have one of four quality settings applied – Hi, which is ►

*Fuji DS-300*







*The Fuji is good enough for basic studio work without breaking the bank...*

an uncompressed TIFF format and Fine, Normal or Basic which are increasingly more aggressive JPEG format compressed files. The lens is an f/3.5, 3x power zoom covering the 35mm equivalent range of 35-105mm and is a Fujinon design that is used in professional broadcast cameras. Autofocus is fast and accurate with viewfinder confirmation of distance. The focussing range is 20cm to infinity and there is also a manual focus feature. The sensitivity of the camera can be set to the equivalent of ISO 100 or ISO 400. Auto exposure modes available are fully programmed, aperture priority and shutter priority. Fully manual exposure is also available. Exposure compensation can be set in 0.3 stop steps between -0.9 and +1.8 and there is a built-in flash with a reflector physically in-step with the zoom so ensuring optimum flash coverage regardless of the zoom setting.

Image storage is on standard type II PCMCIA cards and will hold 4x Hi, 16x Fine, 33x Normal or 64x Basic 1280x1000 pixel images on a 10Mb card. In 640x480 mode then a 10Mb card will hold 17, 64, 123 and 227 images respectively. There are two main controls, both rotary and both situated on the right-hand end of the top-plate. One is the mode selector and the other is an input switch that cycles through the options presented by each mode. The modes available are: Off, Play, Setup, PC, Auto and the exposure modes listed above. Play mode allows for the replay of stored images on a suitable NTSC or PAL monitor or video via the video out connector. PC mode is selected when attaching the camera to a computer via its serial

port. Auto mode is a bit like a 'panic' feature that puts the camera into a factory-set configuration – Autofocus on, Normal quality, etc. – this means that no matter what has been done to the camera in terms of other settings, you can quickly switch to snap-shot mode. Setup allows you to select a number of operational settings that take effect in any of the auto or manual exposure modes. These settings include black-and-white or colour; image sharpening; auto or manual focus and ISO sensitivity. When in auto or manual exposure modes, the input switch is used to select aperture or shutter speed. In use, the camera is reasonably easy to control. The input switch can sometimes feel a little imprecise and rapid setup changes are not easy. But, in the hands of an experienced photographer, this camera will give spectacular results. The zoom control is a small rocking 'tab' on the top rear and falls neatly under the right thumb (unless you are left eyed when your right thumb falls neatly into your right eye!) Half depressing the shutter causes the focus and exposure to lock, failure to do either results in a flashing symbol in the viewfinder. In the auto exposure modes the selected aperture and shutter values are displayed in the top-plate LCD. An exposure meter or the suck-it-and-see method is required when using manual or external flash as there is no metering information in these modes.

In common with all professional digital cameras, the DS-300 has no LCD screen for previewing or reviewing images. This can be a drawback when using manual focus or macro modes as the optical viewfinder has no focus confirmation capability. Attaching a monitor to the video-out socket overcomes this and is a must for macro work. In addition, with a monitor attached there is a preview mode that allows the rejection of images prior to saving to the memory card.

One of the popular options available for this camera is the EU-D3a extension unit. This looks strangely like a motor-wind attachment and actually performs very like one. Attaching this to the camera adds 4.5 fps continuous

shooting capability for a maximum of 12 frames at which point the camera must process the images and transfer them to the main memory card. Shooting can recommence as soon as any images have been transferred. An additional function of the extension unit is to provide a SCSI interface. This allows significantly faster transfer speeds to a suitably equipped computer and also provides a direct connection capability to the Fuji NC-500 Thermo-Autochrome and Pictography colour printers. Without the extension unit, image transfer can be achieved by using the serial connection and both Mac and PC connection hardware is supplied. A CD is included that contains TWAIN compliant drivers providing access to the camera from most of the popular image manipulation packages. A faster method of accessing the images is to read them directly from the PCMCIA card in a suitable reader. The TIFF format 'Hi' files are a Fuji specific format that can only be opened by Fuji's own software or by NBA's PhotoWallet software. The JPEG



*...or equally good in the field*

files are compatible with any standard application. Power is provided by a rechargeable camcorder-style battery pack and the camera is supplied with one of these and a rapid charger that doubles as an AC adaptor. The package is completed with a 10Mb PCMCIA flash memory card, neck strap and video lead. The DS-300 is available for around £1,750.00 plus VAT and the EU-D3a extension unit costs an additional £595.00 plus VAT. **DP**

**The Digital Camera Company**