

SIGMA

300-800mm

From time to time landmark products redefine our photography. These products may be new cameras or the latest imaging software, but sometimes they are the most important items which produce our images: the lenses.

Lenses haven't really been at the forefront of our digital imaging consciousness. The lenses we used for film will still produce images for digital. But recent strides in digital camera resolution have shown up shortcomings in even some of the best 'marque' lenses. The best digital cameras now have resolutions which far exceed those of film and often of our old lenses.

DSLRs, together with imaging software which enables us to view images at 100% – as though with a microscope and far more critically than with any loupe – have encouraged lens manufacturers to look anew at lens design. And the good news is that the big strides in lens design are just as important as the strides in DSLR camera resolutions.

Some of these new lenses inspire me as much as the latest digital cameras. In particular, I single out the fantastic **Sigma 12-24mm 1:4.5-5.6 EX DG HSM** zoom with full 35mm frame coverage.

I still remember the day – in the 1960s – when I bought a 28mm lens for my Pentax S1 SLR. Its 'extreme' wide-angle effect was awe inspiring. I didn't take it off the camera for weeks.

When I looked through the viewfinder of the Canon 1Ds Mark II full-frame DSLR with the Sigma 12-24mm zoom forty years later the experience was even more exciting.

It also convinced me that DSLRs need to be full-frame.

This lens has made me look closely at the latest lenses and I am impressed at the improvements in design and build since I bought my first Sigma lens some years ago.

My 'standard' zoom is now the sparkling **Sigma 24-70mm 1:2.8 EX DG** which maintains its bright f/2.8 aperture over the entire zoom range.

Although there is a big choice of fast long telephoto lenses, there is nothing else quite like the **Sigma 300-800mm 1:5.6 APO EX DG HSM** zoom and so I was keen to try it out on the Canon 1Ds Mark II and Canon 20D DSLRs.

A big advantage of this lens is that you are able to adjust the zoom to the precise focal length required to frame your subject. Cropping digital images wastes those precious pixels you have paid so much for. There is no substitute for framing the shot accurately at the time you capture it.

Imagine being on safari and finding that the 500mm lens you have on the camera is not tight enough. By the time you've selected and changed to a 800mm the animal may have gone. Anyway, you might need, say, 726mm to fill the frame. With this Sigma zoom, you've got every possible focal length

from 300mm to 800mm in a single lens – and all at the same f/5.6 aperture.

Lenses are about enabling us to make pictures, not about shooting test charts, so I took the Sigma 300-800mm to the UK's biggest airshow – RIAT – and positioned myself as close to the runway as possible. I mounted the lens and camera combination on a beefy **Manfrotto 503 Pro Video Fluid Head** and **Manfrotto 475 Pro Geared Tripod**.

My further observations about this outstanding optic are in the captions which accompany the images which I captured over the two days of RIAT.

WHAT DO THOSE LENS ACRONYMS MEAN?

APO Lenses which use Special Low-Dispersion (SLD) and Extraordinary Low Dispersion (ELD) glass to minimise chromatic aberrations, enabling them to produce sharper images without colour fringing.

EX Superior build and optical quality.

DG Lenses which have been specially designed to give outstanding performance on DSLRs, with improved peripheral illumination. They also perform well on 35mm film SLRs.

HSM Quiet high speed AF (autofocus) driven by a HyperSonic Motor.

DC Compact lightweight lens designs with coverage for DSLRs using the smaller (APS-C) sized sensors.

Further information about Sigma products may be found at www.sigma-imaging-uk.com or telephone +44 (0)1707 329999

Special thanks to Michelle Eccles of the Royal International Air Tattoo (RIAT) for providing the media facilities at RAF Fairford. Many thanks to Dave Pattison for his help with the shoot and the lugging of all the heavy equipment in the absence of convenient nearby car parking.

Sixty years after the end of the Second World War, this Avro Lancaster bomber is still an awesome sight – and a formidable subject to capture as it roars by shortly after take-off from RAF Fairford during the 2005 Royal International Air Tattoo.

The aircraft was photographed from about 200 yards away with the Sigma 300–800mm 1:5.6 APO EX DG HSM lens at f/16, fully zoomed-in to 800mm, using a full-frame Canon 1Ds Mark II DSLR set to ISO640 and exposed for 1/250 sec. This choice of shutter speed was a trade-off, to preserve some motion blur in the rotating propellers while hoping to retain sharpness in the aircraft. A Canon RS-80N3 Remote Switch was used to release the shutter without vibrating the camera.

A Manfrotto 503 Pro Video Fluid Head enabled the lens to be panned smoothly, to keep the aircraft in the same position in the frame during exposure. A Manfrotto 475 Pro Geared Tripod with centre brace structure ensured that the whole setup was stable.

The lens can be changed from landscape to portrait format very easily by rotating it – and the camera body – in its mount. There is no need to adjust the pan and tilt head.

The only difficulty I found was with the camera's autofocus set to AI Servo mode (for moving subjects). With 'planes flying close by at up to 400 knots it was all too easy to lose them from the centre of the frame and have the focus cycle all the way from infinity to its minimum

of 6 metres. To overcome this, I at first panned down from the bare sky to the horizon to force a re-focus. However, I soon realised that, as the lens features full-time manual focus via a slipping clutch, it is easier to spin the focus control back to near infinity by hand. Nonetheless I would like to see a focus range switch on the lens to limit the range to, say, 100 metres to infinity to reduce the time needed to re-find focus. In fact a choice of different restricted focus ranges might be an advantage.

During WWII, Winston Churchill said, "The Fighters are our salvation but the Bombers alone provide the means of victory."

A total of 7,373 Lancasters were built during the war, of which 3,345 were lost in action, along with over 21,000 crew members. Without their

supreme sacrifice, the UK might now be a German speaking country.

This Lancaster of the RAF Battle of Britain Memorial Flight is one of only two still flying. The other one is in Canada.

The Sigma 300–800mm zoom is 65cm long, has a maximum diameter of 16.5cm at the lenshood and weighs 5.9kg (13lbs). It comes complete with 46mm internal UV and Circular Polarising filters and a case the size of a golf bag. The total weight of the kit is 10kg (22lbs). List price is £4,255.31+VAT but the lens can be found at a discounted 'street' price of around £3,900 including VAT.

The Manfrotto 503 Pro Video Fluid Head weighs 1.5kg (3.3lbs), the 475 Pro Geared Tripod is 4.3kg (9.5lbs). Each has a list price of £170.21+VAT.

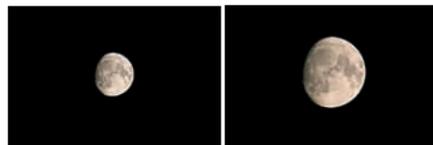




ABOVE: This member of the USAF Viper East F-16 Demo Team was about 50 yards away from the camera but the Sigma 300–800mm zoom is so sharp that every fibre of his clothing can be seen at 100% and the time on his wristwatch can easily be read. Note the beautifully out of focus backgrounds.

RIGHT: The RAF Red Arrow display team in perfect formation, as always, but this time parked for the night on the ground a quarter of a mile away.

BELOW: The moon at 800mm, as seen by both the full-frame sensor in the Canon 1Ds MarkII (LEFT) and by the Canon 20D with APS-C sized sensor (RIGHT).



Following aircraft flying by at 400 knots and at low altitude required all the skills I learned in my years as a BBC-tv cameraman. With no rotating propellers in which to preserve motion blur, this Royal Navy BAE Systems Sea Harrier FA2 VSTOL, hovering above the runway, presented a near-stationary subject which enabled the lens to show some of its best image quality. Sigma 300–800mm 1:5.6 APO EX DG HSM lens at f/10, fully zoomed-in to 800mm, using a full-frame Canon 1Ds Mark II DSLR set to ISO400 and exposed for 1/800 sec.

