

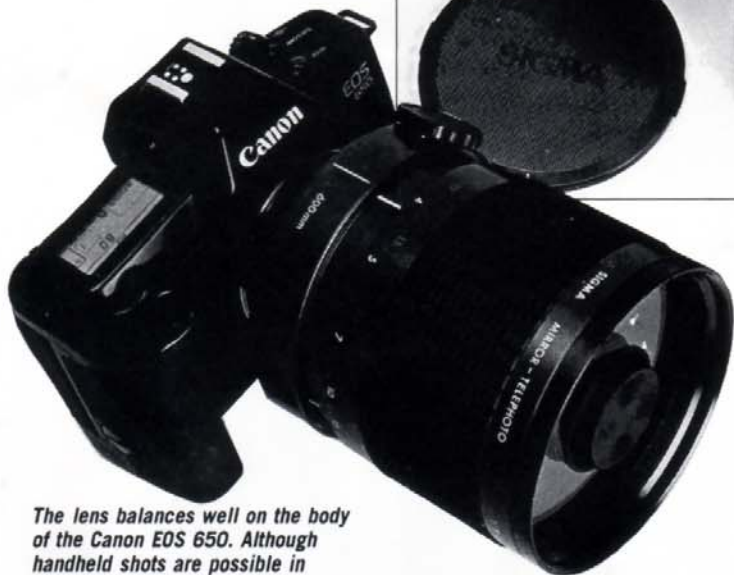
*Alan McFaden puts the Sigma 600mm mirror lens through its paces.*

# SIGMA 600mm MIRROR LENS

**S**IGMA HAS BEEN quick to supply an independent mirror lens to fit the Canon EOS. The lens will be especially useful as Canon has yet to release any 'Long Toms'. Canon's longest EF telephoto lens is a 300mm, so anything beyond this focal length is a bonus.

Mirror, or catadioptric, lenses such as the Sigma 600mm tend to have fixed apertures and cannot be stopped down; these lenses are typically designated 300mm f/5.6, 500-600mm f/8 and 1000mm f/11. A conventional telephoto of this focal length, with a range of f-stops, would be of enormous size and weight; mirror lenses are conveniently smaller and lighter.

The unnerving thing about telephoto and mirror lenses is that there's no room for focusing errors, as there is hardly any depth of field. The camera and lens must be held steady to focus and shoot because the



*The lens balances well on the body of the Canon EOS 650. Although handheld shots are possible in strong lighting while using fast film to give adequately fast shutter speeds, it's advisable to attach the lens to a tripod using its tripod bush.*

tinest movement can cause unsharpness due to the extremely narrow angle of view—4 deg.

I was glad to have the opportunity to try a 'cat' lens and was keen to use it for unobtrusive candid portraiture. I

decided to go for a walk around London, a great place to take photographs as there is so much going on that there is almost a picture around every corner. And with so many camera-laden tourists around you don't attract much attention.

The film I used was T-Max 400, which would enable me to use a shutter speed of around

1/1000sec, which is essential to prevent camera shake. Also, if the light levels were to drop the film could easily be pushed to ISO 800 or even 1600. However, I do recommend this as a fair weather lens, bright conditions giving acceptably fast shutter speeds with faster films.

In theory a tripod should be used with this lens. Although the lens has a built-in tripod bush, in practice it is not always practical to use a tripod in busy places. There are other ways and means of keeping the camera steady—thank heaven for lamp-posts and signposts! Most towns are liberally endowed with these, and holding the lens firmly against such supports should give sufficient steadiness if a tripod is not available.

*For £249.95 you get lens cap, hood, case and five filters—the fifth is already in position at the rear of the lens.*

Telephone junction boxes also provide good platforms, as do walls, but put cloth or paper under the camera to stop it being scratched. A bean bag on any reasonably flat surface is also a great camera support. I was very lucky around the Westminster area, the council having obligingly supplied several coin-operated telescopes, each providing a flat platform at the right height and well sited for telephoto work.

The Sigma 600mm is supplied with filters. These need to be fitted over the rear of the lens because the front of the lens is so wide. The red, yellow and orange filters help to penetrate



The front element is too large to make the use of conventional filters practical, so rear-mounting filters are supplied.

haze and give more contrast with monochrome subjects. The neutral density (ND) filter provided helps to reduce exposure if there is, say, a light reading which calls for 1/4000sec at f/8 (not very likely) and the camera's fastest speed is only 1/1000sec.

There is little point in using this lens to attempt shots which can just as easily be had by walking up closer to the subject with a normal lens. The 600mm offers a powerful means of capturing pictures over a great distance, and which have a distinctly different 'look'.

The most obvious effect is the way subjects can be made to stand out from their backgrounds. This is helped by the very narrow depth of field, which is very effective for isolating portrait subjects. Another effect is exaggerated perspective where the distance between objects seems dramatically reduced. Because the mirror in the lens has the centre blocked out, out of focus highlights in photographs come out shaped like doughnut rings. This is the characteristic which makes it easy to spot when a mirror lens has been used.

Results with the Sigma 600mm turned out to be very sharp and of reasonable contrast. As it's quite a light lens for its type I did not feel weighted down after a day's shooting. However, it was a shame that the lens did not offer autofocus or complete auto exposure operation.

Aperture priority mode can be used, but the shutter speed suggested would give six stops overexposure. As there are no contacts on the lens mount, the camera assumes it has a maximum aperture of f/1, so this f-stop should be dialled in rather than f/8. Manual mode can be also be used if f/1 is chosen, but programmed, shutter priority and depth modes are of no use with this fixed-aperture lens.

Versions compatible with the Canon EOS and Minolta AF SLRs are available, while those that link with Pentax SFX and Olympus OM707 are in the pipeline.

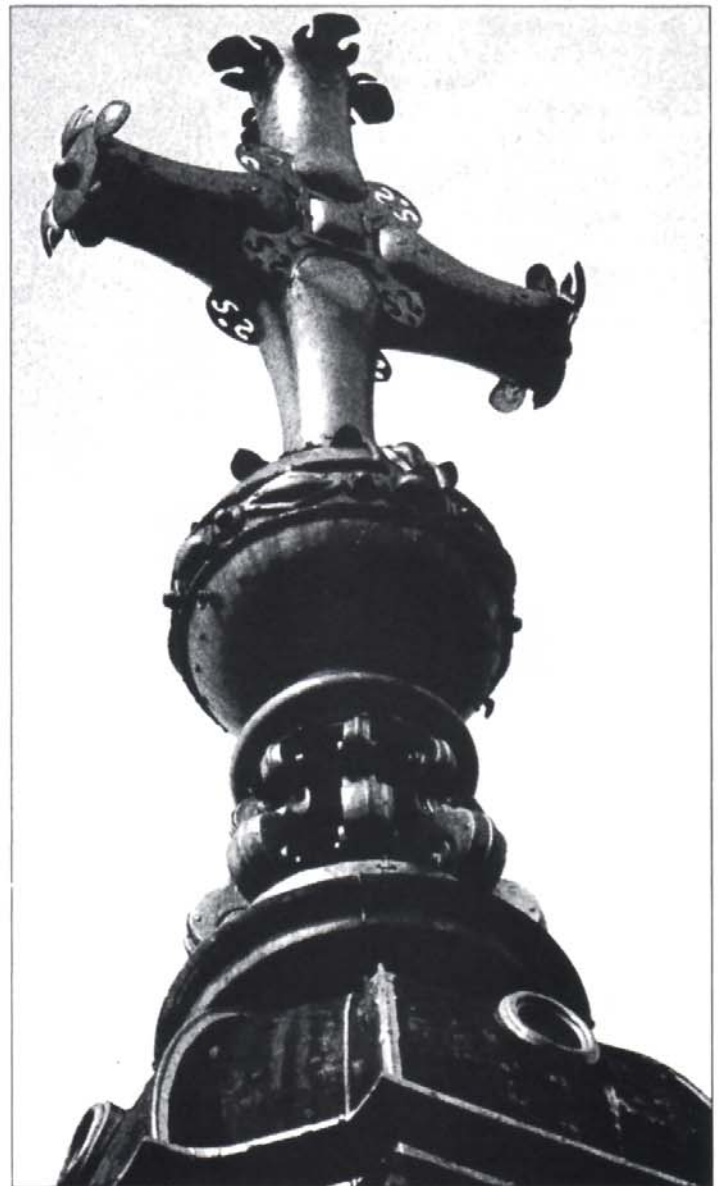
It is an ideal lens for faraway, inaccessible subjects. Paparazzi photographers will find it useful! It's handy for wildlife and sporting events too, where there are restrictions on getting close to the subject.

#### DATA PANEL

**Lens:** Sigma 600mm mirror lens  
**Aperture range:** f/8  
**Minimum focusing:** 2m  
**Macro ratio:** 1:3  
**Filter size:** 30.5mm, rear-mounted  
**Lens hood:** Supplied  
**Angle of view:** 4deg  
**Elements/groups:** 7 elements in 4 groups  
**Available fits:** Most major fittings in non-AF. Currently available in AF: Minolta, Canon EOS  
**Weight (g):** 830g  
**Length x diameter (mm):** 122 x 99  
**Price (approx):** £250  
**Distributor:** CZ Scientific Instruments, PO Box 71, Borehamwood, Hertfordshire.



Candid shots can be picked out with this lens and isolated from confusing backgrounds.



This shot of the top of St Paul's cathedral gives an idea of the reach of Sigma's lens; the picture was taken from ground level!