POP PHOTO FULL TEST

# Sigma

## An even Bigger Bertha in a constant-aperture zoom

**What you should know:** Zooms of 70–200mm and 80–200mm with constant f/2.8 apertures have become established workhorses for pros and serious amateurs. Sigma pushes the focal-length out to 300mm with this premium-line (EX), internal-focusing (IF), apochromatic (APO) zoom with hypersonic-motor (HSM) autofocus.

**Hands on:** Big, as expected, and very heavy. With a camera attached, the balance point of the lens is well positioned near the removable (and necessary) tripod collar. Business-like matte-black finish on this metal-barreled lens is nearly flawless. Stark white-on-black focal length and distance scales are very legible. Rubbery ribbed coatings on zooming and focusing rings provide very good grip. Zoom ring action is very smooth and well-damped—but our sample was difficult to turn. (Sigma informs us that lenses above serial number 1001300 have been corrected. If yours is below that number and difficult to turn, contact Sigma.) There is no zoom creep at any position. Manual focusing ring is smooth, easy-turning, and nicely damped; the focusing helical is geared down internally for a finer touch for manual focusing. Zoom and focusing rings are within fingertip reach with the lens handheld in a cradle grip, and the tripod platform resting on the left hand. Tripod collar has index marks but no detents for the horizontal and vertical positions. Autofocus/manual-focus switch was easy to see and operate. Included barrel lenshood has lockable bayonet mount, and can be reversed for storage. Autofocusing action was very fast and virtually silent, but the motor produced a very slight shudder during autofocusing.

**In the lab:** SQF data showed excellent results at 120mm and 200mm, and very good at 300mm. Pincushion distortion progressed from minimal (0.3 percent) at 120mm to slight (0.65 percent) at 200mm to noticeable (1.08 percent) at 300mm. Exposure at the film plane was very accurate at 120mm, with ½-stop underexposure at maximum aperture due to light falloff, less than ⅒-stop from f/4 to f/16, ¼-stop at f/22, and ½-stop at f/32. Exposure at the film plane was accurate at 300mm, with ⅔-stop loss at f/2.8 due to light falloff, about ⅓-stop at f/4, ⅒-stop from f/5.6 to f/11, ⅓-stop from f/16 to f/22, and ½-stop at f/32.

At the closest focusing distance of 49½ inches at 120mm (1:9.3), center sharpness was excellent from f/2.8 to f/22, and acceptable at f/32. Corner sharpness was excellent from f/2.8 to f/16, very good at f/22, and acceptable at f/32. Optimum performance was at f/8.

At 200mm, at the closest focusing distance of 55¾ inches (1:7.6), center sharpness was excellent from f/2.8 to f/4, very good from f/5.6 to f/8, excellent from f/11 to f/22, and good at f/32. Corner sharpness was very good from f/2.8 to f/4, excellent from f/5.6 to f/16, very good at f/22, and acceptable at f/32. Optimum

### Sigma 120–300mm f/2.8 EX APO IF HSM AF


### SPECIFICATIONS

120–300mm (123.60–293.86mm tested), f/2.8 (f/2.88 tested), 18 elements in 16 groups. Focusing turns 110 degrees counterclockwise. Zoom ring turns 80 degrees clockwise. Focal lengths marked at 120-, 150-, 180-, 200-, 250-, and 300mm. Diagonal View Angle: 20–8 degrees. Weight: 5lbs 12 7/16 oz. Filter size: 105mm. Mounts: Canon AF, Nikon AF, and Sigma AF. Lenshood: Included. Softcase: Included. Tripod collar: Included. List price: $3646. Street price: Approx. $1900.

### SUBJECTIVE QUALITY FACTOR

| KEY | A+ | A | B+ | B | C+ | C | D | F |
|---|---|---|---|---|---|---|---|---|

@120mm

| MAG | 5 | 6 | 8 | 12 | 17 | 22 |
|---|---|---|---|---|---|---|
| Size | 4x6 | 5x7 | 8x10 | 11x14 | 16x20 | 20x24 |
| 2.8 | 96.7 | 96.2 | 94.4 | 89.3 | 80.3 | 71.7 |
| 4.0 | 97.3 | 96.9 | 95.5 | 91.7 | 84.8 | 77.9 |
| 5.6 | 97.5 | 97.1 | 95.9 | 92.4 | 86.3 | 80.4 |
| 8.0 | 97.8 | 97.5 | 96.4 | 93.4 | 88.3 | 83.6 |
| 11.0 | 97.8 | 97.5 | 96.4 | 93.5 | 88.5 | 83.9 |
| 16.0 | 97.5 | 97.1 | 95.9 | 92.3 | 86.3 | 80.6 |
| 22.0 | 96.7 | 96.2 | 94.4 | 89.2 | 80.2 | 71.8 |
| 32.0 | 95.1 | 94.3 | 91.5 | 83.1 | 68.7 | 55.8 |

@200mm

| MAG | 5 | 6 | 8 | 12 | 17 | 22 |
|---|---|---|---|---|---|---|
| Size | 4x6 | 5x7 | 8x10 | 11x14 | 16x20 | 20x24 |
| 2.8 | 97.9 | 97.6 | 96.4 | 93.2 | 87.8 | 82.8 |
| 4.0 | 98.2 | 98.0 | 97.1 | 94.8 | 90.8 | 86.8 |
| 5.6 | 98.2 | 97.9 | 97.0 | 94.5 | 90.3 | 86.1 |
| 8.0 | 98.2 | 97.9 | 97.0 | 94.4 | 90.1 | 85.9 |
| 11.0 | 98.1 | 97.8 | 96.9 | 94.1 | 89.7 | 85.6 |
| 16.0 | 97.7 | 97.4 | 96.2 | 92.6 | 86.8 | 81.4 |
| 22.0 | 96.9 | 96.4 | 94.6 | 89.1 | 79.7 | 71.0 |
| 32.0 | 95.4 | 94.7 | 91.9 | 83.2 | 68.5 | 55.7 |

@300mm

| MAG | 5 | 6 | 8 | 12 | 17 | 22 |
|---|---|---|---|---|---|---|
| Size | 4x6 | 5x7 | 8x10 | 11x14 | 16x20 | 20x24 |
| 2.8 | 95.9 | 94.9 | 92.2 | 87.1 | 81.4 | 78.4 |
| 4.0 | 97.1 | 96.4 | 94.3 | 90.1 | 85.2 | 82.7 |
| 5.6 | 98.2 | 97.8 | 96.5 | 93.6 | 90.2 | 88.6 |
| 8.0 | 98.5 | 98.3 | 97.3 | 94.4 | 90.6 | 88.2 |
| 11.0 | 97.6 | 97.1 | 95.5 | 92.1 | 87.7 | 85.0 |
| 16.0 | 97.4 | 96.8 | 94.9 | 90.7 | 85.2 | 81.2 |
| 22.0 | 96.4 | 95.5 | 92.8 | 86.6 | 77.8 | 70.5 |
| 32.0 | 94.4 | 93.0 | 88.4 | 77.9 | 62.9 | 50.7 |

performance was at f/16.

At the closest focusing distance of 87¾ inches at 300mm (1:8.9), center sharpness was excellent from f/2.8 to f/22, and good at f/32. Corner sharpness was excellent from f/2.8 to f/16, very good at f/22, and good at f/32. Optimum overall performance was at f/16.

**In the field:** Test slides were very sharp and contrasty from center to corners at every aperture at every focal length, except for the center and corners at f/32 at 200mm and 300mm, where diffraction produced slightly soft images. Light falloff was gone by f/4 at every focal length. Slight flare, seen from f/22 to f/32 at 200mm and 300mm, was otherwise well controlled.

**Conclusion:** Truly fine performance over all the test criteria, including stellar close-focusing performance.