

HOT NEWS CANON'S 12.8MP Full-Frame DSLR

WORLD'S
LARGEST
IMAGING
MAGAZINE

POPULAR

NOVEMBER 2005

Photography

DIGITAL

IMAGING

BIG DEAL

\$699

HUGE LCD
8MP
SUPER EASY
GO-ANYWHERE SIZE

+ PLUS:
10 REASONS YOU STILL
NEED A HANDHELD METER
SOLD! REAL ESTATE PHOTOS
THAT SELL

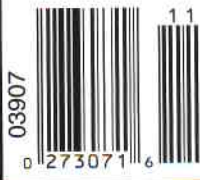


THE NEW
OLYMPUS
E-500
DIGITAL
SLR

CANON VS. EPSON VS. HP **\$499** PRINTER SHOOT-OUT



WWW.POPPHOTO.COM
U.S./FOR \$4.50 CAN. \$5.50 U.K. £3.25



ARMY OF ONE

Unusually sharp and distortion-free

WHAT YOU SHOULD KNOW: After a six-year absence from the high-speed pro macro market, Tokina jumps back in with this 100mm f/2.8 AT-X. Unlike its predecessor, the 90mm f/2.5 AT-X, the newcomer is a true macro lens (focusing to 1:1)—a clear improvement over the defunct 90mm that focused only to half-lifeseize.

Like the 90mm, however, the new 100mm f/2.8 handles bellows extension in a different way than (almost) any other macro lens. Bellows extension, a phenomenon common in large-format photography, refers to the light falloff that occurs when the lens aperture moves away from the image plane during focusing. With most SLR lenses, the movement is negligible, but with 1:1 macro lenses, which by design require relatively long travel to go from infinity to maximum magnification, the bellows factor (i.e., the amount you must adjust exposure to compensate for the diminished light transmission) can be considerable. With this Tokina, for example, the image plane receives two stops less light at close focus than at infinity. When using most 1:1 macro lenses on today's AE SLRs, as you focus from infinity to 1:1, the AE system's aperture readout remains constant as shutter speed lengthens to compensate for the light loss. This Tokina is the same, except for this: the aperture readout also changes as focus moves closer, going from f/2.8 to f/5.6. It's an indication of the effective aperture, not the actual aperture. Don't be alarmed. At maximum aperture, you're still getting the depth-of-field of an f/2.8, even though your camera's LCD says f/5.6.

HANDS ON: Another unusual trait: the focus-range limitation system. Most close-up lenses with focus limiters offer full- and non-macro ranges, but this Tokina has a single two-way switch that provides three options. If you focus outside the macro

range (i.e., 1:2 to infinity), and switch from Full to Limit, the focusing system permits only non close-up subject distances (which is great for portraitists). Conversely, if the lens is focused between 1:1 and 1:2, and



► Specifications

100mm (97.02mm tested), f/2.8 (f/2.91 tested), 9 elements in 8 groups. Focusing turns 120 degrees clockwise.

- **Diagonal view angle:** 24 degrees.
- **Weight:** 1.11 lb. ■ **Filter size:** 55mm.
- **Mounts:** Canon AF, Nikon AF.
- **Included:** Lenshood. ■ **Street price:** Approx. \$399.

► Subjective Quality Factor

	100mm				
Size	5x7	8x10	11x14	16x20	20x24
2.8	87.1	88.2	84.1	90.9	85.1
4.0	87.4	89.6	84.8	91.4	87.4
5.6	87.8	87.1	85.5	92.9	89.9
8.0	87.8	87.1	85.5	93.0	90.0
11.0	87.6	86.8	85.1	92.1	88.6
16.0	87.2	86.3	84.4	90.8	86.5
22.0	86.5	85.4	82.9	88.2	82.4
32.0	85.4	84.0	80.5	83.4	74.5

key

A+	A	B+	B	C+	C	D	F
----	---	----	---	----	---	---	---

you switch from Full to Limit, it focuses only within the close-up range (a boon to insect and jewelry photographers, among others). The third option is, of course, the full-focusing range. Sigma's 105mm f/2.8 DG Macro operates similarly.

Physically, the Tokina 100mm f/2.8 is average in size and weight for its class, and has a large, knurled focusing ring (rubberized); matte-black crinkle finish; and amp-sized focus, depth-of-field, and magnification-ratio scales. (Meters are in yellow; feet in white; magnification ratios in blue.) The manual-focus action is long (as with most true macros), and extremely well-damped.

IN THE LAB: SQF data indicate excellent performance at all tested apertures and magnifications. The distortion performance is among the best we've ever seen—minimal pincushioning (0.34%) according to DxO Analyzer tests. Light falloff was undetectable by f/4, about average for this lens class. At the close-focus distance of 11.8 inches (1:1), center sharpness was excellent from f/2.8–22 and very good at f/32. Corner sharpness was excellent across the entire aperture range, with best performance at f/11. These are among the best lab results we've produced from a 100mm/105mm f/2.8.

CONCLUSION: Covering the full 35mm frame, this pro-grade macro is optimized for DSLRs thanks to improved multi-coatings that suppress reflections off digital sensors. With its superb distortion and sharpness performance, three focusing ranges, and 1:1 maximum magnification, this lens is a superior short-tele professional macro lens. And pricing? Tokina and Sigma's pro macros are each about \$399 (street), and Tamron's is \$450 with rebate. Nikon and Canon, meanwhile, get between \$500 and \$650 street for their comparable glass. The new Tokina forces the question: Are the others worth it? Tough call! ●

What's Hot

- Great optical performance for low price.
- 3 focusing ranges (full, 1:1-1:2, and 1:2-infinity).
- Easy switching from manual to autofocus.

What's Not

- Available in Canon and Nikon mounts only.