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The Action Camera...and Much, Much More!

MAXXUM 7xi

by the Editors

PHOTOGRAPHIC'S USER REPORT The trouble with autofocus cameras is that they have trouble focusing on the same subjects we have trouble focusing on ourselves: dim ones, low-contrast ones, and especially fast-moving ones. The best of the current crop of 35mm AF SLRs actually do a good job with such subjects, but none can really handle a moving subject that changes direction or speed. Until now.

Enter Minolta's Maxxum 7xi, with automatic Omni-Dimensional Predictive AF, a mouthful that means this camera can follow focus and predict position at the instant of exposure with subjects that move erratically, slow down, speed up, and even make a U-turn—at speeds up to 187 mph! And it switches into this mode automatically when motion is detected.

This alone should make the Maxxum 7xi a hot item among action photographers (and with anyone who finds supremely efficient autofocusing an asset). But it's only one of many exciting new features this camera offers.

In addition to its remarkable omnidirectional capabilities, the Maxxum 7xi's new AF system offers the world's widest focus area (twice the size of the focus area of the Maxxum i-series cameras), compliments of four high-density AF sensors (a central horizontal one, vertical ones on each side of it, and an upper central sensor), making it a snap to track moving subjects and frame still ones. When the camera is held for a vertical-format image, the upper horizontal sensor shuts off, for better AF performance with vertical-format subjects. And you can select any of the AF sensors individually, if you wish. A side benefit of this arrangement is that the horizontal-format AF brackets are positioned at compositional "rule-of-thirds"

intersections, to help you produce more dynamic images.

The 7xi's AF system is twice as fast as that of the i-series Maxxums—which makes it *very* fast indeed (it can keep up with the 7xi's 4-fps motor drive)—and it functions well in light levels as dim as EV –1 (so dim as to require an exposure of four seconds at f/1.4 with ISO 100 film). A built-in AF illuminator automatically projects a patterned beam on subjects up to 30 feet away in dim light (or when subject contrast is low), for autofocusing even in total darkness.

AUTOZOOMING

When you bring the 7xi up to your eye, sensors in the handgrip and below the eyepiece activate the autofocus, autoexposure, and Auto Stand-by Zoom (ASZ) systems, so the camera is ready to shoot even before you are. Minolta calls this "Eye-Start Automation," and among SLRs, it's exclusive to the Maxxum xi series.

Speaking of Auto Stand-by Zoom: Ever get caught with your zoom lens set at exactly the wrong focal length for the picture at hand? Not with the 7xi. It automatically measures the distance to the subject and zooms any of the five new xi-series Autozoom lenses to a focal length that will provide a pleasing composition. Maybe not the precise composition your artistic taste will eventually select, but one that will keep you from missing a fleeting shot because you couldn't set the right focal length quickly enough. Insert the new Child Creative Expansion Card into the camera's card slot, and one-time Auto Stand-by Zoom becomes continuous Advanced Program Zoom (APZ), adjusting the focal length as the subject distance changes to maintain that pleasing composition.

The new Autozoom lenses—all much lighter and more compact than conventional zoom lenses of equivalent focal lengths—provide variable-rate power

zooming. Rotate the zoom ring slowly, and the lens zooms slowly, for precise compositional control. Rotate the zoom ring rapidly, and the lens zooms rapidly, for quick major focal-length changes.

The new xi Autozooms also provide Image-Size Lock, in which you set a focal length that provides the desired image size—say, a waist-up portrait—and the lens will automatically zoom to maintain this magnification when the subject moves closer to or farther from the camera. There's also Wide-View mode, in which the lens zooms back to a focal length that lets you see 150% of the image area in the viewfinder, so you can detect approaching subject matter without taking your eye from the viewfinder.

While these automatic zoom modes function only with the five new xi-series Autozoom lenses, all Maxxum lenses can be used with the 7xi camera, with full autofocus and autoexposure functions—the Maxxum 7xi user has access to the widest selection of autofocus lenses of any camera system (some 33,

1. The 7xi's wireless off-camera flash capability lets you produce natural-looking off-camera lighting (here, the 3500xi was held at arm's length to one side) when desired, instead of limiting you to flat, on-camera flash all the time.
2. The Maxxum 7xi's wide autofocusing area gives the user lots of compositional freedom—you don't have to continually worry whether your subject is in the AF area.
3. With the 7xi's 1/8000 top shutter speed, you can freeze action without resorting to flash.
4.&5. It's very hard to find a situation that will fool the 7xi's honeycomb metering. Here, the Ps mode was used, along with the Action Index in the viewfinder, while the shutter speed was adjusted with the front control dial to vary the degree of blur in the moving water. Photo 4 was exposed for ¼ second; photo 5 for about 8 seconds.
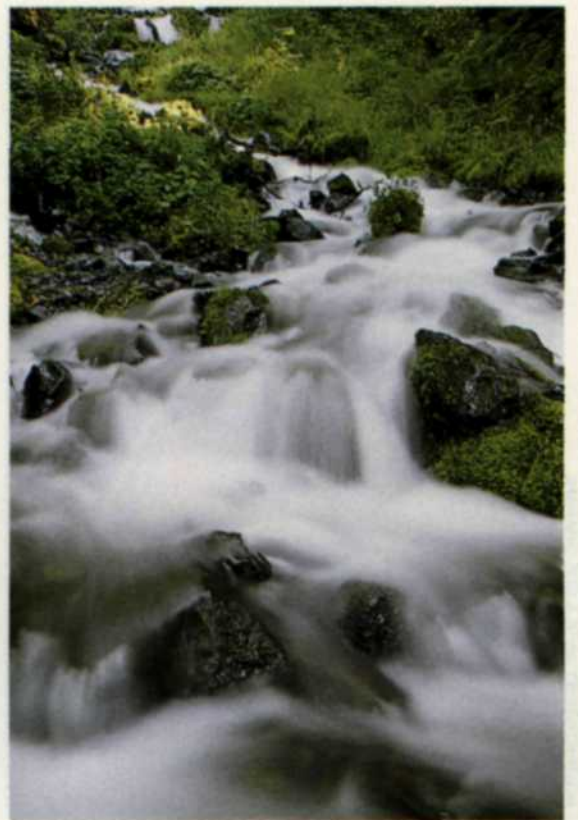
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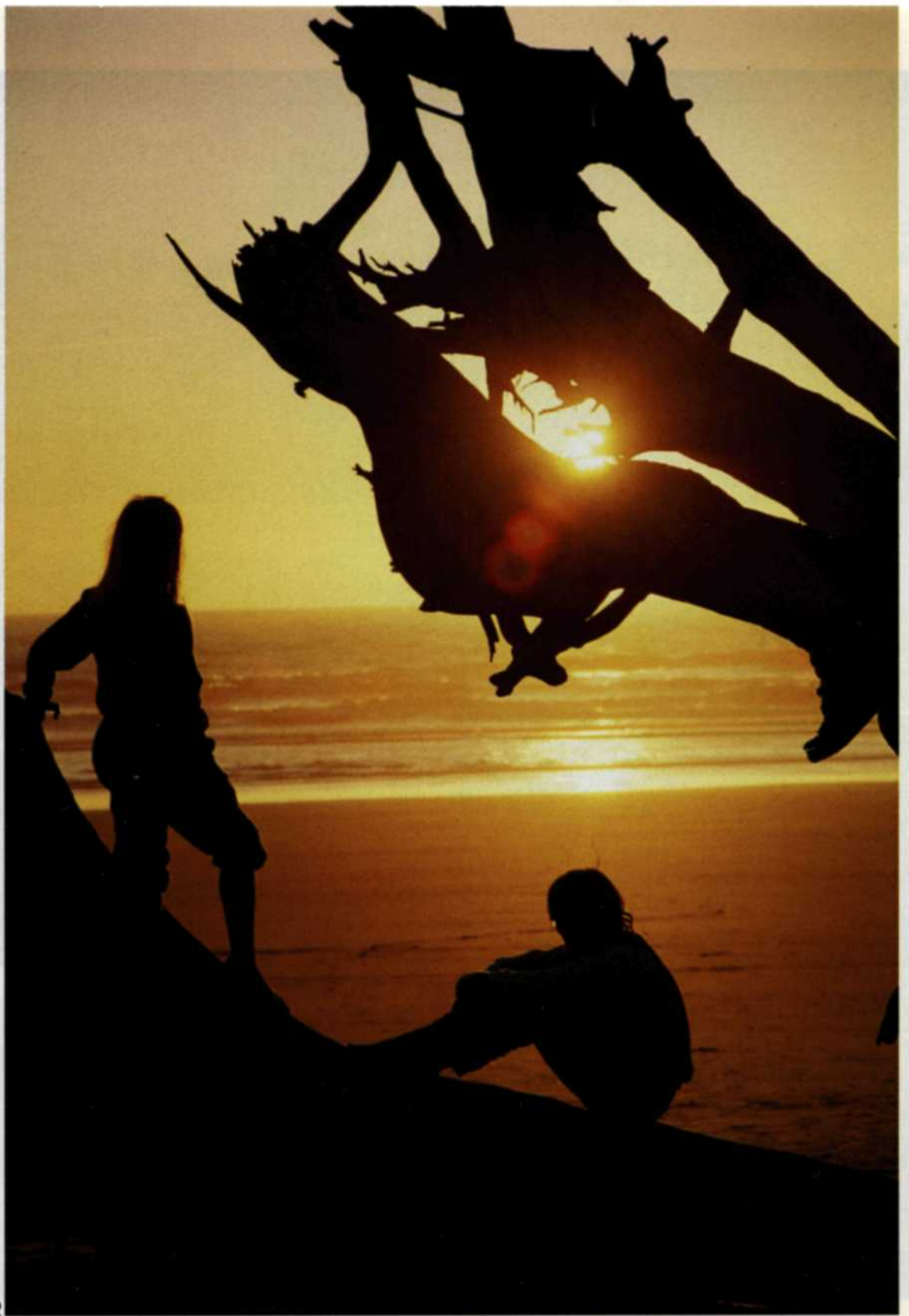
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from 16mm full-frame fisheye to 600mm supertelephoto).

AUTOEXPOSURE

The 7xi offers a full range of exposure modes: program AE, in which the camera sets both shutter speed and aperture for correct exposure; shutter-priority AE, in which you set the shutter speed, and the camera sets the appropriate aperture for correct exposure; aperture-priority AE, in which you set the aperture, and the camera sets the appropriate shutter speed for proper exposure; and metered manual, in which you set both shutter speed and aperture, by referring to the viewfinder display's indications, a handheld meter's recommendations, or your own intuition.

Above: Amazing is the word for the 7xi's Omni-Dimensional Predictive autofocusing. It can accurately track subjects moving in any direction, at any speed (up to three miles a minute!), even if they erratically change direction and/or speed. And it really works!
Left: The Creative Expansion Cards automatically program the camera for specific shooting situations. Here, the Sports Action Card activated a special high-speed program to freeze this action subject.

However, it doesn't stop there. The program takes into account the focal length of the lens, as do most programs these days; but it also takes into consideration the subject location and magnification. If it detects subject or camera motion, it sets faster shutter speeds. It even recognizes different types of scenes—close-ups, landscapes, portraits, and snapshots—biasing the shut-

ter speeds and apertures appropriately for best results.

Ps and PA modes allow you to temporarily set a specific shutter speed or aperture without leaving program mode. The Image Control Index at the bottom of the viewfinder's transparent display shows the degree of depth of field in PA, program, or aperture-priority mode; and the degree of image freezing or blurring in Ps or shutter-priority mode.

In all autoexposure modes, the 7xi provides AE lock (via a button to the right of the viewfinder eyepiece) and ±4 stops of exposure compensation, in ½-stop increments.

The AF-Integrated 14-segment honeycomb metering system takes into consideration subject position and size, camera orientation, and lens focal length, as well as brightness, and breaks scenes down into several types: close-up, landscape, snapshot, and portrait, adjusting the metering pattern as is appropriate to produce ideal results. The fuzzy logic can even tell when you're shooting a backlit portrait, and adjust the exposure accordingly.

Do-it-yourself types can shut off all of the metering segments except the central one (by pressing the camera's function button and rotating the rear control dial one detent), and enjoy spot metering, wherein only the central 2.7% of the image area is read.

FLASH

The first interchangeable-lens SLR to incorporate a red-eye-reducing flash unit, the 7xi is also the first to offer wireless off-camera TTL flash.

Up to ten Maxxum 3500xi flash units can be fired remotely via a signal from the built-in flash unit, with full TTL automatic exposure control—very handy for creative lighting setups, and avoiding that not-too-exciting on-camera-flash look. If you press and hold the camera's flash-pop-up button, the system will be set to provide 2:1 ratio lighting, where ⅔ of the exposure comes from the off-camera 3500xi unit, and ⅓ from the built-in unit—ideal for attractively lit portraits.

Several flash modes are provided with the built-in flash. In Auto-flash mode, the built-in unit automatically pops up, charges, and fires when the camera's Expert Intelligence system determines that flash is needed. In Pre-flash mode, the flash unit fires a rapid series of small flash bursts to stop-down subjects' eyes and thus reduce red-eye. Flash-off mode prevents the flash from firing, for existing-light shooting in dim lighting. You can also force the flash to fire when the camera doesn't deem it necessary, just by pressing a button.

With the 3500xi flash unit, slow-

shutter sync (where a slow shutter speed is set to record detail in a dark background, while flash output is reduced to properly expose a nearby subject), bounce flash (via a tilt/swivel head), and zoom flash (the flash head automatically zooms to cover the angle of view of the lens on the camera) are added.

EXPANSION CARDS

Six new Creative Expansion Cards were introduced with the 7xi, bringing the Maxxum card total to 21. These cards slip into a door at the right end of the camera, and add useful features.

The new cards include several designed especially for the Maxxum 7xi: The Intervalometer Card lets you set the camera to make time-lapse sequences at intervals from 1 second to 24 hours. With the Background Priority Card, you select (using the Image-Control Index) the desired degree of depth of field, and the camera will maintain it, regardless of the lens focal length and distance to the subject. There's the aforementioned Child Card, which sets the camera to track spontaneous movements of children at play (the ASZ changes to continuous APZ, providing continuous zoom adjustment

as the kids move); and a Travel Card, which provides wider focal lengths and maximizes sharpness for good results with typical travel subjects.

The Panning Card is great for both novice and experienced action shooters. It displays the Action Index and indicates how much blurring effect will be produced by the set shutter speed; and it judges your panning accuracy (by how well you keep the subject centered in the AF area): the more accurately you pan, the slower the shutter speed it will allow you to use (and the more dramatic your panned motion shot will be).

There's also a Customized Function Card xi, which lets you reprogram many camera functions to suit your personal shooting habits.

All of the previous Creative Expansion Cards can be used with the 7xi, except the A/S Card, which adds aperture- and shutter-priority AE to the Maxxum 5000i—features already built into the 7xi.

NUTS & BOLTS

The Maxxum 7xi feels good in the hands, and has comfortable and well-thought-out controls.

A simple two-position lock/on switch

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atop the camera to the left of the viewfinder switches the camera on and off. In front of this is a button that resets the camera to point-and-shoot mode at one touch (it can be given other functions by using the Custom Function Card xi). To the right of the viewfinder is the LCD panel. To its right is the card on/off switch. In front of that is the shutter release. In front of that is the front control dial. To the right of that is the viewfinder-mode selector, which sets wide-view mode.

To the right of the viewfinder eyepiece is the AE-lock button. To the right of that is the rear control dial, and to the right of that is the function button, which displays in the viewfinder (and on the external display panel) the selectable-function indicators (which show both the function and the dial to use to set it). On the right end of the camera is the card door, which also contains the self-timer/drive-mode button, flash-mode button, rewind button, film-speed button, and card-adjust button.

On the left front of the camera, next to the lens mount, are (top to bottom) the flash-pop-up button, lens-release button, and focus-mode switch.

One of the Maxxum 7xi's more interesting features is the world's first transparent LCD SLR viewfinder, which shows applicable data right in the image area: current functions of both front and rear control dials, Image-Control Index (indicates degree of subject blur/freezing, and depth of field), focus area, spot-metering area, image-size-lock mode, wide-view mode, manual-focus mode, and panorama frame.

Across the bottom of the viewfinder frame (out of the image area) is a window that displays flash-on, flash mode, camera-shake warning, focus status, exposure mode, shutter speed/film speed, exposure signals, exposure adjustment, aperture, and AEL.

The external LCD panel displays all applicable data about the mode(s) in use at any given time—see the specifications box for a listing.

FUZZY LOGIC

Behind the Maxxum 7xi's Expert Intelligence lies fuzzy-logic programming. Fuzzy logic (not to be confused with fuzzy thinking) is a way of making computers more flexible and human in their reasoning. Standard computer logic is quite rigid: If a backlit scene is defined as one with at least two stops of difference between subject and background, a 1.9-stop difference (to the computer) is not backlit, and a camera
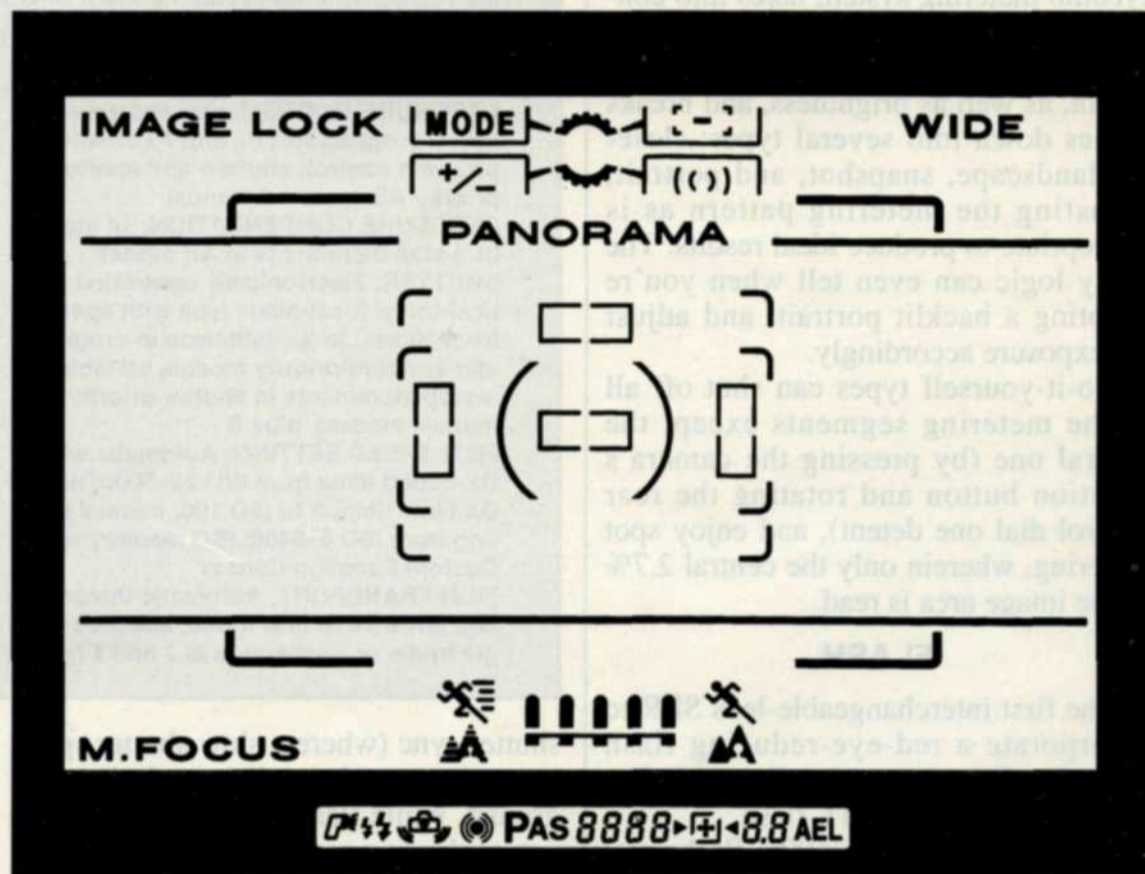
using this type of logic will underexpose the subject.

With its fuzzy logic, the Maxxum 7xi recognizes "somewhat backlit," not just "two stops or more = backlit; less than two stops = not backlit," and thus will expose the 1.9-stop scene correctly.

In addition to its great flexibility, fuzzy logic also works much faster than conventional computer logic, because it requires a much smaller data base—with conventional logic, every situation must be defined and stored in the data

The Maxxum 7xi's transparent viewfinder display shows many useful items superimposed right on the image area, for quick reference.

base. Because fuzzy logic can "think," just a few simple rules must be stored and referenced.

Fuzzy logic is employed in all of the 7xi's decision-making: autoexposure, autofocus, and subject/scene analysis. The result is Expert Intelligence—it's almost like having one of the world's best photographers in the camera. To us camera users, it means more sharply focused, properly exposed (and for snapshooters, pleasingly framed) images.

IN USE

So now you know the wonders of the Maxxum 7xi—on paper. How do they work in practice?

Very well, we're delighted to say. Often, when we get an early version of a new camera to try out, it has some

glitches. Our first production Maxxum 7xi worked flawlessly throughout our testing period (which lasted more than a month).

In all respects, the 7xi performed as advertised. The autofocus system was indeed quick and accurate, even with rapidly and erratically moving subjects. The autoexposure system handled an amazing range of shooting situations perfectly—it's the closest thing to foolproof we've encountered. The autozoom modes worked as designed, and the power-zoom function operated smoothly and accurately (it's sometimes tricky to stop a power-zoom lens at exactly the desired focal length, but not with the

Maxxum 7xi).

WRAP-UP

Serious action shooters will want the Maxxum 7xi for its sensational omnidimensional autofocus system, even if that were its only feature. But, of course, it isn't: The 7xi has something(s) for everyone. Point-and-shooters will love the autozoom features and programmed AE; news photographers who shoot fast-breaking shots will love the quick AF, the speed and convenience of the aperture- and shutter-priority AE, and the accuracy of the 14-segment metering; total-control types will enjoy the spot-metering and full-manual control of everything, and the 7xi's DX Memory function—if you rate a film at other than its ISO speed, you can (through the Customized Function Card xi) program the camera to remember and set your personalized film speed whenever you load a cassette of that film. Whatever your photographic niche, the Minolta Maxxum 7xi really performs. ●