

WILSONWERKS ARCHIVES

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	PENTAX / RICOH (KR MOUNT)	MINOLTA MD	CANON CA	NIKON NI	PENTAX PU
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35-70mm f/3.5-4.5	30-10-10	39-10-40	30-10-20	30-10-30	
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28-70mm f/3.5-4.5	40-10-10	40-10-30	40-10-20	40-10-40	40-10-50
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80-200mm f/4.0	69-10-10	69-10-30	69-10-20	69-81-40	69-10-50
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28-200mm f/4.0-5.6	80-10-10	80-10-30	80-10-20	80-10-40	80-10-50
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60-300mm f/4.0-5.6	60-10-10	60-10-30	60-10-20	60-10-40	60-10-50
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70-210mm f/4.0-5.6	20-07-03	20-07-01	20-07-02		
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500mm f/8.0	50-20-10				
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Minolta MAXXUM AF

28-70mm f/3.5-4.5	90-22-10				
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70-210mm f/4.0-5.6	90-12-10				
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FOCAL®

Automatic Diaphragm Multi-Coated Lenses and Tele Converters



FOCAL MC AUTO Lenses and Tele converters are available for the following cameras: the latest CANON, MINOLTA, RICOH, CHINON, PENTAX, NIKON, including New Programmed Cameras.

FOCALMC (multi-coated) lenses and Tele Converters are fully automatic and incorporate not only computer optical design but also the latest optical multi-coating techniques. The process of multi-coating assures virtually flare free photographs even under adverse lighting conditions resulting in crisp, high contrast pictures with full color fidelity. In addition FOCALMC auto lenses and Tele Converters are designed to retain the full range of exposure automation and metering capabilities of the camera on which they are mounted.

MOUNTING THE LENS

FOCALMC auto automatic lens mount is similar in design to that of the standard automatic lens (50mm, 55mm, etc.) with which your camera is equipped, and is mounted and dismounted in the same manner as the 'standard' lens. Consult your camera instruction manual for detailed instructions on mounting interchangeable lenses on your camera.

KR MOUNT

This is a new program mount for all Pentax "A" series, Pentax "K", and Ricoh programmed cameras. For use with programmed cameras, rotate the diaphragm ring to the green "A" mark beyond the smallest aperture by pressing the lock-button.

SETTING THE F STOP

Rotate the diaphragm ring to set the desired F stop at the index mark on the lens barrel. The diaphragm can be set to full stops or to any position in-between. Proper F stop is chosen as indicated by the camera's built-in exposure meter or an independent meter; or may be dictated by special requirements, such as controlling the depth of field.

METER COUPLING

Meter coupling of the lens to the camera is done automatically as the lens is mounted on the camera body. Full aperture metering of the

original standard lens will, in most cases, be retained when using FOCALMC auto lens. One exception to this is that when using FOCALMC lenses with the Pentax Universal Screw Mount, metering must be done at shooting apertures only.

EE OPERATION

Minolta and Canon mount lenses allow automatic aperture selection when used on cameras having this feature.

With the Minolta XD camera and Minolta Mount lenses, to use the shutter priority mode, set the diaphragm to the minimum aperture setting (marked in green) and set the camera controls as indicated in the camera instruction manual.

For use with the Canon AL-1, AE-1, A-1 and F-1 cameras, rotate the diaphragm ring to the green "A" mark just beyond the minimum aperture setting.

CAUTION: Do not attempt to mount a lens on Canon cameras other than the F-1, AE-1, AV-1 or EF while the diaphragm ring is set to the EE position. First turn the diaphragm ring to a manual aperture setting in order to retract the EE pin on the rear of the lens.

INFRA-RED FOCUS

For infrared photography, correction of the distance scale is necessary because the infra-red rays are longer than the light rays of the visual spectrum. Focus first in the ordinary manner and then — before exposure — reset the distance indicated on the focusing ring to the appropriate R-index (red lines). For proper exposure and filtration with infra-red materials, follow the film manufacturers recommendations. Infra-red index lines are not included on all lenses.

DEPTH OF FIELD

Some lenses are provided with a depth of field scale. On these lenses depth of field is indicated for any distance and f stop setting

on the double scale of f - numbers engraved on both sides of the center reference line. The distance settings opposite the f - number being used (shown on the left and right hand parts of the depth of field scale) indicate the range of sharpness at that distance and f stop.

FOCUSING THE LENS

Look through the view finder of your camera and rotate the focusing ring to get a sharp and clear image in the view finder. Due to the wider depth of field, it is more difficult to see the image 'snap' into focus with wide-angle lenses or wide-angle settings of zoom lenses than it is with telephoto lenses or settings. This depth of field makes wide-angle focal lengths desirable for quick, prefocused shooting. For example, at f16 the depth of field on your 28mm lens extends from less than 3 feet to infinity. The distance scale indicates the distance between the focused subject and the film plane. The scale is necessary for checking the depth of field, exposure with flash and infra-red photography.

USING PARFOCAL ZOOM LENSES

The 80-200mm Compact Macro Zoom Lens is a true parfocal zoom lens. This means that focusing can be done at any focal length and proper focusing will be maintained as the zoom control is changed to compose your picture. For most critical focus with these lenses, your lens should first be set to the longest focal length of the zoom range, focused for the sharpest image in the view finder and then zoomed back for the desired composition. The larger image and shallower depth of field at the longest focal setting in the zoom range will help you to get more critical focus. Naturally, your lens may be focused at any point within the zoom range, but focusing at the shortest focal setting and zooming up should be avoided unless focus is re-checked before shooting.

HOW TO USE THE MACRO-FOCUSING SYSTEM

Convenient close focusing capability has been provided on the compact macro zoom lenses by having extended focusing range at

close distances. Focusing at close distances with these lenses is done with the focusing ring in the same manner previously described for conventional focusing. Additional scales on the index barrel indicate the reproduction (Macro) ratios. These scales indicate the ratio of film image size to object size. The ratio varies with each focal length. For largest reproduction ratios, turn the zoom control to the largest focal setting and the focusing ring to the closest setting.

USING THE VIEW-FINDER WITH TELEPHOTO LENSES

The effectiveness of different types of focusing screens varies with the focal length and maximum aperture of the lens. The range finder or microgrid prisms built into the ground glass do not work as well with longer focal length lenses as they do with the normal camera lens and most wide-angle lenses, and may blackout partially or fully. When such a condition exists, focusing is best done on the ground glass portion of the viewing screen. On some SLR cameras, long telephoto lenses appear to produce a cut-off image in the upper corners or along the entire upper edge of the view finder. Actually such viewing cut-off is caused by the size of the camera's mirror which is adequate for the shorter focal length lenses only. The exposed slide or negative will be unaffected by this viewing deficiency.

PROPER CARE OF LENS

FOCALMC auto lens should always be capped to protect it when not in use. Like other precision optics, it should never be simply wiped with tissue since such tissue may abrade the surface with any dust which might be on it or on the lens.

Any accumulated dust should occasionally be blown off with a syringe or one of the available pressurized air products. To remove a fingerprint or smear, shred the edge of a lens tissue and roll it to make a swab; dampen it with a lens cleaner specially made for photographic optics and gently wipe the surface without exercising any pressure. If repeating the procedure is necessary, use a new swab.

Close examination of any multi-coated lens may reveal some minor coating defects or a small bubble in an interior lens element.

These will in no way affect the performance of FOCALMC auto lens.

EXPOSURE:

500mm Telephoto Lens with 2X Converter

Cameras with TTL metering system require no additional adjustment. However cameras not provided with TTL metering system such as with external reading metering system or with hand-held meter, it is required to compensate the exposure whenever Tele Converter is used. Simply open diaphragm 2 stops more with 2X. In use with artificial lights, also open diaphragm 2 stops more than that of GUIDE NUMBER table indication for 2X.

In the following is Exposure Compensation Chart showing f stops adjustments:

Prime f Value	1.2	1.4	2	2.8	4	5.6	8	11	16	22
W/2X Converter	2	2.8	4	5.6	8	11	16	22	32	45

The camera shutter speed can be adjusted in the same manner instead of making the adjustment of exposure with diaphragm. However you should keep in mind that the image is magnified by Tele Converter and lens combination, it is therefore recommended to use with tripod and as high a shutter speed as possible when using telephoto lens with Tele Converter. This also applies to close-up photography.

For your guidance, Focal Distance Conversion Chart is shown hereunder:

Focal Distance Conversion Chart (Unit: mm)

Prime Focal Length	50	55	85	100	135	200	400	500
W/2X Converter	100	110	170	200	270	400	800	1000

MINOLTA MAXXUM AF LENS

Your Auto-Focus lens incorporates the most advanced opto-electronics designed for the AF system for the 35mm single-lens reflex camera "Minolta MAXXUM"

In addition, your new lens is fully automatic and incorporates not only computer optical design but also the latest coating techniques. The process of coating assures virtually flare free photographs even under adverse lighting conditions resulting in crisp high contrast pictures with full color fidelity.

*APERTURE

Your AF lens is designed to retain the full range of exposure automation and metering capabilities of the camera on which it is mounted.

The aperture is automatically adjusted for correct exposure by your AF camera body when you shoot the subject.

*FOCUSING AND ZOOMING

TO FOCUS: With AF mode on your camera, your AF lens will focus automatically. To focus manually, set the AF-M mode switch on the camera body to the M position. Turn the focusing ring as indicated by the focusing signals in the viewfinder. Consult your camera instruction booklet for details.

TO ZOOM: Turn the Zoom ring to the left or the right until the designed effect is achieved. The focal length scale is made on the zoom ring.

**35/70mm f/3.5-4.5
One-Touch Macro
Compact Zoom Lens**



SPECIFICATIONS

Aperture Range: f3.5-f22
Min/Max. Focus Dist.:
0.4M to infinity
(Macro at f=70mm: 1:4)

Angle of view: 63°-33.5°
Elements: 9 groups 9-elements
Filter size: 55mm screw-in

**28/70mm f/3.5-4.5
One-Touch Macro
Compact Zoom Lens**



SPECIFICATIONS

Aperture Range: f3.5-f22
Min/Max. Focus Dist.:
0.4M to infinity
(Macro at f=70mm: 1:4)

Angle of view: 75°-33.5°
Elements: 9 groups 9-elements
Filter size: 55mm screw-in

**500mm f/8.0
Super Telephoto Lens**



SPECIFICATIONS

Aperture Range: f8.0-32
Min/Max. Focus Dist.: 6M
to Infinity

Angle of view: 5°
Elements: 4 groups 4 elements
Filter Size: 67mm screw-in

**60/300mm f/4.0-5.6
One-Touch Macro
Zoom Lens**



SPECIFICATIONS

Aperture range: f4.0-f22
Min/Max. Focus Dist.:
1.2M to Infinity
(Macro at f=300mm: 1:2.8)

Angle of view: 39.5°-8°
Elements: 11 groups 15 elements
Filter size: 62mm screw-in

**80-200mm f/4.0
One-Touch Macro
Zoom Lens**



SPECIFICATIONS

Aperture range: f4.0-f22
 Min/Max. Focus Dist.: 1.3M to Infinity
 (Macro at f=200mm: 1:5)
 Angle of view: 30°-12°
 Elements: 9 groups 13 elements
 Filter size: 55mm screw-in

**70-210mm f/4.0-5.6
One-Touch Macro
Compact Zoom
Lens**



SPECIFICATIONS

Aperture range: f4.0-f22
 Min/Max. Focus Dist.: 1.1M to Infinity
 (Macro at f=210mm: 1:4)
 Angle of view: 34.0°-11.5°
 Elements: 10 groups 12 elements
 Filter size: 52mm screw-in

**28/200mm f/4.0-5.6
One-Touch Macro
Zoom Lens**



SPECIFICATIONS

Aperture range: f4.0-f22
 Min/Max. Focus Dist.: 1.8M to Infinity
 (Macro at f=200mm: 1:4)
 Angle of view: 76°-12°
 Elements: 14 groups 15 elements
 Filter size: 72mm screw-in

28-70mm f3.5/4.5 AF



SPECIFICATIONS

APERTURE: f3.5/f4.5-f22/32	ANGLE OF VIEW: 75° – 34°
MINIMUM FOCUS: 0.45m (17.7")	CONSTRUCTION: 9 Elements in 9 Groups
FILTER SIZE: 55mm	

70-210mm f4.0/5.6 AF



SPECIFICATIONS

APERTURE: f4/5.6-f32/45	ANGLE OF VIEW: 34° – 12°
MINIMUM FOCUS: 1.1mm (43.3")	CONSTRUCTION: 12 Elements in 10 Groups
FILTER SIZE: 52mm	

*MACRO

HOW TO USE THE MACRO-FOCUSING SYSTEM: For 70-210 mm AF Lens

Convenient close focusing capability has been provided on your AF lens by having extended focusing range at close distances either with AF or M mode on your camera. A macro ratio indicates the reproduction ratio of film image size to object size. The ratio varies with focal length and the scale will be accurate for the longest focal setting only: 210mm for the 70-210mm AF Zoom. For largest reproduction ratio turn the zoom control to this focal setting, and the focusing ring to the closest setting.

For 28-70mm AF Lens

Turn the zoom ring to the right until it will go through 70mm focal scale (click stop) and focus the subject by turning the zoom ring within the "Macro Focus Zone". For the largest reproduction ratio, turn the zoom ring to the right in the Macro zone until it will stop and rotate the focus ring to the closest setting.

*LENS CARE

Your AF lens should always be capped to protect it when not in use. Like other precision optics, it should never be simply wiped with tissue since such tissue may abrade the surface with any dust which might be on it on the lens.

Any accumulated dust should occasionally be blown off with a syringe or one of the available pressurized air products. To remove a fingerprint or smear, shred the edge of a lens tissue and roll it to make a swab; dampen it with a lens cleaner specially made for photographic optics and gently wipe the surface without exercising any pressure. If repeating the procedure is necessary, use a new swab.

Close examination of any multi-coated lens may reveal some minor coating defects or a small bubble in an interior lens element. These will in no way affect the performance of your AF lens.