

Minolta XK Motor Drive Accessories



AE-S Finder

Designed specifically for use with the Minolta XK Motor Drive, the AE-S Finder is also fully compatible with older model non-motorized XK cameras. It consists of an eye-level pentaprism with built-in silicon-cell, center-weighted, through-the-lens metering system and automatic/electronic exposure-control circuitry.

Auto-exposure range is from EV -2 to EV 17 (8 seconds at f/1.4 to 1/2000 second at f/8) in single-frame operation and from EV 3 to EV 17 (1/4 second

at f/1.4 to 1/2000 second at f/8) in continuous-run mode with an f/1.4 lens at ASA 100. In automatic operation, the AE-S Finder adjusts electronic shutter speeds steplessly over a range of 8 seconds through 1/2000 second, providing pinpoint exposure accuracy. For metered-manual and nonmetered exposures, the locking shutter-speed/function dial may be set to electronically timed discrete speeds from 1 second to 1/2000, plus mechanical B and X (1/100) settings. Nonmetered, electronically

timed speeds from 2 to 16 seconds may be set with the long-exposure selector lever. The silicon cell provides exceptionally fast, accurate response to changing light levels, and is immune to "memory" effects.

The AE-S Finder may be set for ASA speeds from 12 to 6400 in 1/3-stop locking increments, and has an auto-exposure override control for modifying automatically set exposures up to ± 2 EV. A click-stopped screen compensator allows adjusting meter response from -0.5 to +3.5 EV for optimum exposure accuracy with various focusing-screen/lens combinations.

All necessary exposure information is visible in the AE-S Finder: f/number set with meter-coupled Minolta lenses; stepless dual-range LED/digital indication of automatically set shutter speed or speed required for proper exposure in metered-manual mode; and readout indicating A for auto operation or manually set shutter speed.

Additional information about this highly efficient and versatile finder appears on pages A2 and A3.



Plain Finder

This finder allows manual control with both shutter-speed and aperture figures clearly visible in the viewfinder. It is suggested for use when a built-in light-metering system is not required. The Plain Finder is light and compact, and well suited to the needs of the studio photographer who works extensively with electronic flash. The shutter speed selector dial of the Plain Finder offers the same range of speeds found on the AE-S Finder, and the stepped shutter speeds provide electronic precision.



High-Magnification Finder

Magnifying the entire field of view 6.20 times, the High-Magnification Finder is designed for use whenever extremely critical focusing is needed. It is particularly well suited for close-up photography and photomacrography. Convenience features include a rubber-cushioned eyepiece and built-in adjustment capability (+3 to -5 diopters) for individual eyesight requirements. The shutter speed selector dial has the same range of speeds as the other finders, and all speeds maintain their electronic accuracy. This finder incorporates no meter, and the viewing image is laterally reversed.



Waist-Level Finder

This finder is designed for copying, photomacrography, candids and other applications where right-angle viewing is preferable. It is ideal for photojournalistic shooting when the camera must be held aloft to shoot over the heads of people in a crowd, and for extremely dramatic low-angle photography where the camera is placed on the ground and eye-level viewing is almost impossible. The folding hood springs open and, at the press of a button, a magnifier swings up for critical focusing. Again, the total range of shutter speeds is available and all maintain their electronic accuracy. This finder, too, incorporates no exposure meter and provides a laterally reversed viewing image.

Minolta XK Motor Drive Accessories



Standard Battery Pack

The Standard Battery Pack for the XK Motor Drive attaches beneath the motor-drive housing via a mounting screw that engages the tripod socket in the bottom of the housing. (The oversized head of the mounting screw also incorporates a threaded socket for tripod mounting the complete assembly.) A rugged connecting terminal integral with the battery pack mates securely with a socket built into the bottom of the XK Motor Drive's hand grip. This mounting method prevents accidental loss of contact, as positive connection is maintained until the battery pack is detached. And the resulting compact configuration allows maximum photographic mobility in rapidly changing picture situations.

The Standard Battery Pack holds 10 AA-size (penlight) batteries. Alkaline-manganese cells provide sufficient power for motorized advancing and rewinding of approximately 20 to 80 36-exposure film cartridges depending on framing rate. For extended shooting sessions, the photographer has the option of replacing the expended batteries in the attached battery pack, or removing the entire pack and replacing it with another pack preloaded with fresh batteries.

flexible, four-foot cable ending in a terminal that mates with the power socket in the bottom of the camera's hand grip.

As the Standard Battery Pack is removed when using the Separate Battery Pack, overall size and weight of the XK Motor Drive are reduced to little more than those of a manually operated 35mm SLR, facilitating handheld photography during prolonged shooting sessions. And in cold weather, the Separate Battery Pack may be kept warm in a pocket or worn close to the body to preserve battery efficiency.



Battery Grip

Intended primarily for use with the 250-Frame Film Back, the cylindrical Battery Grip may also be mounted directly beneath the XK Motor Drive's motor housing in place of the Standard Battery Pack. In either application, it screw-mounts to the tripod socket provided and does double duty as a power supply and textured, nonslip vertical hand grip.

The Battery Grip holds 10 AA-size (penlight) batteries in an interchangeable plastic cartridge. Electrical connection to the camera is through a permanently attached 8½-inch cable that plugs into the power socket at the bottom of the camera's hand grip. The Battery Grip incorporates an electromagnetic-relay release button with lock ring similar to that on the camera's hand grip. Either one may be used to trigger the motor drive.

250-Frame Film Back

The 250-Frame Film Back attaches to the XK Motor Drive in place of the removable, standard swing-open back, and holds up to 33 feet of 35mm film, sufficient for making 250 exposures without reloading. When the 250-Frame Film Back is used, motor-drive power must be provided by the Battery Grip or Separate Battery Pack (the Standard Battery Pack cannot be used). Manual film advance is also possible.

The film supply and take-up chambers of the 250-Frame Film Back each holds a removable, interchangeable metal cartridge (two are supplied). Film-feed apertures in the cartridges open automatically for scratch-free film transport as the back cover is locked, and close for daylight film changing when the cover is unlocked.

Other built-in features of the 250-Frame Film Back include: frame counter; film cutter; Battery Grip/tripod socket; and strap lugs.

In addition to its utility for providing uninterrupted coverage of conventional photographic assignments, the 250-Frame Film Back coupled with the unique capabilities of the XK Motor Drive provides unmatched performance and convenience for such specialized applications as surveillance, instrumentation recording and other types of remote and/or unmanned photography. It is available with or without the accessory Battery Grip.



Separate Battery Pack

An extremely compact accessory power supply for the XK Motor Drive, the Separate Battery Pack holds 10 AA-size (penlight) batteries in a rigid, black, leather-look case that measures only 5x3½x7/8 inches. A snap-secured belt loop permits wearing the pack conveniently, or hanging it on a tripod control handle. And the flat-pack form makes it easy to carry in a jacket or coat pocket. It connects to the XK Motor Drive by a slender,



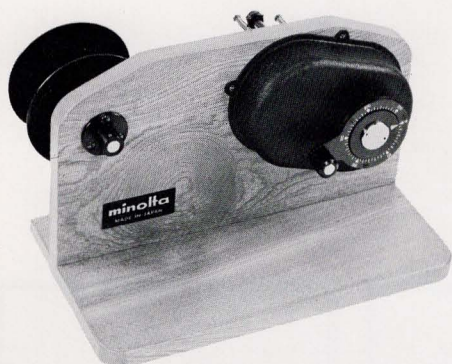
Film Cartridge for 250-Frame Film Back

Each all-metal cartridge consists of a flanged spool with film-end retaining clips on the core that fits within a double-walled, two-piece casing. Two are supplied with the 250-Frame Film Back, one serving for film supply, the other for film take-up.

The cartridge used for film supply is dark-room-loaded with up to 33 feet of 35mm film, and the film aperture is closed after assembly by rotating the inner casing until the assembly locks together. When shut, the cartridges are light-tight for convenient daylight reloading of the film back.

Supply and take-up cartridges are loaded into their respective chambers in the film back, and locking the back automatically opens the film aperture in each cartridge for drag-free, nonscratch film transport.

Individual cartridges are available as replacements and as extras that can be preloaded to facilitate rapid film changing during long shooting sessions.



Film Loader

This crank-operated unit is specially designed to load film cartridges used in the 250-Frame Film Back quickly and conveniently. The calibrated counter can be set to load film lengths providing up to 250 frames in five-frame increments. The counter markings are luminous for resetting in the dark. A positive stop blocks the smoothly geared winding mechanism when the preset film length has been wound onto the cartridge take-up spool. The Film Loader is supplied complete with its own removable film-supply spool.



Intervalometer PM

This compact repeating timer is powered by five AA-size (penlight) batteries contained in a plastic cartridge, and can be set for intervals from 0.5 to 60 seconds between single-frame exposures. It attaches to the accessory mount shoe of the XK Motor Drive and connects electrically to the input jack on the camera's hand grip with separately supplied Connecting Cords S or L. The Intervalometer PM is extremely accurate and dependable, and presents a simple, thoroughly reliable means of obtaining precisely timed unmanned sequences illustrating time-related processes, procedures and developments.



Connecting Cords S and L

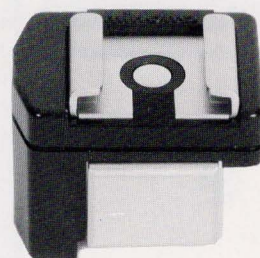
These flexible cords are used to electrically connect the Intervalometer PM and similar devices to the XK Motor Drive camera. Cord S is approximately 20 inches long and Cord L is about 8.5 feet in length. Each has a four-prong plug at one end for the device to be connected and a single-prong plug on the other for insertion into the input jack on the camera's hand grip.



Remote Control Cords S and L

These slender cords are used to operate the XK Motor Drive at a distance. They pro-

vide vibration-free triggering of the XK Motor Drive in situations when the photographer must control the moment of exposure yet be free to move about or be stationed away from the camera position. Each cord plugs into the input jack on the camera's hand grip. The Remote Control Cord S is approximately 40 inches long and the Remote Control Cord L is 16.5 feet long. Each ends in a small housing fitted with a soft-touch push button.



XK Motor Drive Accessory Hot Shoe

This fits over and locks onto the slide-on mount of the XK Motor Drive camera body and older model XK cameras to provide hot-shoe flash operation with cordless units. It also serves as a conventional shoe mount for slide-in accessories.



Holding Strap and Neck Strap

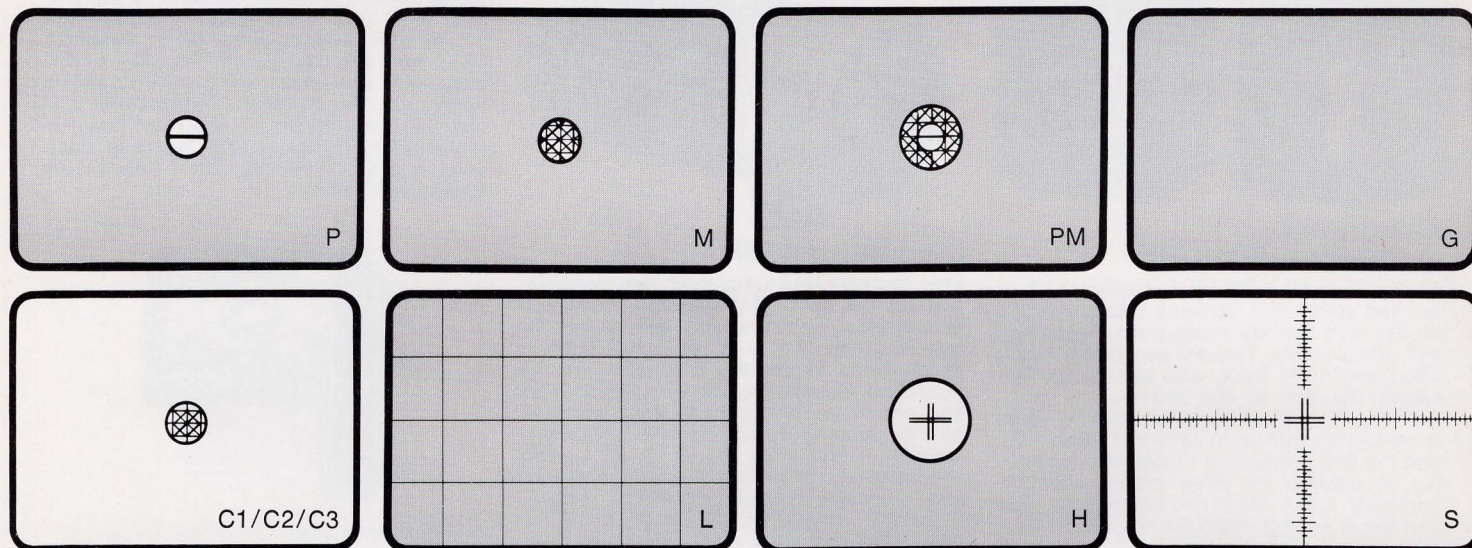
The leather Holding Strap provides a secure, comfortable means of holding the XK Motor Drive in hand-held photography. It consists of an adjustable strap with contoured pad for the right hand, and a spring-locked, snap-on clip that engages the holding strap lug on the lower right rear of the camera body.

The adjustable-length Neck Strap is made of tough, durable woven nylon and is furnished with a nonslip rubber pad incorporating two storage wells for spare shutter/exposure system batteries. The strap may be attached to the split rings on the camera body or to the strap fittings on the top of the 250-Frame Film Back.

The Holding Strap and Neck Strap are supplied with the XK Motor Drive and are also available as accessory/replacement items.

Minolta XK-M Focusing Screens

Precisely made interchangeable screens provide fast, accurate focusing in any photographic situation.



Type P: Matte fresnel field with central horizontally oriented split-image rangefinder spot; for general photography.

Type M: Matte fresnel field surrounding central microprism spot; for general photography.

Type PM: Matte fresnel field with central split-image spot surrounded by microprism collar; for general photography.

Type G: Matte fresnel field only; for general photography.

Type C1: Clear fresnel field with microprism spot; for general photography.

Type C2: Same as C1 for certain lenses.

Type C3: Same as C1 for certain other lenses.

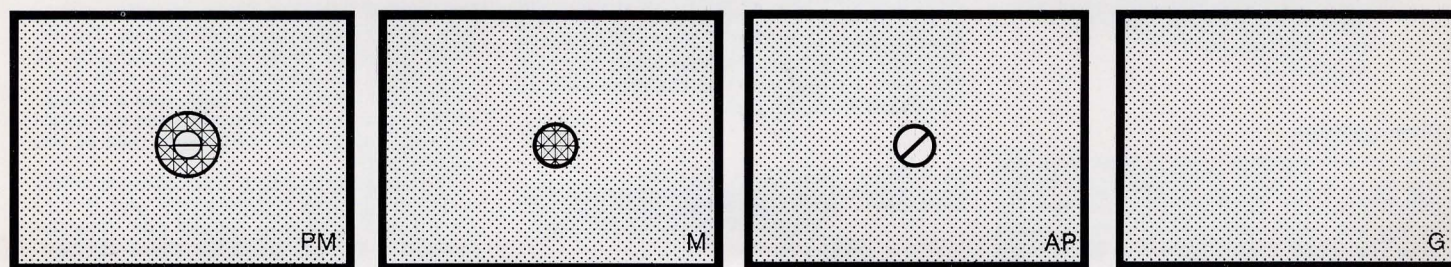
Type L: Matte fresnel field with grid of fine horizontal and vertical lines etched at 6mm intervals; for architectural and other work requiring precise composition or subject alignment, particularly with the 35mm f/2.8 Shift CA Rokkor-X lens.

Type H: Matte fresnel field with central clear circle containing etched double cross mark; for astro-photography, photomicrography and other high-magnification applications.

Type S: Clear fresnel field with central double cross plus vertical and horizontal measuring scales; for parallax and dioptric focusing in close-ups, photomicrography and other high-magnification applications.

Minolta XD Focusing Screens

Alternate Acute Matte Focusing Screens available for XD-11 and XD-5 cameras—installed by authorized Minolta service centers.



Type PM: Standard Acute Matte Focusing Screen supplied with XD cameras has both split-image rangefinder and surrounding microprism collar.

Type M: Central microprism, 4mm in diameter, which fractures out-of-focus images decisively, surrounded by an Acute Matte field. A good choice for use with short focal length lenses.

Type AP: Central diagonally-oriented split-image focusing screen with surrounding Acute Matte field. It provides an unusually bright image with f/5.6 or faster lenses.

Type G: Plain Acute Matte screen over the entire viewing area, permitting clear, extremely bright focusing. This screen is particularly useful for telephoto and close-up work.

Minolta XK-M Focusing Screen Exposure Compensation Chart*

This chart details the best lens/focusing screen combinations which can be used with the Minolta XK Motor and older XK cameras. Exposure compensation settings are also listed for exposure metering with the AE-S finder.

| LENSES | METERING METHOD | P | M | PM | G | L | AP | C ₁ | C ₂ | C ₃ | H | S |
|--------------------------------|-----------------|---|---|----|---|---|-----|----------------|----------------|----------------|---|---|
| 7.5mm f/4 | Full-Aperture | ● | ● | ● | ● | ● | 2.5 | 3.5 | 3.5 | 3.5 | ● | ★ |
| 16mm f/2.8 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | | 3.0 | 3.0 | ● | ★ |
| 17mm f/4 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | | 3.0 | | ● | ★ |
| 20mm f/2.8 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | 3.0 | 3.5 | | ● | ★ |
| 24mm f/2.8 & 24mm f/2.8 VFC | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | 2.5 | 2.5 | | ● | ★ |
| 28mm f/2 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | 2.5 | 2.5 | 2.5 | ● | ★ |
| 28mm f/2.8 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | 3.0 | 2.5 | | ● | ★ |
| 35mm f/1.8 | Full-Aperture | ● | ● | ● | ● | ● | 1.0 | 2.5 | 2.0 | | ● | ★ |
| 35mm f/2.8 Shift | Stop-Down | ● | ● | ● | ● | ● | 1.5 | 3.0 | 2.5 | 2.5 | ● | ★ |
| 35mm f/2.8 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | 3.0 | 2.5 | | ● | ★ |
| 45mm f/2 | Full-Aperture | ● | ● | ● | ● | ● | 1.0 | 2.5 | 2.5 | | ● | ★ |
| 50mm f/1.2 | Full-Aperture | ● | ● | ● | ● | ● | ● | 2.5 | 2.5 | 2.0 | ● | ★ |
| 50mm f/1.4 | Full-Aperture | ● | ● | ● | ● | ● | 0.5 | 3.0 | 2.5 | 2.5 | ● | ★ |
| 50mm f/1.7 | Full-Aperture | ● | ● | ● | ● | ● | 1.0 | 2.5 | 2.0 | | ● | ★ |
| 50mm f/3.5 Macro | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | | 3.0 | | ● | ★ |
| 85mm f/1.7 | Full-Aperture | ● | ● | ● | ● | ● | 1.0 | 2.5 | 2.0 | 2.0 | ● | ★ |
| 85mm f/2 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | 2.0 | 2.5 | 2.5 | ● | ★ |
| 85mm f/2.8 Varisoft | Full-Aperture | ● | ● | ● | ● | ● | 1.0 | 2.5 | 2.5 | 2.0 | ● | ★ |
| 100mm f/2.5 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | 2.5 | 2.5 | 2.5 | ● | ★ |
| 100 f/4 Macro | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | | | 3.5 | ● | ★ |
| 100mm f/4 Auto Bellows | Stop-Down | ● | ● | ● | ● | ● | 2.0 | | | | ● | ★ |
| 135mm f/2.8 & 135mm f/3.5 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | | 3.0 | 3.0 | ● | ★ |
| 200mm f/2.8 & 200 mm f/4 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | | | 3.5 | ● | ★ |
| 250mm f/5.6 | Stop-Down | ● | ● | ● | ● | ● | 1.5 | | | | ● | ★ |
| 300mm f/4.5 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | | | 3.5 | ● | ★ |
| 300mm f/5.6 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | | | | ● | ★ |
| 400mm f/5.6 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | | | | ● | ★ |
| 500mm f/8 | Stop-Down | ● | ● | ● | ● | ● | 1.0 | | | | ● | ★ |
| 600mm f/6.3 | Full-Aperture | ● | ● | ● | ● | ● | 2.0 | | | | ● | ★ |
| 800mm f/8 | Stop-Down | ● | ● | ● | ● | ● | 2.0 | | | | ● | ★ |
| 1600mm f/11 | Stop-Down | ● | ● | ● | ● | ● | 2.5 | | | | ● | ★ |
| 24-50mm f/4 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | 3.0 | 3.0 | | ● | ★ |
| 35-70mm f/3.5 | Full-Aperture | ● | ● | ● | ● | ● | 1.5 | 3.0 | 3.0 | | ● | ★ |
| 50-135mm f/3.5 | Full-Aperture | ● | ● | ● | ● | ● | 1.0 | | 3.0 | 3.0 | ● | ★ |
| 75-200mm f/4.5 | Full-Aperture | ● | ● | ● | ● | ● | 2.0 | | | 3.5 | ● | ★ |
| 100-200mm f/5.6 | Full-Aperture | ● | ● | ● | ● | ● | 2.0 | | | | ● | ★ |
| 100-500mm f/8 | Full-Aperture | ● | ● | ● | ● | ● | 2.0 | | | | ● | ★ |

(1) ● Indicates no compensation necessary; the dot should appear in the compensation-factor window for proper metering. Where numbers appear in this table, the corresponding numbers should be set to appear in the compensation-factor window when using that lens/screen combination.

(2) Except 35mm f/2.8 Shift, exposure cannot be measured by the stop-down method when C-type screens are used.

(3) ★ The Type S screen can be used with all lenses but only with the High-Magnification Finder.

(4) Blank spaces indicate unusable combinations.

(5) When a number appears in the compensation-factor window, movement of the film speed selector dial is limited at one end of the scale or the other. (For example, 2 appears in the window, the selector can be moved only as far at 1600.)

Minolta XD and XG Accessories



Motor Drive 1

This detachable motor drive, designed exclusively for the Minolta XG-M, provides photographers with motorized film advance up to 3.5 frames per second. It couples directly to the camera without the need to remove or store cover caps. Functionally designed, the Motor Drive 1 incorporates dual shutter release buttons for comfortable vertical or horizontal shooting. Both releases utilize Minolta's exclusive, energy-saving touch switch which activates the metering system. A locking, frame-rate selector dial can be set for single, 2 fps or 3.5 fps firing rates. Eight AA-size penlight batteries power up to 80, 36-exposure cartridges. A red LED on the back of the motor lights after each shot to indicate proper film advance.

To prevent film damage, the Motor Drive 1 automatically shuts off and the LED glows steadily at the end of a roll. A built-in film-release switch permits film rewinding with the motor attached.

Motor Drive 1 Specifications

Power Source: 8-AA size carbon-zinc, alkaline or Ni-Cad batteries

Size: Battery Chamber: 5⁷/₈ x 1⁹/₁₆ x 1¹/₂ in. (149 x 40.5 x 38mm)

Grip: 3⁷/₈ x 2⁵/₁₆ (98.5 x 74.5mm)



Auto Winder D and G

Winders for XD/XG cameras provide motorized single frame or continuous-run film advance at about 2 frames per second. They couple directly to the camera without having to remove or store cover caps. Four AA-size batteries power the winder's coreless micro-motor for up to 150, 36-exposure cartridges. A bright LED signal on the back of each unit flashes for each frame to indicate proper advance. At the end of a roll, the motor shuts off automatically to prevent film damage while the LED glows steadily. The built-in film-release switch permits rewinding film with the winder attached as well as motorized multiple exposures with XD cameras.

Auto Winder D and G Specifications

Power Source: 4-AA carbon zinc, alkaline or Ni-Cad batteries.

Auto Winder D:

Size: 1³/₈ x 1⁷/₁₆ x 5³/₈ in.
(35 x 37 x 136mm)

Weight without batteries:
7³/₁₆ oz. (205g)

Auto Winder G:

Size: 1³/₈ x 1⁷/₁₆ x 5⁷/₁₆ in.
(35 x 37 x 138mm)

Weight without batteries:
7³/₈ oz. (210g)

Data Back D and G

The removable back cover supplied with all Minolta XD/XG series cameras (except the XG-1) can be interchanged with Minolta's Data Back D/G for date recording or other similar record keeping purposes. The data backs synchronize with the camera's shutter via a cord which connects to the P.C. terminal. As an exposure is made, the information is recorded directly on the bottom right-hand corner of the film. An on/off switch also controls the data-exposure intensity for either normal or high-speed films. A red LED serves as a battery check indicator as well as a signal that data is being recorded.

Data Back D and G Specifications

Setting dials: Left "DAY" dial: 31 figures (1-31) plus one blank
Center "MONTH" dial: 19 figures (1-12, A-G) plus two blanks
Right "YEAR" dial: 30 figures (78-98, A-I) plus two blanks

Power: Two 1.5V silver-oxide batteries (S-76 or equivalent)
Size: Data Back D: 5³/₈ x 2¹/₈ x 1³/₁₆ in. (137 x 54 x 30mm)
Data Back G: 5¹/₂ x 2¹/₈ x 1¹/₈ in. (139.5 x 53 x 27mm)
Weight: 3³/₁₆ oz. (90g)



Eveready Cases

Eveready cases for the XD and XG cameras are semi-flexible and molded to the camera's shape, with a removable padded lens section for additional protection. The front of the case drops down and need not be removed for camera use. Constructed of attractive, scuff-resistant leather-like material, the cases come in two styles: for camera and lens alone or with the auto winder attached.



Neck Strap

Made of durable woven nylon, these straps attach to the lugs on the camera body. Adjustable in length for user preference, they feature a battery pouch for holding extra batteries and a non-slip shoulder pad for secure, comfortable carrying.



Remote Control Cords

These cords are used to remotely operate the XD and XG cameras either manually or with the auto winder attached. They provide vibration-free, electrical triggering of the cameras in situations that require the photographer to control the moment of exposure while away from the camera position. The 20-inch and 16.5-foot length cords screw into the camera like a conventional cable release and end in a small housing fitted with a soft-touch push button.

Close-up Accessories Magnification Chart



0.1X

0.5X

1X

10X

20X

| Lens' Focal Length | Attachment | 0.5 | 1 | 2 | 5 | 10 | 20 | |
|---|------------|-------|----------------------------------|------|-------|-------|-------|--|
| Telephoto 200 mm | Normal | 0.1X | 0.2X | 1.6X | | | | Lens only |
| | | 0.03X | 0.4X | 0.2X | 0.9X | | | |
| Telephoto 100 mm | Normal | 0.1X | 0.1X | 0.8X | | | | Close-up lens |
| | | 0.08X | 0.8X | 0.4X | 1.8X | | | |
| Standard 50 mm | Normal | 0.15X | 0.05X | 0.5X | | | | Extension tube |
| | | 0.1X | 1.4X | 0.8X | 3.4X | | | |
| | Reverse | | 0.8X | 2.1X | | | | Bellows |
| | | | 1.7X | 3.8X | | | | |
| Wideangle 28 mm | Normal | 0.15X | 0.03X | 0.3X | | | | |
| | | 0.2X | 2.4X | 1.4X | 4.8X | | | |
| | Reverse | | | 2.1X | 4.3X | | | |
| | | | | 2.8X | 7.3X | | | |
| Wideangle 20 mm | Reverse | | | 3.2X | 5.9X | | | |
| | | | | 4.2X | 10.3X | | | |
| Bellows Micro: 12.5 mm + M1 Adapter 12.5 mm + M2 Adapter 25 mm + M1 Adapter 25 mm + M2 Adapter | | | | | | 8.0X | 18.0X | The maximum magnification indi- cated for each accessory includes the length the lens is extended. |
| | | | | | | 10.5X | 20.5X | |
| Auto Bellows Macro: 50 mm 100 mm | Normal | | 0.8X | 3.2X | | | | Magnification is the ratio of the size of the subject and the size of the image on film, as expressed in: |
| | | | 1X | | | | | |
| Macro 100 mm | Normal | | 1.2X | | | | | Magnification = Image size on film Size of subject |
| | | 0.5X | (Life-size adapter necessary) 1X | | | | | |
| Macro 50 mm | Normal | 0.1X | 1.3X | | | | | |
| | | 0.1X | 1.1X | | | | | |
| | | 0.4X | 2.2X | | | | | |
| | | 0.5X | (Life-size adapter necessary) 1X | | | | | |
| | | 0.05X | 0.8X | | | | | |
| | | 0.1X | 1.7X | | | | | |
| | | | 0.8X | 3.7X | | | | |
| | | | | | | | | |

Minolta Close-Up Accessories

Minolta Auto Bellows III

The Auto Bellows III is a precision instrument that can achieve the ultimate in close-up photography.

Camera Standard

Camera attaching ring on this standard may be turned 90° for vertical framing without repositioning bellows unit.

Lens Standard

Has swing and shift movements to adapt to any photographic situation. Rotates for reverse-lens usage. Wide range of lenses from 20mm to 200mm can be mounted. Bellows IV lens standard is reversible only.

Bellows Release Tabs

Press tabs to release bellows for reverse lens operation. Bellows then reattaches to front of lens like a lens cap. An adapter is provided for 49mm filter-thread diameter lenses.

Diaphragm Stop-down Button

Lockable stop-down button for depth-of-field preview and stop-down metering through any Minolta SLR camera.

Swing-Clamp Knob

Permits swinging lens standard up to 360°. Click-stops at zero and 180° positions.

Shift-Clamp Lever

Allows 10mm lateral movement left or right with click-stop at center position.

Extension Scale

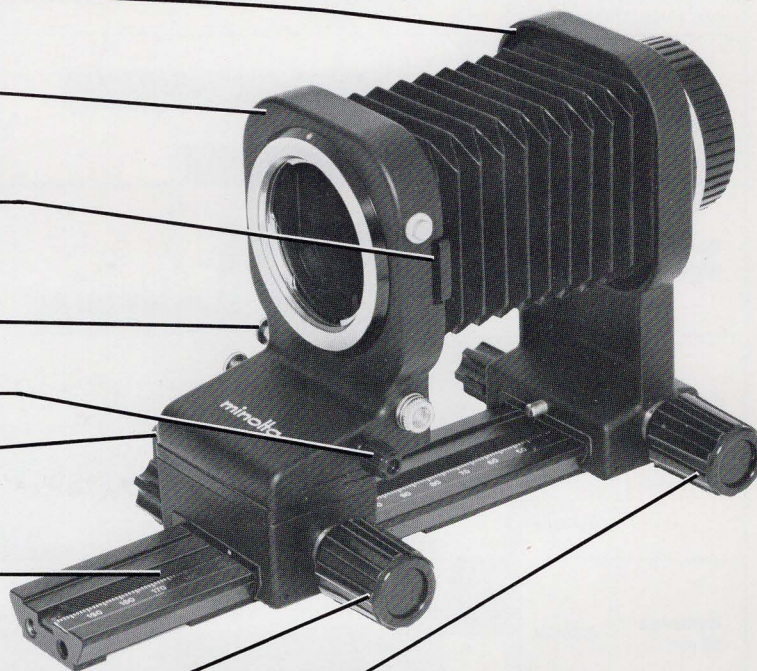
This scale, engraved in millimeters, can be used in conjunction with the bellows owner's manual to determine image magnification, lens-to-subject working distances, distance between film plane and subject, exposure corrections in f/stops for bellows extension.

Lens Standard Control Knob

Has dual rack-and-pinion mechanism for smooth, precise movement. Knob on opposite side locks standard in position.

Camera Standard Control Knob

Has smooth, precise movement via dual rack-and-pinion mechanism. Knob on opposite side locks standard in position.



Minolta Bellows IV

For precise focusing, magnification control and operating convenience, the Minolta Bellows IV features independently moving rack-and-pinion lens and camera standards. Its detachable bellows enables easy reverse-lens operation without adding accessory adapters. The camera standard's bayonet mounting ring rotates 90° for horizontal and vertical framing. The non-automatic diaphragm coupling in the Bellows IV requires exposures to be made with the lens manually stopped down. All bellows accessories shown on page D9 attach to both Minolta bellows units.

Minolta Bellows Accessories



Focusing Rail AB-III

This single-rail, rack-and-pinion focusing rail allows 110mm tracking to aid in precise focusing with the Auto Bellows III or Bellows IV set at a predetermined magnification. Secures bellows units to Macro Stand AB-III or a tripod via standard 1/4 in. tripod socket. This versatile accessory also has a rotating hot shoe for making strobe-illuminated close-ups and slide copies.



Macro Stand AB-III

Attaches to the focusing rail for vertical or horizontal use with 20mm through 85mm lenses. Its removable 18% neutral grey stage rotates a full 360°. Retaining clips hold subjects flat and in place. The Macro Stand's vertical support folds for convenient storage.



Slide Copier AB-III

This specially designed unit fits directly onto the extension rail of either bellows unit and has its own locking, focusing mechanism. Lenses from 28mm to 58mm can be used normally or reversed, while 20mm and 24mm lenses, mounted in reverse, can achieve extreme enlargements. For even greater versatility in composing or cropping, this Slide Copier provides a vertical shift of 7mm up and 6mm down, and a horizontal shift 8.5mm left or right. The Copier's film carrier accepts up to 35mm mounted transparencies or film strips.

Minolta Close-Up Accessories



Magnifier V

An invaluable aid for precise focusing, the Magnifier V features an adjustable eyepiece and magnifies the central portion of the focusing image 2.5X. It attaches to the eyepiece of any Minolta 35mm SLR camera.



Anglefinder V

The Anglefinder V permits viewing and focusing while looking at right angles to the lens axis. The eyepiece tube rotates 360°, permitting focusing from any position. It can also be adjusted for individual eyesight. The Anglefinder V attaches to any Minolta 35mm SLR camera.



Microscope Adapter II

The Microscope Adapter II makes photomicrography easy by allowing the photographer to connect any Minolta SLR camera to a microscope. The Microscope Adapter will fit ocular tubes from 23mm to 29mm in diameter.



Meter-Coupled Automatic Extension Tubes

The three separate 14mm, 21mm and 28mm tubes can be used in seven different combinations, providing a wide range of image sizes and working distances, according to the focal length of the lens and the number of tubes being used. All meter-coupled Minolta lenses maintain fully automatic, full-aperture operation throughout. No exposure-compensation calculations are necessary when the extension tubes are used with the through-the-lens metering systems of Minolta SLR cameras.



Extension Tube Set II

This extension tube set consists of three separate tubes and two rings of various lengths that can be arranged in eight different combinations to permit frame-filling close-up photographs. The combined rings and tubes can be fitted between any Minolta 35mm SLR and Minolta lens. Stop-down exposure readings may be taken through the tube/lens combination, but auto-diaphragm lenses must be used manually.



Close-up Lenses

Minolta close-up lenses No. 0, 1 and 2 are designed for substantially closer focusing when attached to 35mm to 135mm lenses. Fine optical glass and two-element construction produce sharp image detail. Available in 49mm, 52mm and 55mm filter-mount diameters.



Reverse Ring II

For optimum close-focusing performance with regular, non-macro lenses, the lenses are mounted in reverse on the camera, extension tube or bellows with the Reverse Ring II. Available in 49mm and 55mm filter thread diameters.



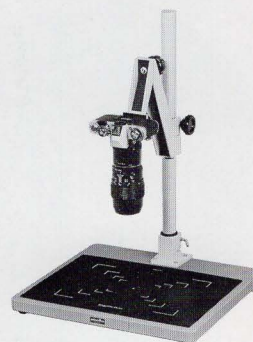
100mm f/4 Auto Bellows Lens

The 100mm f/4 Auto Bellows lens is a short-mount lens designed for convenient close-up and macro-photography in conjunction with the Minolta Bellows System, and has a focusing range from 1:1 (life-size) to infinity. The lens permits stop-down readings with Minolta SLR through-the-lens metering systems, and is a desirable tool for any photographer seriously engaged in close-up work. See page C12 for lens specifications. For additional information on the 50mm f/3.5 and 100mm f/4 Auto Bellows Macro and 12.5mm f/2 and 25mm f/2.5 Bellows Micro Lenses see page C15.



Meter-Coupled Life-Size Adapter

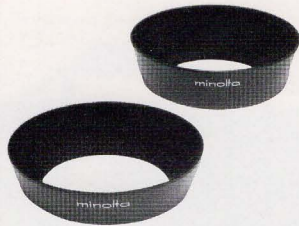
This 25mm extension tube is the same unit supplied with the 50mm f/3.5 MD Macro Rokkor-X lens. It allows automatic, close-up work with any meter-coupled Minolta lens and provides full-aperture, through-the-lens viewing and exposure-metering with Minolta SLR cameras.



Copy Stand II

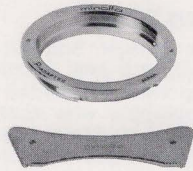
The Copy Stand II provides a rigid camera support for use when photographing flat or small three-dimensional objects. The camera locks in place on a multi-position movable arm that rides on a 22³/₄-inch tube. The large baseboard is 17¹¹/₁₆ x 15³/₄ inches. A mat is included with markings to aid in proper centering of the material.

Minolta General Accessories



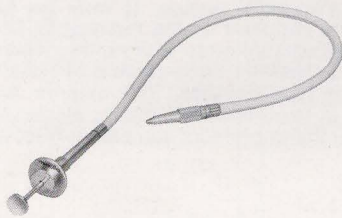
Lens Shades

Lens shades prevent glare and loss of contrast caused by stray light hitting the lens. They also help protect the front element of the lens from physical damage. Minolta lens shades are available as accessories or replacements.



Lens Mount Adapter

This lens mount adapter allows fitting Praktica screw-mount lenses on Minolta SLR cameras. Praktica-thread lenses operate manually throughout their full focusing range. Adapter locks securely into the Minolta SLR lens mount with a special key supplied with the adapter.



Cable Release II

This heavy duty flexible release screws directly into the camera. A spring-loaded locking mechanism at the base of the plunger permits a long time exposure without risk of jarring the camera. 16 inches long, the release is essential for rock-steady tripod exposures and photomicrography, macro and tele photography.



Rubber Eyepiece Hood VN

This eyepiece hood is a soft rubber eyecup that fits into slots provided in the camera eyepiece. Aids more rapid and accurate focusing by conforming to the eye and blocking stray light.



Step-Up Adapter Rings

These step-up adapter rings permit the use of 55mm screw-in filters and lens shades on lenses with 52mm and 49mm mount diameters.



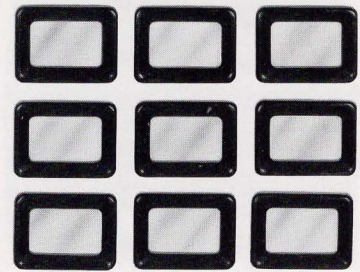
Panorama Head II

Fitted between a Minolta SLR camera and tripod, the Panorama Head II greatly simplifies the making of panoramic photographs up to 360°. The device turns in click-stop segments to provide precise interval and overlap between successive frames with 28, 35, 50, 85 and 100mm lenses. The built-in body spirit level greatly facilitates perfect camera positioning. The head also incorporates a special "pan" setting for smooth horizontal panning with still and movie cameras.



C-Adapter

This adapter enables the use of Minolta bayonet-mount, 35mm SLR lenses on television and cine cameras which have C-type lens mounts. Adjustable click-stop settings enable positioning of the lens for optimum viewing of aperture ring and distance scale.



Eyepiece Correction Lenses

These supplementary lenses provide an aid to easier focusing with far-sighted or near-sighted vision. These lenses snap into slots provided in the camera eyepiece. They are available in nine different diopter strengths.

| For far-sighted vision: | For near-sighted vision: |
|-------------------------|--------------------------|
| No. 1V: +0.5 diopter | No. 6V: -1.0 diopter |
| No. 2V: +1.0 diopter | No. 7V: -2.0 diopter |
| No. 3V: +1.5 diopter | No. 8V: -3.0 diopter |
| No. 4V: +2.0 diopter | No. 9V: -4.0 diopter |
| No. 5V: +2.5 diopter | |



Mini Tripod TR-1

This compact, folding, table-top tripod can support any of Minolta's full line of cameras from 35mm SLR's to 110-format models and even movie cameras. It has a swiveling standard ball head and large, padded camera stage. The Mini Tripod TR-1 weighs 12 oz. and folds to 1 1/4 x 7 3/8 in. for storage in its case.



Tele Holder

Designed for use with Minolta SLR's, the Tele Holder is a completely adjustable, firm support for handheld photography with long telephoto lenses. The support rail telescopes from a compact 16 3/4 inches up to 28 inches for the required stability. Lightweight and well balanced, the holder features a cushioned hand grip and shoulder pad plus an adjustable nylon shoulder strap for user comfort throughout long picture-taking sessions.



Camera Bag PB-1

The Minolta Camera Bag PB-1 is a handsome, functionally-designed carrying case which accommodates cameras, lenses, film and accessories. Measuring 4 in. wide x 9½ in. long x 9 in. high, the bag has two moveable inside dividers plus a convenient outside pocket. The PB-1 is made of a scratch-resistant, leather-like material and has a flexible, braided, reinforced-nylon shoulder strap.



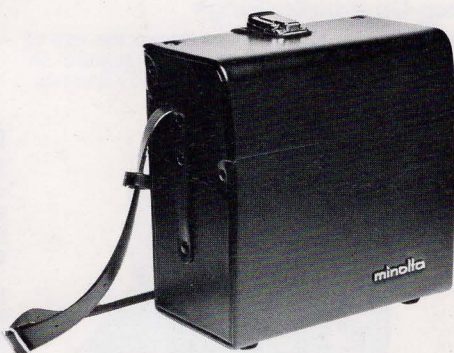
Camera Bag PB-3

The Minolta Camera Bag PB-3 is a black, scuff-resistant carrying case with a molded top and hard exterior for added protection. Its interior has six elasticized straps to hold lenses and accessories snugly and is covered with a soft felt material. The PB-3 measures 5½ in. deep x 10 in. wide x 9½ in. high and will hold two SLR bodies, assorted lenses and accessories.



Professional Tote Bag

Made of sturdy, black scuff-resistant material with the look and feel of glove-soft leather, the Professional Tote Bag has a main compartment measuring approximately 5½ inches wide by 10½ inches long by 10 inches tall, and holds a large amount of assorted Minolta SLR equipment. The main compartment zippers shut securely at the top. Zippered external compartments at the front and side can hold film, filters and accessories such as a hand-held accessory meter or electronic flash unit. A wide, adjustable-length shoulder strap allows easy carrying.



SR Gadget Bag

This handsome black, scuff-resistant gadget bag provides ample room for a wide variety of Minolta SLR equipment. The SR Gadget Bag has a secure chrome snap lock and a plush interior with two molded lens compartments and SLR body sections, plus rigid dividers. The top of the case is fitted with an elastic strap to hold filters or shades and an additional accessory compartment is provided. The bag, measuring 5 in. wide x 11 in. long x 8 in. high, comes with a wide shoulder strap for carrying comfort.



Professional Soft Bag III

The Minolta Soft Bag III is a handsome leather shoulder bag with a reinforced adjustable nylon strap designed to hold cameras and a host of accessories. Sturdy zippers provide quick access inside from both the top and side of the bag. An exterior zippered compartment can hold film, filters and an electronic flash unit or exposure meter. The Soft Bag III measures 10 in. deep x 5¼ in. wide x 13 in. long.



Gadget Bag XB-7S

The Minolta Gadget Bag XB-7 is an extremely handsome and practical luggage-type carrying case well suited to the needs of the photographer who must take an extensive range of equipment on assignment. The top panel lifts and the front panel folds out for instant access to all equipment for greater efficiency. Movable partitions allow compartmenting the interior as desired. Depending on partition arrangement, the Minolta Gadget Bag XB-7 can easily hold: two Minolta SLR's, each with a lens up to 200mm mounted; two lenses up to 200mm; one 300mm lens; two or three wide-angles; and an assortment of film, filters, electronic flash unit, hand-held meter and other accessories. The Gadget Bag XB-7 measures 9½x14½x11½ inches. It may be slung over the shoulder by the removable, heavy-duty, adjustable strap with nonslip pad supplied, or may be hand-carried by its strong luggage-type handles. The exterior is finished in wear-resistant black; black velour interior lining protects equipment from wear.



Camera Luggage XDG

Made of sturdy, brown, scuff-resistant leather-like material, the Camera Luggage Model XDG will provide superior protection. Interior foam shell can be cut to hold a variety of Minolta SLR equipment. The case features luggage-type handles for hand-carrying, or it can be slung over a shoulder using the removable, adjustable strap with non-slip cushioned pad supplied.

Minolta Filters

To preserve the superlative performance of Minolta lenses, Minolta makes its own optical-glass filters (most of which are multicoated) to the highest optical and mechanical standards. Filter surfaces are ground optically flat to prevent image distortion, and the filter discs are then mounted in black satin-finished metal rings that are precision-threaded to seat perfectly.

This table summarizes the image-control effects obtainable with Minolta filters, the sizes in which they are made and filter factors to be used under conditions that do not permit through-the-lens metering, as in flash photography. The meter system in Minolta cameras provides properly compensated exposures through filters without filter factor calculations.

| FILTER | SIZES | EFFECT | FILTER FACTORS |
|----------------------------------|--|--|------------------------------|
| Yellow | 40.5mm 46mm 49mm 52mm 55mm 62mm 72mm | With b&w panchromatic films, lightens red and yellow subjects; darkens blue skies, emphasizes clouds. | 1.5 Daylight 1.2 Tungsten |
| UV Haze | 40.5mm 46mm 49mm 52mm 55mm 62mm 72mm | With color and b&w films, absorbs excessive ultraviolet radiation in mountain, snow, marine and longdistance scenes. Tends to cut through haze, and reduces blue cast with color films. | None |
| Neutral Density 4X | 40.5mm 46mm 49mm 52mm 55mm 62mm 72mm | Controls exposure with color and b&w films. Reduces amount of light entering camera by 2 f/stops. Allows use of large lens openings or slow shutter speeds even with fast films in bright light. | 4 Daylight and Tungsten |
| Red | 49mm 52mm 55mm 72mm | Used with b&w panchromatic and infrared film. With b&w, causes pronounced darkening of blues, lightening of reds, yellows, greens. With infrared, creates "moonlight" effects. Increases image contrast and cuts through haze. | 6 Daylight 4 Tungsten |
| Orange | 49mm 52mm 55mm 72mm | With b&w panchromatic films, absorbs ultraviolet, darkens blues and some greens, lightens reds and yellows. Darkens blue skies, emphasizes clouds. Some haze penetration effects. | 2 Daylight 1.5 Tungsten |
| Green | 49mm 52mm 55mm | With b&w panchromatic films, darkens blue skies slightly, lightens greens. | 1.5 Daylight and Tungsten |
| 1A Skylight | 52mm 67mm 72mm | With daylight-type films outdoors, reduces excess blue, absorbs excess ultraviolet. Produces slightly "warmer" overall color rendition. | None |
| 1B Skylight (multi-coated) | 46mm 49mm 55mm 62mm | | |
| 80B Conversion | 46mm 49mm 52mm 55mm 72mm | Adapts outdoor (daylight-type) color film for exposure by incandescent light sources. | 2 Tungsten |
| 85 (Type A) Conversion | 49mm 52mm 55mm 72mm | Adapts tungsten (indoor, Type A) color film for exposure by daylight or electronic flash. | 2 Daylight |
| Polarizing | 49mm 52mm 55mm | With b&w and color films, reduces or eliminates reflections. Can darken blue skies, emphasize clouds; may also be used to reduce overall amount of light entering camera. | 3 Daylight and Tungsten |

NOTE: The Minolta Step-Up Adapters permit the use of 55mm screw-in filter and lens shades on lenses with 52mm and 49mm mount diameters.

Minolta Auto Electroflash 320/320X

Thyristor flash units with movable heads for bounce flash operation, variable power output and capability for hot-shoe or off-camera use. Camera control provision on 320X automatically sets shutter speed of XD/XG cameras for flash synchronization.

Wide-Angle Flash

Covers field of view of lenses down to 35mm normally, down to 28mm wide angle with supplied diffuser. Accessories: optional wide angle diffuser provides coverage for lenses down to 24mm; optional telephoto adapter provides coverage for 100mm lenses or longer. Balanced for daylight-type color film.

Adjustable Flash Head

Tilts up to 90° from lens axis for convenient bounce flash operation. Flash head swivels 180° horizontally.

Removable Flash Sensor

Has 15° acceptance angle. Permits auto exposure flash operation from 2.3-36 ft. Optional separate sensor slips into hot shoe for subject readings regardless of flash direction.

External Power Socket

Receives optional AC adapter or TR Power Grip.

Synch-Cord Socket

Accepts attachable PC-tipped synch cord which disconnects hot-shoe contacts.



Illuminated Computer Dial

Lights for easy reading of working distance/aperture in dim light. Red indicator lights behind selected choice of three auto-flash apertures.

Open-Flash Test Button/Ready Light

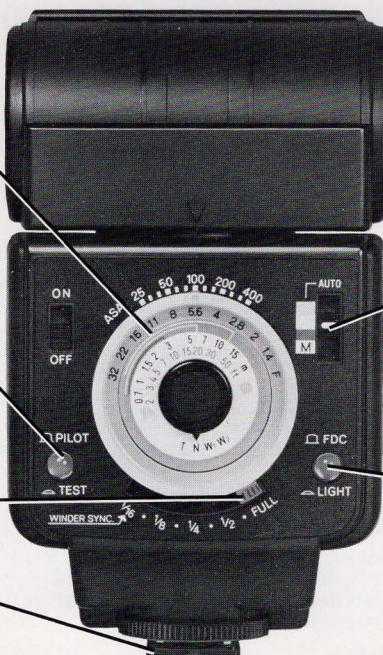
Lights to signal full charge. Button permits open flash technique and allows flash to be fired without exposing film. Ideal for bounce-flash test exposure in conjunction with unit's Flash-Distance Check Lamp.

Power-Ratio Selector

Varies flash output from 1/16, 1/8, 1/4, 1/2 to full power. Winder synch flash pictures at about 2 frames per second can be made at 1/16th power setting.

Locking Hot-Shoe Mount

Wired for cordless flash synch. Has clamp for secure attachment. Camera control provision on 320X automatically switches XD/XG cameras to X-synch speed and starts LED viewfinder flash-ready signal blinking when unit is fully charged.



Auto Electroflash 320/320X Specifications

Guide Number:

52.5 in feet, ASA 25

Variable power guide numbers:

| | Power Output* | | | | |
|---------------------------------|---------------|-----|-----|-----|------|
| | Full | 1/2 | 1/4 | 1/8 | 1/16 |
| Flash Coverage: | | | | | |
| 35mm or longer | 52 | 36 | 26 | 18 | 13 |
| With 28mm wide angle diffuser | 36 | 26 | 18 | 13 | 9 |
| With 24mm wide angle diffuser | 26 | 18 | 13 | 9 | 6.5 |
| With 100mm telephoto attachment | 74 | 52 | 36 | 26 | 18 |

*The Guide Numbers are based on an ASA rating of 25 in feet.

Auto-Exposure Flash Ranges (ASA 100):

f/2.8: 3.3-36 ft. (1-11m)
f/5.6: 2.3-19 ft. (0.7-5.6m)
f/11: 2.3-9.5 ft. (0.7-2.8m)

Flash Duration:

1/20,000 to 1/1000 sec. in auto operation
1/1000 sec. in manual operation

Color Temperature:

Balanced for daylight-type color film

Coverage (without accessories):

60° horizontally, 45° vertically

Power Source:

Four 1.5V AA-size alkaline-manganese or nickel-cadmium batteries; accessory TR Power Grip uses six Ni-Cad batteries; AC via optional accessory adapter.

Number of Flashes/Recycling Time:

AM batteries: 60/8 sec.
Ni-Cad batteries: 60/5 sec.

ASA Film-Speed Indicator:

Has ASA settings from 25 to 400

Distance Scale:

2 - 50 ft. (0.7-15m)

Aperture Scale:

f/1.4-32

Synch Contacts:

Direct for hot shoe, jack for separate PC-tip synch cord.

Size and Weight:

3 x 3⁵/₁₆ x 4¹³/₁₆ in. with flash head forward
(76 x 85 x 123mm)
13³/₈ oz. (380g) without batteries.

Exposure Mode Selector

Four position switch for auto/manual operation. Color coded settings correspond to auto flash working ranges indicated on computer dial.

Battery Compartment

Holds four 1.5V AA-size alkaline or Ni-Cad batteries.

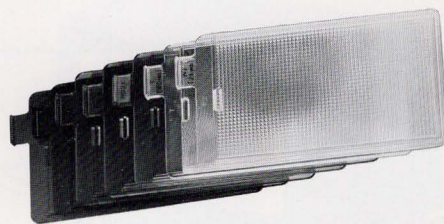
Flash-Distance Check Lamp

Lights to signal sufficient light output for correct automatic flash exposure for either direct or bounce operation. This same button will also illuminate the calculator dial.

Energy-Saving Thyristor Circuitry

In auto-exposure modes, uses only the power actually needed for correct exposure, saving and storing the remaining charge. This circuitry increases the number of flashes and allows for faster recycling. (Not shown.)

Minolta Auto Electroflash 320/320X Accessories



Power Grip 1

The Power Grip 1 consists of a bracket and handgrip for off-camera placement of the Auto Electroflash 320/320X. It has a self-contained Ni-Cad power supply which, when used with Ni-Cad batteries, more than doubles the number of flashes. Recycling time is reduced, enabling winder and motor-drive sync rates up to five flashes per second. The grip/bracket assembly can be mounted on either side of the camera, and, for convenient handling, has a cable release on the grip. The Ni-Cad Charger QC-1, which can fully recharge the grip's special Ni-Cad Battery Pack NP-2 in only one hour, is supplied with the Power Grip 1.

Ni-Cad Charger NC-2 with batteries

Provides an economical power source for Minolta Auto Electroflash units. Ni-Cad batteries can be recharged almost indefinitely and are less affected by low temperature. They provide shorter recycling times, enabling the Auto Electroflash 320/320X to fully synchronize with auto winders. LED's indicate proper battery installation and charging.

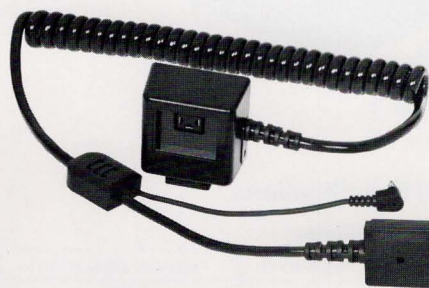
Panel Set and Adapter

With this versatile accessory, photographers can add exciting color to pictures, make color corrections for tungsten film or reduce flash output for macro work. The set contains red, blue, yellow, green, 2X neutral density and tungsten conversion filters. There are also panels which extend flash coverage for 24mm and 28mm wide angle lenses and 100mm or longer telephotos.



AC Adapter-3

Permits flash operation from standard household electricity for an unlimited number of flashes with consistent recycle times. The 10 ft. power cord attaches to the flash unit, plugs into A.C. outlet.



Remote-Sensor Adapter

For creative off-camera flash operation while maintaining auto-flash exposures, the Remote-Sensor Adapter can provide an exciting new dimension in electronic flash photography. The 320/320X flash units coupled with this accessory permit using the flash up to four feet from the camera. For Minolta XD/XG camera owners, the Auto Electroflash 320X's dedicated flash operation is maintained when the adapter is used. At full charge, these cameras are automatically switched to X-synch speed and a viewfinder flash-ready LED blinks.

Minolta Auto Electroflash 280

Auto-exposure with a wide choice of f/stops for direct or bounce flash, plus clip-on convenience.



Adjustable Flash Head

Swivels up to 60° from horizontal, turns up to 90° left or right for bounce flash.

Wide-Angle "Daylight" Flash

Balanced for daylight-type color film, covers field of view of a 35mm wide-angle lens.

Energy-Saving Circuitry

Uses only the power actually needed for auto-exposure flashes, for more shots per charge and faster recycling.

Battery Compartment Cover

Battery chamber holds four interchangeable AA-size AM or Ni-Cad cells for extended shooting capability.

Flash Sensor

Has 30° acceptance angle. Permits auto-exposure flash operation from under 2.5 feet to 23 feet.

Locking Hot-Shoe Mount

Mounting foot is wired for cordless flash sync on cameras with hot shoes. Has lock for secure attachment.

Sync Cord Jack

When PC-tipped sync cord is plugged into jack (not shown), hot-shoe contacts are automatically disconnected.

Ni-Cad Battery Charger (optional)

Recharges Ni-Cad batteries in flash unit in 3½ hours. Adjustable for 115- or 230-volt a.c. line current.

Auto Electroflash 280 Specifications

Number of Flashes per Set of Batteries:

| Power Source | Automatic Operation | Manual Operation |
|-------------------|---------------------|------------------|
| 4 AM AA Cells | 120-1200 | 120 |
| 4 Ni-Cad AA Cells | 70-500 | 70 |

Guide Number (Manual Operation, ASA 25): 46

Aperture Selection in Automatic Mode (correlated to ASA speeds and distance ranges):

| ASA | 25 | 50 | 100 | 200 | 400 | Distance Ranges |
|----------|-----|-----|-----|-----|-----|-----------------|
| f/stops* | 2 | 2.8 | 4 | 5.6 | 8 | 4-23 ft. |
| | 2.8 | 4 | 5.6 | 8 | 11 | 3-16 ft. |
| | 4 | 5.6 | 8 | 11 | 16 | 2.4-11 ft. |
| | 5.6 | 8 | 11 | 16 | 22 | 2.4-8 ft. |

*Aperture selection is continuously variable within each four-f/stop range.

Recycling Times:

| Power Source | Automatic Operation | Manual Operation |
|-------------------|---------------------|------------------|
| 4 AM AA Cells | 0.5 to 11 sec. | 11 sec. |
| 4 Ni-Cad AA Cells | 0.5 to 7 sec. | 7 sec. |

Flash Durations:

Automatic Operation: 1/30,000 to 1/1000 sec.
Manual Operation: 1/1000 sec.

Color Temperature: balanced for daylight color film

Lighting Field: 55° horizontally, 40° vertically (for 35mm or longer focal length on 35mm camera)

Sensor Acceptance Angle: 30°

Flash Head Movement: 60° upward from horizontal, 90° to left or right of lens axis

Minolta Auto Electroflash 200X

Provides the latest electronic flash technology including fast recycling for auto winder speeds and automatic X synchronization with XD/XG cameras.

Wide-Angle "Daylight" Flash

Balanced for daylight type color film; covers field of view of a 35mm wide-angle lens. Snap-on wide-angle diffuser provides coverage for 28mm lens.

Flash Sensor

Has 20° acceptance angle. Permits auto-exposure flash operation from 2.3 feet to 23.1 feet.

Locking Hot Shoe Mount

Spring-loaded terminals provide direct contact with hot shoe for cordless operation. When the 200X is attached and fully cycled, it automatically switches the XD-11 or XG-7 for X synchronization. Has screw lock for secure attachment.



Battery Compartment Cover

Battery chamber holds four AA-size penlight batteries.

ASA Film Speed Indicator

Turn the knurled calculator dial ring to set film speeds from ASA 25 to ASA 400.

Lo-Power Aperture Scale

Blue and black colored scale indicates f/stop setting opposite distance scale when the unit is used in Lo-power manual mode for use with winder-flash synchronization.

Distance Scale

Shows distance in feet with green numerals, in meters with white numerals.

Auto-Exposure Aperture and Range Indicators

Top red indicator shows effective distance range and f/stop setting for red auto-exposure mode, yellow indicator shows range and f/stop for yellow auto-exposure mode.

Hi-Power Aperture Scale

White and black color scale indicates f/stop setting opposite distance scale when the unit is used in the Hi-power manual mode.



Exposure Mode Selector

Provides four exposure modes for maximum versatility. Blue-coded Lo-power manual mode offers fast recycling for synchronization with the Auto Winder D & G. Hi-power manual mode provides full flash output for distant subjects or special flash techniques. Red and Yellow auto-exposure modes give the convenience of automatic flash exposure and control of depth-of-field.

Flash Ready Light

Glowes when unit is recycled (a blinking flash ready signal is also visible in the XD-11 and XG-7 viewfinders).

On/Off Power Switch

Shows red signal in the "On" position.

Open Flash Button

Red button permits open flash technique and allows flash to be fired without exposing film.

Energy-Saving Thyristor Circuitry

Uses only the power actually needed for auto-exposure, for increased number of flashes and faster recycling.

Power Source

4-AA carbon zinc, alkaline or ni-cad batteries.

Size

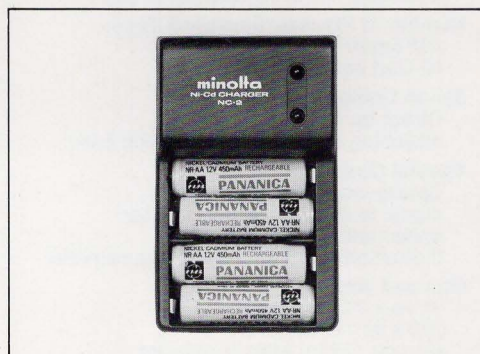
56 x 70 x 90mm (2 $\frac{3}{16}$ x 2 $\frac{3}{4}$ x 3 $\frac{3}{16}$ in.)

Weight without batteries

210 grams (7 $\frac{3}{8}$ ounces)

Ni-Cad Charger NC-2 and Ni-Cad Battery Set (optional)

Provides an economical power source for the Auto Electroflash 200X with the shortest possible recycle time. This UL approved charger is supplied with four Ni-Cad batteries. Extra battery sets are available.



NC-2 Specifications

Input: 115Volts AC 50/60 Hz 3 Watts
Output: 2.8 Volts DC 70 mA x2
Charge Time: 8 Hours
Batteries: 4 x AA-size nickel cadmium cells with 1.2 volts 450mAh each.

Minolta Auto Electroflash 128

A compact automatic flash unit with movable head for bounce operation and special flash-distance check lamp.

Wide-Angle "Daylight" Flash

Covers field of view of 35mm wide-angle lens, supplied wide-angle diffuser extends coverage for 28mm lenses; optional diffuser to cover field of view of 24mm wide-angle lens; balanced for daylight-type color film.

Adjustable Flash Head

Tilts up to 90° from lens axis, with click-stops at 50° and 65° for convenient bounce operation.

Computer Dial

Indicates working distance/aperture with color-coded auto-flash range. (Not shown.)

Battery Compartment

Holds four AA-size C-Zn, AM or Ni-Cad batteries.

Flash Sensor

Has 20° acceptance angle.

Locking Hot-Shoe Mount

Wired for cordless flash synch. Has tightening clamp for secure attachment.

Synch-Cord Socket

Accepts attachable PC-tipped synch cord which disconnects hot-shoe contacts.

Flash Ready Light

Lights when unit is fully recycled. (not shown)

Flash-Distance Check Lamp

Lamp lights to check or verify sufficient light output for correct exposure during automatic operation. (not shown)

Auto Electroflash 128 Specifications

Guide Number:

28 in meters, ASA 100 (46 in feet, ASA 25)

Auto-Exposure Flash Range (ASA 100):

0.7-5m (2.3-16.4 ft.)

Flash Duration:

1/40,000 to 1/1000 second in auto operation;
1/1000 sec. in manual operation.

Color Temperature:

Balanced for daylight-type color film.

Coverage:

Up to 60° horizontally, 45° vertically without wide-angle diffuser.

Power Sources:

4 AA-size C-Zn, AM or Ni-Cad batteries.

Number of Flashes/Recycling Time:

C-Zn batteries: 40/8 sec.
AM batteries: 200/7 sec.
Ni-Cad batteries: 80/4 sec.

Synch Contacts:

Direct for hot shoe; jack for attaching separate PC-tip synch cord.

Size and Weight:

4¹¹/₁₆ x 2⁹/₁₆ x 2⁹/₁₆ in. (119 x 65 x 65mm)
7³/₄ oz. (220g) without batteries



Minolta Auto Electroflash 132X

A compact electronic-flash unit offering higher power, choice of two automatic apertures and distance ranges, and "dedicated" operation with XD and XG cameras.

Wide-Angle "Daylight" Flash

Covers field of view of 35mm lens on full-frame 35mm cameras; supplied wide angle diffuser provides coverage for lenses down to 28mm; optional diffuser extends coverage for 24mm wide-angle lenses; balanced for daylight-type color film.

Adjustable Flash Head

Movable head rotates up to 90° from lens axis for convenient bounce operation. Click-stops at 50°, 65°, and both extremes.

Battery Compartment

Holds four AA-size AM or Ni-Cad batteries.

Illuminated Computer Dial

Lights up for easy reading in dark. Red lamp behind applicable auto-flash f/number for quick reference. Offers choice of two shooting apertures in auto operation. (Not shown.)

Auto Electroflash 132X Specifications

Guide Number:

32 in meters, ASA 100 (52 in feet, ASA 25)

Auto-Exposure Flash Ranges (ASA 100):

f/4: 0.7-8m (2.3-26.3 ft.)
f/8: 0.7-4m (2.3-13.1 ft.)

Flash Duration:

1/40,000 to 1/1000 sec. in auto operation
1/1000 sec. in manual operation.

Color Temperature:

Balanced for daylight-type color film.

Coverage:

Up to 60° horizontally, 45° vertically without wide-angle diffuser.

Power Sources

4 AA-size AM or Ni-Cad batteries.

Number of Flashes/Recycling Time:

AM batteries: 160/8 sec.
Ni-Cad batteries: 70/5 sec.

Synch Contacts:

Direct for hot-shoe, jack for attaching separate PC-tip synch cord.

Special Contact:

Spring-loaded contact for signal to control camera shutter speed and finder flash-ready indication in XD and XG-series cameras.

Size and Weight:

4¹¹/₁₆ x 2⁹/₁₆ x 2⁹/₁₆ in. (119 x 65 x 65mm)
8⁵/₁₆ oz. (235g) without batteries



Flash Ready Light

Glow when unit is recycled. (A blinking flash ready signal is also visible in the viewfinders of XD and XG cameras.) (Not shown.)

Flash-Distance Check Lamp

Lights to check or verify sufficient light output for correct exposure during automatic operation. (not shown)

Flash Sensor

Has 20° acceptance angle.

Synch-Cord Socket

Accepts attachable PC-tipped synch cord which disconnects hot-shoe contacts.

Locking Hot-Shoe Mount

Wired for cordless flash synch. Has tightening clamp for secure attachment.

Auto Electroflash 128 and 132X Optional Accessories

Color Filter Set

Includes red, yellow, green, blue, and tungsten conversion, as well as 2X and 4X ND filter panels that snap onto flash head for light balancing and special effects.

Ni-Cad Charger NC-2 With Batteries

UL approved charger, supplied with four AA-size Ni-Cad batteries, provides an economical power source for both the Auto Electroflash 128 and the 132X with the shortest possible recycle time. Extra battery sets are available.

Wide-Angle Diffuser W2

Snap onto the flash head to extend light coverage for lenses down to 24mm.

Minolta Auto Electroflash 118X

An economical and compact automatic flash unit offering "dedicated" operation with the 110 Zoom SLR MARK II and XD/XG 35mm cameras.

Wide-Angle Flash

Balanced for daylight type color film, covers down to a 25mm lens on 110-format film; down to a 35mm lens on 35mm film. Optional snap-on, wide-angle diffuser.

Flash Sensor

Has 20° acceptance angle. Permits auto-exposure flash operation from 2.3 to 30 feet.

Battery Compartment

Battery chamber holds two AA-size penlight batteries. (Not shown.)

Exposure Mode Selector

Provides three exposure modes for maximum versatility. Manual mode provides full flash output for distant subjects or special flash techniques. Red and yellow auto-exposure modes give the convenience of automatic flash exposure and control of depth-of-field.

Hot Shoe Mount

Spring-loaded terminals provide direct contact with hot shoe for cordless operation. When the 118X is attached and fully recycled, it automatically switches the 110 Zoom SLR MARK II and XD/XG cameras for X synchronization.

Distance Scale

Shows distance in feet with green numerals, in meters with white numerals. (Not shown.)

ASA Film Speed Indicator

Turn the knurled calculator dial ring to set film speeds from ASA 25 to ASA 400. (Not shown.)

Flash Ready Light

Glow when unit is recycled (a blinking flash ready signal is also visible in the 110 Zoom SLR MARK II, XD and XG camera viewfinders).

Auto-Exposure Aperture and Range Indicators

Top red indicator shows effective distance range and f-stop setting for red auto-exposure mode, yellow indicator shows range and f/stop for yellow auto-exposure mode. (Not shown.)

Manual Aperture Scale

White and black color scale indicates f/stop setting opposite distance scale when the unit is used in the manual mode. (Not shown.)



Minolta Auto Electroflash 118X Specifications

Guide Number:

30 in feet, ASA 25

Auto-Exposure Flash Ranges:

f/4 (ASA 400):
3.3–30 ft. (1.0–9m)
f/4 (ASA 100):
2.3–14.75 ft. (0.7–4.5m)

Flash Duration:

1/40,000 to 1/3,000 sec. in auto operation
1/3,000 sec. in manual operation

Color Temperature:

Balanced for daylight-type color film

Coverage:

Up to 60° horizontally, 45° vertically without wide angle diffuser

Power Sources:

Two 1.5V AA-size (penlight) AM, C-Zn or Ni-Cad batteries

Number of Flashes/Recycling Time:

C-Zn batteries: 45/9 sec.
AM batteries: 200/7 sec.
Ni-Cad batteries: 90/4.5 sec.

Sync Contact:

Direct for hot shoe

Special Contact:

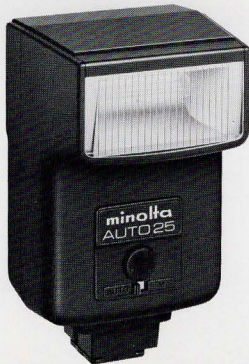
Spring-loaded contact for signal to control camera shutter speed and finder flash-ready signal in 110 Zoom SLR MARK II, XD and XG cameras.

Size and Weight:

3⁵/₁₆ x 2³/₈ x 1⁷/₈ in. (84 x 61 x 36mm)
4⁹/₁₆ oz. (130g) without batteries

Minolta Auto Electroflash 25

Automatic flash convenience in a compact, economical unit.



Type: Clip-on automatic or manual electronic flash, cord or cordless operation

Auto Working Range: 2.3 to 14.8 ft. (0.7–4.5m) at f/5.6 with ASA 100 film

Sensor Acceptance

Angle: 20°

Power Source: 4 AA-size AM or C-Zn cells

Guide Number: 41 with ASA 25 film (manual operation)

Recycling Time: 6 sec. with fresh AM batteries, 7 sec. with fresh C-Zn batteries; ready lamp comes on when recycling is complete

Sync Contacts: Wired for hot-shoe operation; jack for separate sync cord supplied with unit; open-flash button in manual (nonautomatic) operation

Flash Duration: 1/40,000 to 1/2000 sec. in auto mode, 1/2000 in manual (nonautomatic) operation

Color Temperature: Balanced for daylight-type color film

Flash Coverage: 60° horizontally, 45° vertically

Size: 2³/₁₆ x 2³/₈ x 4¹/₈ in. (35 x 61 x 105mm)

Weight: 5⁷/₁₆ oz. (155g) without batteries

Minolta Electroflash 20

A tiny, lightweight electronic flash unit for cordless, clip-on operation.



Type: Clip-on manual electronic flash for cordless hot-shoe operation

Power Source: 2 AA-size AM or C-Zn cells

Guide Number: 33 with ASA 25 film

Recycling Time: 9 sec. with fresh batteries; ready lamp comes on when recycling is complete

Sync Contact: Wired for hot-shoe operation; open-flash button

Flash Duration: 1/2000 sec.

Color Temperature: Balanced for daylight-type color film

Flash Coverage: 50° horizontally, 60° vertically

Size: 2¹/₂ x 1¹/₄ x 2¹/₂ in. (65 x 32 x 65mm)

Weight: 3¹/₈ oz. (90g) without batteries

NOTE: Specifications subject to change without notice.
See page L3 for additional information.