

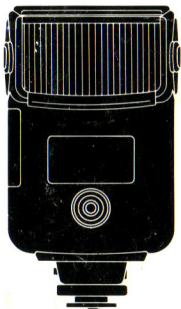
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MINOLTA AUTO ELECTROFLASH 128 132X



OWNER'S MANUAL



Your Minolta Auto Electroflash 128 or 132X is a compact, versatile unit that will make precise flash exposures automatically over a wide range or can be used manually. Its movable flash head swings upward for automatic bounce flash, as well as direct. A special check lamp indicates when reflected flash brightness is enough for correct exposure. Each unit attaches cordlessly with a hot shoe or with its attachable sync. cord. Coverage is sufficient for lenses down to 28mm wideangle on full-frame 35mm cameras; an optional diffuser extends coverage to 24mm lenses. To these basic features, the Auto Electroflash 132X adds greater power, selection of two apertures for auto operation and LED indicators that light behind applicable autoflash f-numbers on the unit's illuminated computer dial. Whenever mounted on a Minolta XD or XG camera and charged, a signal to the camera through a special contact on the 132X's mounting bracket starts an LED flash-ready signal blinking in the viewfinder and electronically sets the camera for X-sync. speed when the shutter is released.

Before using your model 128 or 132X for the first time, please read this manual all the way through—or at least loading batteries, attaching it to the camera, and handling and acquainting yourself with its parts and features. In this way, you can take good pictures and begin to realize the potential of your Auto Electroflash right from the start.

IMPORTANT SAFEGUARDS

1

When using your flash unit, the specific cautionary notices in the owner's manual should always be observed and complied with as well as basic precautions, including following:

1. Read and understand all instructions.
2. Close supervision is necessary when the flash unit is used by or near children. Do not leave the flash unit unattended while in use.

3. Care must be taken as burns can occur from touching hot parts.
4. Do not operate this flash unit if it has been dropped or damaged – until it has been examined by an authorized Minolta service facility.
5. To protect against electrical shock hazards, do not immerse flash unit in water or other liquids.

6. To avoid electric shock hazard, do not disassemble this unit, but take it to an authorized Minolta service facility when some service or repair work is required. Incorrect reassembly can cause electric shock hazard when the unit is used subsequently.

SAVE THESE INSTRUCTIONS

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NOTES ON THIS MANUAL

This is a combined instruction manual for use with the Auto Electroflash models 128 and 132X. For this reason, some illustrations may show features different from your model, and some sections may not apply to the one you own. Proper operation is indicated for both models, however, and differences between them are clearly indicated in instructions and specifications.

Unless otherwise indicated, illustrations in this booklet show the Auto Electroflash 132X, the model with the full complement of features, with appropriate notes to adapt them for use with the Auto Electroflash 128.

6 NAMES OF PARTS

Flash tube and reflector
with guard window

Flash head

Battery-chamber cover

Sensor window

Bracket clamp

Open-flash/test button

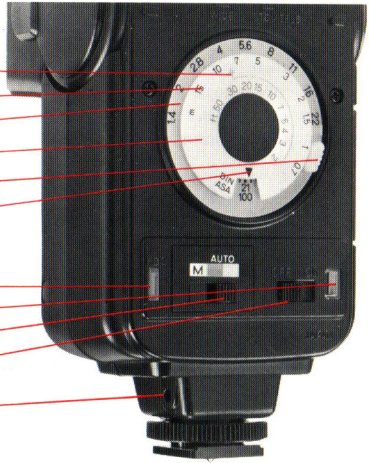
Sync. contact

Camera-control contact
(132X only)

Attaching bracket



- Auto aperture/range indicators
- Distance scale
- Aperture scale
- Computer dial
- Film-speed setting grip
- Film-speed indicator
- Flash-distance check lamp
- Monitor lamp
- Mode selector
- Power switch
- Sync.-cord socket

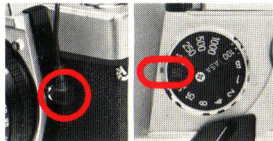
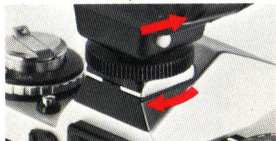


8 SUMMARY OF OPERATION (for direct autoflash)

The steps pictured on this page outline use of the Auto Electroflash 132X and 128 in usual direct auto operation. They give a general idea of how very easy it is

to get perfectly exposed pictures with these units and are keyed to corresponding sections of the manual for ready reference. This brief guide may also be useful as a

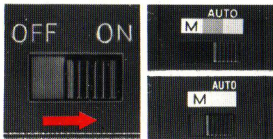
1. With serviceable batteries installed (see pp. 10 and 35), attach and lock unit on camera (p. 13), using sync. cord if necessary.
2. Set applicable film speed on computer dial of flash unit (p. 14).
3. Make sure camera is set for proper sync. and shutter speed (p. 14).



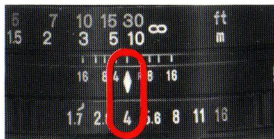
quick refresher for good results after you have not used your flashgun for some time. It is not, however, a substitute for the detailed instructions in the rest of this

manual, which should be thoroughly studied for best results and more versatile flash photography.

4. Move power switch to "ON" (p. 16), and set mode selector to red or yellow "AUTO" position (p. 19).



5. Set camera lens aperture to f-number opposite the matching-colored arrow.



6. With monitor lamp glowing and flash head facing straight forward, push shutter release to photograph subject within the flash range (p. 21).

10 BATTERIES

Your Auto Electroflash 128 or 132X is designed to be powered by four AA (penlight)-size batteries. These may be of the non-rechargeable carbon-zinc, alkaline-manganese ("AM" or "alkaline") type or the rechargeable nickel-cadmium ("Ni-Cd" or "nicad") type, information on loading and the former type is given here. For information on Ni-Cd's and charging, see p. 35.

Installing

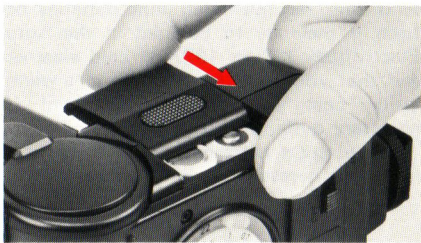
1. Remove the battery-chamber cover by sliding it off in the direction of the arrow toward the front of the unit.



2. After wiping terminals with a clean, dry cloth, insert four carbon-zinc, alkaline or Ni-Cd batteries as specified on p. 35, making sure that plus (+) and minus (—) ends are positioned as indicated inside the chamber.



3. Close the chamber by aligning the cover carefully, depressing ends of batteries slightly with it, and sliding it toward the rear of the unit until it snaps securely in place.



Cold-weather operation

Batteries generally tend to decrease in capacity as the temperature goes down. Though considerably better than the ordinary or sealed carbon-zinc type in this respect, alkaline batteries are no exception. It is thus recommended that batteries be fresh if they are to be used in the Auto Electroflash 128 or 132X in cold weather and that you carry fresh spares in a warm inside coat pocket for replacement if necessary during such operation.

With Ni-Cd batteries, p. 35, no particular care is necessary in cold weather.

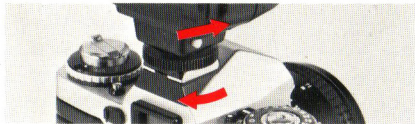
CAUTION

- When replacing batteries, be sure to change all four batteries at one time. If exhausted batteries are used with fresh ones, or if different types of batteries are used together, there is a possibility of leakage or explosion.
- Do not attempt to charge alkaline or carbon-zinc batteries as this could cause leakage or explosion.
- If the flash unit is not to be used for two weeks or more, batteries should be removed.

ATTACHING TO CAMERA

With cameras wired for cordless flash, simply slide the attaching bracket of the flash unit as far as it will go into the camera hot shoe and turn the bracket clamp as shown to secure it there.

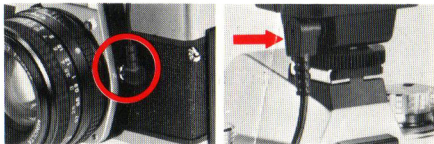
With other cameras, secure the bracket in the accessory or flashgun shoe in the same way; insert the single-prong plug on one end of the attachable sync.-cord provided into the electroflash's sync.-cord socket until it snaps in place; and plug the



PC connection on the other end into the camera terminal for "X" synchronization.

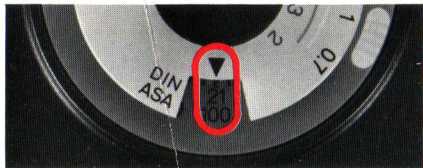
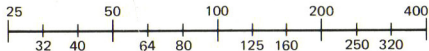
NOTE

Whenever the sync. cord is used to connect the Auto Electroflash 132X to either a Minolta XD or XG camera, the correct shutter speed for flash must be set manually as the flash's camera-control contact will be disconnected.



14 SETTING FILM SPEED

By means of the grip provided, move the film-speed scale until the indication for the film in use clicks into place opposite the triangular index. Marks between those for numbers on the scale indicate film speeds as follows:

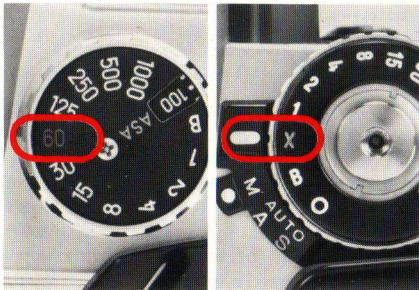


SETTING SYNC. AND SHUTTER

With either the Minolta XD and XG cameras at any electronic setting, the Auto Electroflash 132X starts the flash-ready signal in the camera's viewfinder blinking and automatically sets the camera's shutter for X sync. whenever the unit is charged and ready to fire.

With the Auto Electroflash 132X or 128 on all other cameras:

1. Make sure that the camera is set for X synchronization and/or that the flash is properly connected with the X-sync. terminal of the camera.



2. Also make sure that the camera is not set for a shutter speed faster than the manufacturer's recommendation for electronic flash (usually the special "X" setting or 1/60 sec. or slower for full-frame 35mm cameras having horizontal-run focal-plane shutters; between-the-lens shutters with X-sync. can be used at all speeds).

16 POWER SWITCH AND MONITOR LAMP

To turn the unit on and charge its capacitor with alkaline, sealed carbon-zinc or Ni-Cd batteries, move power switch to "ON."

The monitor lamp should light to indicate recycling as shown in the table:



Power source	Auto Electroflash model	
	128	132X
Fresh sealed carbon-zinc batteries	8	
Fresh alkaline batteries	7	8
Ni-Cd batteries	4	5

Recycling time will increase as batteries are discharged. When the monitor lamp fails to light within 30 seconds with the power switch on, carbon-zinc or alkaline batteries should be replaced with fresh ones (all four at the same time). Ni-Cd batteries should be recharged if the lamp fails to light after 15 seconds.

When the Auto Electroflash 132X is used with either a Minolta XD or XG camera, a flash-ready signal in the camera's viewfinder will blink to indicate that the



flash has recycled. After it flashes the 132X will switch the camera back to the previously set mode until it has recycled and the signal starts to blink again.

When you are not taking flash pictures, the power switch should be moved to "OFF." This turns the unit completely off so that it will not flash when the camera's shutter is released. The camera may then be used in normal, metered operation without removing the flash. With the 132X on a Minolta XD or XG, camera operation will be returned to the electronic mode previously set.

Dial illumination and auto f-number indication

With the Auto Electroflash 132X, a green dial illuminator will come on when the power switch is on to facilitate using the unit in dark places. The dial will glow as long as the power switch is left on with serviceable batteries.

Also, when the mode selector is at either of its two automatic settings, a red lamp will light behind the computer dial to indicate the applicable f-number for correct autoflash exposure.

NOTE

When recycling time is long with batteries that are partially discharged or if the flash is to be fired immediately after the monitor lamp comes on with fresh batteries or fully charged Ni-Cd's, observe the respective cautionary notes in each section (pp. 12 and 23) if you are using reversal-type color film (for slides).

DIRECT FLASH

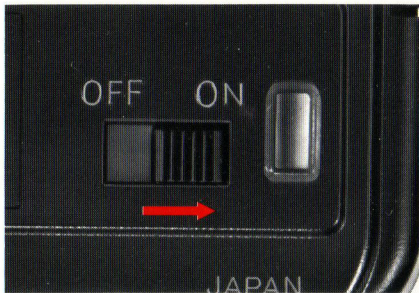
19

Auto operation

1. With the Auto Electroflash 128, make sure the mode selector is at the yellow "AUTO" setting; with the 132X model, at the either the red or yellow "AUTO" settings.



2. Move the power switch to "ON". A red lamp behind the aperture scale of the Auto Electroflash 132X will light to indicate the f-number to be used.



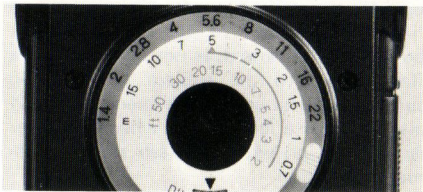
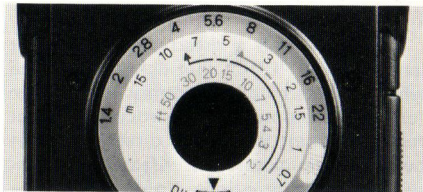
3. Set the aperture of the camera lens to the f-number indicated by the yellow arrow with the 128 model; with the 132X model, to the f-number indicated by the red lamp.



4. With the monitor lamp glowing (or the XD or XG camera's flash-ready signal blinking, p. 17), release the camera shutter to take the picture. The green flash-distance check lamp at the left of the mode selector will light when reflected flash brightness is sufficient for correct exposure (p. 22).

Auto-flash range

The points on the distance scale opposite the colored auto-aperture/range-indicator arrow (yellow on 128, red and yellow on 132X) indicate the maximum subject distance for usual correct auto exposure; subjects farther than this from the flash will normally be underexposed. On both units, the minimum subject distance for auto exposure is 0.7m (2.3 ft.); subject closer than this to the flash will normally be overexposed.



Flash-distance check lamp

Each unit has a green autoflash check lamp marked "FDC" that lights to indicate when reflected flash brightness is sufficient for correct exposure. It is particularly useful for prechecking bounce- or direct-flash light before taking pictures in unfamiliar or unusual operating situations. To do this set the unit for the desired autoflash operation and fire it by means of the open-flash/test button. If the lamp does not light, move the flash closer to the subject or reflecting surface and test again. The check lamp will also light for a few seconds when the power is switched on with the flash set for automatic operation.

CAUTION

Make sure the sensor window is kept clean and is not obstructed by anything while you are taking pictures.

NOTE

There may be cases when the FDC does not light when you precheck with auto direct flash even though subject exposure will be adequate. This is generally caused by subject positioning against a relatively dark background. If this happens, precheck again with the subject centered in the frame. If the FDC lights, recompose and shoot with the camera's aperture set according to the note on p. 23.

NOTE

The following apply if you are using reversal-type color film (for slides):

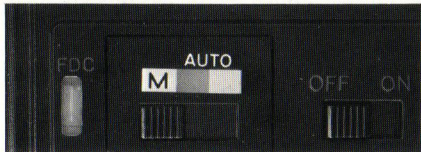
- If your subject does not fill enough of the center part of the frame against a dark background (such as outdoors at night), it may be necessary to close the lens down a half stop more than the aperture indicated by the colored arrow (e.g., if the arrow is pointing to $f/5.6$, the lens would be set between $f/5.6$ and $f/8$). For similar subjects against very light-colored backgrounds (such as a white wall), on the other hand, it may be desirable to open the camera lens a half stop more than the aperture indicated by the arrow (e.g., if the arrow is pointing to $f/5.6$, the lens would be between $f/4$

and $f/5.6$). The exact setting will be determined by individual conditions in either case.

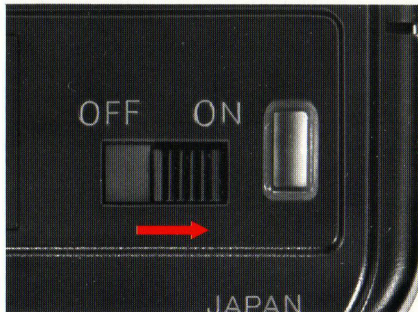
- Further, when recycling time is long with partially discharged batteries or if the flash is to be fired immediately after the monitor lamp comes on with fresh or fully charged batteries, the maximum subject distance should be considered to be the distance-scale indication opposite the first aperture to the right of the one pointed to by the arrow (e.g., if the yellow arrow indicates $f/5.6$ with a film-speed of ASA 100, the maximum subject distance to assure adequate exposure should be about 3.6m or 12ft. on model 128, as indicated opposite $f/8$).

Manual operation

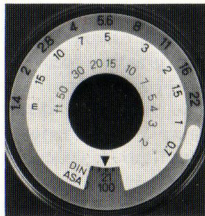
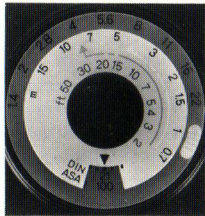
1. Make sure the mode selector is at the click-stop "M" setting.



2. Move the power switch to "ON."



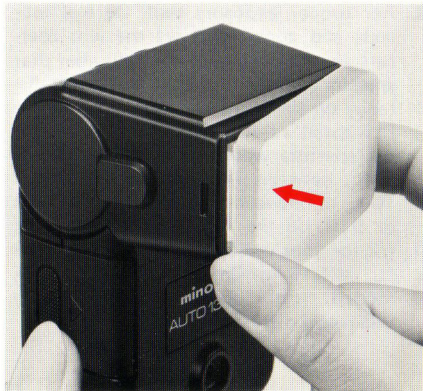
3. For proper exposure with normal subjects and conditions, set the lens aperture on the camera to the f-number that appears opposite the flash-to-subject distance on the computer dial (e.g., with a film-speed of ASA 100 or DIN 21 set, the aperture would be f/2.8 for 10m or 33ft., between f/8 and f/11 for 3m or 10ft., or between f/16 and f/22 for 1.5m or 5 ft. on the Auto Electroflash 128; f/2 for 15m or 50 ft., f/5.6 for 6m or 19 ft., or f/16 for 2m or 7ft. on the 132X model). For proper exposure with wideangle diffuser; see p. 26.



4. With the monitor lamp glowing, release the camera shutter to take the picture. Flash duration remains fixed at 1/1,000 sec.

26 WIDEANGLE DIFFUSER

Just as it is, Auto Electroflash 128 or 132X provides sufficient coverage for 35mm or greater focal length lenses with the full-frame 35mm format. To extend coverage for lenses down to 28mm wideangle, snap the wideangle diffuser supplied with the flash unit securely on over the flash-tube guard window as shown. (An optional diffuser extends coverage down to 24mm wideangle p. 36.)

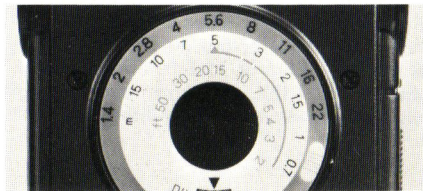
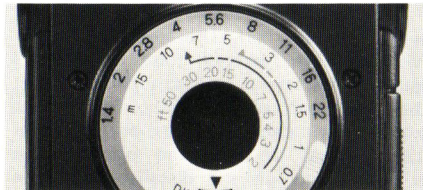


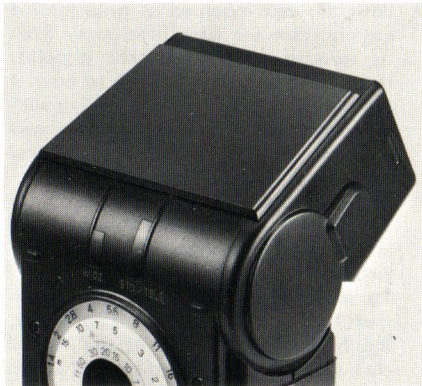
The diffuser decreases light reaching the subject by one half. The electronic circuit will of course increase flash duration as much as necessary in auto operation, but the maximum subject range for correct exposure will decrease. Thus, on the model 128, instead of appearing opposite the colored arrow on the distance scale, the maximum subject distance for auto direct flash is at the first break in the auto-aperture/range-indicator line to the right of the arrow, viz., 3.5m or 11.7 ft. Similarly, with the model 132X, the maximum subject distances for direct flash for either "AUTO"

setting appear opposite the first break in the auto-aperture/range-indicator line whose color matches that of the auto setting in use, viz., 2.8m or 9 ft. for yellow setting and 5.5m or 18 ft. for the red. On either unit the flash distance check lamp will light when reflected flash brightness is sufficient for correct exposure.

The break in the auto-aperture/range-indicator lines farthest to the right of the arrows indicates the maximum subject distance when using the optional 24mm wide-angle diffuser.

In operating either at the "M" (manual) setting with the wideangle diffuser attached, open the camera lens one stop more than without it (see p. 25). In other words, choose the next f-number to the left of the one that appears on the aperture scale opposite the subject distance; e.g., if your subject is at 8m with ASA 100 film, set the camera aperture at $f/2.8$ rather than $f/4$ with model 132X, between $f/2$ and $f/2.8$ rather than between $f/2.8$ and $f/4$ with model 128.





Instead of using the direct light of the flash, it is often possible to reflect it from some nearby surface to illuminate the subject. This is called "bounce" flash and not only provides softer and often more pleasing light but may improve saturation in color work as well. The flash distance check lamp will simplify this technique with the automatic exposure control of your Auto Electroflash 128 or 132X however, for best results:

1. With the Auto Electroflash 128, make sure that the unit is set for automatic mode. With the model 132X set the mode selector for the larger of the apertures available (with the camera lens set to the same f-number), this is advis-

able since the comparative strength of light falling on the subject is considerably reduced with bounce flash, the exact amount varying widely with bounce conditions. Maximum subject distance for correct exposure also decreases considerably; though individual conditions determine just how much, it may be convenient to consider it about one half that indicated by the flash dial (e.g., if the dial indication is 5m or about 16 ft., estimate maximum range at 2.5m or about 8 ft.) with a bounce surface of good reflectivity.

2. With the unit mounted as usual on the camera, turn the flash head away from its forward position so that it points toward the surface you wish to bounce the light from, such as the ceiling with the camera held horizontally or a wall with the camera in position for vertical pictures.

The flash head can be set by friction at any point up to 90° from straight ahead and has click-stops at 50° and 65° as well as at the extremes.

To avoid uneven exposure from direct-flash light also falling in the picture area, the head should be set at the second click-stop or farther from straight ahead

with lenses down to 24mm wideangle on full-frame 35mm. With 50mm or longer telephoto lenses, the head may be set at the click-stop nearer straight ahead or any point between there and 90°. These ranges are indicated on the flash-unit body above the computer dial. Surfaces from which flash is bounced should generally be as light and as neutral in color as possible (e.g., mat white), since dark ones will not reflect enough and colored ones will affect the balance of the light falling on the subject. This is particularly important with color film.

3. To precheck flash brightness for correct exposure see p. 22. Otherwise, fire the flash to take the picture in the usual way.

NOTE

Wideangle diffuser should not be used in bounce-flash operation, since it reduces light of the flash and is not necessary even with 24mm wideangle lenses.

32 FILL-IN FLASH

Though primarily intended for use as the sole or main light source in flash pictures, your Auto Electroflash 128 or 132X can be used to balance or fill in shadows with such bright light sources as daylight under appropriate conditions. Suitable ones to start with on either auto or manual mode are those in which ambient and flash indications call for the same exposure settings. Then the indicated shutter speed is used but the lens is closed down on half to one stop from that indicated (e.g., for 1/60 sec. at f/11, the shutter is left at 1/60, but the lens is set at between f/11 and f/16 or at f/16.) From this starting point, settings may be further adjusted toward obtaining effects desired under various conditions;

NOTE

When using the Auto Electroflash 132X on either a Minolta XD or XG, connect the flash and camera with the sync.-cord provided. This disconnects the camera-control contact and enables manual setting of shutter speeds.

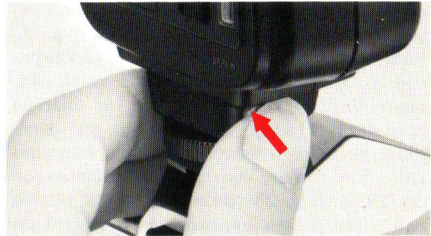
CAUTION

Make sure the subject to be filled in is not outside the applicable flash distance range.

OPEN FLASH

Actuating a flashgun one or more times while the camera shutter remains open on "B" (bulb) or "T" (time) is called "open flash." Firing the flash a number of times with this technique may be useful to illuminate large, dark, stationary subjects (such as a house exterior at night) or to produce "stroboscopic"-type effects with a moving subject. It can of course be used with a short bulb exposure under dark or dim conditions to make single exposures with non-synchronized cameras.

For open flash, disconnect the flash from the camera and use the two independently: With the camera stationary on a tripod or other firm support, open the



shutter and fire the flash as many times as desired by means of the open-flash/test button.

This button merely acts to trigger the flash in place of the camera shutter's sync. switch. Flash duration is still controlled by

the sensor in automatic operation and remains fixed at maximum power on manual. Flash-dial settings and indications and exposure produced will thus be the same with open flash as in usual auto or manual operation. That is, auto settings will generally produce correct one-shot exposure with the camera lens set as indicated on pp. 19 through 23 while the manual setting will yield proper exposure as indicated on pp. 24 through 25.

NOTE

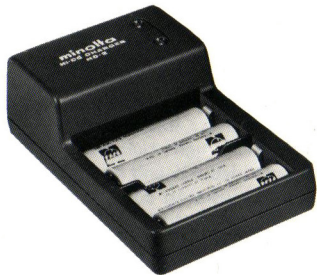
As the Auto Electroflash 132X is a non-thyristor-type automatic flash unit, it cannot be used for continuous-sequence operation with the XD or XG camera and auto winder.

OPTIONAL ACCESSORIES

Ni-Cd charger NC-2 with batteries

Nickel-cadmium batteries are usable indefinitely through recharging. They also provide shorter recycling time and are virtually unaffected by usual low temperatures. A compact charger and set of four batteries for use with your Auto Electroflash 128 or 132X is available as an accessory from Minolta. This can charge either two or four batteries in an eight hour period with lighted LED'S indicating proper installation and charging. The charger is available in Edison (American-type) plug model for direct connection to any 115-volt socket or in corded models with Siemens (European-

type) and SAA (Australian-and New Zealand-type) plugs for 230-volt alternating current of 50 Hz or 60 Hz (cycles) only.



Wideangle diffuser W2

This wideangle diffuser snaps onto the flash head of your Auto Electroflash 128 or 132X to extend coverage for lenses down to 24mm.

Color filter set

This versatile filter set has red, yellow, green, blue, and tungsten conversion panels that snap onto the flash head of your Auto Electroflash for light balancing and special effects. Included 2X and 4X neutral-density panels can be used in combination with the filters or snap-on diffusers to reduce flash output for fill-in or other uses.



- 38** Color temperature: Balanced for daylight-type color film
 Coverage: For lenses down to 35mm focal length on full-frame 35mm, 28mm with wideangle diffuser included, 24mm with optional wideangle diffuser
- Power sources: Four self-contained 1.5v AA-size (penlight) alkaline-manganese, sealed carbon-zinc or nickel-cadmium cells
- | Number of flashes/-
recycling time: | Model 128 | Model 132X |
|--|------------|------------|
| Sealed C-Zn cells: | 40/8 sec. | — |
| AM cells: | 200/7 sec. | 160/8 sec. |
| Ni-Cd cells: | 80/4 sec. | 70/5 sec. |
- * As determined by Minolta's standard testing method.
- Sensor angle of acceptance: 20°
- Flash-head movement: 90° upward from horizontal, with clickstops at 50°, 65°, and both extremes
- Sync. contacts: Direct contact for hot shoe, jack for attaching separate sync. cord
- Special contact: Spring-loaded terminal on 132X for signal to control camera shutter speed and finder flash-ready indication

- Controls and other: Grip for setting film speeds ASA 25 – 400 (DIN 15 – 27); switch on model 128 sets auto/manual mode; on model 132X sets one of two selectable apertures, which are indicated by red light behind illuminated f-number dial, or manual; green lamp on both models that signals correct exposure for direct or bounce autoflash; power switch; monitor lamp; open-flash/test button; bracket clamp
- Dimensions: 119 x 65 x 65mm (4-11/16 x 2-9/16 x 2-9/16 in.)
- Weight: 128: 220g (7-3/4 oz.) without batteries
132X: 235g (8-5/16 oz.) without batteries
- Accessories: Included with unit: Wideangle diffuser W1 for coverage with down to 28mm lenses
Available optionally: Color-filter set (red, green, blue, yellow, tungsten-conversion, ND 2X, 4X), wideangle diffuser W2 for coverage with lenses down to 24mm, Ni-Cd Charger NC-2 with batteries

Specifications subject to change without notice.

40 CARE AND STORAGE

- Your Auto Electroflash may be wiped with a silicone-treated cloth to clean it. Do not allow alcohol or chemicals of any other kind to touch its surface.
- Avoid keeping the unit in places subject to high temperature, high humidity, dust or dirt. Store it in a cool, well ventilated place.
- Remove batteries whenever the flashgun is not to be used for more than two weeks.
- Never attempt to disassemble the flash unit. Any repairs necessary should be undertaken only by an authorized Minolta service facility.
- If the flashgun has not been used for several months, fire the flash two or three times before making flash exposures to reform the capacitor.

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