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使用说明书

使用説明書

201-428
9800

1-800-947-9954
B&H camera.

Sold as auto 455 in U.S.A and Canada and G4500 in all other countries.

Das Modell auto 455 wird in den U.S.A. und Kanada unter der bezeichnung G4500 angeboten.

Ce modèle est vendu, aux U.S.A. et au Canada sous la référence auto 455, sous la référence G4500 dans tous les autres pays.

Vendido como auto 455 in U.S.A y Canada y G4500 en los otros paises.

In de U.S.A. en Canada verkocht onder de naam auto 455 en in alle andere landen onder de naam G4500.

VENDUTO IN U.S.A. E CANADA CON LA SIGLA auto 455, IN TUTTI GLI, ALTRI PAESI CON LA SIGLA G4500.

Säljs i U.S.A och Canada som auto 455 och som G4500 i alla andra länder.

此閃光燈在美國及加拿大用 auto 455 型號銷售在全世界其他地區則採用 G4500 型號

商品名は、アメリカ、カナダでは auto 455、日本及びその他の国では G4500 となります。

INTRODUCTION

WELCOME to the world-wide family of Sunpak owners. Your Sunpak 455 is one of the most advanced electronic flash units in the world. It is the product of extensive research and development and has been designed to give you many enjoyable years of service. Because many of the fine features of your new 455 are so unique, please take a few minutes to read this owner's manual carefully with your 455 in front of you. The more you know about your new electronic flash, the better you can use it for maximum creativity in your pictures.

All pictures, illustrations and charts will be available from page 44.

Figures bracketted at the end of each instruction sentences are coupled with the numbers supplied on the pictures, illustrations and charts.

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DESCRIPTION OF PARTS (Page 44)

1. Bounce Head
2. Vertical Bounce Scale
3. Accessory Mounting Groove
4. Flashtube Housing
5. PC Synch Cord Socket
6. Silicon Photo Transistor Cell
7. Flash Grip
8. Flash Bracket Clamp
9. Tripod Mounting Socket
10. Battery Door
11. Film Speed Scale
12. Film Speed Selector Knob
13. Aperture Scale
14. Distance Scale
15. Auto OK Lamp
16. Ready/Test (Open Flash) Button
17. AC/510 V Outlet
18. Auto/Manual Selector Switch
19. Auto/Manual Mode Window
20. ON/OFF Switch (AC, H.V./Battery Selector)
21. Quick-Release Button/Lock Ring
22. Battery Holder
23. Filter Holder
24. PC Synch Cord
25. Camera Mounting Bracket
26. Camera Retaining Screw

BASIC OPERATING INSTRUCTIONS:

(Automatic Operation)

1. Insert Batteries into Holder: (1)

Insert batteries as illustrated into the removable AA Battery Holder. The holder has a guide showing the correct positioning of the batteries for proper polarity. Use either six AA alkaline or six AA nickel-cadmium batteries.

Note: In addition you may also use the Sunpak CL-2 NiCad Battery Cluster, Sunpak Powerpak for 510 V Battery or the Sunpak AC Adapter.

2. Load Holder into Battery Chamber: (2)

Insert the loaded battery holder as illustrated into the battery chamber of your Auto 455. Close battery door until it snaps.

Note: If you are using the AC Adapter or the high voltage Sunpak Powerpak for 510 V. Battery, plug connecting cord into the AC/High Voltage Socket on the back of the unit.

3. Mount on Camera (3)

Attach camera to bracket and bracket to flash clamp. Connect the PC cord to the flash and camera. Set the shutter speed dial to the fastest speed recommended for flash synchronization

***Note:** Move the Mode Selector Switch (on back) to the Auto position.

4. Set Film Speed Scale: (4)

Slide the Film Selector knob until the appropriate film speed ISO number) is indicated. For ISO of your film, refer to the instructions supplied with the film.

5. Select Working Aperture: (5)

With most films, you will have a choice of 3 apertures in automatic operation. For automatic operation, choose any f/stop as indicated in the Aperture Window and set your lens to this corresponding f/stop.

6. Turn the Unit On: (6)

Set on/off switch to 'batt.' position. Using the Ready/Test (open flash) button, fire the Auto 455 about 5 times to form the capacitor. The ready light (amber color) will glow when the Auto 455 is ready to be fired. Be sure to set the Mode Selector Switch to the desired position. In addition, when your Auto 455 is flashed, the auto OK lamp will verify correct automatic exposure by lighting momentarily.

7. Aim Adjustable Bounce Flash Head: (7)

The unique Adjustable Bounce Flash Head of your Auto 455 can be aimed in virtually any direction. In using automatic operation, the built-in sensor will properly adjust the flash for perfectly-exposed pictures. For off-camera auto bounce flash operation, the optional Remote Sensor is recommended.

Note: The auto sensor must always face the subject for proper auto exposure control.

8. Take Your Picture: (8)

Be sure your camera's shutter speed is set for X synchronization. This is usually 1/60th or 1/125th second for focal plane shutter SLR cameras. Refer to your camera's owner's manual for the correct setting. Also be certain that the flash PC cord is connected to the "X" synch terminal of the camera.

OPERATION

POWER SOURCES: (Optional) (10)

Your Sunpak Auto 455 Pro-System may be used with six different power sources. Each power source has specific advantages; select the power source for your photographic needs.

1. Six alkaline AA batteries (10A)
2. Six rechargeable nickel-cadmium AA batteries (10B)
3. Rechargeable, nickel-cadmium Battery cluster CL-2 (10C)
4. The Sunpak Multi-Voltage AC Adapter (10D)
5. The Sunpak Powerpak for 510 V Battery (10E)
6. The Sunpak 510 V rechargeable battery pak NC510 (10F)

TO INSTALL BATTERIES:

1. Open the battery door as illustrated and remove battery holder. (9)
 2. Install batteries as illustrated in the holder. Be sure to observe correct polarity or you may cause damage to your Auto 455. (11)
 3. Replace Battery Holder in your Auto 455. Extra Battery Holders may be purchased for time when rapid replacement of batteries is necessary. (12)
- Note:** The Battery Holder has been designed to fit your Auto 455 so as to assure proper use. Do not force since it will fit in only the proper position.

Alkaline or Nickel-Cadmium Batteries?

The major advantage of alkaline batteries is that they provide more flashes per set. While nickel-cadmium batteries will provide fewer flashes per set, they will recycle your Auto 455 slightly faster and can be recharged hundreds of times for more economical operation over the long run.

Using Multi-Voltage AC Adapter AD-26 or Sunpak Powerpak for 510 V Battery

1. For AC operation, be sure to check that the voltage selector on your Multi-Voltage AC adapter is set to the appropriate voltage. Your AC Adapter has been factory set for 120 V, the U.S. standard. For use in other countries where 100 V, 220 V and 240 V are standard, you may adjust the setting as illustrated. Remove the small Phillips head screw located next to voltage window and rotate the selector switch with a screw driver to the proper voltage setting. After the voltage setting has been made, the screw must be reinstalled to prevent accidental movement of the selector switch. (13)
 2. Plug into the AC/High Voltage socket on the flash and into standard wall outlet as illustrated. The AC Adapter supplies virtually unlimited flashes and is ideal for indoor use. (14)
- Note:** If the Multi-Voltage AC Adapter is incorrectly set, the adapter will not function properly and may damage your Auto 455.
3. When you use the optional accessory Sunpak Powerpak for 510 V Battery, refer to the instructions supplied with that unit. Plug into the Auto 455 in the same manner as you would with the Multi-Voltage AC Adapter. The Sunpak Powerpak for 510 V Battery allows extremely rapid recycle times and the greatest number of flashes from any portable power source. (15)

MOUNTING FLASH ON CAMERA:

Your flash unit has a quick-release mounting clamp attached to the flash grip (handle). This clamp accepts a snap-in bracket; your camera is secured to the bracket. As the bracket may be removed from the clamp with a one-touch action, set-up and disassembly of your equipment is quick and positive.

1. Turn Locking Button on clamp counterclockwise. (16)
2. Press Locking Button firmly inward, and hold in place. (17)
3. Slide silver end of bracket into center of clamp. (18)

4. Release Locking Button. The bracket is now attached to the clamp. For ultimate security, you should tighten the locking screw by turning it fully clockwise. (19)
 5. Press the Camera Retaining Screw through opening at end slot on bracket, and turn screw clockwise firmly until threaded portion of screw passes above bracket slot. Center the camera retaining screw under your camera's tripod socket, and tighten securely. (20)
 6. Connect the PC cord to the flash sync outlet (on the side of the flash) and camera's flash outlet as shown. (21)
- * If the camera has separate flash terminals marked "M" and "X", attach the Sunpak cord to the "X" terminal.
- * If the camera has a switch (usually around the lens barrel marked "M" and "X" set the switch to the "X" position.
7. Set shutter speed to the fastest speed usable for electronic flash with your camera, provided that speed does not exceed 1/450th second. On single-lens reflex cameras with focal-plane shutters, this speed is usually 1/60th or 1/125th; cameras with in-the-lens shutters usually allow synchronization at speeds up to the maximum of 1/450th. Do not set shutter to a speed faster than 1/450th second, as this may cause under-exposure when the flash is used at maximum power. (If shutter has a switch marked "M" and "X", place at "X" position.) (22)
- * **Note:** Should you desire to mount the flash on the right side of your camera, or raise or lower the flash handle within the clamp, this may be done by loosening the two Phillips-head screws inside the encircling ring of the clamp. (23) Then reposition the encircling ring as desired. Be sure to tighten the screws again fully for maximum stability and correct lighting angle.

AUTOMATIC OPERATION

The sensitive Silicon Photo Transistor of your 455 Sensor measures the light reflected by your subject and automatically controls the flash duration to assure correct exposure within a wide range of distances. It's easy to use:

- A. Slide the ISO Film Speed Scale till the ISO of film in use is visible in the ISO speed window. (Example: ISO 100). (24)
 - B. For the maximum distance range in automatic operation, move the Auto/Manual Selector Switch to the green "A" position so that the green "A" is visible in the Auto/Manual Mode Window. A Green line and f/2 will appear. Then set your camera lens opening (for ISO 100 film, the lens opening is f/2). (25)
- Your flash and lens are now set for correct exposure at any distance between 2 m and 22 m/7' and 72'.
- C. For an intermediate distance range in automatic operation, move the Selector Switch to the yellow "A" position so that the yellow line and f/4 appear. Then set the same aperture on your camera (for ISO 100 film, the lens opening is f/4). Your flash and lens are now set for correct exposure at any distance between 1 m and 11 m/3.3' and 36'. (26)
 - D. For maximum depth-of-field (greatest sharpness in front of, and in back of the subject), move the Selector Switch to the red "A" position so that the red "A", red line and f/8 appear. Then set your camera lens opening (for ISO 100 film the lens opening is f/8). Your flash and lens are now adjusted for correct exposure at any distance between 0.7 m and 5.5 m (2.3 feet and 18 feet). (27)

TAKE THE PICTURE

It's easy — just follow these steps:

1. Move the On-Off Switch on flash to appropriate position for power source in use. (28)
2. Set mode selector switch to "A" (Auto) position your flash is ready for automatic operation. (29)
3. Within seconds the Ready Lamp will glow.
Now, focus and . . .
Take the Picture! Your flash will automatically deliver the correct amount of light for correct exposure within the distance range indicated. (30)

For Succeeding Exposures . . .

Just wait until the Ready Lamp starts to glow, make sure you're within the usable distance range for the lens opening in use . . . and shoot!

TO VERIFY CORRECT AUTO EXPOSURE

Aim the flash towards the subject and press the 'Test' (ready/test) button. The flash will fire and, immediately, the auto OK Lamp will glow and then fade out; when this occurs, the automatic exposure will be correct. If the auto OK Lamp does not glow, choose a wider lens opening, or move closer to your subject and repeat the verification test. It's a simple, highly accurate way of confirming that your picture will be perfectly exposed before you take the picture. (31)

Caution:

When you finish shooting with your 455, move the ON/OFF switch to "OFF" position to preserve battery power.

MANUAL OPERATION

1. Set the Auto/Manual Selector Switch (on the back of the flash body) to the top so that the white "M" appears. (32)
2. Set the Film Speed Scale to the desired ISO setting. (Example: ISO 100). (33)
3. The scales for distance and f/stop now show the combination of exposure. Find the flash-to-subject (not camera-to-subject) distance. (Example: 5.5 m/18'). (34)
4. Set your lens to the lens opening shown for this distance. (35)
(Example: with ISO 100 film, the correct lens opening at 5.5 m/18' is f/8).

OPERATING ADJUSTABLE BOUNCE FLASH HEAD

Your Auto 455 has a unique flash head assembly which allows you to aim the light in virtually any direction.

This allows you to use the Auto 455 to render more pleasing and more creative lighting results. For added convenience and repeatability, the Adjustable Bounce Flash Head has reference marks so you can determine the exact angle of bounce you desire.

1. To rotate the Adjustable Bounce Flash Head, with thumb and forefinger gently turn to desired setting. (36)
DO NOT FORCE HEAD
2. To adjust the Flash Base, simply twist as illustrated with thumb and forefinger. (37)

ACCESSORIES AVAILABLE FOR THE SUNPAK AUTO 455 (38)

1. Powerpak for 510 V Battery

Allows professional 510 V batteries to be used for most rapid recycle times and situations where extended number of flashes is a must. Has built in voltage regulation and detachable cord.

2. 510 V Ni-cd Battery NC510

This battery provides the fastest recycle times of any available power source. The NC510 can be recharged for hundreds of cycles and provides approximately 60 to 400 flashes per charge.

3. Nicad Cluster CL-2

Provides 45 to 450 flashes per charge. CL-2 can be charged in approximately 3 hours using the Sunpak QBC-5 Charger.

4. AC Adapter AD-26

This AC Adapter permits you to operate your flash on 100 V, 120 V, 220 V and 240 V AC. The benefits to you are unlimited number of flashes and maximum economy.

5. Charger QBC-5 for Ni-cd Battery NC510 and CL-2

It will fully recharge NC510 battery in approximately 10 hours and CL-2 in 3 hours.

6. Filter Kit FK-2

Use with Sunpak Filter Holder and consists of Red, Blue, Green and Yellow color filters as well as a neutral density filter, 85B color correction filter for use with tungsten film and two wide-angle diffusers. Supplied with case.

7. Tele Kit: TL-3

Ideal for use with telephoto and zoom lenses of the most popular focal lengths, the Sunpak Tele Kit actually increases light intensity while decreasing the angle of illumination. This dual position fresnel lens outfit may be used for focal length lenses from 85 to 135 mm with 35 mm format cameras. For specific recommended setups with various 35 mm format lenses, see chart.

Lens (mm)	Tele Kit Position	Guide No. (ISO 100 m/f)
35	—	45/150
85	T1	55/180
135	T2	64/210

8. 6 x 6 Bracket

This is an oversize metal platform for use with 6 x 6 SLR and TLR cameras. With adjustable retaining screw.

9. Slave Unit

Allows your Auto 455 or any flash unit with a PC cord, to be used to trigger an auxiliary flash by plugging its PC cord into a built-in PC socket on the Slave.

10. Bounce Lighting Kit

Can be used with Filter Holder. Designed to give very pleasant, soft, indirect lighting effects to the subject.

CARE OF YOUR 455

Your Sunpak electronic flash has been engineered to require almost no "maintenance." Still to insure best performance year-in and year-out follow these basic pointers:

1. Storage:

When not in use, your Auto 455 should be stored in a cool dry place. Do not expose the unit to extreme heat or leave it in direct sunlight for extended periods of time. For example, do not leave the unit in the glove compartment, trunk or seat of a car.

Also, be sure to remove the batteries before storage to prevent damage due to battery leakage.

2. Inspect Batteries Frequently:

Check for reasonable recycling time (the length of time it takes the ready light to come on between flashes): if it's more than 20 or 30 seconds, a fresh set of alkaline batteries should be obtained (or if nickel cadmium batteries are used, they must be recharged).

It's also wise to check your batteries for appearance: Sometimes even the best of batteries discharge or leak some chemical material through the jacket . . . and leave a whitish-powder on the battery which passes onto your Sunpak flash unit's electrical contacts. (If this has happened, replace the batteries after cleaning the Sunpak's internal battery contacts with a eraser.)

Finally, it's a good idea to remove the batteries once in a while and wipe them with a handkerchief. The cleaner the battery surface, the easier it is for the energy to pass through your flashgun's electrical system.

3. Remove Batteries:

If for some reason you do not intend to use your flash unit for a period of several weeks or more, remove the batteries and store them separately. Inside a plastic bag is one good way.

4. Make Connections Securely:

Make sure the flash is securely attached to the bracket (and that the bracket is securely attached to your camera!)

5. Maintenance:

In case not using your Auto 455 for a long period, it is recommended to fire your flash at least once or twice per month to prevent the deterioration of the electrical components.

If your Auto 455's reflector window becomes dirty, use one drop of lens cleaner on a lens cleaning tissue. A small amount of lens cleaner and lens tissue or a slightly moist cloth can be used to clean the rest of the unit. **BE SURE TO THOROUGHLY DRY THE UNIT IMMEDIATELY AFTER CLEANING.**

6. Service:

In the unlikely event that your Sunpak electronic flash requires service, return it to your dealer or the sole. Distributor at the address in each countries shown on the "NET WORK" card. Do not, under any conditions, attempt to disassemble and/or adjust it yourself. Electronic flash operates on high voltage and should not be taken apart. However, keep in mind that flash failure is more likely to result from weak batteries than any other single cause. If it doesn't fire, check batteries and contacts carefully.

SPECIFICATION

Guide Number:	300/90 (ISO 400 f/m), 150/45 (ISO 100 f/m), 72/22 (ISO 25 f/m)
BCPS:	3,980
Angle of Illumination:	60° Horizontal by 45° Vertical Permits use of 35 mm lenses on 35 mm camera
Automatic Aperture Setting:	F2, 4, 8, (ISO 100)
Automatic Distance Range:	F2 6.5' ~ 72'/2 ~ 22 m F4 3.3' ~ 36'/1 ~ 11 m F8 2.3' ~ 18'/0.7 ~ 5.5 m
Sensor Acceptance Angle:	15°
Bounce Flash:	Adjustable Bounce Flash Head at 90 degree elevation, 330 degree rotation.
Interchangeable Power Sources:	6 x AA Alkaline Batteries 6 x AA Nicad Batteries Nicad Cluster CL-2 Powerpak for 510 V Battery NC510 Rechargeable Battery AC: Multi-Voltage AC Adapter (AD-26)

NUMBER OF FLASHES & RECYCLING TIME

With AA Alkaline Batteries

Number of Flash:	100 ~ 800
Recycling Time:	0.3 sec. ~ 9 sec.

With AA Nicad Batteries

Number of Flash:	45 ~ 450
Recycling Time:	0.3 sec. ~ 4 sec.

With Nicad Cluster CL-2

Number of Flash:	45 ~ 450
Recycling Time:	0.3 sec. ~ 4 sec.

With Powerpak for 510 V Battery

Number of Flash:	300 ~ 2,800
Recycling Time:	0.25 sec. ~ 2 sec.

With NC510 Rechargeable Battery

Number of Flash:	60 ~ 400
Recycling Time:	0.25 sec. ~ 3 sec.

With Multi-Voltage AC Adapter AD-26

Recycling Time:	at 100 V	0.3 sec. ~ 14 sec.
	at 120 V	0.3 sec. ~ 13 sec.
	at 220 V	0.3 sec. ~ 11 sec.
	at 240 V	0.3 sec. ~ 11 sec.

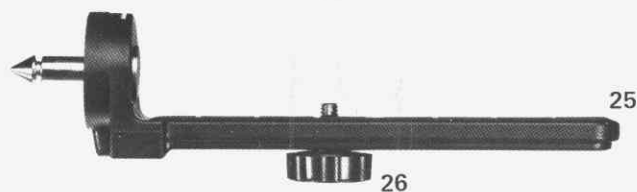
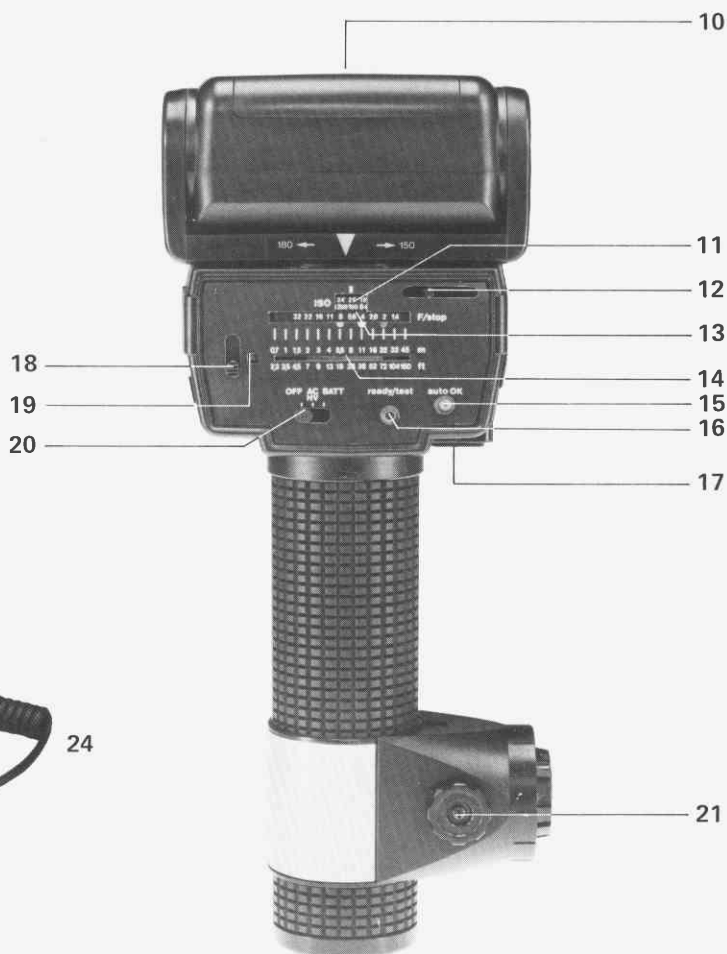
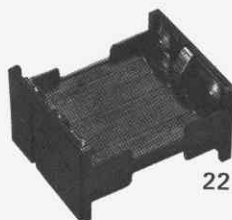
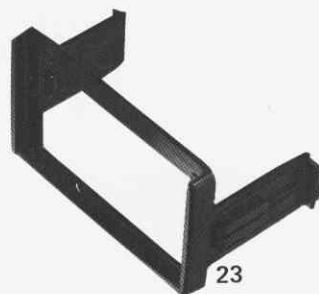
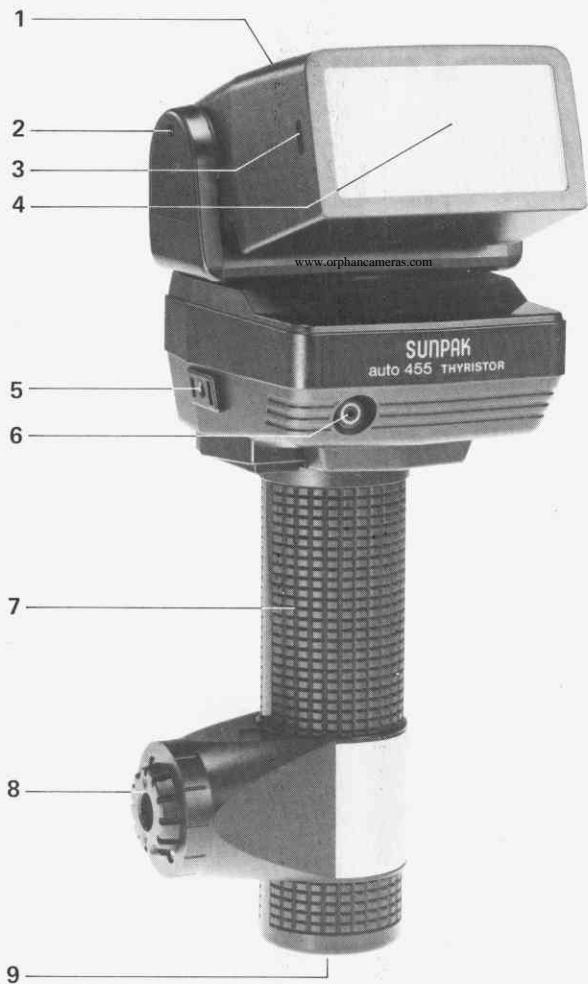
Flash Duration:	1/450 ~ 1/35,000 sec. (Auto)
	1/450 sec. (Manual)

Color Temperature: Most suitable for daylight color films

Dimensions (S x W x D): 10" x 4" x 3.9"/255 mm x 102 mm x 100 mm

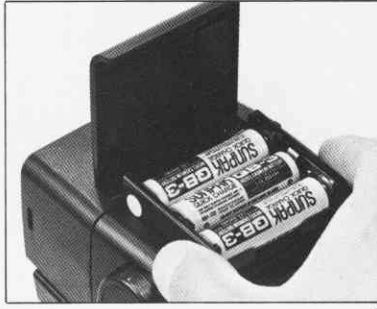
Weight: 580 g (less batteries)

All specifications subject to change without notice.





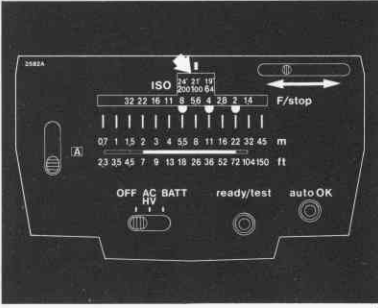
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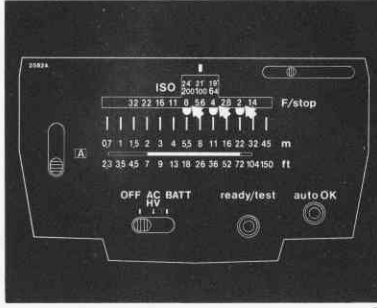
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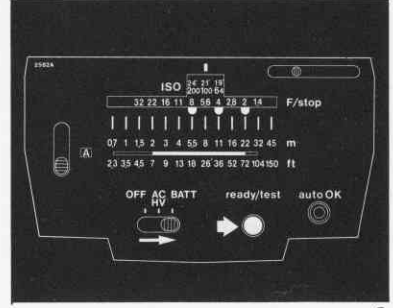
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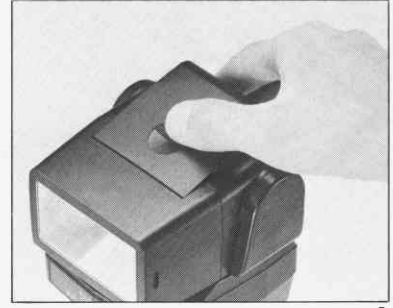
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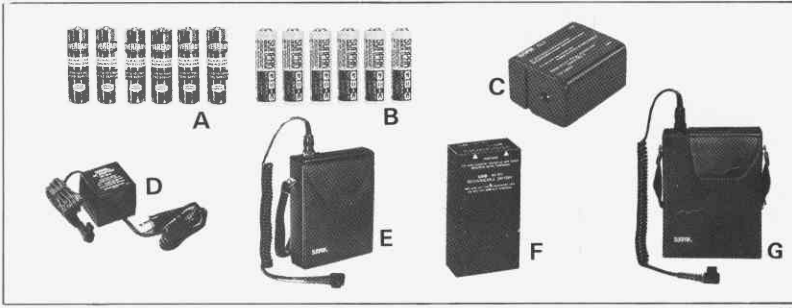
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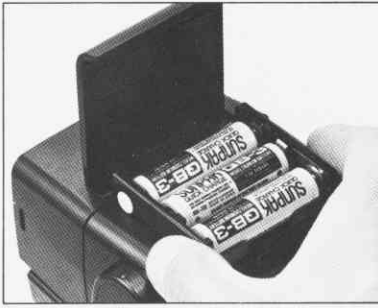
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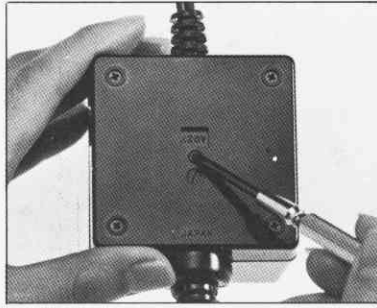
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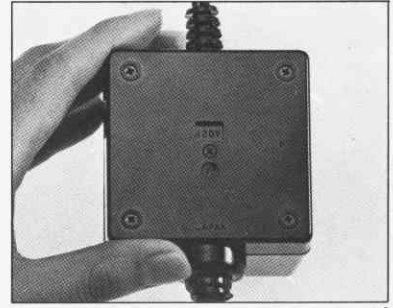
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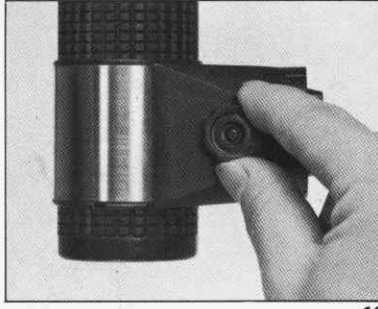
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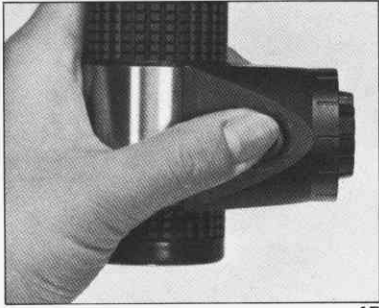
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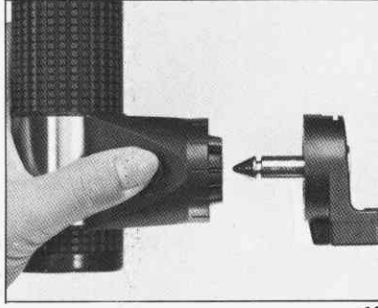
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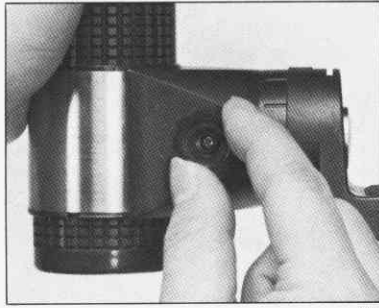
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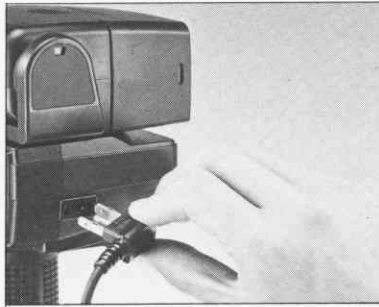
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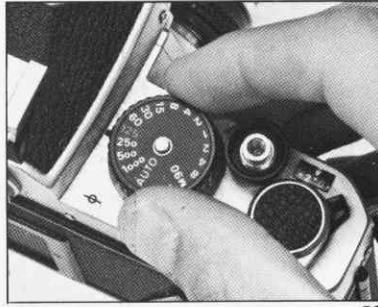
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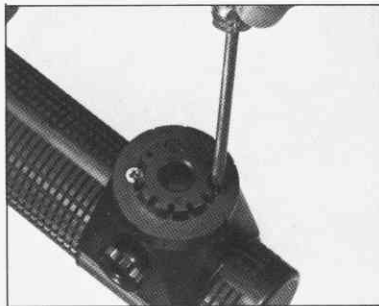
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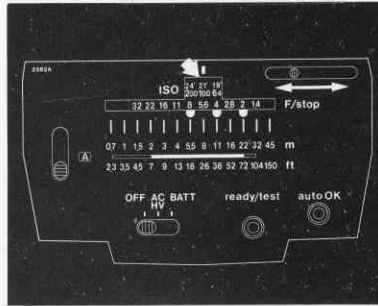
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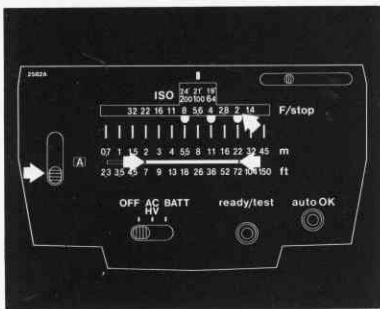
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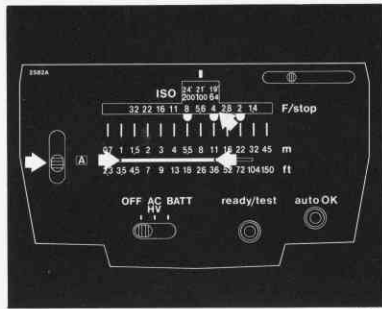
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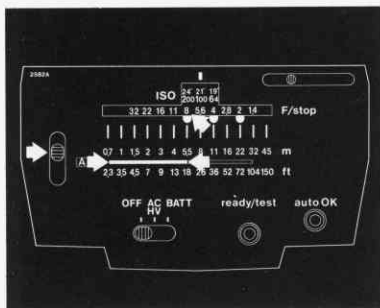
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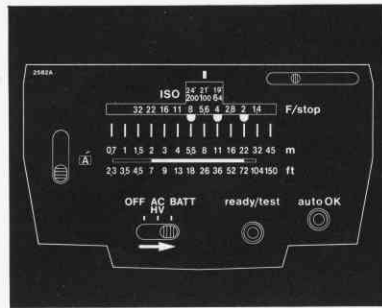
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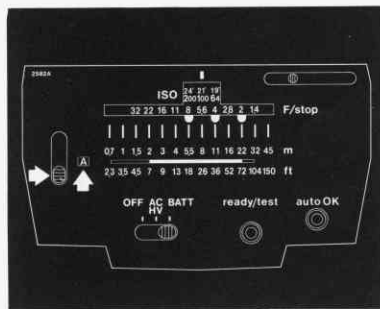
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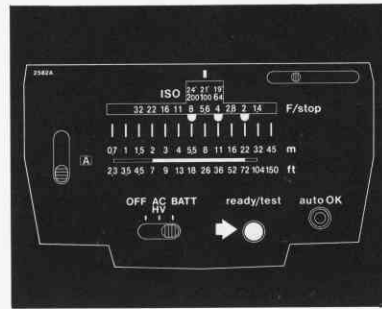
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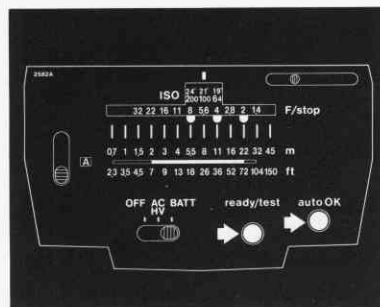
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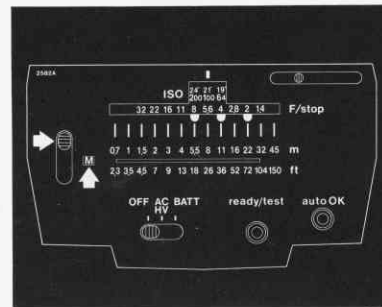
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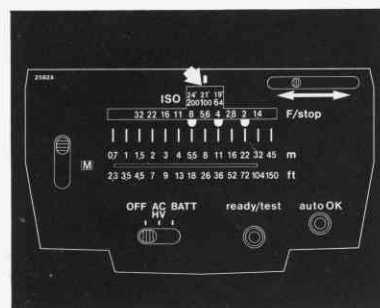
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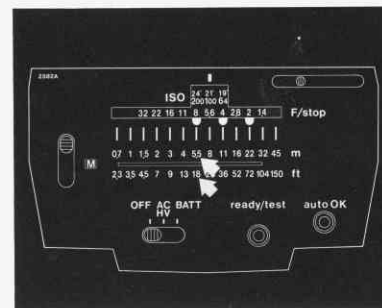
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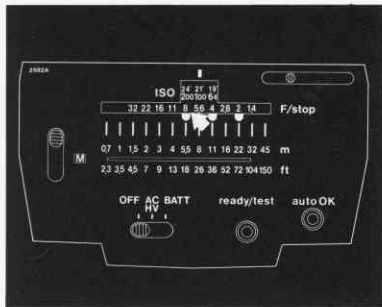
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