

WILSONWERKS ARCHIVES

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SUNPAK®

auto zoom 1000

DEDICATED

b SUNPAK DIVISION
BERKEY MARKETING COMPANIES
WOODSIDE, N.Y. 11377
MADE AND PRINTED IN JAPAN

IMPORTANT SAFEGUARDS

WHEN USING YOUR PHOTOGRAPHIC EQUIPMENT, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED, INCLUDING THE FOLLOWING.

1. READ AND UNDERSTAND ALL INSTRUCTIONS.
2. CLOSE SUPERVISION IS NECESSARY WHEN ANY APPLIANCE IS USED BY OR NEAR CHILDREN. DO NOT LEAVE THIS APPLIANCE UNATTENDED WHILE IN USE.
3. DO NOT OPERATE APPLIANCE IF IT HAS BEEN DROPPED OR DAMAGED—UNTIL IT HAS BEEN EXAMINED BY A QUALIFIED SERVICEMAN.

4. TO PROTECT AGAINST ELECTRICAL SHOCK HAZARDS, DO NOT IMMERSE THIS APPLIANCE IN WATER OR OTHER LIQUIDS.
5. TO AVOID ELECTRIC SHOCK HAZARD, DO NOT DISASSEMBLE THIS APPLIANCE, BUT TAKE IT TO A QUALIFIED SERVICEMAN WHEN SOME SERVICE OR REPAIR WORK IS REQUIRED. INCORRECT REASSEMBLY CAN CAUSE ELECTRIC SHOCK HAZARD WHEN THE APPLIANCE IS USED SUBSEQUENTLY.

SAVE THESE INSTRUCTIONS

Introduction

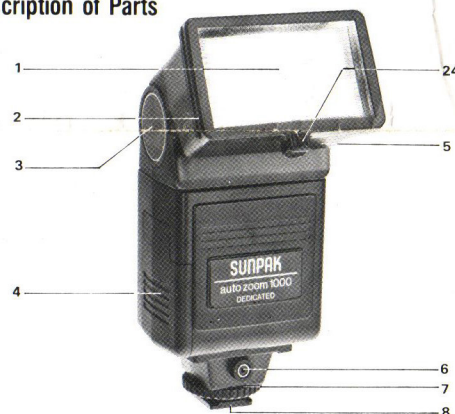
Welcome to the world-wide family of SUNPAK owners! More than nine million SUNPAK electronic flash systems have been chosen by photographers throughout the world for their rugged construction, innovative design, and fast, easy operation. To insure that you get the most out of your electronic flash, please take the few minutes required to check through this owner's manual with your SUNPAK flash in front of you.

The Autozoom1000 flash unit is designed with dedicated circuitry which allows electronic information to be exchanged between your camera and the flash unit. This results in easier, less complicated use, and the most accurate exposure control.

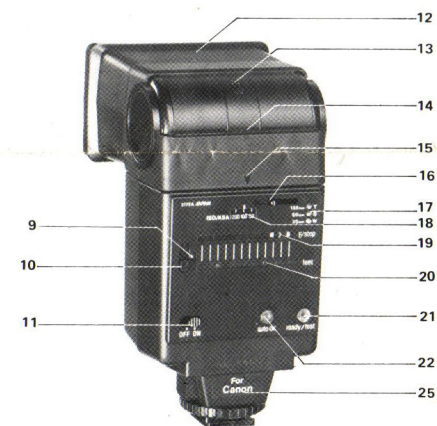
Depending on the particular camera you own, the flash can set the camera's shutter speed to the "X" Synch, illuminate the ready light in the viewfinder, and even set the lens aperture automatically.

For more specific information of your new Sunpak flash, please read the section in the instruction manual entitled "Dedicated Operation".

Description of Parts



Sunpak Bounce Lighting Kit
Designed to give very pleasant, indirect lighting effects to the subject.

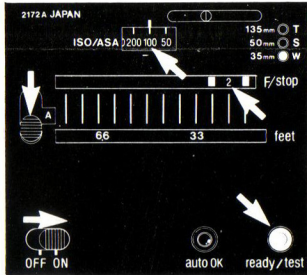


1. Flashtube, Reflector and Lens
2. Diffuser Mounting Socket
3. Bounce Flash Control Base
4. Battery Compartment Cover
5. Bounce Flash Head
6. Auto Sensor
7. Knurled Lock Ring
8. Dedicated Hot Shoe Contact
9. Auto/Manual Selector Window
10. Auto/Manual Selector Switch
11. Battery (On/Off) Switch
12. Zoom Flash Head
13. Bounce Position Indicator
14. Vertical Bounce Control Scale
15. Horizontal Bounce Angle Indicator
16. Film Speed Selector knob
17. Zoom position indicator lamp
18. Film Speed Indicator Window (ASA)
19. F Stop Dial
20. Distance Scale
21. Ready Light/Test (Open Flash) Button
22. Auto OK Indicator
23. 28mm Wide Angle Diffuser
24. Bounce Lighting Kit Mounting Socket
25. Dedicated Type indication

Condensed Operating Instructions for Automatic Operation

1. Set the ASA.
2. Set the Auto/Manual Selector Switch so that the green or yellow "A" appears.
3. Move the On/Off Switch to the "On" position.
4. Wait for the Ready/Test amber light to glow.
5. Set the aperture on your camera to the corresponding aperture which appears on the computer f/stop window. You are ready to take your pictures.

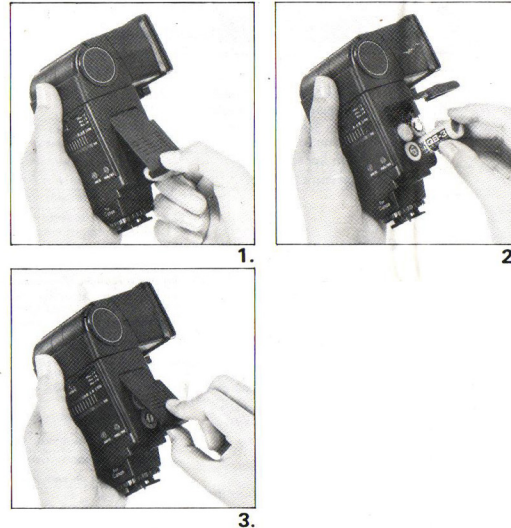
For more creative use, read following pages.



OPERATION

To Install Batteries Alkaline or Nickel-Cadmium Batteries?

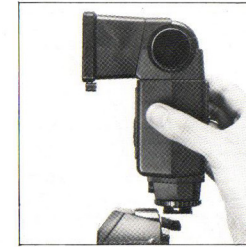
The major advantage of alkaline batteries is that they provide more flashes per set. While nickel-cadmium batteries will provide fewer flashes per set, they will recycle your flash faster and can be recharged hundreds of times for more economical operation over the long run.



1. Slide the battery compartment cover toward the bottom of the unit. Now gently lift up the cover.
2. Insert four AA size batteries (alkaline or nickel-cadmium) as shown. The battery compartment has a guide showing the correct positioning of the batteries for proper polarity. (+, - contacts).
3. Press the cover until it snaps into place.

Note: Do not mix alkaline with Nicad or new batteries with used batteries.

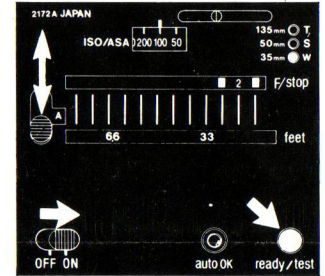
Mounting The Unit On The Camera



- 1) Mount your Sunpak flash to the hot shoe of your camera.
- 2) Turn the knurled locking clockwise to insure secure mounting to your camera's shoe.

Caution: For mounting or detaching the flash unit on or from the camera, always make sure the On/Off switch is at "OFF" position, or the camera may be damaged.

Turn The Unit On



Slide the ON/OFF switch to "ON". The amber ready light will glow as soon as the unit is charged and ready for picture-taking. This takes approximately 10 seconds.

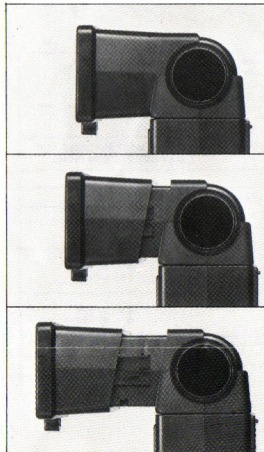
Note: If you are using this flash unit with a camera which does not have dedicated features, set shutter speed at "X" or proper flash synch speed recommended by camera instruction book.

Zoom Flash Head



The Autozoom 1000 flash units are equipped with a built-in zoom flash head. This Zoom flash head adjusts the angle of illumination to match the focal length of the lens in use. For automatic operating distances, refer to the following charts:

Effective Auto Distance Ranges			
Auto F Stops (ASA 100)	35mm	50mm	135mm
F2	6.6'-33'	7.5'-40'	9'-47'
F4	3.3'-16'	4'-20'	4.5'-23'



- 1) Set the Zoom Head to one of the three focal settings matching the focal length of the lens in use.
- 2) If the focal length of the lens in use is other than 35mm, 50mm, or 135mm refer to the following table 1:

Table 1:	Lens (mm)	35	40	50	55	70	85	100	105	120	135	200	300
Zoom Distance to be set		35		50							135		

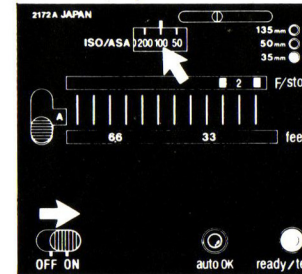
(For example: If your lens is 40mm, set Zoom head at 35).

For Manual Operation

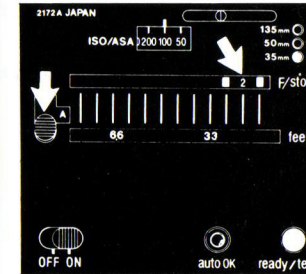
The guide number calculator dial on the back of the flash unit is calculated for 35mm coverage. For 50mm coverage, using the Zoom flash head, adjust the aperture. 1/2 f/stop to larger number to compensate for the increased flash output. For 135mm coverage using the Zoom flash head adjust the aperture one full stop.

Note: For an angle of illumination wider than 35mm, use a 28mm wide angle diffuser included in package. Set the Zoom flash head at the 35mm position when using the Wide Angle Diffuser. Open lens aperture one f/stop for manual operation than indicated.

Automatic Operation



- Slide the ASA Film Speed Scale until the ASA of the film in use is visible in the ASA speed window. (Example: ASA 100).

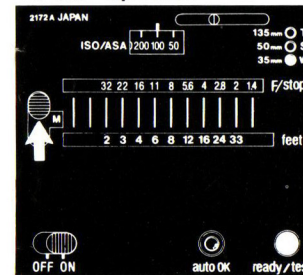


- For the maximum distance range in automatic operation, move the Auto/Manual Selector Switch to the green "A" position so that the green "A" is visible in the Auto/Manual Mode Window. Minimum and maximum operating distances and F/number will appear. Then set your camera lens opening (for ASA 100 film, the lens opening is f/2).

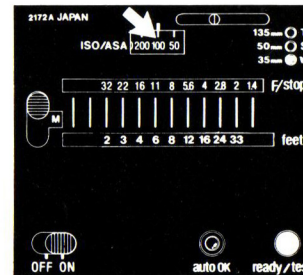
Note: If the ASA number for your film is not indicated on the ASA film speed scale, set ASA number as shown:

Flash ASA Setting to be used	1000	400	200	100	50	25
Film ASA	640	320	160	80	40	32
	800	500	250	125	64	

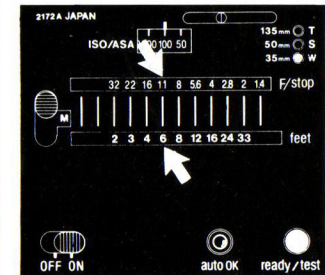
Manual Operation



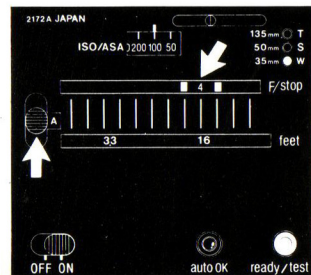
1. Set the Auto/Manual Selector Switch (on the back of the flash body) to the top so that the white "M" appears.



2. Set the Film Speed Scale to the desired ASA setting. (Example: ASA 100).



3. The scales for distance and f/stop now show the correct combination of exposure. Find the flash-to-subject (not camera-to-subject) distance. (Example: 6')
4. Set your lens to the lens opening shown for this distance. (Example: with ASA 100 film, the correct lens opening at 6' is f/11).



- For Standard distance range in automatic operation, move the Selector Switch to the yellow "A" position so that the yellow "A" and F/number appear. Then set the same aperture on your camera (for ASA 100 film, the lens opening is f/4).

To Verify Correct Auto Exposure:

To verify the correct automatic exposure, just aim your flash directly towards your subject and press the Ready/Test Button. This will cause the flash to fire without actually exposing any film. If the automatic exposure is correct for your subject, the green "Auto OK" lamp will blink immediately after the "test" exposure. If the lamp does not blink, move closer to your subject (or, if you are shooting in yellow auto mode, switch to green auto mode and adjust the aperture accordingly.). The "Auto OK" provides positive verification in automatic operation that your picture will be correctly exposed.

Bounce Flash Head

Your flash has a unique flash head assembly which enables you to aim the light in virtually any direction and render more pleasing and creative results. For added convenience the Adjustable Bounce Flash Head has reference marks so you can determine the exact angle of bounce you desire.



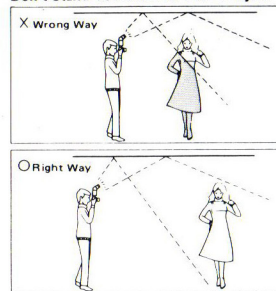
1. To rotate the Adjustable Bounce Flash Head, grip with thumb and forefinger and gently turn to the desired setting. DO NOT FORCE THE HEAD.



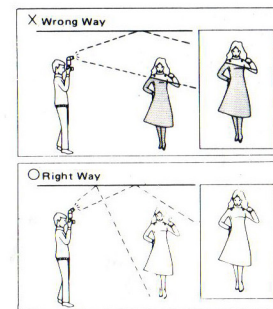
2. To adjust the Flash Base, simply twist as illustrated with thumb and forefinger.

For Better Bounce Flash Pictures

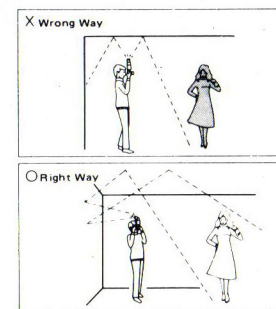
Don't Stand Too Close to Your Subject



Reason: The light will be reflected downward at an angle so acute that no light (or very little light) can reach your subject's face. This will cause unpleasant looking dark (shadow) areas under the subject's eyes and nose.



Choose a proper vertical bounce angle to prevent the subject or the background immediately behind the subject from receiving any portion of direct light from the flash.



In small rooms, try bouncing the light off the wall onto the ceiling provided it is a white wall and ceiling, this technique provides more even lighting than off-ceiling bounce where space is limited.

Dedicated Operation FOR MINOLTA Fully dedicated to Minolta camera models of XD series and XG series.

		XD SERIES	X-570, X-600, X-700, XG SERIES	R4 MOT
AUTOMATIC OPERATION	Mode & Shutter Speed Dial Setting (on the camera)	Set the AE mode Selector (M.A.S.) and Shutter Speed Dial to any position other than 'B'.	Set the Shutter Speed Dial to any position other than 'B'.	
	Mode Selector Switch Setting (on the flash)	Set the Mode Selector Switch on the flash to one of the desired 'A' positions.		
	Film Speed Setting	Set the ASA for the film in use on both camera and flash.		
	Aperture Setting	Set the same aperture as the flash unit's F-stop.		
	Ready Indication in the Viewfinder	Turn the flash on and the 'ready' light will glow after a few seconds. When the 'ready' light glows the shutter speed is then adjusted to 'X' speed automatically and: The red (LED) will start to blink after the shutter release is pressed in half-way.	Turn the flash on and 'ready' light will glow after a few seconds. When the 'ready' light is on; the triangle LED in upper right side of the viewfinder will start to blink when the shutter release is pressed in half-way.	
MOPEAUATION	Mode & Shutter Speed Dial Setting (on the camera)	Follow the 'automatic operation' instructions.		
Mode Selector Switch Setting (on the flash)	Set the Mode Selector Switch on the flash to the 'M' position.			
Film Speed Setting	Follow the 'automatic operation' instructions.			
Aperture Setting	Adjust to the appropriate aperture. (Refer to the flash unit instruction manual.)			
Ready Indication in the Viewfinder	Follow the 'automatic operation' instructions.			

FOR PENTAX Fully dedicated to Pentax camera of MV, MV-1, MG, ME super, and ME-F

		MV and MV1	MG	ME super	ME-F	super PROGRAM	LX
AUTOMATIC OPERATION	Shutter Speed Dial Setting (on the camera)	Set the Shutter Speed Dial on the camera body to the "AUTO" position.					Set the Shutter Speed Dial on the camera body to the "AUTOMATIC" position.
	Mode Selector Switch Setting (on the flash)	Set the Mode Selector Switch on the flash body to one of the desired "A" positions.					
	Film Speed Setting	Set ASA/ISO for the film in use on both camera and flash.					
	Aperture Setting	Set the same aperture as the flash unit's F-stop.					
	Ready Indication in the Viewfinder	Turn the flash "ON" and the ready light will glow after a few seconds. When the "ready" light glows, the shutter speed is then adjusted to "X" speed automatically. X = 1/100 sec. X = 1/125 sec. X = 1/50 sec.					
MOPEAUATION	Auto Verification	Green LED will appear in the viewfinder.	Green LED will appear at the shutter speed 60 and red LED will blink at "f" mark in the viewfinder and the shutter speed is automatically set to 1/100 sec.	Green LED will appear in the viewfinder.	Green LED will appear at the shutter speed 125 and "M" green LED will blink in the viewfinder.	LCD will appear at the shutter speed 125 f and F-stop will appear in the viewfinder.	Red LED at "X" mark will glow in the viewfinder. Note: When the shutter speed indication is above 1/60 sec. in the viewfinder, the flash will not fire. Adjust the lens aperture to set the shutter speed to below 1/60 sec. (i.e. 1/30) (For more details, refer to camera's instruction.)
MOPEAUATION	Shutter Speed Dial Setting (on the camera)	Follow the 'Automatic operation' instructions.					
MOPEAUATION	Mode Selector Switch Setting (on the flash)	Set the Mode Selector Switch on the flash to the 'M' position.					
MOPEAUATION	Film Speed Setting	Set the ASA/ISO for the film in use on both camera and flash.					
MOPEAUATION	Aperture Setting	Set the appropriate aperture as indicated on flash (for details, refer to flash instructions.)					
MOPEAUATION	Ready Indication	Follow the 'Automatic Operation' instructions.					

FOR CANON Fully dedicated to Canon camera models of: A-1, AE-1, AE-1P, AL-1, AT-1, AV-1, T-50, and F-1

		AE-1 PROGRAM	AE-1	New F-1 "With Motor Drive or Power-Winder"	(Without Motor Drive or Power-Winder: Refer to the flash unit instructions)	A-1	T-50	AL-1/AV-1	AT-1
AUTOMATIC OPERATION	View finder			Eye Level Finder FN	AE Finder FN				
	Mode & Shutter Speed Dial Setting (on the camera)	Set the Shutter Speed Dial to any speed other than 'B'.					Set the AT dial to any position other than 'B'.	Set the Mode Selector Dial to PROGRAM position.	Set the Mode Selector Dial to any position other than 'B'.
	Mode Selector Switch Setting (on the flash)	Set the Mode Selector Switch on the flash to one of the desired "A" position.							
	Film Speed Setting	Set ASA/ISO speed in use on both the camera and flash.							
	Aperture Setting	Set the aperture ring to the 'A' position.							Set the same aperture as the flash unit's F-stop.
AUTOMATIC OPERATION	Ready Indication in the Viewfinder	Turn the flash on and the ready light will glow after a few seconds. When the ready light glows, 'f' & '1/number' appear in the viewfinder and the shutter speed is set to the 'X' speed and the aperture is set at the f/number indicated on the flash body. X = 1/60 sec.	The exposure needle points to the f/number indicated on the flash body. The shutter speed is set to the 'X' speed and the aperture is set at the f/number indicated on the flash body.			"f" appears in the viewfinder and the shutter speed is set to the "X" speed and the aperture is set at the f/number indicated on the flash body. X = 1/90 sec.	"f" appear in the viewfinder and the shutter speed is set to the "X" speed.	The shutter speed indicator in the viewfinder will indicate 60 and the shutter speed is set to the "X" speed.	
	Auto Verification in the Viewfinder	Correct flash exposure is verified by "f" mark in the viewfinder blinking instantly after the flash.	Refer to the flash unit instruction manual.					X = 1/60 sec.	
	Note:	When using the A-1, the aperture indication in the viewfinder may differ from F stop indicated on the flash body. But this does not affect the exposure.							
MOPEAUATION	Mode & Shutter Speed Dial Setting (on the camera)	Set the Shutter Speed Dial to any speed other than 'B'. Or set the Shutter Speed Dial to 'A' position.				Set the AT dial to any position other than 'B'.	Set the Mode Selector Dial to PROGRAM position.	Set the Mode Selector Dial to any position other than 'B'.	
	Mode Selector Switch Setting (on the flash)	Set the Mode Selector Switch on the flash to the 'M' position.							
	Film Speed Setting	Set the ASA/ISO for the film in use on both camera and flash.							
	Aperture Setting	Disengage the aperture ring from the 'A' position. Set the appropriate aperture as indicated on the flash (for details, refer to flash instruction).							
	Ready Indication in the Viewfinder	Turn the flash on and the ready light will glow after a few seconds. When the ready light glows, 'f' & 'M' appear in the viewfinder, and the shutter speed is set to the 'X' speed automatically.	The 'M' in the viewfinder will blink and the shutter speed is set at the 'X' speed automatically.	The shutter speed is set to the 'X' speed and the aperture is set at the f/number indicated on the flash body.	AE Finder FN: In case of setting the Shutter Speed Dial to 'A' position, the shutter speed needle points to is set between 1/25 and 60; and the shutter speed automatically, to the 'X' speed (1/90 sec.)	'f' & 'M' appear in the viewfinder, and the shutter speed is set to the "X" speed automatically.	"f" appear in the viewfinder and the shutter speed is set to the "X" speed.	The shutter speed indicates 60. At this moment the shutter speed is set to the "X" speed automatically.	

FOR NIKON Fully dedicated to Nikon camera models of FE and EM

	FG	FE-2	FE	EM	F-3	FM-2
AUTOMATIC	Mode & Shutter Speed Dial Setting (on the camera)	Set Shutter Speed Dial to "A" position.	Set Shutter Speed Dial to "AUTO" position.	Set Shooting Mode Selector to "AUTO" position.	Set Shutter Speed Dial to "A" position.	Set Shutter Speed Dial to "X200" position.
	Mode Selector Switch Setting (on the flash)	Set the Mode Selector Switch on the flash to one of the desired 'A' positions.				
	Film Speed Setting	Set the ASA for the film in use on both camera and flash.				
	Aperture Setting	Set the same aperture as the flash unit's F stop.				
MANUAL	Ready Indication in the Viewfinder	Turn the flash on and the 'ready' light (LED) will glow after a few seconds. When the 'ready' light glows the shutter speed is then adjusted to 'X' speed automatically.				Turn the flash on and the 'ready' light (LED) will glow after a few seconds.
	Test Flash/Auto Verification	Refer to the flash unit instruction manual.				
	Mode & Shutter Speed Dial Setting (on the camera)	Set camera shutter speed to 1/60 sec.	Set Shutter Speed Dial to 1/250 sec.	Set Shutter Speed Dial to "M90" or slower speed than 1/125 sec.	Set Shooting Mode Selector to "M90" position.	Set Shutter Speed Dial to 1/60 sec.
MANUAL	Mode Selector Switch Setting (on the flash)	Set the Mode Selector Switch on the flash to the 'M' position.				
	Film Speed Setting	Follow the 'automatic operation' instructions.				
	Aperture Setting	Adjust to the appropriate aperture (Refer to the flash unit instruction manual.)				
	Ready Indication in the Viewfinder	Follow the 'automatic operation' instructions.				
Note: When using Nikon F-3 camera, make sure that the Gun Coupler (AS-4) is attached to your camera.						

Care of Your autozoom Flash Unit

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

- 1. Storage:** Store your flash unit in a cold dry place. Do not leave your flash near a heater, in a car or car trunk on a hot day, or any other location that can get excessively hot.
- 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 an 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. Service: In the unlikely event that your Sunpak electronic flash requires service, return it to SUNPAK DIV., Berkey Marketing Companies 25-20, Brooklyn-Queens Expressway, West Woodside, New York 11377. Do not, under any condition, 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 from any other single cause.** If it doesn't fire, check batteries and contacts carefully.

Limited Three-Year Warranty

Should this Sunpak product require service, we will repair or replace, at our option, any part or product which our examination shows to be defective in material or workmanship. Repairs will be made at no charge under the terms of this warranty for a period of three years from date of original purchase.

Be sure to follow all assembly and/or operating instructions according to the owner's manual supplied with the product.

THIS WARRANTY IS NOT VALID IF THE PRODUCT HAS BEEN MISUSED OR DAMAGED IN ANY WAY THAT IS BEYOND OUR CONTROL. THIS WARRANTY APPLIES ONLY TO THIS Sunpak PRODUCT AND WE ARE NOT RESPONSIBLE IN ANY WAY FOR LOSSES, DAMAGE OR INCONVENIENCE CAUSED BY EQUIPMENT FAILURE.

Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation or exclusion may not apply to you. This warranty gives you specific legal rights and you may have other rights which may vary from state to state.

Should service be required during or after the original warranty period, the product should be carefully packed (in the original packing material if possible) and sent, PREPAID AND INSURED, to the NEAREST consumer service center listed below. A note, describing in detail the nature of the defect, should be enclosed to expedite handling. Proof of original user purchase MUST be provided for all warranty repairs.

—A—

Blue Ribbon Service
Consumer Service Center
Berkey Marketing Companies

25-20 Brooklyn-Queens Express-way West Woodside, N. Y. 11377

—B—

Blue Ribbon Service
Consumer Service Center
BERKEY MARKETING COMPANIES

3400 East 70th Street Long Beach, CA90805

FOR OLYMPUS Fully dedicated to Olympus camera models of OM-10, OM-10FC, OM-F, OM-G and OM-1N

	OM-2	OM-2N	OM-10/ OM-10FC	OM-F/OM-G	OM-1N
AUTOMATIC	Mode & Shutter Speed Dial Setting (on the camera)	Set flash selector to 'X' position.	Set the Mode Selector switch on the camera body to the 'Auto' position.		Set the shutter speed to either 1/30 sec. or slower, then turn it on.
	Mode Selector Switch Setting (on the flash)	Set the Mode Selector Switch on the flash body to one of the desired 'A' positions.			
	Film Speed Setting	Set the ASA for the film in use on both camera and flash.			
	Aperture Setting	Adjust the aperture to the lens' required F stop.			
MANUAL	Ready indication in the Viewfinder	Turn the flash on and, after a few seconds the 'ready' light will glow. No indication appears in the viewfinder, but shutter speed is set at 'X' speed. If the exposure needle reads at below 1/30 sec. the shutter speed is then automatically set to 1/30 sec. If the exposure needle points at above 1/60, the shutter speed will remain at the indicated speed, and the flash will not function. To properly operate under this condition, adjust the aperture till the exposure needle reads below 1/30 sec.	When the flash's 'ready' light is on, a red (LED) signal will appear in the viewfinder.	The shutter speed is set to 'X' speed automatically.	Make sure that the shutter speed is set to 1/30 sec. or slower.
	Test Flash/Auto Verification	Refer to the flash unit instruction manual.		Correct flash exposure is verified by 'f' mark in the viewfinder blinking in stably after the flash.	
	Mode & Shutter Speed Dial Setting (On the camera)	Set the camera's Mode Selector Switch to 'Manual', the shutter speed to 1/30 sec. or slower.	Set the Mode Selector to 'Auto'	Set the camera's Mode Selector Switch to 'Manual', the shutter speed to 1/60 sec. or slower	Refer to the 'Automatic Operation' instructions.
MANUAL	Mode Selector Switch Setting (on the flash)	Set the Mode Selector Switch on the flash body to the 'M' position.			
	Film Speed Setting	Refer to the 'Automatic Operation' instructions.			
	Aperture Setting	Adjust to the appropriate aperture (Refer to the flash unit instruction manual.)			
	Ready Indication in the Viewfinder	Turn the flash on and, after a few seconds, the 'ready' light will glow. No indication	When the flash's 'ready' light is on, a red (LED) signal will appear in the viewfinder.	The shutter speed is set to 'X' speed automatically.	Make sure that the shutter speed is set to 1/30 or slower.

Specifications

GUIDE NUMBER (ASA100) WIDE	66	
GUIDE NUMBER (ASA100) STD	80	
GUIDE NUMBER (ASA100) TELE	94	
GUIDE NUMBER (ASA1000) WIDE	208	
GUIDE NUMBER (ASA1000) STD	252	
GUIDE NUMBER (ASA1000) TELE	296	
BCPS WIDE POSITION	770	
BCPS STD POSITION	1130	
BCPS TELE POSITION	1560	
AUTO CIRCUIT	THYRISTOR	
POWER SOURCE	4 x AA	
RECYCLE TIME	(ALKALINE)	0.5 - 6.5 sec
	(NiCd)	0.5 - 3 sec
	(NiMH)	0.5 - 3 sec
NO. OF FLASHES	(ALKALINE)	500 - 2200
	(NiCd)	100 - 1000
	(NiMH)	100 - 1000
FLASH HEAD ZOOM	WIDE 35mm - TELE 135mm	
FLASH HEAD BOUNCE	VERTICAL 0° - 90° HORIZONTAL 0° - 330°	

LIGHT DISTRIBUTION	"WIDE" 35mm COVERAGE 45° x 60° "STD" 50mm COVERAGE 34° x 46° "TELE" 135mm COVERAGE 17° x 24°	
FLASH DURATION	1/1600 1/30000	
COLOR TEMPERATURE	5500°K MOST SUITABLE FOR DAYLIGHT COLOR FILMS.	
AUTO OK LAMP	GREEN LED	
AUTO APERTURE (ASA100)	f/2, f/4	
AUTO DISTANCE	"WIDE"	3.3 - 16' (F4) 6.6 - 33' (F2)
	"STD"	4 - 20' (F4) 7.5 - 40' (F2)
	"TELE"	4.5 - 23' (F4) 9 - 47' (F2)
INSTANT READ OUT DIAL	YES WITH LED	
DIMENSIONS H x W x D	4.4 x 2.9 x 3.2"	
WEIGHT	9.40Z	

Note:

- Specifications subject to change without notice.
- The number of flashes/recycling time one determined by using fresh batteries in normal room temperature under test conditions. User result may differ due to battery and temperature conditions

Owner's Record:

Sunpak Electronic Flash
Model auto zoom 1000

Serial Number _____

Date purchased _____ Dealer Name _____

Dealer Address _____ (Street) (City) (State) (Zip)

Accessories Purchased or Included _____

Notes: _____