This manual is for reference and historical purposes, all rights reserved.
This creation is copyright© by M. Butkus, NJ, U.S.A.
These creations may not be sold or distributed without the expressed permission of the producer.
I have no connection with any camera company.

On-line camera manual library

If you find this manual useful, how about a donation of $2 to:
M. Butkus, 29 Lake Ave., High Bridge, NJ 08829-1701
and send your e-mail address so I can thank you.
Most other places would charge you $7.50 for a electronic copy or
$18.00 for a hard to read Xerox copy.

This will allow me to continue this site, buy new manuals and pay their shipping costs.
It'll make you feel better, won't it?

If you use Pay Pal, go to my web site
www.orphancameras.com and choose the secure PayPal donation icon.

PayPal name: lynn@butkus.org
THYRISTOR

Auto zoom 3000

OWNER'S MANUAL
BEDIENUNGSANLEITUNG
MODE D'EMPLOI
MANUAL DE INSTRUCCIONES
BRUKSANVISNING
Beskrivning av delar

1. Blyxtfönster
2. Autosensor
3. Släpskokontakt
4. Bländarvävare, fyra lägen
5. Monteringsfotens läsning
6. Monteringsfot
7. Belyst exponerings-effekt-kontrollcenter
8. Bländarindex med färgkod för automatisk användning
9. Bländarskala
10. Kontroll för styrkeförhållanden
11. Skala för manuell kontroll av styrkeförhållanden
12. Filmhastighetsskala
13. Index för filmhastighet
14. Tillbehörshalare
15. Avståndsskala
16. Dual Auto/Kontrollsignal för automatisk exponering
17. Dual Klarsignal/Blixtnullerare (TEST)
18. Auto/Manuell-omkopplare med färgkod
19. Strömbrytare med färgkod
20. Högspänningsknotakt för växelström (AC)
21. Justerbar indirekt blixt
22. Färskala för den indirekta blixten
23. Index för färskalan för den indirekta blixten
24. Blixtnas, tre positioner
25. Uttag för extra sensor
26. Spärrhake för uttaget för extra sensor
27. Spärrhake för batterihållaren
28. Urtagbar AA-batterihållare
29. Inbyggd PC-sladd
Introduction

WELCOME to the world-wide family of Sunpak owners. Your Sunpak Autozoom 3000 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 Autozoom 3000 are so unique, please take a few minutes to read this owner’s manual carefully with your Autozoom 3000 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.
Basic Operating Instructions:

1. Insert Batteries into Holder
Insert batteries as illustrated into the removable AA Battery Holder. The holder itself has a guide on how the batteries should be loaded for correct polarity. Use either four AA alkaline or four AA nickel-cadmium batteries.

2. Load Holder into Battery Chamber
Insert the loaded battery holder as illustrated into the battery chamber of your Autozoom 3000. Press until holder snaps into place. Do not force holder. NOTE: If you are using the Dual-Voltage AC Adapter or the high voltage Sunpak 510-Volt Power Pak, plug connecting cord into the AC/High Voltage Socket.

3. Mount Flash to Camera
Insert your Autozoom 3000 to the shoe mount of your camera. If your camera has a hot shoe, your Autozoom 3000 will automatically synchronize with your camera. If your camera does not have a hot shoe, plug built-in PC cord into appropriate socket for electronic flash on your camera (usually marked "X").
4. Set Film Speed Scale
Slide outer dial until the appropriate film speed (ASA/DIN number) is indicated. For ASA/DIN of your film, refer to the instructions supplied with the film.

5. Select Working Aperture
With most films, you will have a choice of four apertures in automatic operation (six in manual). For automatic operation, choose the appropriate f/stop as indicated by the Aperture Index and adjust the Four-Position Aperture Selector, located under the auto sensor, to match the color code on the Aperture Index. For manual operation, adjust the Power Ratio Control for the desired aperture.

6. Turn The Unit On
Set on/off switch to "on". Using the Ready Light/Test (open flash) button, fire the Autozoom 3000 about 5 times to form the capacitor. The ready light (amber color) will glow when the Autozoom 3000 is ready to be fired. Be sure to set the Auto/Manual switch to the desired position. When in auto operation, the auto indicator light (green color) will glow. In addition, when your Autozoom 3000 is flashed, the auto indicator will verify correct automatic exposure by blinking momentarily.
7. Aim Adjustable Bounce Flash Head
The unique Adjustable Bounce Flash Head of your Autozoom 3000 can be aimed in any of 27 different positions. If 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 accessory Remote Sensor is recommended. Note: The auto sensor must always face the subject for proper auto exposure control.

8. Take Your Picture
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.
**Power Supplies**

Your Sunpak Autozoom 3000 may be used with four different power sources:
1. Four alkaline AA batteries
2. Four rechargeable, nickel-cadmium AA batteries
3. The Sunpak Dual-Voltage AC Adapter
4. The Sunpak 510-Volt (High Voltage) Power Pak

**Alimentations en courant**

Votre Sunpak Autozoom 3000 peut être utilisé avec quatre sources d'alimentation différentes:
1. Quatre piles alcalines de type AA
2. Quatre piles rechargeables au nickel-cadmium de type AA
3. L'adaptateur bi-tension CA Sunpak
4. La boîte d'alimentation 510 volts (haute tension) Sunpak

**Stromquellen**

Ihr Sunpak Autozoom 3000 kann mit vier verschiedenen Stromquellen verwendet werden:
1. Vier Alkalibatterien der Größe AA
2. Vier aufladbare Nickel-Cadmium-Batterien der Größe AA
3. Sunpak-Doppelspannings-Netzadapter
4. Sunpak-510-Volt-Stromversorgungsteil (Hochspannung)

**Suministro de potencia**

Su Autozoom 3000 Sunpak puede ser usado con cuatro diferentes fuentes de energía:
1. Cuatro pilas alcalinas AA
2. Cuatro pilas recargables de níquel-cadmio AA
3. Adaptador Sunpak para dos voltajes de CA
4. Fuente de energía (alto voltaje) Sunpak 510-Volt

**Kraftkälla**

Er Sunpak Auto Zoom 3000 kan användas med fyra olika kraftkällor:
1. Fyra alkalska batterier av AA-storlek.
2. Fyra uppladdningsbara nickel-cadmium-batterier av AA-storlek.
4. Sunpak 510-volt (högspanning) kraftpaket.

**Battery Installation**

1. Remove Battery Holder by pressing Battery Holder Latch up and pulling outward.
2. Install batteries as illustrated on the holder. Be sure to observe correct polarity or you may cause damage to your Autozoom 3000.
3. Replace Battery Holder in your Autozoom 3000. Be sure the holder snaps into place. Do not force it. Extra Battery Holders may be purchased for times when rapid replacement of batteries is necessary.

**Alkaline or Nickel-Cadmium Batteries?**

The major advantage of alkaline batteries is they provide more flashes per set. While nickel-cadmium batteries will provide fewer flashes per set, they will recycle your Autozoom 3000 slightly faster and can be recharged hundreds of times for more economical operation over the long run.
Using Dual-Voltage AC Adapter or Sunpak 510-Volt (High Voltage) Power Pak

1) For AC operation, be sure to check that the voltage on your Dual-Voltage AC Adapter is set to the appropriate voltage. Your AC Adapter has been factory set for 100-120 volts: the U.S. standard. For use in other countries where 200-240 volts are standard, you may adjust the setting as illustrated with the tip of a ball point pen after removing the small Phillips head screw located just below the selector switch. After the voltage setting has been made, the screw must be reinstalled to prevent accidental movement of the selector switch.

Note: If the Dual Voltage AC Adapter is incorrectly set, the adapter will not function properly and may Damage your Autozoom 3000.

2) Turn ON/OFF switch to “OFF” position, then plug into AC/High Voltage Socket and into standard wall outlet as illustrated. The AC adapter supplies virtually unlimited flashes and is ideal for indoor use.

3) When you use the optional accessory Sunpak 510-Volt (High Voltage) Power Pak, refer to the instructions supplied with that unit. Plug into the Autozoom 3000 in the same manner as you would with the Dual-Voltage AC Adapter. The Sunpak 510-Volt (High Voltage) Power Pak allows extremely
rapid recycle times and the greatest number of flashes from any portable power source.

Mounting to Camera

For easiest handling, the Autozoom 3000 should be mounted to the accessory shoe on your camera. If your camera does not have an accessory shoe, the Sumpak Pro Grip is suited for use with the Autozoom 3000.

1. Raise the Mounting Foot Lock Ring on the flash by turning it clockwise.
2. Slide the flash into the shoe and tighten the lock ring by turning it counter-clockwise.
3. If your camera does not have a hot shoe, plug the built-in PC cord into the appropriate “X” sync outlet. Remember to set your camera’s shutter speed to the proper setting for electronic flash.
Operation of Illuminated Power/Exposure Control Center

The Illuminated Power/Exposure Control Center is the "heart" of your Autozoom 3000. By properly operating it, you can use your flash to its maximum creative capabilities.

Automatic Operation

1. Set the film speed scale to the appropriate ASA/DIN setting. For the ASA/DIN (film speed) rating of your film, refer to the instructions packed with the film.

2. As you set the film speed scale, the dial will rotate to show four apertures marked by the red, yellow, green and blue arrows of the Color-Coded Aperture Index. Set your camera's aperture to match one of these arrows and adjust the Four-Position Aperture Selector so the colors match.

3. Be sure the Auto/Manual Switch is in the auto position. As you use your unit, the Thyristor circuitry in the Autozoom 3000 will automatically store all unexpended energy. The result of this advanced design is faster recycle times and greater number of flashes per battery.
<table>
<thead>
<tr>
<th>Scale</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>0.5 to 2.7 m</td>
</tr>
<tr>
<td>Yellow</td>
<td>0.5 to 3.6 m</td>
</tr>
<tr>
<td>Green</td>
<td>0.5 to 5.2 m</td>
</tr>
<tr>
<td>Blue</td>
<td>0.5 to 7.5 m</td>
</tr>
</tbody>
</table>

**NOTE:** The effective distance in automatic operation varies with the type of film used. Shown above are minimum and maximum distances. Consult the distance scale to see if the unit will operate automatically at the distance desired with your film. When using a filter with the Autozoom 3000, the maximum effective distance may be different. Please refer to the filter kit instructions for possible adjustments you may have to make.
Power Ratio (Manual) Operation

With the unique Power Ratio Control on your Autozoom 3000, you can adjust the light output so your camera can be used over a six stop range, from Full to 1/32 power. This feature gives you greater depth-of-field control, ability to control battery life and recycle times, precise fill-in flash capability, macro/close-up capability and the ability to control flash duration.

Use of Power Ratio Control at Full Power

1. Set the Auto/Manual Selector Switch to "M" for manual operation.
2. Set the Film Speed Scale to the appropriate ASA/DIN setting.
3. Adjust the Power Ratio Control to Full power.
4. You may determine the proper f/stop by matching the aperture and distance scales on your calculator dial. The distance scale refers to the flash-to-subject distance, not the camera-to-subject distance, so be sure to measure flash-to-subject when you are using the Autozoom 3000 for remote lighting.

EXAMPLE: At 3m (10') use f/8 with ASA 100 film.
Beispiel: Bei 3 m verwenden Sie f/8 mit ASA-100-Film.
Exemple: A 3 m (10') utiliser f/8 avec un film ASA 100 ASA.
Ejemplo: a 3m (10') use f/8 con película ASA/DIN.
Exempel: Vid 3 m (10'), använd f/8 med ASA 100 film.
Using Power Ratio

1. As when using the Power Ratio at Full power, set the Film Speed Scale to the appropriate ASA/DIN rating and be sure the Auto/Manual Selector Switch is on "M".

2. Determine the distance of your subject from your flash. When the Autozoom 3000 is mounted to the camera, you can easily do so by focusing your camera’s lens and reading the distance indicated by the distance scale on the lens.

3. Turn the Power Ratio Control Dial until you have the desired f/stop opposite this distance.

   *ALWAYS MOVE THE POWER RATIO CONTROL DIAL TO A MARKED (CLICK STOP) POSITION. DO NOT SET THE POWER RATIO BETWEEN MARKED RATIOS OR THE UNIT WILL NOT OPERATE AS DESIRED.* (Example: With ASA 100/DIN 21 film, you may choose f/8, 5.6, 2.8, 4, 2 and 1.4).

4. Be sure the distance scale shows there is the proper amount of light for a correct exposure of your subject. If not, increase or decrease the power as needed.

5. You are now ready to take your picture. Remember to adjust the aperture on your lens to match the aperture indicated on the calculator dial.
Using Power Ratio for Better Pictures

Depth of Field

Note that the above picture has great depth of field (the background and the subject are in focus) and the below picture has little depth of field (the subject is in focus but the background is not). Because of the versatility of your Power Ratio control, you have a choice of up to six different apertures for maximum control of depth of field. You can use this control to make pictures the way you want.

Examples:

When photographing still life, more depth-of-field is often required. Use the higher power settings and smaller lens openings for best results.

For portraits, use the lower power settings and larger lens openings to get less depth of field.

Precise Fill-In Flash

The major advantage of fill-in flash is that it renders attractive outdoor portraits because it eliminates harsh shadows. Simply set your camera’s aperture according to the meter reading for the background. Next set your Power Ratio to that aperture opposite the
Freezing Action

“Einfrieren” von Bewegungen
Action de “geler”
Congelamiento de acción
Frysnings av rörelse

Working With Motor Drive
Arbeiten mit Motorantrieb
Fonctionnement avec le moteur d’entraînement
Trabajando con accionamiento por motor
Brukande av Motor Drive

Actual flash-to-subject distance. Be sure to use a shutter speed that will synchronize with electronic flash. The above picture was taken without fill-in flash. The below picture was taken with fill-in flash. Note how much more pleasing the lower one is.

Freezing Action

Your Autozoom 3000 can freeze almost any action at full power with a flash speed of just 1/1000th second. For even shorter flash duration, which will allow freezing of the fastest action, you can use the Power Ratio’s lower settings to obtain speeds as fast as 1/15,500th second. See chart below.

Working With Motor Drive

By using the 1/32nd Power Ratio setting, far less energy is expended with each flash and the Autozoom 3000 will recycle almost instantly. With fresh batteries, you can shoot up to three pictures per second, thus making the Autozoom 3000 ideal for use with motor-driven and auto-wind cameras.
Operating adjustable bounce flash head

Your autozoom 3000 has a unique flash head assembly which allows you to aim the light in any of 27 possible directions. This allows you to use the autozoom 3000 to render more pleasing and more creative lighting results. For added convenience and repeatability the adjustable bounce flash head has color-coded scales so you can determine the exact angle of bounce you desire. For even more creative control you can leave the head in any in-between position as well.

1. To rotate the adjustable bounce flash head, grip with thumb and forefinger and gently turn to desired setting.

DO NOT FORCE HEAD

2. To adjust the three-position flash base, simply twist as illustrated with thumb and forefinger.

The column automatically locks in either a vertical or horizontal position, but can be left in any in-between position.

Wide angle lenses For best results when using moderate wide-angle lenses with direct flash, such as a 35mm focal length lens with a 35mm camera, be sure to adjust the bounce flash head so that rectangular reflector matches the rectangular format of the camera. In most cases, this is accomplished by pivoting the reflector 90 degrees to the left or right.
For other wide-angle lenses, use the optional accessory wide angle lens or diffusion filters (these accessories are included in the Sunpak Filter Kit) or bounce lighting may also be used for maximum flash coverage.

Hints for Better Bounce Pictures

1. Don't Stand Too Close to Your Subject. Reason: The light will be reflected downwards at an angle so acute that no light (or very little light) can reach your subject's face. This can cause unpleasant-looking 'dark spots' under the subject's nose and eyes.

2. Rotate flash sufficiently to prevent the subject or the background immediately behind the subject from receiving any portion of direct light from flash.

3. In Small Rooms, Try Bouncing The Light Off The Wall Onto The Ceiling. Provided it's a white-colored wall and ceiling, this technique gives much more even lighting than direct off-ceiling bounce where space is limited. Try it!
4. Remember That You Can Bounce Off The Wall If The Ceiling’s Too High. There isn’t any law that says bounce flash must be beamed off the ceiling! In many homes, a white-color wall makes an excellent reflective surface for bounce flash... and, quite often, more light can reach the subject since the light does not have to travel as far.

5. Can’t Find A Suitable Bounce Surface? Make One... If the wall or ceiling is any color other than white, your subject will show that color in the finished photograph. Solution: create your own bounce ‘surface’... possibly an ordinary piece of white cardboard held or taped in front of the flashtube housing, so that it reflects the flash light onto the subject.

6. In Close-Up Photography, Many excellent lighting effects can be achieved by using one or more pieces of white cardboard as reflective surfaces in bounce flash. The soft, diffused effect of ‘bounce’ light often reveals fascinating details of small objects.

7. For Extensive Use In Portrait And Child Photography, many photographers prefer ‘umbrella’ lighting, created by bouncing the flash off a white or silvered umbrella. Check with your photo dealer for recommendations on umbrellas and lightstands if this approach interests you.
Copy Photography

Because of its unique Power Ratio Control, your Autozoom 3000 is ideal for copy photography. By adjusting the power, you can use your Autozoom 3000 to control light output, which is critical with the relatively close flash-to-subject distances.

For copying, you can use a copy stand, modified enlarger baseboard and girder or a tripod which can have its pan head mounted to the bottom of the center column. In addition, you can use one, two or four Autozoom 3000’s.

Copy Photography is fun and can be used for:

* Hobbies: You can reproduce stamps, coins, seashells, butterflies, plant life and other items.

* Vital Documents: Diplomas, birth certificates, cancelled checks, licenses, etc.

* Charts: You can keep a photographic record of any charts or graphs you prepare for school or business. In addition, color transparencies of the charts can be made for slide presentations.

* Valuable Possessions: Items such as jewelry, silverware and works of art can be pre-photographed and used for insurance purposes.
A Typical Copy Set Up For Documents

1. An ideal set-up for shadow-free copies is having two Autozoom 3000's one connected to your camera, another to the Sunpak Auto Slave, aimed at a 45° angle to the subject on the same axis as the camera. As the illustration shows, twice the normal amount of light is hitting the subject, so you should either close down the lens aperture by one stop (two stops when using four units) or adjust the Power Ratio Control by half the power ratio setting (= 1 stop).

2. If you own another electronic flash unit, you can use the Power Ratio Control on your Autozoom 3000 to set the unit at a similar power level as the other unit. Simply match the guide number from the specification chart on page 66 with the appropriate power level to your other unit.

Hints for Taking Photographs Using a Copy Set-Up

1. When photographing a three-dimensional subject, such as a coin, try setting the flash units at a 60° axis from the lens. This is
also excellent for subjects with an irregular flat surface such as an oil painting, and high gloss subjects. For best possible results, experiment with different angles until you get the results you like.

2. For showing shadow and texture on three-dimensional subjects, use your Autozoom 3000s with each at different power levels. Again, experimentation is the best way to discover what is the best lighting ratio between the Autozoom 3000s for the subject jet you are copying.

3. For a softer lighting effect, fire the Autozoom 3000 through a material that will diffuse its light. Items such as artist’s tracing paper and commercially available photographic diffusion material are ideal. For special effects, use one Autozoom 3000 with an accessory color filter at a higher power level than an Autozoom 3000 without a filter.

4. For lighting a highly-reflective subject with controlled light, try the tent lighting method. By simply taking heavy white paper or oak tag and bending it so the light from the unit surrounds, but won’t directly hit the subject as illustrated.
Other Flash Hints

1. Multiple Exposures
When shooting multiple exposures, your Autozoom 3000 is ideal because of its multi-directional capability. Be sure to use a dark background and center your flash on each individual subject. When placing the same people in one background scene, a tripod or other rigid camera support is recommended.

2. Macro/Close-Up
By using the lower power levels on your Autozoom 3000, the exciting world of Macro/Close-Up photography can be mastered. Because of the lower power levels available from the Autozoom 3000, you can properly expose close-ups even when your flash is very close. Too low an intensity even further, bounce the light or use the diffusion filter available in the accessory filter kit.

3. Open Flash
When shooting at night, you can use your Autozoom 3000 to act as a fill-in flash while setting your shutter speeds for background exposure. Simply push the Test (open flash)
Button on your unit for one, two or more flashes while the shutter is open.

4. Special Effects

One of the most popular special effects today is the "Shoot" technique of superimposing one image over another. The only requirement is a simple cardboard tube. Take the first exposure using available light and center the area of the image you wish to superimpose the image on. Then, take a second exposure on the same film, using your Autozoom 3000. Simply use the tube to cover all but the centered area. For smaller centering areas, use two tubes for a telescope effect. Because the light from your Autozoom 3000 is higher than the available light in most cases, the image shot through the tube will dominate the available light image. For best results using this technique, make your superimposition on a dark area.
Your Autozoom 3000 is a System

For maximum creativity and ease of operation, many accessories are optionally available for your Autozoom 3000. Just like today’s system cameras, you can customize your Autozoom 3000 to suit your exact photographic requirements.

1. **Sunpak Auto Slave** Allows your Autozoom 3000, or any flash unit with a PC cord, to be used as a slave unit by plugging its PC cord into a built-in PC socket on the slave. Needs no batteries and operates up to 30m (100') with 360° sensitivity. Supplied with special tripod mount for your second flash.

2. **Sunpak 510-Volt (High Voltage) Power Pak** Allows professional 510-Volt batteries to be used for most rapid recycle times and situations where extended number of flashes is a must. Has built-in voltage regulation, detachable cord. An accessory 3m (10') coiled cord also available.
3. **Sunpak Quick Recharger**
Exclusively designed for use with only type SANYO NICAD BATTERY TYPE 500 AAF. CHARGES ANY DESIRED NUMBER OF BATTERIES UP TO 4PCS AT ONCE. FULL CHARGE IS ATTAINED WITHIN 3 – 4 HOURS.

**Caution** - To avoid possible explosion, use only type SANYO NICAD BATTERY TYPE 500 AAF, other types of battery may explode causing personal injury and damage to appliance.

4. **Sunpak Battery Holder**
Extra battery holders fit into Autozoom 3000. Ideal for fast, convenient changes.

5. **Sunpak Filter Kit/Sunpak Filter Holder**
Filter kit consists of filter holder, red, blue, green and yellow color filters as well as a neutral density filter, 85B color correction filter for use with tungsten film, a wide-angle lens and a ground diffuser. Supplied with case. Filter holder is available separately.
6. **Sunpak Pro Grip/Sunpak 6x6 Bracket**
   The Sunpak Pro Grip features built-in rotating hot shoe, ball head, contoured grip, tripod socket and allows aiming of flash in virtually any direction. Supplied with 35mm Sunpak 12-position bracket, cable release. Sunpak 6x6 Bracket can be used with Pro Grip when using 2¾ film format cameras.
   Standard grip also available without Bounce control.

7. **Sunpak Remote Sensor**
   For use with remote lighting, allows automatic exposure sensing when Autozoom 3000 is not mounted to camera. Will synchronize unit with hot shoe. Allows continuously-variable range of four apertures in automatic operation. Supplied with 1.5m (5') extension cord.
8. **Sunpak Tele Kit** Ideal for use with tele-photo 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 reflector outfit may be used for focal length lenses from 70 to 300 mm with 35mm format cameras. The number of reflectors and vertical/horizontal orientation of the adjustable bounce flash head determine the proper lens to use. For specific recommended set ups with various 35mm format lenses, see chart below:

<table>
<thead>
<tr>
<th>LENS (mm)</th>
<th>Reflector Position</th>
<th># Supplemental Tele Kit Adapter</th>
<th>Guid No. (ASA 100)</th>
</tr>
</thead>
<tbody>
<tr>
<td>35</td>
<td>Horizontal</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>50</td>
<td>Vertical</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>70</td>
<td>Horizontal</td>
<td>1</td>
<td>37 *</td>
</tr>
<tr>
<td>135</td>
<td>Vertical</td>
<td>1</td>
<td>37 *</td>
</tr>
<tr>
<td>135</td>
<td>Horizontal</td>
<td>2</td>
<td>43 **</td>
</tr>
<tr>
<td>300</td>
<td>Vertical</td>
<td>2</td>
<td>43 **</td>
</tr>
</tbody>
</table>

* + .6 EV  
** + 1 EV  

Supplied with case.
Inside Your Autozoom 3000

THYRISTOR CIRCUITRY
Sunpak’s advanced thyristor circuitry is the latest in electronic flash technology. In less-advanced automatic flash units, when the automatic sensor shuts off the flash, the circuit still expends the available energy as if a “full” power flash had been produced. However, thyristor circuitry saves the unused energy for the next flash. This means more flashes per battery and recycling times are more rapid, depending on distances and lighting conditions.

WIDE-ANGLE ILLUMINATION
The use of wide-angle lenses is very popular in photography today. Your Autozoom 3000 (horizontal position) can be used with up to 35mm focal length lenses on 35mm cameras without any accessories. By using the diffusion filters available in the accessory Autozoom 3000 Filter Kit, lenses up to 28mm focal length on 35mm cameras may be used. By using bounce light, even wider focal length lenses may be used.

AGED GOLD-TONE FLASH TUBE
Modern electronic flash units operate at speeds of 1/1000th second or less. This burst of light is far shorter than the optimum exposure time today’s films have. Your Autozoom 3000 uses a unique gold-tone flash tube
that has been aged and pre-flashed until critical color balance is achieved. This means your Autozoom 3000 will give you warm, pleasing, correct color rendition with all daylight films.

Monitor Circuit

Your Sunpak Autozoom 3000 contains a built-in monitor and voltage regulation circuit that will maintain your unit at 100% power. The amber ready light will glow when the unit is at 85% power: an acceptable level for most picture taking. The ready light will blink when the unit is at 100% power and you will hear an audible pulsating signal caused by the monitor circuit electronically switching the power supply on and off. This power level is automatically maintained until the flash is fired; assuring consistent and repeatable results and at the same time reducing battery drain by as much as 50%.

NOTE: The monitor circuit does not function when using the Dual-Voltage AC adapter or Sunpak Battery Pak accessories.
Care of Your Autozoom 3000

STORAGE
If you don’t use your Autozoom 3000 for several weeks, or if you plan to take it on a trip, the accessory compartment case is recommended. This case will not only hold your Autozoom 3000, but its many accessories. Also be sure to remove the battery pack before storage to prevent possible damage due to battery leakage.

TURNING OFF UNIT
When you finish using your Autozoom 3000, the chances are the ready light will still be glowing when you turn the unit off. Do not discharge your Autozoom 3000 before putting it away. The next time you use it, the capacitor in your flash will reform faster and the life of your Autozoom 3000 will be extended.
MAINTENANCE

If your Autozoom 3000's reflector window becomes dirty, use one drop of lens cleaner and lens cleaning tissue to clean it. 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.

SERVICE

In the unlikely event that your Sunpak electronic flash requires service, return it to your dealer or the address shown on Sunpak world wide network. 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 the flash doesn't fire, check batteries and contacts carefully.
Guide Numbers of Your Autozoom 3000

To determine maximum effective range in manual operation (in meter/feet) divide the guide number by the aperture (f/stop).

Guide Number = f/stop
Guide Number = Distances
f/stop x Distance = Guide Number

Leitzahlen Ihres Autozoom 3000

Um den maximalen effektiven Bereich bei manueller Bedienung (in Meter/Fuß) zu ermitteln, dividieren Sie die Leitzahl durch die Objektivöffnung (Blende).

Leitzahl = Blende
Entfernung = Leitzahl
Blende = Entfernungen
Blende x Entfernung = Leitzahl

Nombre-guide de votre Autozoom 3000

Pour déterminer la portée maximum réelle en fonctionnement manuel (en mètre/pied) diviser le nombre-guide par l'ouverture (diaphragme).

Nombre-guide = diaphragme
Nombre-guide = distances
Nombre-guide x Distance = Nombre-guide

Números guía de su Autozoom 3000

Para determinar la amplitud efectiva máxima en operación manual (en metros/pies) divida el número guía por la abertura (f/stop).

Número guía = Abertura
Número guía = Distancias
Número guía x Distancia = Número Guía

GUIDE NUMBERS (IN METER)

<table>
<thead>
<tr>
<th>FILM SPEED</th>
<th>ASA</th>
<th>DIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>15</td>
<td>15</td>
</tr>
<tr>
<td>32</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>40</td>
<td>17</td>
<td>17</td>
</tr>
<tr>
<td>50</td>
<td>19</td>
<td>18</td>
</tr>
<tr>
<td>64</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>80</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>100</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>125</td>
<td>30</td>
<td>24</td>
</tr>
<tr>
<td>160</td>
<td>34</td>
<td>25</td>
</tr>
<tr>
<td>200</td>
<td>38</td>
<td>26</td>
</tr>
<tr>
<td>250</td>
<td>43</td>
<td>27</td>
</tr>
<tr>
<td>320</td>
<td>48</td>
<td>28</td>
</tr>
<tr>
<td>400</td>
<td>55</td>
<td>29</td>
</tr>
<tr>
<td>500</td>
<td>68</td>
<td>30</td>
</tr>
<tr>
<td>640</td>
<td>77</td>
<td></td>
</tr>
<tr>
<td>800</td>
<td>86</td>
<td></td>
</tr>
</tbody>
</table>

GUIDE NUMBERS (IN FEET)

<table>
<thead>
<tr>
<th>MANUAL POWER RATIO</th>
<th>GUIDE NUMBERS (IN METER)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/2</td>
<td>15, 16, 17, 19, 21, 24, 27, 30</td>
</tr>
<tr>
<td>1/4</td>
<td>17, 19, 21, 24, 27, 30</td>
</tr>
<tr>
<td>1/8</td>
<td>19, 21, 24, 27, 30</td>
</tr>
<tr>
<td>1/16</td>
<td>21, 24, 27, 30</td>
</tr>
</tbody>
</table>

GUIDE NUMBERS (IN FEET)

<table>
<thead>
<tr>
<th>RAISON DE PUISSANCE MANUEL</th>
<th>GUIDE NUMBERS (IN METER)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full</td>
<td>50, 56, 63, 70, 80, 89, 100, 112, 126, 141, 158, 179, 200, 224, 253, 283</td>
</tr>
<tr>
<td>Manualit styrkeförhållande</td>
<td>1/2, 35, 40, 44, 50, 56, 63, 70, 80, 89, 100, 112, 126, 141, 158, 179, 200</td>
</tr>
<tr>
<td>1/4</td>
<td>25, 28, 31, 35, 40, 44, 50, 56, 63, 70, 80, 89, 100, 112, 126, 141</td>
</tr>
<tr>
<td>1/8</td>
<td>17, 20, 22, 25, 28, 31, 35, 40, 44, 50, 56, 63, 70, 80, 89, 100</td>
</tr>
<tr>
<td>1/16</td>
<td>12, 14, 15, 17, 20, 22, 25, 28, 31, 35, 40, 44, 50, 56, 63, 70</td>
</tr>
<tr>
<td>1/32</td>
<td>8, 9, 11, 12, 14, 15, 17, 20, 22, 25, 28, 31, 35, 40, 44, 50</td>
</tr>
</tbody>
</table>
Specifikationer för Sunpak Autozoom 3000

Svenska

<table>
<thead>
<tr>
<th>Guidenummer</th>
<th>Med ASA 100 film:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30 (i meter)</td>
</tr>
<tr>
<td></td>
<td>100 (i fot)</td>
</tr>
<tr>
<td></td>
<td>Med ASA 50 film:</td>
</tr>
<tr>
<td></td>
<td>21 (i meter)</td>
</tr>
<tr>
<td></td>
<td>70 (i fot)</td>
</tr>
<tr>
<td></td>
<td>1770</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>BCPS</th>
<th>45 · 700</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0,3 · 5 sekunder</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Med AA NiCad-batterier (4);</th>
<th>90 · 1800</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antal blixtar per sats</td>
<td>0,3 · 10 sekunder</td>
</tr>
<tr>
<td>Återuppladdningstid</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Med AA Alkalinebatterier (4);</th>
<th>500 · 10000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Antal blixtar per batteri</td>
<td>0,3 · 1 sekund</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Med dual-växelspänningsadapter (AC);</th>
<th>0,3 · 5 sekund</th>
</tr>
</thead>
<tbody>
<tr>
<td>Återuppladdningstid</td>
<td>0,5-7,5m/19'-25'</td>
</tr>
<tr>
<td>Automatiskt avståndsmått</td>
<td>1/1000 - 1/5000 sekund</td>
</tr>
<tr>
<td>Blixttid</td>
<td>28°</td>
</tr>
<tr>
<td>Sensorns mottagningsvinkel</td>
<td>45 x 60°</td>
</tr>
<tr>
<td>Upplysningsvinkel</td>
<td>5500° Kelvin</td>
</tr>
<tr>
<td>Färgtemperatur</td>
<td>45x110x115 mm/1,8&quot;x4,3&quot;x4,5&quot;</td>
</tr>
<tr>
<td>Dimensioner</td>
<td>(exklusive hållaren)</td>
</tr>
<tr>
<td>Vikt</td>
<td>445g (15,7 oz) (utan batterier)</td>
</tr>
</tbody>
</table>

Egenskaper och specificationer kan ändras utan föregående meddelande.

---

**ELECTRONIC FLASH AUTOZOOM 3000**

Copyright © 1976 by Sunpak Corporation. All Rights Reserved. No part of this manual may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of the company.

**Elektronenblitzgerät Autozoom 3000**


**Flash électronique Autozoom 3000**

Déposé en 1976 par Sunpak Corporation. Tous droits réservés. Aucune partie de ce manuel ne pourra être reproduite, gardée dans un système de recouvrement ou transmise sous quelque forme ou moyen que ce soit, électronique, mécanique, photocopie, enregistrement ou autres, sans permission préalablement écrite de la compagnie.

**FLASH ELECTRONICO AUTOZOOM 3000**

Derechos registrados © 1976 por Sunpak Corporation. Todos los derechos reservados. Ninguna parte de este manual puede ser reproducida, o almacenada en un sistema de reintegración, o transmitido en cualquier forma, o por cualesquier medio, electrónico, mecánico, fotocopia, grabación o algún otro, sin el previo permiso escrito de la compañía.

**Electronblxåt Autozoom 3000**
