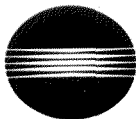


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# MAXXUM FLASH PROGRAM FLASH 5400HS

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**E** INSTRUCTION MANUAL



MINOLTA

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# IMPORTANT SAFETY INSTRUCTIONS

WHEN USING THIS FLASH AND/OR ITS ACCESSORIES, BASIC SAFETY PRECAUTIONS SHOULD ALWAYS BE FOLLOWED, INCLUDING:

- READ AND UNDERSTAND ALL INSTRUCTIONS BEFORE USING.
- SUPERVISE CLOSELY WHEN ANY FLASH OR ACCESSORY IS USED BY OR NEAR CHILDREN. DO NOT LEAVE UNITS UNATTENDED WHILE IN USE OR WITHIN REACH OF CHILDREN.
- DO NOT CONNECT EXTERNAL POWER SOURCES OTHER THAN EXTERNAL BATTERY PACK EP-1.
- DO NOT OPERATE FLASH AND/OR ACCESSORIES IF DROPPED OR DAMAGED OR WITH DAMAGED CORD UNTIL EXAMINED BY AN AUTHORIZED MINOLTA SERVICE FACILITY.
- WHEN USING EXTERNAL BATTERY PACK EP-1, BE SURE TO READ AND FOLLOW IMPORTANT SAFETY INSTRUCTIONS AND OTHER CAUTIONS ON ITS INSTRUCTION SHEET.

- TO AVOID ELECTRIC SHOCK, DO NOT IMMERSE FLASH AND/OR ACCESSORIES IN WATER OR OTHER LIQUIDS.
- TO REDUCE RISK OF ELECTRIC SHOCK, DO NOT DISASSEMBLE FLASH AND/OR ACCESSORIES. TAKE THEM TO AN AUTHORIZED MINOLTA SERVICE FACILITY WHENEVER SERVICE OR REPAIR IS REQUIRED. INCORRECT REASSEMBLY CAN CAUSE ELECTRIC SHOCK WHEN UNIT IS USED SUBSEQUENTLY.

**SAVE THESE INSTRUCTIONS**

Thank you for purchasing the Minolta Maxxum/Program Flash 5400HS and for taking the time to read your owner's manual. You are now well on your way to taking full advantage of the many advanced features and easy operation which the 5400HS provides.

### **IMPORTANT POINTS REGARDING FLASH PHOTOGRAPHY**

- Never fire the flash at close range into the eyes of people or animals.
- If your subject is at the near end of the flash range when the flash is attached to the camera, the exposure may not be correct because of the difference in alignment of the flash and lens axis.
- Exposure may not be adequate if the shutter is released before the flash is charged.
- When using the self timer, make sure that the flash is fully charged before releasing the shutter.
- When using reversal film, if the shutter is released just after the flash is charged, or if it takes more than 30 sec. to reach full charge, the exposure may not be sufficient at the far end of the flash range.
- In pictures of people taken with flash, your subject's eyes may appear red. "Red-eye", as the effect is known, is caused by light from the flash reflecting back into the lens from the subject's retinas. This will be more noticeable in some subjects than others. To minimize red-eye, we recommend increasing the overall light level as much as possible and getting as close as possible to the near end of the flash range without the flash disturbing your subject.
- The flashtube may become hot when the flash is discharged. Be sure to leave sufficient space around the flashtube during operation.

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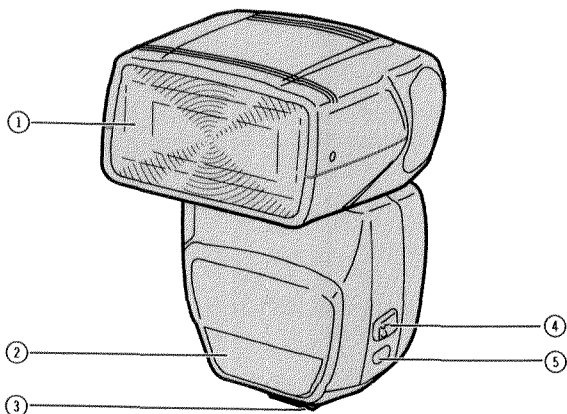
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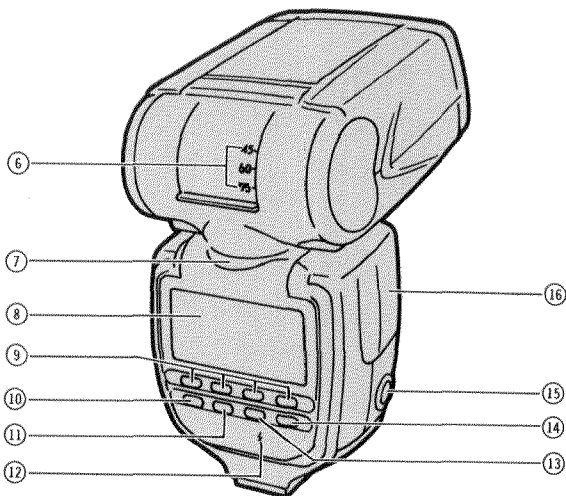
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## NAMES OF PARTS



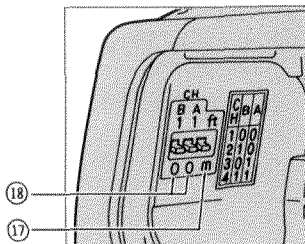
- ① Flashtube
- ② AF illuminator
- ③ Mounting foot
- ④ Mounting-foot release
- ⑤ External-power terminal



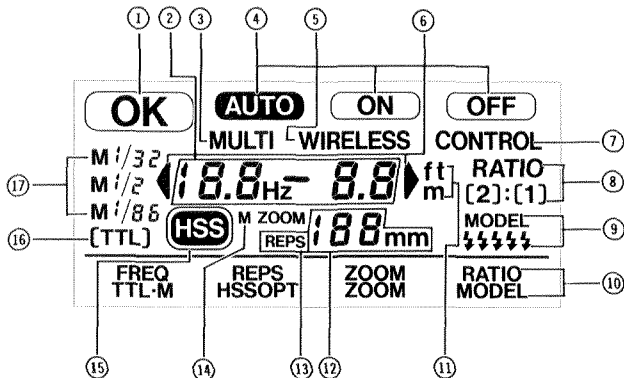
- ⑥ Vertical-angle guide
- ⑦ Horizontal-angle guide
- ⑧ Data panel
- ⑨ Control buttons
- ⑩ ON/OFF button
- ⑪ MODE button
- ⑫ Flash-ready signal
- ⑬ LIGHT button
- ⑭ TEST button
- ⑮ Accessory terminal
- ⑯ Battery cover

Inside Battery Chamber:

- ⑰ ft/m switch
- ⑱ Channel-selector switches



# NAMES OF DISPLAYS



- |  |                                     |
|--|-------------------------------------|
| ① Flash-OK signal                      | ⑨ Modeling-flash indicators         |
| ② Flash-range/frequency display        | ⑩ Control-button indicators         |
| ③ Multi-mode indicator                 | ⑪ ft/m indicator                    |
| ④ Flash-operation indicators           | ⑫ Flash-coverage/flash-reps display |
| ⑤ Wireless/Remote indicator            | ⑬ Flash-reps indicator              |
| ⑥ Flash-range-warning indicators       | ⑭ Manual-zoom indicator             |
| ⑦ Wireless/Remote controller indicator | ⑮ HSS indicator                     |
| ⑧ Ratio-mode indicators                | ⑯ TTL indicator                     |
|  | ⑰ Manual-power-level indicators     |

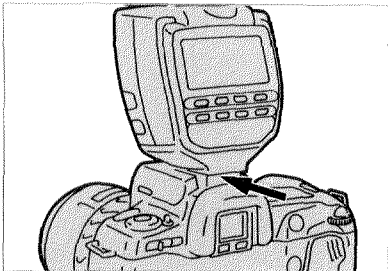


# PRELIMINARY INFORMATION

Read this section before you use your Program Flash 5400HS.  
This will help you make the most use of the flash as quickly as possible.

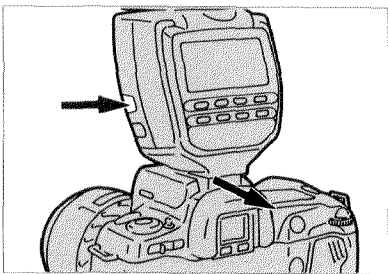
# PRELIMINARY INFORMATION

## ATTACHING AND REMOVING THE FLASH



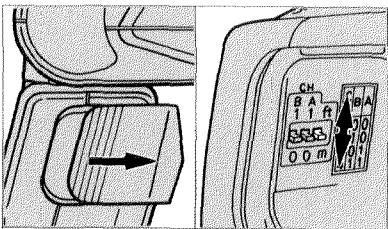
### To attach:

Align the flash's mounting shoe with the camera's accessory shoe and slide the flash forward until it locks firmly in place.



### To remove:

Press in and hold the mounting-foot release then slide the flash unit straight out of the camera's accessory shoe.



You can set the flash range to display in either feet or meters by moving the ft/m switch (located in the battery chamber) to the appropriate position.

## FLASH RANGE

(A) 0.7 - 14 m

(B) 14 m

When the flash is set to TTL control, the data panel will display the subject-distance range within which a correct exposure is possible (A). If you select manual flash control, a single value will appear (B). This is the only distance at which a correct exposure is possible with the current flash and camera settings.

(TTL) 0.7 m

This display indicates that the flash range is less than 0.7m (2.3 ft.).

(M) 0.7 m

(TTL) 8.0 - 28 m

These displays indicate that the flash range extends beyond 28m (92 ft.).

(M) 28 m

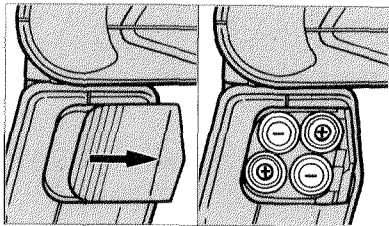
## FILM

If your camera has a manual film speed adjustment feature, the usable film speed range with flash is ISO 25 - 1000. If your camera has only automatic setting, use only DX-coded films between ISO 32 - 1000.

# PRELIMINARY INFORMATION

## INSTALLING BATTERIES

The 5400HS is powered by four AA-size alkaline-manganese or re-chargeable nickel-cadmium batteries.



1. Open the battery cover as shown.
2. Insert the batteries according to the diagram inside the battery chamber.
3. Replace the battery cover.

4. If no displays appear in the data panel press the ON/OFF button.
  - If still no displays appear, check whether you have inserted the batteries correctly. Refer to Battery Performance to determine whether the battery charge is sufficient.

### Battery cautions

- Read and follow all warnings and instructions supplied by the battery manufacturer.
- When you insert the batteries, make sure that the (+) and (-) terminals face in the correct direction.
- Never use batteries that are cracked or leaking.
- To prevent leaking or bursting, do not mix batteries of different type, brand, age, or charge.
- Used batteries should not be discarded in fire.
- If batteries are not inserted correctly, flash will not charge and leaking or bursting may result.
- Keep all batteries away from children.
- If you install newly purchased batteries that have been in prolonged storage, battery performance may vary from that indicated.

## BATTERY PERFORMANCE

The table below lists the performance of alkaline-manganese and nickel-cadmium batteries. The number of flashes per set or charge and the normal recycling time will depend on a number of factors, including the age of the batteries, the functions you use, and the operating temperature.

Battery Type	Number of Flashes per Set (A-M) or Charge (Ni-Cd)	Normal Re-cycling Time	Maximum Re-cycling Time
Alkaline-manganese	100 - 3500	0.2 - 11 sec.	30 sec.
Nickel-Cadmium	40 - 1200	0.2 - 6 sec.	10 sec.

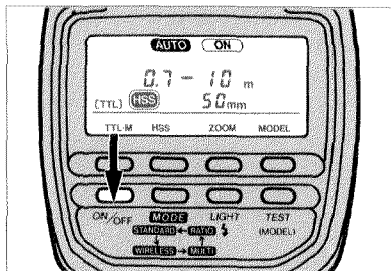
To check the battery charge, turn the flash on and set the power level to M1/1. When the flash-ready signal glows, press the TEST button and measure the time it takes until the flash-ready signal reappears. If the time is longer than the maximum recycle time listed above, the batteries should be recharged (Nickel-cadmium batteries **only**) or replaced.

## COLD-WEATHER OPERATION

Use fresh batteries in cold weather for optimum performance and keep a spare set warm in an inside pocket. Do not discard cold batteries because they will regain some of their charge when they return to room temperature. For prolonged use near or below 0°C (32°F), Ni-Cd batteries are recommended.

## PRELIMINARY INFORMATION

### TURNING THE FLASH ON AND OFF



If the data panel is blank when you attach the flash to a camera, the flash will automatically switch on when you turn the camera on. If OFF appears in the data panel, the flash will remain off until you press the ON/OFF button. When AUTO ON appear in the data panel, the flash is on and it will fire whenever neces-

sary. If just ON appears in the data panel, the flash will fire every time you take a picture.




### AUTO POWER-OFF

If you do not operate any of the flash or camera controls for more than four minutes, the data panel will automatically switch off to conserve battery power. The original displays will return and the flash head will reset to 24mm when you operate any of the camera controls. In wireless/remote flash mode, the off-camera flash will turn off automatically if you do not use it for one hour. To turn it on again, press the ON/OFF button.




## VIEWFINDER FLASH SIGNALS

The following flash signals appear in the camera's viewfinder data panel in any flash mode. These signals are only for a flash that is attached directly to the camera's accessory shoe or an attached flash via off-camera accessories.




### 700si/600si/500si/400si/300si/9xi/7xi/5xi

Signal	Meaning
 glowing steadily	Flash will fire when shutter-release is pressed
 glowing steadily	Flash is charged and ready
 blinking (after shutter release)	Flash output was sufficient for a correct exposure

### 8000i/7000i

Signal	Meaning
 glowing steadily	Flash will fire when shutter-release is pressed
 blinking slowly	Flash is charged and ready
 blinking quickly (after shutter release)	Flash output was sufficient for a correct exposure

### 3xi/2xi/SPxi/5000i/3000i

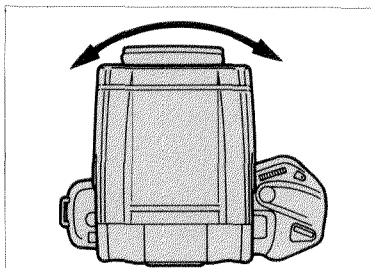
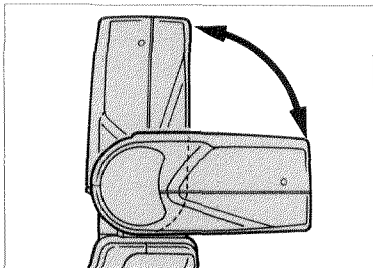
Signal	Meaning
 blinking	Flash charging
 blinking slowly	Flash is charged and ready
 blinking quickly (after shutter release)	Flash output was sufficient for a correct exposure

# PRELIMINARY INFORMATION

## BOUNCE FLASH



Bounce flash is an easy way to obtain soft, natural lighting effects. The flash head tilts up to 90° vertically and rotates 270° so that you can bounce light off an intermediate surface such as a wall, ceiling or reflector card. The 5400HS has click stops at the most commonly used positions.



**NOTE:** You cannot use bounce flash in HSS mode.

Position of Click-Stops	
Vertical	45°, 60°, 75°, 90°
Clockwise	30°, 45°, 60°, 75°, 90°
Counter-clockwise	30°, 45°, 60°, 75°, 90°, 120°, 150°, 180°



## BOUNCE-FLASH RANGE



With bounce flash, the flash range will depend on the distance from the flash to the reflector, the reflector to the subject, and characteristics of the reflector such as its color, reflectivity, and surface type. As a result, the flash cannot calculate the flash range and a bar will appear in the flash range indicator when you move the flash head from the forward position.

## REFLECTOR SURFACE

For optimum results, the surface should have a light tone and a matte surface — a shiny surface will produce the hard shadows that bounce flash is generally used to prevent. If you are using color film, the surface should also have a neutral color (either white or light gray) in order to maintain the natural color rendition of your subject.

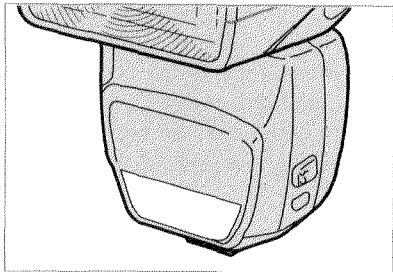
## BOUNCE ANGLE

When you bounce the flash light, aim the flash head so that your subject does not receive any direct illumination. When you bounce light off of an overhead surface, this table shows the angle to set which will prevent light from falling directly on the subject.

Focal Length	Vertical Angle
More than 70mm	45°
28mm-70mm	60°
24mm-28mm	75° or 90°

When you rotate the flash head to the right or left, a minimum angle of 90° from the direct position is recommended to prevent any direct illumination from falling on your subject.

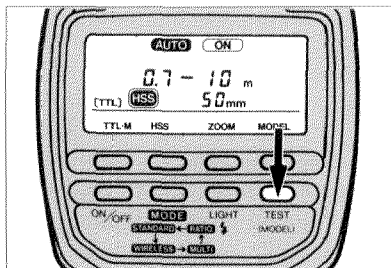
### AF ILLUMINATOR



In low-light or when subject contrast is low, the AF illuminator automatically activates when you press the shutter-release button partway down or when Eye-start activates an xi- or si-Series camera. The pattern that it projects onto your subject enables the camera to focus in these situations.

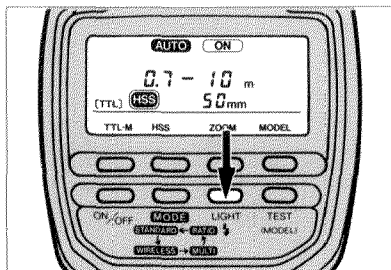
- The range of the AF illuminator is 0.5 - 9m (0.5 - 30 ft.), based on Minolta's standard testing method using a 50mm lens.
- When the flash is attached directly to the camera and AF illumination is required, whether the AF illuminator on the flash or the camera lights will depend on the ambient light level.
- In the case of off-camera flash operation (wireless/remote or with accessory cables), only the camera's AF illuminator will function.
- The AF illuminator may not be effective if your subject has very low reflectance.
- In wireless/remote flash mode, the off-camera flash's AF illuminator will blink when the flash is charged.

## TEST BUTTON



Use the TEST button in any flash mode to check flash operation. When you press it, if charging is complete the flash will discharge according to the current settings. The TEST button also activates Modeling Flash after it has been selected.

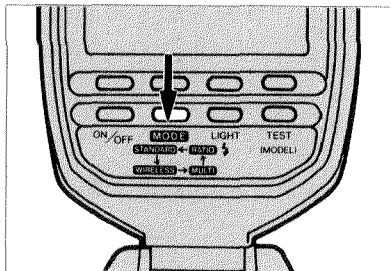
## LIGHT BUTTON



To activate the data panel light, press the LIGHT button. The light will remain on for approximately 16 sec. or until you press the button again.

# PRELIMINARY INFORMATION

## FLASH MODE BUTTON



Operation and control of the 5400HS is divided into four-modes — Standard, Wireless, Multi, and Ratio. Press the MODE button to change the flash mode. The indicator for the current flash mode will appear in the data panel. The four control buttons will also be labeled with their function in each mode. Details of each mode begins on the next page.

Button \ Mode	A	B	C	D
Standard (p.18)	TTL/M	HSS	Zoom	Modeling
Wireless (p.30)	TTL/M	Options	Zoom	Modeling
Multi (p.38)	Frequency	Repetitions	Zoom	---
Ratio (p.41)	---	---	Zoom	Ratio

- When you change to a new flash mode, the settings you made when you last used the mode will appear in the data panel.

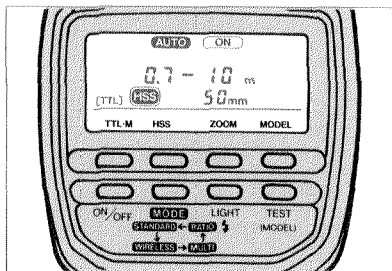
### Resetting the Flash

To reset the flash to Standard mode attach it to your camera and press the camera's program re-set button. The flash will return to Standard mode with TTL control, autozoom on, and modeling flash off. The HSS setting will not change.

# USING THE FLASH MODES

This section describes in detail how to use each of the four flash modes.

## STANDARD FLASH MODE



Standard mode is exactly that — the flash's standard operating mode. It gives you the option of allowing the flash and camera to take full control of everything from initial metering to flash output, leaving you free to concentrate entirely on composing your image. You can also use Standard flash mode in any exposure mode with full TTL control

or you can pre-set the flash output and flash coverage. By matching the degree of automatic or manual control to your needs and ability, Standard flash mode will help you achieve the results you want in virtually any situation.

## **FLASH CONTROL**

*Flash control refers to the way in which the flash output is regulated. In standard flash mode, you can let camera determine the flash exposure (TTL control) or you may choose from one of several manual settings. In some modes, the flash control setting cannot be changed.*

## **TTL FLASH CONTROL**

When TTL flash control is selected, the flash output will be monitored through the lens (TTL) and regulated by the camera's metering system during the exposure. TTL control can be used in any exposure mode to provide accurate flash exposures for subjects within the flash range that appears in the data panel. Instructions on using flash in each exposure mode with TTL control begin on the next page.

# STANDARD FLASH MODE

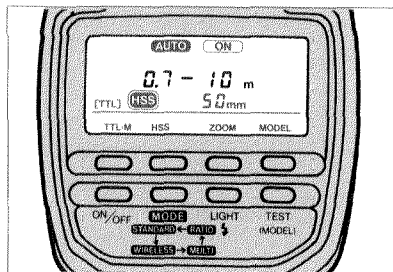
## TTL FLASH CONTROL IN P MODE: THE BASICS

Easy operation and high quality results are readily available with the 5400HS attached to your camera and the camera set to P mode. In addition to setting the shutter speed and aperture automatically, your camera will also determine when flash is necessary and will calculate and control the light output to correctly expose your main subject.

### Before you Begin

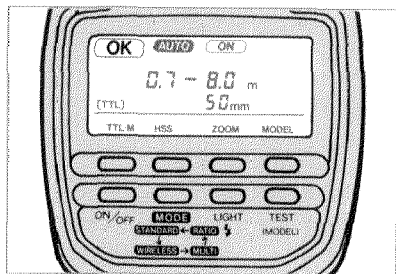
- Attach the flash to your camera and activate both.
- Press your camera's P re-set button.

### Operation



1. Wait for the flash-ready signal on the back of the flash or in the camera viewfinder to light.
2. Focus on your subject and make sure it is within the flash range displayed in the flash data panel.





3. Press the shutter release completely to take the picture.
4. If the flash output was sufficient for a correct exposure, the flash-ready signal in the camera viewfinder will blink after shutter-release and OK will appear in the flash data panel.

### **MANUAL FILL-FLASH (700si/600si/500si/400si/9xi/7xi/5xi/3xi/8000i)**

In P mode, even though the camera usually determines automatically when flash is necessary, you can also manually fire the 5400HS at any time. This will help reduce harsh shadows that form in high ambient light.

#### **Operation**

Press the flash control button (700si/600si/500si/400si/9xi/5xi/3xi), flash pop-up button (7xi), or aperture setting button (8000i) and hold it while you take the picture.