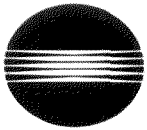


MINOLTA

MAXXUM FLASH
PROGRAM FLASH

5400xi

[E] INSTRUCTION MANUAL

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.

CORRECTION

Step #6 on page 37 of this manual tells you to test-fire an off-camera flash in wireless/remote mode by first activating Eye-start and then pressing the AE-lock button. However, when test firing, Eye-start should **not** be activated. Please make a note of this error in your manual or keep this insertion between pages 36 and 37 as a reminder. We apologize for any inconvenience this may cause.

KORREKTUR

In Schritt 6 auf Seite 35 in dieser Anleitung wird die Testzündung eines von der Kamera entfernten Blitzgeräts durch drahtlose Blitz-Fernsteuerung beschrieben. Die Anleitung besagt, daß zuerst das Eye-Start-System aktiviert und dann die AEL-Taste betätigt werden soll. Tatsächlich soll das Eye-Start-System zur Testzündung jedoch **nicht** aktiviert werden. Bitte nehmen Sie eine entsprechende Korrektur in Ihrer Anleitung vor oder legen Sie diese Notiz zwischen Seite 34 und 35 ein. Wir bitten Sie um Entschuldigung für diesen Fehler.

CORRECTION

L'étape n° 6 à la page 35 de ce manuel vous dit de déclencher un éclair de test par le flash annexe dans le mode flash à distance sans cordon en pressant d'abord le déclencheur à mi-course et ensuite en appuyant sur la touche AE Lock. Toutefois, le déclencheur **ne** doit **pas** être activé lors du déclenchement de l'éclair de test. Veuillez noter cette erreur dans votre manuel ou garder cette insertion entre les pages 34 et 35 pour rappel. Nous nous excusons de tout inconvénient éventuellement provoqué par cette erreur.

CORRECCION

El punto número 6 de la página 35 de este manual le indica como realizar una prueba de destello con el modo remoto sin cable del flash alejado de la cámara mediante la activación por el ojo y pulsación del botón de bloqueo de exposición automática. Sin embargo, cuando esté realizando la prueba de destello, la activación por el ojo **no** debe ser activada. Por favor anote este error en su manual o guarde esta nota insertada entre las páginas 34 y 35 como recordatorio. Disculpe las molestias que este error pueda causarle.

MINOLTA CAMERA CO., LTD.

P9204-A1
Printed in Japan

- TO AVOID ELECTRIC SHOCK, DO NOT IMMERSE FLASH AND/OR ACCESSORIES IN WATER OR OTHER LIQUIDES.
- 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

MAXXUM/PROGRAM FLASH 5400xi

The Maxxum/Program Flash 5400xi is a full-featured, high-power flash unit designed to expand the versatility of your i- or xi-Series camera. In addition to a maximum guide number of 54 (in meters at ISO 100), automatic fill-flash, a zoom head which automatically provides the correct flash coverage for lenses between 24 and 105mm, and slow-shutter sync flash, the 5400xi also includes such features as:

- Minolta's exclusive wireless/remote off-camera flash control
- Multi-burst operation
- Ratio control
- Six manually-selectable power levels
- A tilting, pivoting flash head for full bounce capability

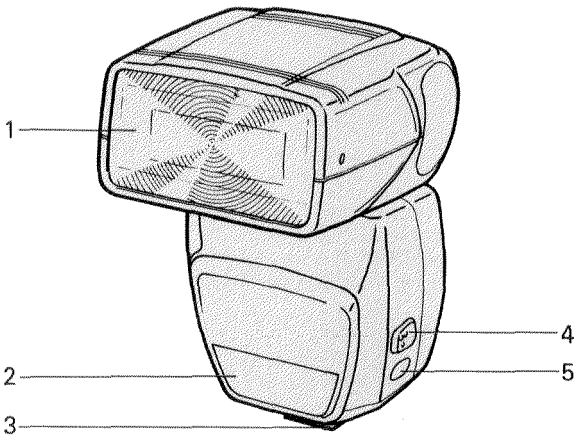
The Maxxum/Program Flash 5400xi will truly help you bring out the best in your flash photography.

Before this can happen, however, you should read these instructions carefully. In particular, you should read NAMES OF PARTS, CONTROLS, DISPLAYS, PREPARATIONS, and BASIC OPERATION before using the flash. The OPTIONS section contains details about many of the 5400xi's special features—refer to it as you begin to use each of these functions.

Throughout this manual, you will find information about Minolta flash accessories in blue boxes. These accessories will help you increase the performance of the 5400xi, to add extra features to its operation, and to enables you to realize the full creative potential of your Minolta Maxxum/Dynax system.

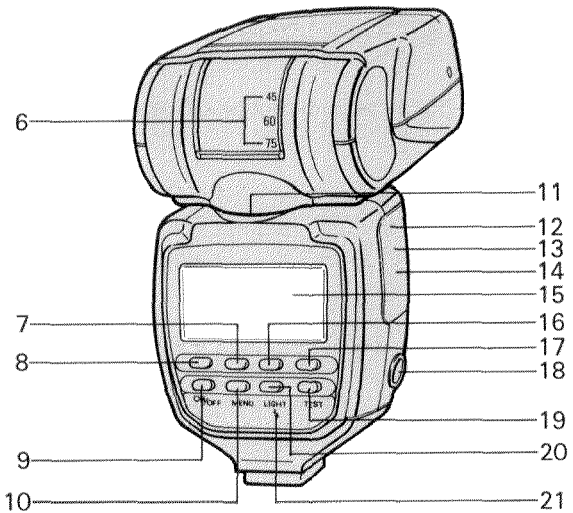
TABLE OF CONTENTS

NAMES OF PARTS



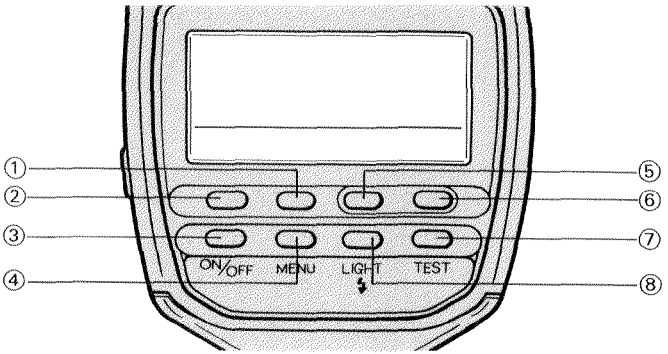
1. Flashtube
2. AF illuminator
3. Mounting foot
4. Mounting-foot release
5. External-power terminal

Connect External Battery Pack EP-1 Set here to obtain faster flash recycling and a greater number of flash exposures.



6. Vertical-angle guide
7. ZOOM/FREQ button
8. TTL·M/MULTI button
9. ON/OFF button
10. MENU button
11. Horizontal-angle guide
12. Battery cover
13. ft/m switch (inside battery chamber)
14. Channel-selector switches (inside battery chamber)
15. Data panel
16. LEVEL/REPS button
17. WIRELESS/RATIO button
18. Accessory terminal (attach accessory cable)
19. TEST button
20. LIGHT button
21. Flash-ready signal

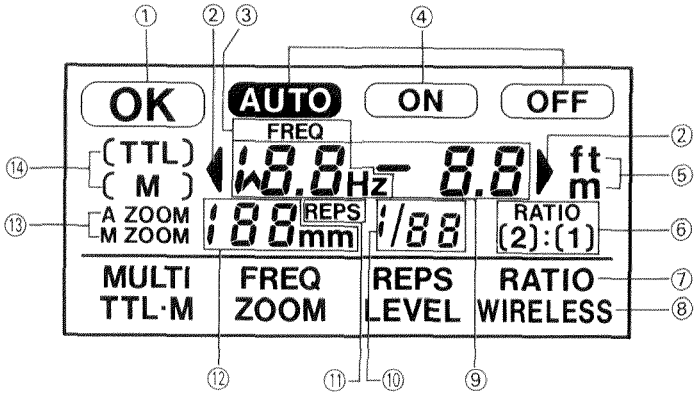
CONTROLS



① ZOOM/FREQ button
② TTL·M/MULTI button
③ ON/OFF button
④ MENU button
⑤ LEVEL/REPS button
⑥ WIRELESS/RATIO button
⑦ TEST button
⑧ LIGHT button
Illuminates the data panel for 16 sec. when pressed; turns data panel light off if pressed when the light is on

Maxxum/Program Flash 5400xi's functions are controlled through two different menus which you access with the MENU button. When you press the MENU button, the menu display in the lower part of the data panel changes between the main menu and the sub menu. The main menu allows you to change the flash control mode (TTL or manual), flash coverage (automatic or 7 manual settings), and power level, as well as select wireless/remote off-camera mode. Through the sub menu you select multi-burst mode, change the frequency and number of repetitions in multil-burst mode, and control the flash ratio. Each of these functions are described in the OPTIONS section. An operation chart on page 20 briefly describes the function of each button from both the main and sub menu.

DISPLAYS



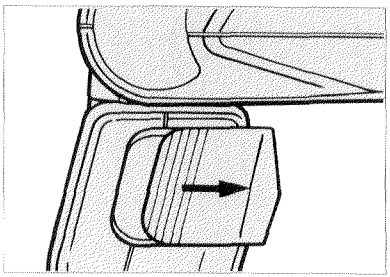
① Flash-OK signal
② Flash-range-warning indicators
③ Frequency display
④ Flash-operation indicators
⑤ ft/m indicator
⑥ Ratio indicator
⑦ Sub menu
⑧ Main menu
⑨ Flash-range display
⑩ Power-level display
⑪ Flash-repetition display
⑫ Flash-coverage display
⑬ Zoom-mode indicators
⑭ Flash-control indicators

1. PREPARATIONS

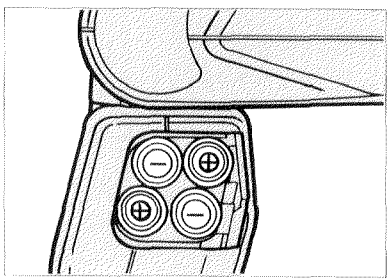
BATTERY INSTALLATION

This flash is powered by four AA-size batteries. Either alkaline-manganese or rechargeable nickel-cadmium (Nicad) batteries can be used.

To install batteries:



1. Slide the battery cover out, as shown. If necessary, wipe the terminals with a clean, dry cloth.



2. Insert the batteries as indicated by the diagram inside the battery chamber.

3. Replace the battery cover.

- If no display appears in the data panel after you insert the batteries, press the ON/OFF button.

Checking Batteries

To check the battery power, turn the flash on and set the power level to 1/1. When the flash-ready signal glows, press the test button and measure the time until the flash-ready signal reappears. If the time is longer than the value listed below, the batteries should be recharged (Nicad batteries **only**) or replaced.

Type	Time
Alkaline-manganese	30 sec.
Nickel-cadmium	10 sec.

Cold-weather Operation

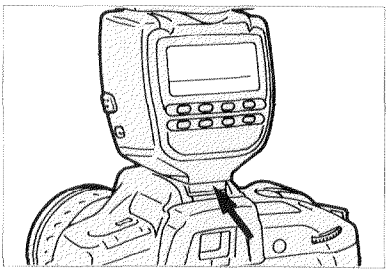
For optimum performance in cold weather, use fresh batteries. You should also keep a spare set warm in an inside pocket. For prolonged use near or below 0°C (32°F), Nicad batteries are recommended. Do not discard cold batteries. They will regain some of their charge when they return to room temperature.

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 directions.
- Never use batteries that show signs of leaking or cracking.
- To prevent leaking or bursting, never 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 storge, battery performance may vary from that indicated.

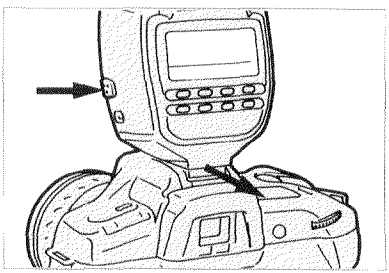
ATTACHING AND REMOVING THE FLASH

To attach:



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

To remove:



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

FILM

For flash pictures taken with Maxxum/Dynax 9xi, 7xi, 5xi, 8000i, 7000i, or 5000i, use film between ISO 25 and 1000. If you are using Maxxum/Dynax 3xi, SPxi, or 3000i, only use film between ISO 32 and 1000. If you use film outside these respective ranges, correct flash exposures may not be possible.

AF ILLUMINATOR

In low-light, low-contrast situations, the flash's autofocus (AF) illuminator automatically activates when you press the shutter-release button partway down (or when Eye-start activates an xi-Series camera). The pattern that it projects onto your subject enables the camera's AF system to continue operating in situations which would not normally allow. The illuminator's range is 0.5-9m (1.5-30 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, either the flash's or the camera's AF illuminator will light, depending on the ambient light level.
- In off-camera flash operation (wireless/remote or with an accessory cable), or when a second flash is connected to the 5400xi's accessory terminal and the 5400xi is attached to the camera, only the camera's AF illuminator will function.
- In wireless/remote off-camera mode, the flash's AF illuminator will blink when the flash is charged.
- If your subject has very low reflectance, autofocus still may not operate.
- *The AF illuminator will not operate if you are using a lens with a focal length* longer than 210mm.

TEST BUTTON

Use the TEST button to check flash operation. When you press it, if charging is complete, the flash will discharge according to the current settings.

FLASH RANGE

(TTL) 0.7 – 14 m

(M) 14 m

As shown at left, when you set the flash to TTL autoflash mode, the flash-range display in the data panel will show the subject-distance range within which a correct exposure is possible. When manual flash control is set, a single distance—that at which a correct exposure is possible—will be displayed.

(TTL) ◀ 0.7 m

(M) ◀ 0.7 m

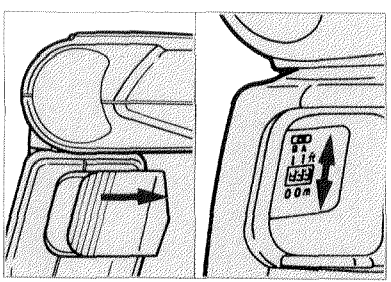
When you use either TTL or manual control, the displays at left indicate that the flash range will be less than 0.7m (2.3 ft.).

(TTL) 8.0 – 28▶ m

(M) 28▶ m

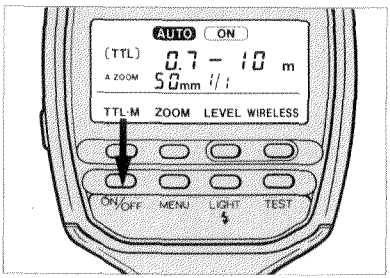
The displays at left indicate that the flash range extends beyond 28m (TTL control) or that a correct exposure can only be obtained at a distance greater than 28m (92 ft.)

ft/m Switch



You can set the 5400xi to display the flash range in either feet or meters. To do so, move the ft/m switch, located in the battery chamber, to the appropriate position.

TURNING THE FLASH ON AND OFF



Press the ON/OFF button to turn the 5400xi 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 when you turn the camera on and it will not fire when you take a picture.

In P mode (xi-series cameras) or P and S modes (i-series cameras), AUTO ON will appear in the data panel when the flash is on, and ON will appear when the camera is set to A, S and M modes (xi-series cameras) or A and M modes (i-series cameras). AUTO ON indicates that the camera will determine when to fire the flash. ON means that the flash will fire each time you take a picture.

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 displays will return when you operate any of the flash or the camera controls. In wireless/remote mode, the off-camera flash will turn off automatically if you do not fire it or operate any of its controls for one hour. To turn it on again after this time, press the ON/OFF button.

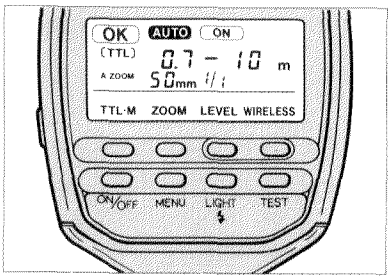
When the flash is mounted on a Maxxum/Dynax 9xi, 7xi, 5xi, 3xi, SPxi, 8000i, or 7000i, pressing the camera's program re-set button will also activate the flash and set the 5400xi's functions as follows:

Power:	AUTO ON
Menu:	main
Zoom control:	A ZOOM
Flash control:	TTL
Power level:	1/1
Ratio control:	off
Multi-burst:	off
Wireless/remote:	off

More information on each function and its various settings can be found in OPTIONS, beginning on page 20.

AUTOFLASH OPERATION

When autoflash control is in operation, [TTL] appears in the data panel. This means that the flash output will be regulated by the camera's metering system.

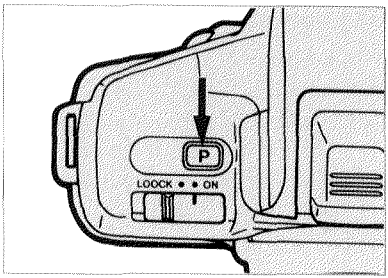


After the flash fires, if its output was sufficient to provide a correct exposure, the flash-OK signal will appear for 4 seconds.

P-Mode Autoflash

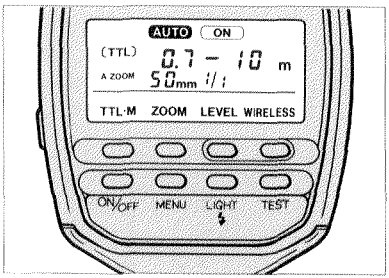
Easy operation and high-quality results are possible with P-mode autoflash operation. In P mode, besides setting the shutter speed and aperture automatically, the camera also determines when the flash is required and fires it whenever neccessary.

To use the flash and camera with P-mode autoflash:

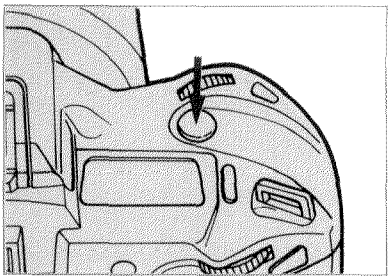


1. Set the camera to P mode and attach the flash.

2. If OFF appears in the flash data panel, press the ON/OFF button to turn the flash on.



3. Focus on your subject and make sure it is within the flash range displayed in the data panel.



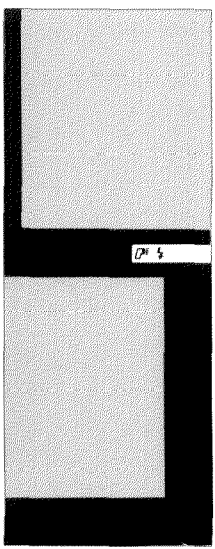
4. Wait for the flash-ready signal on the flash or in the viewfinder to glow.

5. Press the shutter-release button completely down to take the picture.

Manual Fill-Flash (9xi/7xi/5xi/3xi/8000i)

To fire the 5400xi at any time while the camera is set to P mode, press and hold the flash pop-up button (flash-control button with 9xi/5xi/3xi, aperture-setting button with 8000i) while you press the shutter-release button.

Viewfinder Flash Signals

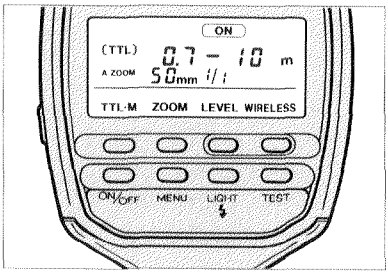


9xi/7xi/5xi/8000i/7000i: The flash-on signal glows to indicate that the flash will fire. When the flash is charged, the flash-ready signal lights.

3xi/SPxi/5000i/3000i: While the flash is charging, the use-flash signal blinks. When the flash is fully charged, the flash-ready signal lights.

A-Mode Autoflash (9xi/7xi/5xi/3xi/SPxi/8000i/7000i/5000i)

Set your camera to A mode and turn the flash on, the flash will fire every time you take a picture. When the flash is off, it will not fire. In A mode, you control the lens aperture and, thereby, the depth of field. In addition, setting larger apertures tends to reduce the flash recycling time.



Make sure that the flash is on—ON will appear in the data panel—and use the camera's controls to set the aperture you want. Before you release the shutter, check that your subject is within the range displayed in the flash data panel. When the flash-ready signal appears on the flash or in the viewfinder, take the picture.

In A mode, when the flash is turned on, the shutter speed will automatically be set to:

9xi	:slower than 1/300 sec.
7xi/8000i	:1/200 sec.
7000i	:1/125 sec.
5xi/3xi/SPxi/5000xi	:1/90 sec.

S-Mode Autoflash

If you are using the 5400xi with an xi-series camera set to S mode, when the flash is on it will fire every time you press the shutter-release button and it will not fire when it is turned off. When you use an i-series camera, autoflash operation in S mode is the same as it is in P mode (p. 16); the camera's metering system will automatically fire the flash whenever necessary.

M-Mode Autoflash

When the camera is set to M mode, the 5400xi will fire each time you take a picture as long as it is already turned on. If it is off, it will not fire. Operate the camera as you would normally in M mode. You cannot select shutter speeds faster than the camera's x-sync speed. After the flash has charged and you have checked that your subject is within the flash range displayed in the data panel, release the shutter.

3. OPTIONS

Operation Chart

The function of four of the flash's control buttons varies depending on whether the main menu or the sub menu is displayed.

BUTTON	MAIN MENU	SUB MENU
TTL·M/MULTI	Selects autoflash (TTL) or manual control	Selects multi-burst mode
ZOOM/FREQ	Selects automatic zoom control or manual zoom settings	Selects firing frequency in multi-burst mode
LEVEL/REPS	Selects flash power level	Sets the number of times the flash will fire in multi-burst mode
WIRELESS/ RATIO	Selects wireless/remote off-camera operation	Selects ratio control modes

FLASH CONTROL

TTL Autoflash

In the autoflash modes described in BASIC OPERATION, the camera uses through-the-lens, off-the-film (TTL OTF) metering to control the amount of light supplied by the flash. When the shutter opens, the camera's metering system continuously measures the amount of light which reaches the film plane. Once this system senses that the exposure is sufficient, it automatically shuts off the flash.

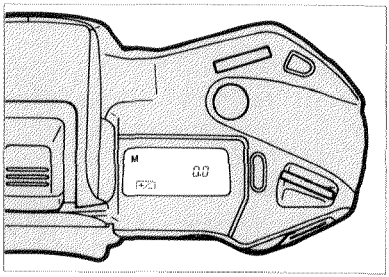
Exposure compensation (9xi/7xi/5xi/8000i/7000i)

During autoflash operation, the exposure system bases its calculations on the assumption that you are photographing a subject of average tone and reflectance. If your subject is very bright or highly reflective, or is extremely dark, then exposure adjustment may be required to obtain a correct exposure. For example, if you photograph, a person wearing white clothes in front of a white wall, the exposure system may shut off the flash too soon because the white elements in the scene will reflect more light back to the camera than would a scene of average brightness or one containing a mixture of light and dark tones. When you photograph scenes that are primarily bright or have highly reflective subjects, you may have to manually select over-exposure compensation to obtain a correct exposure. For the opposite reason, when you photograph scenes which are composed of primarily dark-toned elements, or if you are photographing a night scene with a great deal of distant background in the frame, you may have to manually underexpose the picture.

- When you are taking flash pictures with ISO 1000 film, you should not manually underexpose a picture because doing so sets an effective film speed which is beyond the recommended range of the flash.

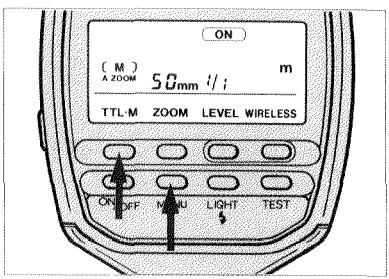
Manual Flash Control (9xi/7xi/5xi/3xi/SPxi/8000i/7000i/5000i)
When you set your camera to manual exposure mode, besides autoflash control, you can also set the 5400xi to fire fully at the power level you select. In this case, the resulting exposure depends on the lens aperture, subject distance, and flash-power level.

To operate the flash manually:

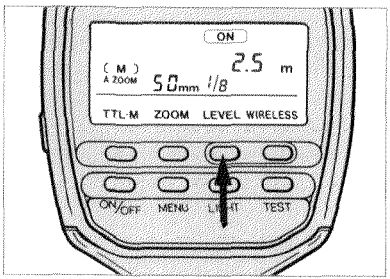


1. Set your camera to M mode.

2. Attach the 5400xi and turn it on.



3. Select the main menu and press the TTL·M/MULTI button so that the manual-flash-control indicator [M] appears in the flash data panel.



4. Select the flash-power level (see p.25) and use the camera controls to set the shutter speed and aperture.
- You cannot set shutter speeds faster than the camera's top x-sync speed.

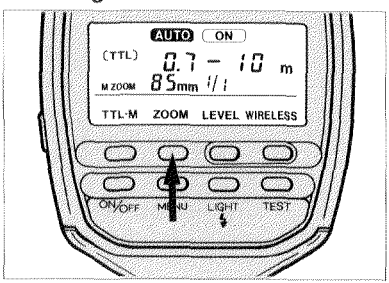
5. Focus on your subject and press the shutter-release button.

- When you set the flash to manual control, the flash range in the data panel will be replaced by a single distance. This is the distance at which a correct exposure can be obtained given the current aperture and power-level settings.

ZOOM CONTROL

When **A ZOOM** appears in the flash data panel, the 5400xi's flash head will automatically zoom anywhere between 24 and 105mm to match the angle-of-view of the focal length you have set. The flash also has several manually-selectable settings within this range. In both manual and automatic zoom control, the focal length which corresponds to the current flash coverage appears in the flash-coverage display whenever the flash is on.

To change the zoom-control mode or the coverage setting:



Select the main menu and press the ZOOM/FREQ button. The zoom-mode and flash coverage display will change as follows each time you press the button:

→ A ZOOMXX · M ZOOM24 · 28 · 35 · 50 · 70 · 85 · 105 →

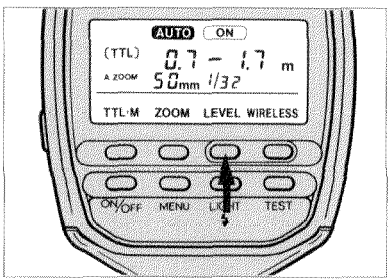
* XX will change automatically to indicate the current flash coverage

- If the flash is set to zoom automatically and you attach a lens with a focal length less than 24mm, **24mm** will blink in the flash data panel.
- In manual zoom mode, if the flash coverage is set to a focal length which is longer than that of the lens, the corners of your pictures may appear dark.

POWER LEVEL

The 5400xi has six manually-selectable power levels: 1/1, 1/2, 1/4, 1/8, 1/16, and 1/32. When you press the camera's program re-set button, 1/1 is set automatically. The other settings enable you to control the flash range in manual control mode or to reduce recycling time.

To change the power-level setting:



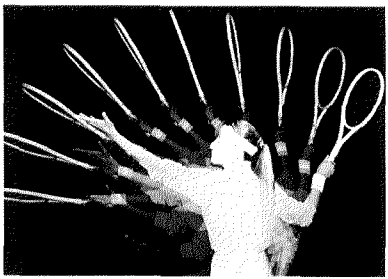
Select the main menu and press the LEVEL/REPS button. The power-level display will change in the following order:

1/1 · 1/2 · 1/4 · 1/8 · 1/16 · 1/32

The flash range will also change to match the flash output at the power level you select.

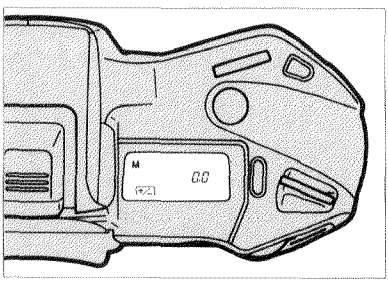
• When you select multi-burst mode, the power level will be automatically fixed to 1/32. You cannot change it.

MULTI-BURST MODE (9xi/7xi/5xi/3xi/SPxi/8000i/7000i/5000i)

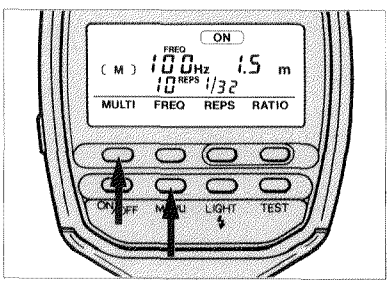


In this mode, the flash will fire several times in succession. The frequency and number of bursts which the flash fires is selectable. This function enables you to create several flash images on the same frame and is particularly useful for making photographic studies of moving subjects.

To operate multi-burst mode:

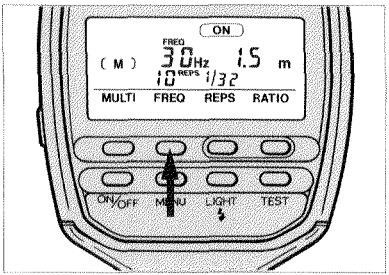


1. Set your camera to M mode, attach the flash, and turn the flash on.



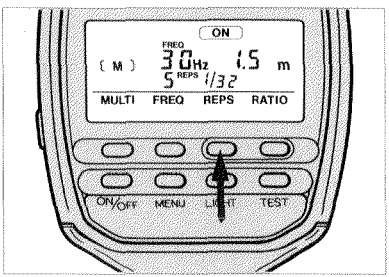
2. Select the sub menu and press the TTL·M/MULTI button once to select multi-burst mode.

- Flash control is automatically set to manual; [M] will appear in the data panel. If you had previously set TTL metering, it will be restored when you exit multi-burst mode and return to the main menu.
- When you select multi-burst mode, the power level is automatically set to 1/32 and cannot be changed. If you had set another power level before you selected multi-burst mode, it will be restored when you return to the main menu.
- When you select multi-burst mode, the flash-coverage display will disappear from the data panel. However, the 5400xi will continue to zoom automatically when necessary. If you want to set the coverage manually, press the MENU button once to return to the main menu; any settings you have already made in the sub menu remain in the flash's memory and will be restored when you return to the sub menu. Next, press the ZOOM/FREQ button to select the coverage and press the menu button once again to return to multi-burst mode.
- If you change the camera's exposure mode to P, A, or S, multi-burst mode will be canceled and TTL metering will be set automatically.



3. Press the ZOOM/FREQ button to select the firing frequency. The frequency setting, expressed in Hertz (bursts per second), changes in the following order:

→ 100 · 50 · 30 · 10 · 5 · 3 · 2 · 1



4. Press the LEVEL/REPS button to select the number of times you want the flash to fire. The repetition setting changes in the following order:

→ 10 · 7 · 5 · 4 · 3 · 2 · --

• When you set --, the flash will continue firing until its charge has been depleted or the shutter closes.

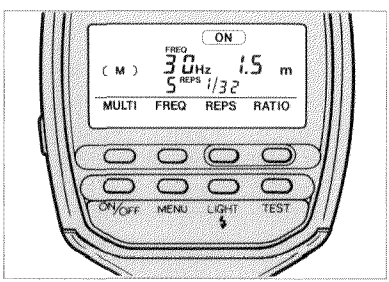
Minimum Shutter Speed

		Number of Flash Burst					
		10	7	5	4	3	2
Frequency (Hz)	100	1/8	1/8	1/15	1/15	1/30	1/30
	50	1/4	1/4	1/8	1/8	1/15	1/15
	30	1/2	1/2	1/4	1/4	1/8	1/15
	10	1	1	1/2	1/2	1/2	1/4
	5	2	2	1	1	1	1/2
	3	4	4	2	2	1	1
	2	8	4	4	2	2	1
	1	15	8	8	4	4	2

(sec.)

5. Set the shutter speed and aperture.

- The shutter speed you select must be long enough to ensure that the shutter remains open for the duration of the multi-burst sequence. The table at left lists the **fastest** shutter speed you can set with the various combinations of frequency and number of bursts.



6. Focus on your subject and release the shutter.

- A single distance will appear in the flash-range display. This is the distance at which a single burst from the entire sequence will provide a correct exposure. You can change this value by adjusting the lens aperture.

- If you press the MENU button, the data panel will return to the main menu, but the settings you have made to the sub menu will be retained in memory and will be restored when you return to multi-burst mode.

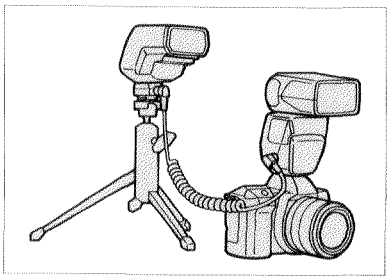
RATIO CONTROL (9xi/7xi/5xi/3xi/SPxi/8000i/7000i)

The 5400xi's ratio control function enables you to easily set a 2:1 or 1:2 lighting ratio when you use it with any other i- or xi-series flash unit.

You can connect up to four flash units by using Triple Connector TC-1000, Off-Camera Cable OC-1100, Cable EX, and Cable CD. Also, Off-Camera Shoe OS-1100 allows you to use flash units which do not have an accessory terminal or to secure a flash to a tripod. Some example of how to use these accessories appear on page 32.

Note: in this section, "on-camera flash" refers to an accessory flash which is attached to the camera. It does not mean "built-in flash."

To operate flash-ratio control:

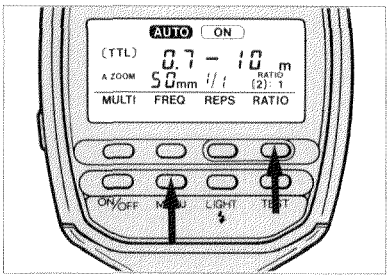


1. Connect your flash units through the accessory terminal (5400xi, 5200i, or OS-1100) using any of the above accessory cables and connectors.

2. Turn all the units on and select one (it must be a 5400xi or 5200i) to be the control unit.

• You must manually select the focal length coverage for any off-camera flash which has manual-zoom control.

On the control unit:



3. Select the sub menu and press the WIRELESS/RATIO button to select the lighting ratio you want. The number which appears in brackets indicates the output of the control unit:

- Do not select ratio control on any flash other than your control unit

4. When all the flash units are completely charged, focus on your subject and release the shutter.

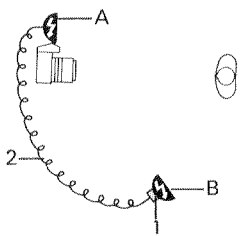
- When you use ratio control with your camera set to P, A, or S exposure modes, the shutter speed will be automatically set to 1/60 sec. or slower. In manual mode, you will not be able to select a shutter speed faster than 1/60 sec.
- When you select ratio control, the control unit automatically sets TTL metering. If you had previously set manual control, it will be restored when you cancel ratio operation and return to the main menu.

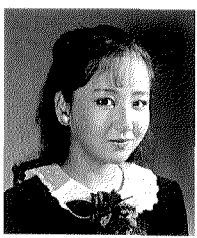
The following three examples show some results obtained with ratio control and the accessories used in each case.

A. Control flash (5400xi or 5200i)
B. Secondary flash (any i- or xi-series flash)

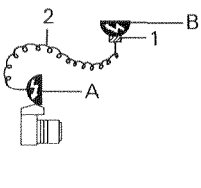
1. OS-1100
2. Cable CD
3. TC-1000
4. OC-1100
5. Cable EX

Example 1:
Main light off-camera with on-camera (control) flash providing fill light
Ratio setting on control flash: 2:[1]

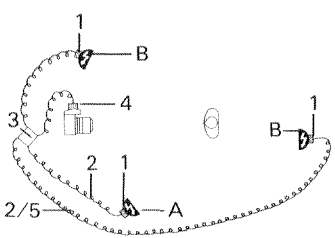




Example 2:
Main light bounced off of ceiling with on-camera (control) flash providing fill light
Ratio setting on control flash: 2:[1]



Example 3:
Main (control) unit off-camera from the side with fill ligh above camera and accent light behind subject
Ratio setting on control flash: [2]:1

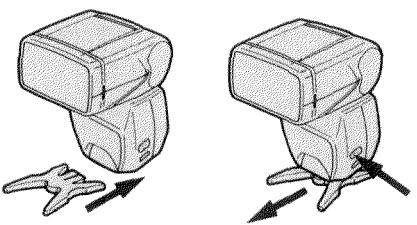


WIRELESS/REMOTE OFF-CAMERA FLASH CONTROL (9xi/7xi/5xi/3xi)

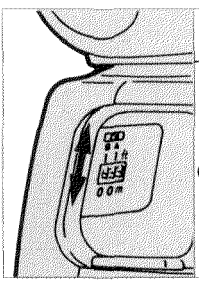
With Maxxum/Dynax 7xi, 5xi or 3xi, the camera's built-in flash can function as a wireless/remote controller for the 5400xi: When you use the 9xi, another 5400xi must be used as the control unit. In wireless/remote off-camera mode the camera's TTL metering system continues to provide autoflash control without requiring extra off-camera cables. The 5400xi also has four separate control channels so that the signals from your flash will not interfere with anyone working near you with similar set-up.

Note: Because the signal which causes the 5400xi to start and stop firing is a small burst from the on-camera flash (built-in or a second 5400xi), you should reduce the brightness of your surroundings as much as possible when using this feature.

Mini Stand MS-2 is included with your 5400xi and attaches directly to the flash's mounting foot. This stand also has a tripod socket so that you can secure the flash to a tripod. Attach and remove it as shown.



To select the control channel:



		A	B
Channel	1	0	0
	2	0	1
	3	1	0
	4	1	1

1. Open the battery cover and remove the batteries.

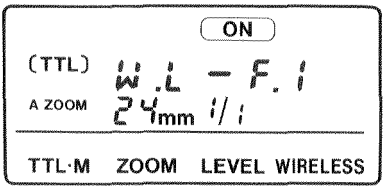
2. Refer to the table at left and set the channel-selector switches to the channel you want to use.

Wireless/Remote Off-Camera Control with 7xi/5xi/3xi:

1. Select the control channel as described on page 33.

- If you are using the 3xi, the 5400xi must be set to channel 1.

2. Attach your flash to the camera's accessory shoe and turn on both your camera and 5400xi.



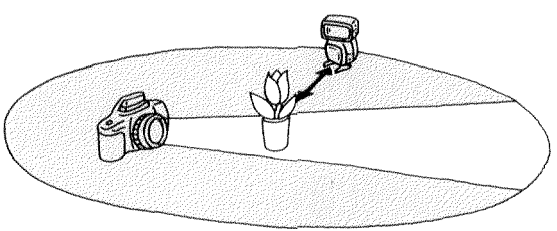
Flash-Subject Distance

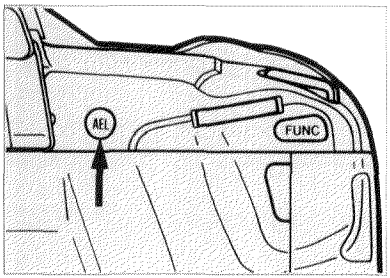
Aperture	ISO 100	ISO 400
1.4	20-15.7m/6.6-515ft.	4.0-31.4m/13-103ft.
2	1.4-11m/4.6-36ft.	2.8-22m/9.2-72.1ft
2.8	1.0-7.8m/3.3-25.5ft.	2.0-15.7m/6.6-51.5ft.
4	0.7-4.5m/2.3-15ft.	1.4-11m/4.6-36ft.
5.6	0.5-3.2m/1.6-11ft.	1.0-7.8m/3.3-25.5ft.
8	0.4-2.3m/1.3-7.4ft.	0.7-4.5m/2.3-15ft.
11	0.4-1.6m/1.3-5.4ft.	0.5-3.2m/1.7-11ft.

3. Refer to your camera's instruction manual and use the camera controls to select wireless/remote flash mode.

- W.L-F. and the channel you selected will appear in the flash-range display.
- TTL control is automatically selected and the power level will be set to 1/1.
- The shutter speed is automatically set to 1/60 sec. (1/45 sec. with 5xi and 3xi).

4. Remove the 5400xi and position it within the limits shown in the diagram and the table at left. Make sure the 5400xi's AF illuminator is pointing towards the camera.





5. Wait for both the 5400xi and the camera's built-in flash to charge, and press the AE-lock button (7xi or 5xi) or pre-flash button (3xi) to test-fire the flash.
- The 5400xi's AF illuminator will blink when it is fully charged.

6. Wait again unitl both flashes are fully charged and take the picture.

- In wireless/remote off-camera mode, the flash coverage will be automatically set to 24mm. You must select any other coverage manually.
- If you change the flash-control channel during operation, re-attach the 5400xi to your camera, activate Eye-start or press the shutter-release button partway down, remove the flash, and continue.
- Manual flash control is also available in wireless/remote off-camera mode. First attach the flash to your camera. Set the camera to manual (M) exposure mode and the flash to manual control (p. 22). Then use the camera controls to select wireless/remote off-camera mode.
- To cancel wireless/remote mode, select the main menu and press the WIRELESS/RATIO button once. W.L-F. will disappear.

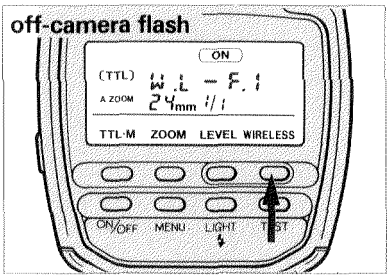
Wireless/Remote Ratio Control with 7xi/5xi/3xi

With wireless/remote off-camera control, you can use both the 5400xi and the camera's built-in flash together to obtain a 2:1 lighting ratio on your subject. To do so press the camera's flash-control button and hold it while you take the picture. The 5400xi will provide 2/3 of the required exposure and the camera's built-in flash will contribute the remaining 1/3.

Wireless/Remote Off-Camera Control with the 9xi

Because the 9xi has no built-in flash, another 5400xi or the Wireless Remote Flash Controller must be attached to the camera to act as the control unit for a 5400xi or 3500xi placed off-camera. When W.L-**F**. appears in the 5400xi's data panel, the flash is set to operate as an **off-camera** flash. When W.L-**C**. appears, it is set to operate on-camera as a **control** flash.

1. Use the chart on page 33 and set the same control channel on both the off-camera and wireless control flashes.

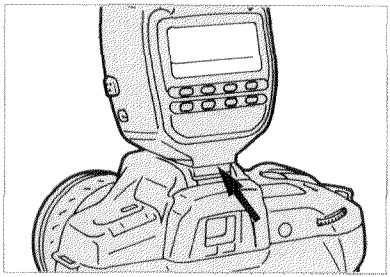


2. If you are using a 5400xi off-camera, press the WIRELESS/RATIO button to select wireless/remote mode. (With a 3500xi, to select wireless/remote mode, press and hold the ON/OFF button until the remote-operation indicator lights.)

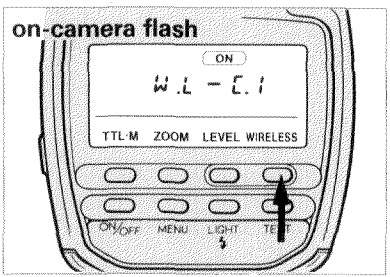
- W.L-F. and the channel you selected will appear in the flash-range display.

3. Position the off-camera flash within the limits shown in the diagram and table on page 34.

- In addition to TTL control, you can set the off-camera flash to manual control and any power level.



4. Attach to the camera the 5400xi which will act as the wireless controller.



5. Press and hold the on-camera flash's WIRELESS/RATIO button until W.L-C. and the control channel appear in the flash-range display.

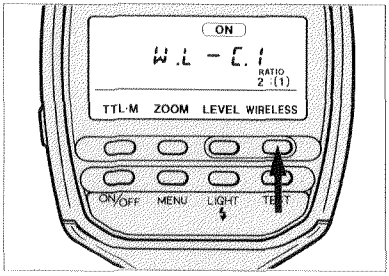
- Shutter speeds faster than 1/60 sec. cannot be selected in wireless/remote mode.

6. Wait for both flashes to charge, activate Eye-start, and press the AE-Lock button to test-fire the off-camera flash.
- The off-camera flash's AF illuminator will blink when the flash is charged.

7. Wait for both flashes to reach full-charge again and take the picture.

- In wireless/remote off-camera mode, the flash coverage will be automatically set to 24mm. You must select any other flash coverage manually.
- To cancel wireless/remote mode, select the main menu and press the off-camera flash's WIRELESS/RATIO button once; W.L-F. will disappear. Press and hold the on-camera flash's WIRELESS/RATIO button until W.L-C. disappears.

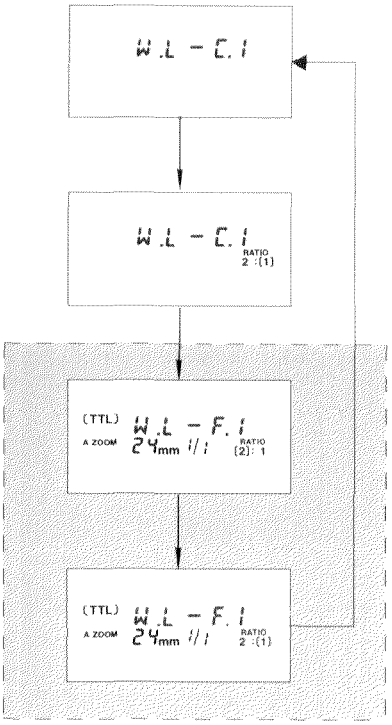
Wireless/Remote Ratio Control with the 9xi



To activate ratio control in wireless/remote flash mode, after step 5 of the previous section, press the on-camera flash's WIRELESS/RATIO button once. RATIO 2:[1] will appear in the flash data panel. When you take a picture, the on-camera flash will provide 1/3 of the flash exposure and the off-camera flash will provide 2/3. To cancel ratio control, press and hold the WIRELESS/RATIO button until W.L disappears.

- The off-camera flash must be set to TTL control.

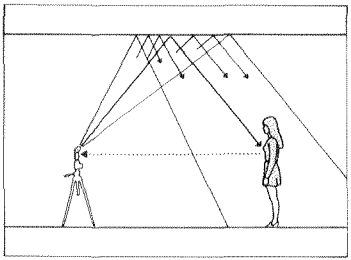
Wireless/Remote Ratio Control with the 9xi, Wireless Remote Flash Controller, and Multiple Off-Camera Flash Units



for use with the Wireless Remote Flash Controller

In wireless/remote ratio control, if you press the on-camera (control) flash's WIRELESS/RATIO button again, two more displays appear before the flash returns to normal control operation. These two operating modes are for use only with the Wireless Remote Flash Controller, available optionally. With it, you can set a 2:1 or 1:2 lighting ratio in wireless/remote mode with two flash units placed off-camera. You can use either two 5400xi's or a 5400xi and a 3500xi. Refer to the Wireless Remote Flash Controller owner's manual for details. If you are not using the Wireless Remote Flash Controller, **do not use these two settings**.

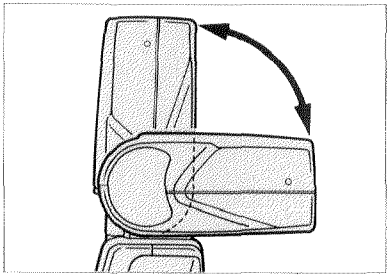
BOUNCE FLASH

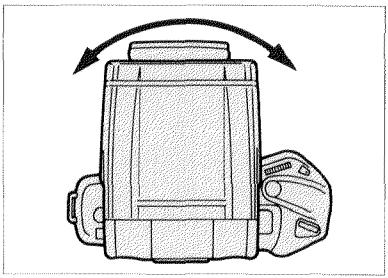


In most cases, when you reflect the flash's light off of another surface such as a white wall, your subject will receive softer lighting than it would directly from the flash. To enable you to easily bounce its light, the 5400xi's flash head tilts up to 90° vertically and rotates 90° clockwise or 180° counterclockwise (position of click-stops are listed below). Whenever you move the flash head from its direct position, a bar will appear in the flash-range display. This is because when you bounce the flash light, the flash range will depend on the distance to the surface and its characteristics such as color and reflectivity. As a result, the flash range cannot be acccurately calculated.

Click-stops

Vertical: 45°, 60°, 75°, 90°
Clockwise: 30°, 45°, 60°, 75°, 90°
Counterclockwise: 30°, 45°, 60°, 75°, 90°, 120°, 150°, 180°





For optimum results, the surface should be light in tone and should disperse light broadly; a shiny surface is not desirable. In addition, for color photography the surface should be neutral in color—either white or light grey—in order to maintain the natural color rendition of your subject.

Focal length	Angle
More than 70mm	45°
More than 28mm	60°
More than 24mm	75°, 90°

When you bounce flash light, aim the flash head so that your subject does not receive any direct flash illumination. When you are bouncing the light off of an overhead surface, the table at left shows the vertical angle you should set the flash head to prevent direct light from falling on the subject. When you rotate the flash head to either side, a minimum angle of 90° from the direct position is recommended to prevent any direct illumination from falling on your subject.

Bounce Reflector III Set

This compact, optional accessory attaches directly to the 5400xi's flash head to provide an excellent bounce surface. TTL autoflash control continues to regulate the flash exposure.

NOTES ON TAKING FLASH PICTURES

- Never fire the flash at close range into the eyes of people or animals.
- If the subject is at the near end of the flash range when the flash is attached to the camera, exposure will 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, 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 called, is caused by light from the flash reflected back into the lens from the subject's retinas, and will be more noticeable in some subjects than in 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 discharge becoming a disturbance.
- The flashtube may become hot when the flash is discharged. Be sure to leave sufficient space around the flashtube during operation.

CARE AND STORAGE

- This flash is not waterproof. If it comes in contact with water wipe it dry with a clean cloth and bring it to an authorized Minolta service facility.
- If the flash is subjected to a sudden change in temperature, as when transferring it from a cold environment into a heated building, condensation may form inside. To prevent condensation, place the unit in a sealed plastic bag before transferring it from a cold to a warm environment, and wait for it to come to room temperature before taking it out of the bag.
- The flash may not operate satisfactorily at temperatures above 50°C (122°F) or below -10°C (14°F).
- When dirty, the flash unit may be cleaned with a clean, dry cloth. Do not allow alcohol or other chemicals to come in contact with the flash.
- Never subject the flash to shock, high heat, or high humidity. Be particulary careful not to leave it in the glove compartment or other places in motor vehicles where it may be subjected to high temperatures.
- When storing the flash for more than two weeks, remove the batteries and store the flash in a cool, dry place away from dust or chemicals.
- The flash contains high-voltage circuits. Never attempt to disassemble the flash. Any repairs should be done by an authorized Minolta service facility.
- Fire the flash at least several times a month to check its operation.

To assure prompt service, contact your nearest authorized Minolta service facility before shipping your flash unit for repair.

TECHNICAL DETAILS

Exposure control: Direct TTL OTF metering in all exposure modes; manual flash control selectable when camera set to M mode
AF illuminator: Light-emitting diode (LED); range: 0.5 - 9m (3'3" - 16'); figures based on Minolta's standard testing procedures using a 50mm lens
Coverage: Power-zoom head automatically provides correct flash coverage for lenses between 24 and 105mm; manual adjustment also selectable

Coverage	Focal Lengh (mm)						
	24	28	35	50	70	85	105
Vertical angle (°)	60	53	45	34	26	23	20
Horizontal angle (°)	78	70	60	46	36	31	27

Guide number: At ISO 100m in meters:

		Focal Length (mm)						
		24	28	35	50	70	85	105
Power Level	1/1	28 (22)	32 (25)	36 (28)	42 (33)	46 (36)	52 (41)	54 (42)
	1/32	4.9	5.7	6.4	7.4	8.1	9.2	9.5

( ):Guide number in wireless/remote control

Flash duration: 1/50,000 - 1/600 sec.
Battery performance:

	Flashes per set or charge (Ni-Cd)	Recycling time (sec.)
Alkaline manganese	100 - 3500	0.2 - 11
Nickel-cadmium	40 - 1200	0.2 - 6

Dimensions: 80.5 x 132.5 x 105mm (3-3/16 x 5-3/16 x 4-1/8 in.)
Weight without batteries: 385g (13-9/16 oz.)

Specifications and accessories are based on the latest information available at the time of printing and are subject to change without notice.

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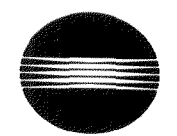

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