



KONICA MINOLTA

PROGRAM FLASH MAXXUM FLASH 2500 (D)

E INSTRUCTION MANUAL

FOR PROPER AND SAFE USE

Read and understand all warnings and cautions before using this product.

WARNING

Using batteries improperly can cause them to leak harmful solutions, overheat, or explode which may damage property or cause personal injury. Do not ignore the following warnings.

- Only use the batteries specified in this instruction manual.
- Do not install the batteries with the polarity (+/-) reversed.
- Do not use batteries which show wear or damage.
- Do not expose batteries to fire, high temperatures, water, or moisture.
- Do not attempt to recharge, short, or disassemble batteries.
- Do not store batteries near or in metallic products.
- Do not mix batteries of different types, brands, ages, or charge levels.
- Do not charge alkaline or lithium batteries.
- When recharging rechargeable batteries, only use the recommended charger.
- Do not use leaking batteries. If fluid from the batteries enters your eye, immediately rinse the eye with plenty of fresh water and contact a doctor. If fluid from the batteries makes contact with your skin or clothing, wash the area thoroughly with water.
- Tape over battery contacts to avoid short-circuiting during disposal; always follow local regulations for battery disposal.

- Do not disassemble this product. Electric shock may cause injury if a high voltage circuit inside the product is touched.
- Immediately remove the batteries and discontinue use if the camera is dropped or subjected to an impact in which the interior, especially the flash unit, is exposed. The flash has a high voltage circuit which may cause an electric shock resulting in injury. The continued use of a damaged product or part may cause injuries.
- Store this product out of reach of children. Be careful when around children not to harm them with the product or parts.
- Do not fire the flash directly into the eyes. It may damage eyesight.
- Do not fire the flash at vehicle operators. It may cause a distraction or temporary blindness which may lead to an accident.
- Do not expose this product to liquids or operate this product with wet hands. If liquid enters the product, immediately remove the batteries and discontinue use. The continued use of a product exposed to liquids may cause damage or injury through fire or electric shock.
- Do not use the product near inflammable gases or liquids such as gasoline, benzine, or paint thinner. Do not use inflammable products such as alcohol, benzine, or paint thinner to clean the product. The use of inflammable cleaners and solvents may cause an explosion or fire.
- If the product emits a strange odor, heat, or smoke, discontinue use. Immediately remove the batteries taking care not to burn yourself, as batteries become hot with use. The continued use of a damaged product or part may cause injuries.
- Take the product to a Konica Minolta Service Facility when repairs are required.

FOR PROPER AND SAFE USE

CAUTION

- Do not use or store the product in a hot or humid environment such as the glove compartment or trunk of a car. It may damage the product and batteries which may result in burns or injuries caused by heat, fire, explosion, or leaking battery fluid.
- If batteries are leaking, discontinue use of the product.
- Do not fire the flash while it is in contact with people or objects. The flash unit discharges a large amount of energy which may cause burns.
- Burns may result if the batteries are removed immediately after prolonged or heavy flash use. Wait for the batteries to cool.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. Changes or modifications not approved by the party responsible for compliance could void the user's authority to operate the equipment. This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment to an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

This Class B digital apparatus complies with Canadian ICES-003.

CONTENTS

NAMES OF PARTS	6
BASIC OPERATION	
INSTALLING BATTERIES	10
GETTING STARTED	12
Mounting the flash.....	12
Removing the flash	12
Turning the flash on	12
Auto Power Off.....	12
Metering-mode switch.....	13
About film use (Maxxum/Dynax cameras).....	13
P MODE FLASH: THE BASICS	14
With Maxxum/Dynax series cameras	14
With DiIMAGE series digital cameras.....	17
EXPOSURE MODES	20
A Mode Flash	20
S Mode Flash	20
M Mode Flash	21
Flash Sync Speed.....	21
ADVANCED OPERATION	
BOUNCE FLASH.....	23
AF ILLUMINATOR	26
OFF-CAMERA CABLES	27
Flash-Ratio Control (Varying the intensity of individual flash)	28
APPENDIX	
COMPATIBILITY WITH OTHER PRODUCTS.....	30
CAUTIONS WHILE HANDLING	32
TECHNICAL SPECIFICATIONS.....	34

Thank you for purchasing this Konica Minolta product. Please take time to read through the instruction manual so you may enjoy all the features of your new flash unit.

This manual covers the operation of PROGRAM/MAXXUM FLASH 2500HS(D) with the following cameras:

Maxxum

9, 7, 800si, 700si, 600si, 400si, 300si, XTsi, HTsi, STsi, QTsi, 3, 4, 5

Dynax

9, 7, 800si, 700si, 600si, 505si, 505si Super, 500si, 500si Super, 404si, 303si, 300si, 3L, 3, 5

DiIMAGE

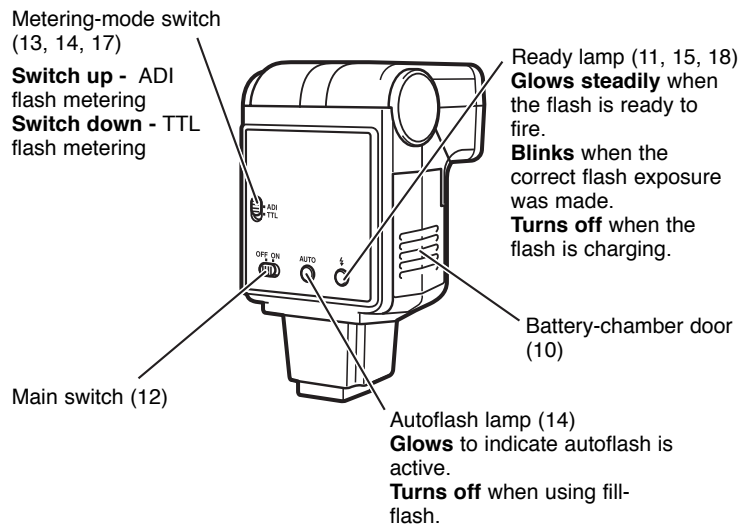
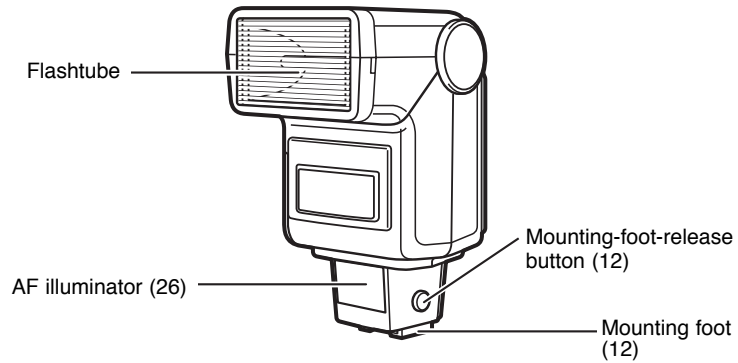
A1, A2, Z1, Z2, 7Hi, 7i, 7, 5

When using another Maxxum, Dynax series 35mm camera, a Vectris series APS camera, or a Dimâge series digital camera, refer to "Compatibility with Other Products" section on page 30 while read the main section of this manual.

This flash unit is designed and manufactured solely for use with the Konica Minolta Maxxum/Dynax series cameras and DiIMAGE series digital cameras. It cannot be attached to other Konica Minolta cameras. Performance when used with cameras from other manufacturers cannot be guaranteed. Konica Minolta takes no responsibility for accidents or malfunctions due to use with those cameras.

NAMES OF PARTS

Figures in parenthesis refer to the page number of relevant sections.



BASIC OPERATION

The section covers how to prepare the flash for use as well as the basic flash operation.

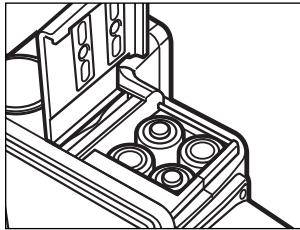
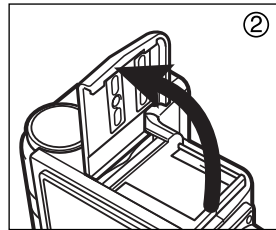
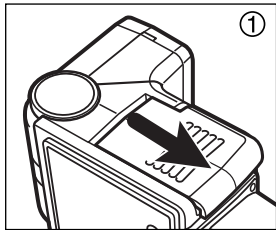
INSTALLING BATTERIES

The 2500 (D) may be powered by :

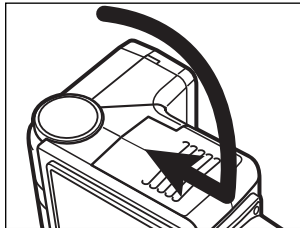
- Four AA-size alkaline batteries
- Four AA-size lithium batteries
- Four AA-size rechargeable nickel-metal hydride (Ni-MH) batteries

Only charge nickel-metal hydride batteries in an appropriate charger unit.

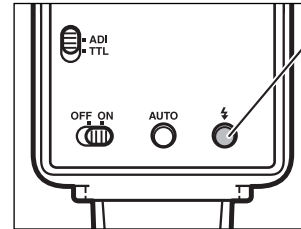
1. Open the battery-chamber door as shown.



2. Insert the batteries as shown in the diagram in the battery chamber.



3. Close the battery-chamber door.



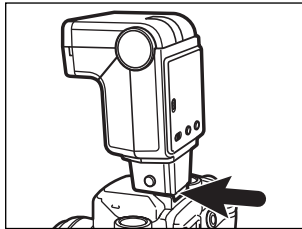
When the flash is charged and ready, the ready lamp at the rear of the unit glows.

When the flash charging time exceeds 30 seconds, replace the batteries.

BATTERIES

GETTING STARTED

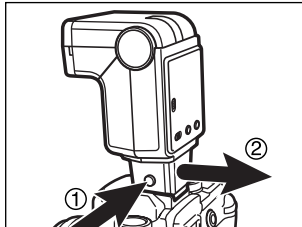
Mounting the flash



Slide the flash mounting foot firmly into the camera's accessory shoe until it stops.

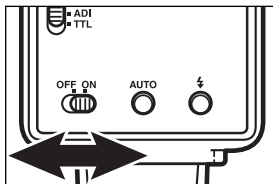
- The flash locks into place automatically.
- If the camera's built-in flash is up, lower it before mounting the flash unit.

Removing the flash



While pressing the mounting-foot release button (1), slide the flash (2) from the accessory shoe.

Turning the flash on



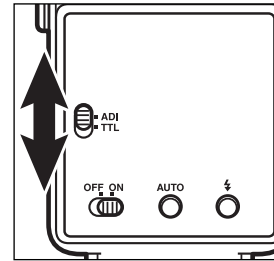
Slide the main switch to turn the flash on and off.

Auto Power Off

The flash is turned off automatically to save battery power if the flash is not used for 15 minutes. To restore power, slide the main switch off and on.

12

Metering-mode switch



Select the flash metering-mode.

- For the Maxxum/Dynax series cameras, ADI flash metering is available with the ADI compatible cameras and D series lenses. Refer to the camera's instruction manual for details.
- For the DiIMAGE series digital cameras, ADI flash metering is available with the ADI compatible digital cameras when the ADI flash metering-mode is set with the recording mode menu. Refer to the camera's instruction manual for details.
- When using a close-up diffuser, a filter that increases exposure (red 25, neutral density), or bounce flash, set the metering mode to TTL. ADI metering will result in incorrect exposures.

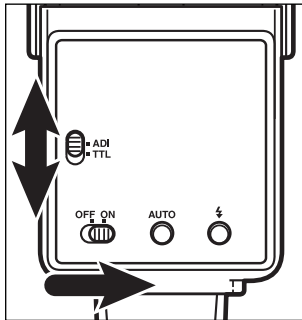
About film use (Maxxum/Dynax cameras)

Do not use films with a speed in excess of ISO 1000. Exposure errors may result.

- The low-speed film limit is the same as specified in the camera's instruction manual. Refer to the instruction manual for details.

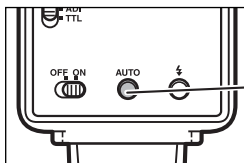
P MODE FLASH: THE BASICS

With Maxxum/Dynax series cameras



1. Turn the camera and flash on.
2. Set the P exposure mode on the camera.
3. Select the flash metering mode on the flash. The active metering mode depends on the metering mode selected and the camera in use, see chart below.

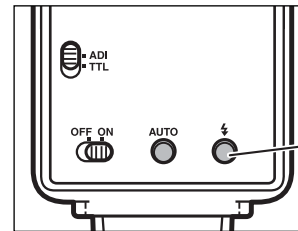
	Metering-mode switch position	Flash metering mode used
ADI flash compatible cameras with a D series lens	ADI	ADI metering
	TTL	TTL metering
ADI flash compatible cameras with TTL metering selected with a custom function	ADI	TTL metering
Cameras incompatible with ADI flash metering	TTL	



4. Press the shutter-release button partway down.
 - The autoflash lamp glows to indicate autoflash is active.
 - The autoflash lamp does not glow when using fill-flash.

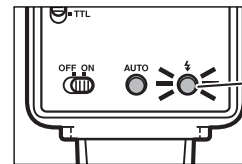
14

- With the Maxxum/Dynax 7, autoflash is used with full-auto, and fill-flash with the P mode.
- With the Maxxum/Dynax 9 and 800si, fill-flash is used when the P mode is selected (autoflash may also be selected as a custom setting with the 800si).
- With other cameras, autoflash is used with the P mode. Fill-flash can be selected in the same way as the flash mode of the built-in flash on the camera.



5. When the flash is charged, press the shutter-release button all the way down to take the picture.

- The flash is charged when the ready lamp on the rear of the unit and the flash-ready lamp ⚡ in the camera viewfinder are both lit.



- If the flash output was sufficient for the exposure:
- The ready lamp blinks on the rear of the flash unit.
 - The indicator ⚡ blinks in the camera viewfinder.

- The photo will be under-exposed if taken before the flash is completely charged.
- When using the self-timer, confirm the flash is charged before pressing the shutter-release button to start the countdown.

P MODE FLASH

15

P MODE FLASH: THE BASICS

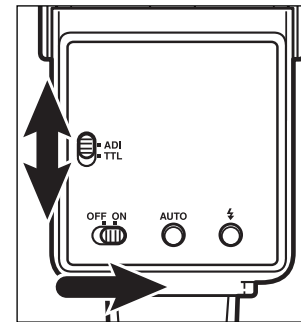
Flash range of the 2500 (D) in meters

Aperture	ISO 100	ISO 400
2.8	1 - 9	1 - 18
4	1 - 6	1 - 12
5.6	1 - 4.5	1 - 9
8	1 - 3	1 - 6
11	1 - 2.2	1 - 4.5

- If the subject is closer than 1m, use the flash off-camera with a cable.
- The flash range is for negative films. When using slide film, underexposure may be apparent at the farther limits of the flash range.

With DiMAGE series digital cameras

With the DiMAGE A1, A2, Z1, Z2, 7Hi, 7i, 7 and 5, fill-flash is used when the P mode is selected.



1. Turn the camera and flash on.
2. Set the P exposure mode on the camera.
3. Select the flash-metering mode on recording-mode menu and the flash metering mode on the flash. The active metering mode depends on the metering mode selected on recording-mode menu and the flash, see chart below.

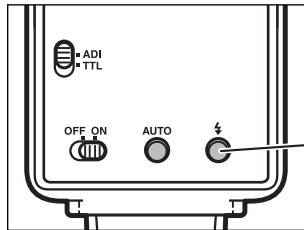
Recording-mode menu setting	Metering-mode switch position	Flash metering mode used
ADI	ADI	ADI metering
	TTL	P-TTL metering
P-TTL	ADI	P-TTL metering
	TTL	

- The flash-metering mode can not be selected with the DiMAGE Z1, and Z2 on recording-mode menu. With these digital cameras, always P-TTL metering will be used regardless of the metering-mode switch.

(Continued on next page)

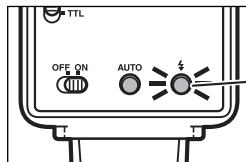
P MODE FLASH: THE BASICS

4. Press the shutter-release button partway down.



5. When the flash is charged, press the shutter-release button all the way down to take the picture.

- The flash is charged when the ready lamp on the rear of the unit glows and the flash signal ⚡ on the monitors turns white.



If the flash output was sufficient for the exposure:

- The ready lamp blinks on the rear of the flash unit.
- The indicator used with the built-in flash appears on the monitors. Refer to the digital camera's instruction manual for details.

- The photo will be under-exposed if taken before the flash is completely charged.
- When using the self-timer, confirm the flash is charged before pressing the shutter-release button to start the countdown.

Flash range of the 2500 (D) in meters with the DiMAGE A1 / A2 / Z1 / Z2 / 7Hi / 7i / 7 / 5.

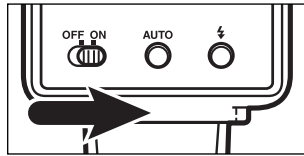
Aperture (F)	Camera sensitivity (ISO)				
	AUTO	ISO 100	ISO 200	ISO 400	ISO 800
2.8	0.5 - 12	0.5 - 9	0.5 - 12	0.5 - 18	0.5 - 25
4	0.5 - 9	0.5 - 6	0.5 - 9	0.5 - 12	0.5 - 18
5.6	0.5 - 6	0.5 - 4.5	0.5 - 6	0.5 - 9	0.5 - 12
8	0.5 - 4.5	0.5 - 3	0.5 - 4.5	0.5 - 6	0.5 - 9
11	0.5 - 3	0.5 - 2.2	0.5 - 3	0.5 - 4.5	0.5 - 6

- If the subject is closer than 0.5m, use the flash off-camera with a cable.

EXPOSURE MODES

The following descriptions are for camera models with A, S and M exposure modes.

A Mode Flash



1. Turn the camera and flash on.
2. Set the A exposure mode on the camera.
 - Fill-flash is the active flash mode.

3. Set the aperture and focus on the subject.

- The aperture will affect the flash range. The larger the aperture (the smaller the f number), the greater the range.
- The shutter speed is automatically set by the camera.

4. When the flash is charged, press the shutter-release button all the way down to take the picture.

S Mode Flash

1. Turn the camera on.

2. Set the S exposure mode on the camera.

- Fill-flash is the active flash mode.

3. Set the shutter speed, and focus on the subject.

- When using an SLR film camera, the shutter speed should be set to the flash sync speed or slower.
- The shutter speed is set automatically with the Dynax 500si, 500siSuper, and Maxxum 400si.

4. When the flash is charged, press the shutter-release button all the way down to take the picture.

M Mode Flash

1. Turn the camera on.

2. Set the M exposure mode on the camera.

- Fill-flash is the active flash mode.

3. Set the aperture and shutter speed, and focus on the subject.

- When using an SLR film camera, the shutter speed should be set to the flash sync speed or slower.
- The aperture will affect the flash range. The larger the aperture (the smaller the f number), the greater the range.

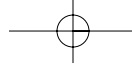
4. When the flash is charged, press the shutter-release button all the way down to take the picture.

FLASH SYNC SPEED

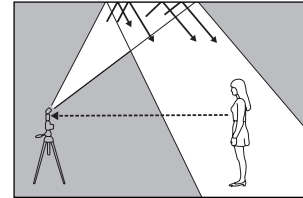
Because of flash duration and focal-plane shutters, there is a limit to the maximum shutter speed that can be used. This maximum speed is known as the flash sync. speed.

Sync speeds for specific camera models:

- Maxxum/Dynax 9 : 1/300 sec.
- Maxxum/Dynax 7, 800si, 700si, 600si : 1/200 sec.
- Maxxum XTsi, HTsi, 5 : 1/125 sec.
- Dynax 505si, 505si Super, 5 : 1/125 sec.
- Maxxum STsi, QTsi, 400si, 300si, 3, 4 : 1/90 sec.
- Dynax 500si, 500si Super, 404si, 303si, 300si : 1/90 sec.
- Dynax 3L, 3 : 1/90 sec.
- All shutter speeds can be set with DiMAGE series digital cameras.



BOUNCE FLASH



Direct flash illumination can cause harsh shadows on the subject and background. Bounce flash reflects the light from the ceiling to create soft diffuse illumination.

ADVANCED OPERATION

The section describes advanced flash photography techniques and accessories..

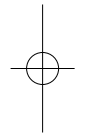


Bounce flash

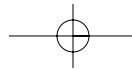


Normal flash

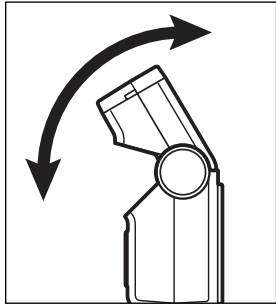
BOUNCE FLASH



(Continued on next page)



BOUNCE FLASH



Tilt the flash towards the ceiling.

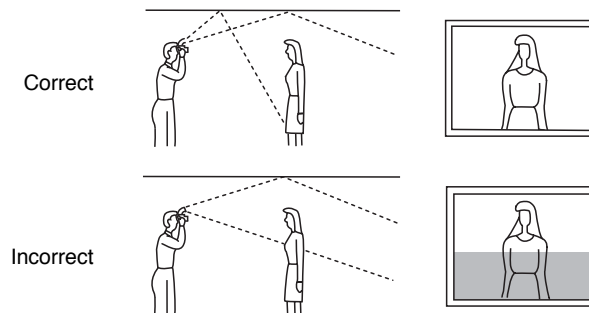
- The flash has a click stop at 60°. The bounce head can be set in any position between 0° and 90°.

- With bounce flash, using ADI metering can result in incorrect exposure. Set the flash metering-mode switch to TTL.
- Use a white ceiling or wall to reflect the flash. The color of a surface will affect the color of the flash illumination. High ceilings or highly reflective surfaces such as glass are not suitable for bounce flash.

Adjusting the Bounce Angle

The angle of the bounce head is important. If the bounce angle is too low, the subject will be illuminated by both directly with the flash and indirectly with the reflected light from the ceiling resulting in a harsh and unevenly lit photograph.

Determine the bounce angle in reference to the distance to the reflective surface, the distance from the camera to the subject, and the angle of view of the lens.

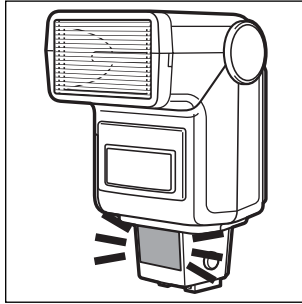


Determine the angle in relation to the table at right.

Focal length of lens	Bounce angle
70mm minimum	45°
28~70mm	60°
28mm maximum	75°, 90°

BOUNCE FLASH

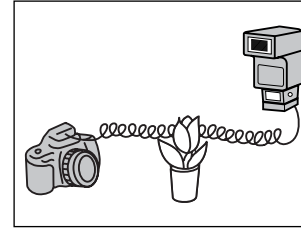
AF ILLUMINATOR



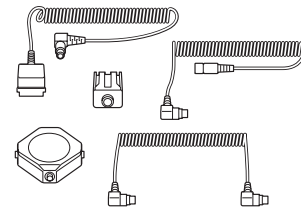
In low-light or when subject contrast is low, the autofocus system may not be able to focus. In these conditions, the flash's AF illuminator will activate to aid the AF system when the shutter-release button is pressed partway down.

- The camera's AF illuminator is disabled when the flash AF illuminator is in use.
- The AF illuminator is disabled when using the continuous AF mode.
- The AF illuminator may not operate with lenses with focal lengths greater than 300mm. The illuminator is disabled when the flash is used off-camera, or with the AF macro-zoom 3X-1X lens.
- The AF illuminator may not operate when the flash is used with the DiMAGE series digital cameras.

OFF-CAMERA CABLES



The use of the optional off-camera cables allows the flash unit to be placed to the left or right of the subject to create attractive side lighting. Up to four flash units can be connected.



The following off-camera accessories are available:

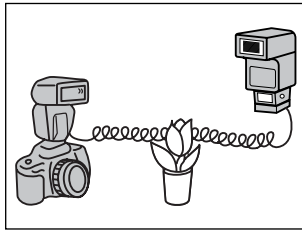
- Off-camera cable
- Off-camera shoe
- Extension cable
- Cable CD
- Triple connector TC-1000

The off-camera cable allows the flash to be used from any position. The extension cable further extends of the distance of the flash from the camera. The cable CD and triple connector TC-1000 allows photography with multiple flash units.

AF ILLUMINATOR
OFF-CAMERA CABLES

OFF-CAMERA CABLES

Flash-Ratio Control (varying the intensity of individual flash)



When using this flash with other accessory flash units*, a 2:1 flash ratio can be used. The flash ratio controls the relative power of two flash units. The 2:1 ratio indicates the output difference between the main light and fill light; the fill light controls the depth of the shadows.

**5600HS(D), 5400HS, 5400xi, 5200i*

- The flash ratio cannot be set with this flash. The ratio must be set with the compatible accessory flash unit. See the flash manual for details.
- Ratio control cannot be used with the DiMAGE series digital cameras and Maxxum/Dynax 300si. The use of this function may result in incorrect exposures.

APPENDIX

COMPATIBILITY WITH OTHER PRODUCTS

Have your camera manual as reference when reading this flash manual.

Using xi Series SLR Cameras

(Maxxum/Dynax 9xi, 7xi, 5xi, 3xi, SPxi, 2xi)

- Flash is set to autoflash in the P exposure mode with the 9xi, 7xi, 5xi and 3xi. Fill flash can be selected. See the camera manual for details.
- Flash is set to autoflash in the P exposure mode with the SPxi and 2xi. Fill flash cannot be selected.
- The shutter speed is set automatically in the S exposure mode with the 7xi, 5xi, 3xi, SPxi, and 2xi.

Using i Series SLR Cameras

(Maxxum/Dynax 8000i, 7000i, 5000i, 3000i)

- Flash is set to autoflash in the P exposure mode. Fill flash can be selected with the 8000i. See the camera manual for details.
- Flash is set to autoflash in the S exposure mode, and the shutter speed is set automatically.
- The use of ratio flash control will result in incorrect exposures when used with the 5000i and 3000i.

Using Early AF Series SLR Cameras

(Maxxum/Minolta 9000, 7000, 5000)

- The optional flash shoe adapter FS-1200 is required. See the FS-1200 manual for details.

Using APS SLR Cameras

(Vectis S-1)

- Flash is set to autoflash in the P exposure mode. Fill flash can be selected with the flash-mode button on the camera.
- The shutter speed is set automatically in the S exposure mode.
- The flash coverage with APS cameras is sufficient for lenses with a focal length of 22mm or longer.

Using Dimâge RD3000 and RD-175 Digital Cameras

- Flash is set to autoflash in the P exposure mode. Fill flash is used when a photo is taken while the manual fill-flash button on the camera is pressed.
- The shutter speed is set automatically in the S exposure mode.

CAUTIONS WHILE HANDLING

During Photography

- This flash unit has an intense light output and should not be fired directly in front of anyone's eyes.

Batteries

- Do not store the flash unit with the alkaline batteries inside. Leakage from the batteries may damage the battery chamber.
- When using alkaline batteries, temperature and storage conditions can affect performance and may require more than 30 seconds for the flash to charge. Battery performance can be restored by using the flash a few times or turning the flash unit on and off several times. Replace the battery if performance does not improve.
- If lithium batteries become hot due to high temperatures or repeated use, an internal safety circuit shuts them down. Wait until the batteries cool before using the flash again.
- Nickel-metal hydride batteries can lose power suddenly. If battery performance drops while using the batteries, recharge them.
- Depending on the time elapsed since the battery was manufactured, the flash performance for new batteries may differ from the values shown in the technical specification section.

Temperature

- Flash unit operating temperature: -20°C to 50°C , -4°F to 122°F .
- Do not leave the flash unit exposed extremely high temperatures (eg. direct sunlight inside motor vehicles), or in conditions of high humidity.

- To prevent condensation from forming, place the flash in a sealed plastic bag when bringing it from a cold environment to a warm one. Allow it to come to room temperature before removing it from the bag.
- Battery capacity decreases at colder temperatures. Keep your flash and spare batteries in a warm inside pocket when shooting in cold weather. Batteries will regain some of their capacity when warmed to normal operating temperatures.
- This flash unit is not waterproof. Care should be taken not to expose the unit to water.
- Care should be taken when used on a beach or near water. Exposure to water, sand, dust, or salt may damage the product.

Maintenance

- Clean by wiping with a soft, clean cloth. If the flash has been in contact with sand, wiping will cause surface damage. Gently remove sand particles using a blower before wiping.
- Do not use organic solvents (paint thinners or benzene) to clean the product.

Questions and Service

- If you have questions about your flash, contact your local camera dealer or write to the Konica Minolta distributor in your area.
- Before shipping your flash for repair, please contact an authorized Konica Minolta Service Facility for instructions.

TECHNICAL SPECIFICATIONS

Guide number 25 (in meters at ISO 100), 82 (in feet at ISO 100)

Recycling time (sec.)	Alkaline	Ni-MH	Lithium
	0.2 - 6	0.2 - 5	0.2 - 6

Number of flashes	Alkaline	Ni-MH	Lithium
	200 - 4000	200 - 4000	500 - 10000

• For every new battery set.

Flash coverage Equal to a 28mm focal length lens

Continuous flash performance 30 continuous cycles of 3 flashes per second (GN 2.8, Nickel-metal hydride battery)

AF illuminator LED. Automatic with low-contrast subjects or under low-light conditions
 Approximate operating range (with Maxxum/Dynax 7)
 AF mid 1 area: 1 - 5m (50mm lens)

Flash control Flash control using pre-flash, TTL direct metering

Size 65 (W) x 115 (H) x 69 (D) mm

Weight 190g (without batteries)

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

CE This mark below the flashtube certifies that this product meets the requirements of the EU (European Union) concerning interference causing equipment regulations. CE stands for conformité Européenne (European conformity).

TECHNICAL SPECIFICATIONS



KONICA MINOLTA

KONICA MINOLTA PHOTO IMAGING, INC.

© 2004 Konica Minolta Photo Imaging, Inc. under the
Berne Convention and universal Copyright Convention



0 43325 53220 7

9222-8845-11 P-C404