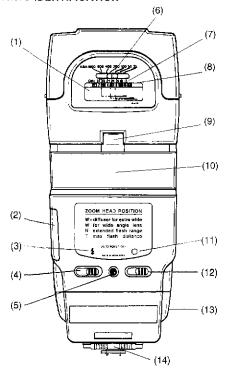
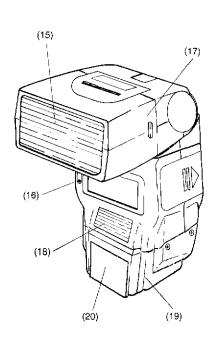


OPERATING INSTRUCTIONS

ELECTRONIC FLASH

PARTS IDENTIFICATION





- (1) Zoom Position Indicator
- (2) Battery Compartment Cover
- (3) Ready Indicator Lamp
- (4) On-Off Switch
- (5) Test/Reset Flash Button
- (6) ISO/DIN Selector
- (7) Exposure Calculator
- (8) F Stop Indicator
- (9) Bounce Angle Indicator

- (10) Swivel Head
- (11) Auto Check Indicator Lamp (with FTM5000/FTA5000 Modules) or Functioning Indicator Lamp (with 5000DX Modules Only)
- (12) Single/Twin Flash Selector
- (13) Release Button for Detaching Module
- (14) Locking Ring
- (15) Main Flash Reflector

- (16) Front Ready Flash Warning Lamp
- (17) Zoom/Bounce Flash Head
- (18) Fill-in Flash Reflector
- (19) Interchangeable Module
- (20) AF Illuminator for Autofocusing (on DX Module OM/CN and FTA5000 AF Module)

or Light Sensor

(on DX Module SN/NK and FTM5000 Module)

FLASH DEDICATION

This flash unit requires an Interchangeable Dedicated Module to fit dedicated cameras for dedicated flash operation.

• PLEASE REFER TO THE MODULE INSTRUCTIONS FOR ADDITIONAL DETAILS.

DX Modules for popular digital cameras :

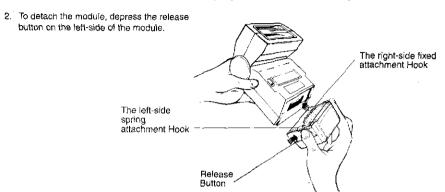
- ◆ DX Module OM is for OLYMPUS digital cameras. (#1045 with Hot-Shoe/#9901 with Cord)
- DX Module SN is for SONY digital cameras. (#9908 with Cord)
- DX Module NK is for NIKON 900 series digital cameras. (#1017 with Sync Cord)
- DX Module CN is for CANON digital cameras and 35mm SLR autofocus cameras with E-TTL autoflash metering system. (#1010 with hot-Shoe)

This flash unit can also work with other 5000 series Modules :

- FTA modules for 35mm film SLR autofocus cameras
- FTM modules for 35mm film SLR classic cameras
- Compatible with Promaster Slave Module
 - As different camera models operate differently for flash photography, please also refer to your camera instruction manual for additional information.
 - Before attaching the Module to the Flash unit, always make sure that the Module and the
 Flash unit contact points are clean. A stain or dirt on the surface of the contact points on
 the Module side or on the Flash unit side may cause malfunction. You may use a soft cloth
 to clean the contact points on both sides.

ATTACHING AND DETACHING A MODULE

1. To attach a module, position the right-side fixed attachment hook onto the flash unit and then push the left-side of the module upward until the left-side spring attachment hook clicks into position.



- IMPORTANT NOTES: WHEN ATTACHING OR DETACHING THE MODULE, ALWAYS ENSURE THAT THE FLASH UNIT IS SWITCHED OFF.
 - DO NOT ATTACH OR DETACH THE FLASH UNIT TO AND FROM THE MODULE WHILE THE MODULE IS STILL MOUNTED ON THE CAMERA.
 - WHEN MOUNTING THE COMPLETE FLASH UNIT TO THE CAMERA, ALWAYS ENSURE THAT THE FLASH UNIT IS SWITCHED OFF.
 - EACH DEDICATED MODULE IS DESIGNATED FOR A PARTICULAR RANGE OF CAMERAS, USE OF A DEDICATED MODULE NOT DESIGNED. FOR YOUR CAMERA MAY CAUSE DAMAGE TO THE EQUIPMENT.

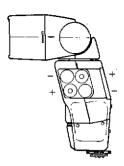
IT IS IMPORTANT TO FOLLOW THE ABOVE INSTRUCTIONS, OTHERWISE THE FLASH UNIT, MODULE AND/OR THE CAMERA MAY BE DAMAGED.

INSERTING BATTERIES

Open the battery compartment cover and insert four 1.5V AA batteries following the +/- signs as indicated inside the battery compartment, then replace the cover.

IMPORTANT:

- ENSURE THAT THE BATTERIES ARE INSERTED IN CORRECT POSITION.
- FOR BEST RESULTS USE FRESH ALKALINE BATTERIES OR PROMASTER RECHARGEABLE NIMH BATTERIES.
- DO NOT MIX FRESH AND WEAK BATTERIES.
- TO PREVENT BATTERY LEAKAGE, REMOVE BATTERIES IF NOT IN USE FOR LONG PERIODS OF TIME.



AF ILLUMINATOR FOR AUTOFOCUSING (on DX Module OM/CN and FTA5000 AF Module only)

When the camera's shutter button is pressed halfway, the AF illuminator is automatically activated when required, with low-contrast subjects in low light. This illumination enables the camera's auto focus system to determine the distance of the subject and focus accordingly.

The AF illuminator enables autofocusing with subjects up to approximately 16 feet away. This distance is for autofocusing only. When focusing manually, flash photography is possible up to approximately 93 feet, when using ISO 100 and a f1.4 aperture (refer to the TTL Auto Flash range table).

- NOTES: The working range for the AF illuminator is based on a standard test method with a 50mm lens.

 If longer distances are used, the camera may not focus the lens accurately. In this case, or whenever the camera's focus signals blink, set the camera's focus mode to M and focus the lens manually.
 - . On certain camera models, this AF assist light is overridden by the AF assist light on the camera.

AUTO CHECK LAMP (When used with FTM5000/FTA5000 Module)

On the TTL auto flash mode or normal auto flash mode, if exposure was sufficient, the auto check lamp on the flash unit will briefly glow after the camera's shutter button is depressed. On normal auto flash mode, before actually taking the photo you can check whether the shooting distance is within the automatic range by depressing the test flash button on the flash unit.

AUTO POWER-OFF

This flash unit incorporates a battery saving automatic power off circuit. The flash unit automatically turns itself off approximately 5 minutes after the last operation and the ready indicator LED lamp extinguishes itself. With the AF or DX Modules on some dedicated cameras, the flash can be re-activated for firing by touching the shutter release button on the camera. With other modules, the flash can be re-activated for firing by pressing the Reset Flash Button once on the flash unit or by switching the flash unit OFF and then ON again.

When used on certain digital cameras (Olympus / Sony), the auto power-off function is controlled by the camera.
 The flash unit can be automatically turned off only if the digital camera in use is switched off.

TTL AUTO FLASH OPERATION

This flash unit provides automatic Through-The-Lens (TTL) flash exposure when used with dedicated cameras that have TTL Auto Flash Metering Circuitry.

This mode permits you to use any lens aperture within the flash unit's operating range to enable you to have greater control over the depth of field. The larger the aperture (the smaller the f-number) you select, the greater the maximum shooting distance (less depth of field, but shorter recycling time between shots). On the other hand, the smaller the aperture (the greater the f-number) you select, the lesser the maximum shooting distance (greater depth of field but longer recycling time). Therefore, in selecting an aperture, all three factors - maximum shooting distance, depth of field and flash recycling time should be taken into consideration.

(When simply demonstrating the TTL Auto function there must be film inside the 35mm SLR camera).

TTL AUTO FLASH RANGE (in feet) : (For single main flash only)

ISO IN USE				ZOOM FLASH HEAD POSITION				
100	200	400	1000	W + DIFFUSER	WIDE	NORMAL	TELE	
1.4	2	2.8	4	7 - 57	7 - 75	10 - 84	12 - 93	
2	2.8	4	5.6	6 - 40	6 - 53	8 - 59	10 - 65	
2.8	4	5.6	8	5 - 29	5 - 38	7 - 42	9 - 47	
4	5.6	8	11	4 - 20	4 - 26	5 - 30	6 - 33	
5.6	8	11	16	3 - 14	3 - 19	3 - 21.	5 - 23	
8	11	16	22	3 - 10	3 - 13	3 - 15	5 - 16	
11	16	22		3 - 7	3 - 10	3 - 11	4 - 12	
16	22			3 ~ 5	3 - 6	3 - 7	4 - 8	
22	•			3 - 4	3 - 5	3 - 5	4 6	

Whenever possible, the TTL Automatic Mode balances the exposure between the main subject illuminated by the flash and the background in ambient light. Therefore, the TTL mode can be used under conditions ranging from total darkness to fill-in flash.

NORMAL AUTO FLASH OPERATION (When used with FTM5000 Modules.)

When attached to an FTM5000 module, there are auto flash operation settings designated by the colors BLUE - f2, YELLOW - f4 and 'GREEN - f5.6 on the module for shooting up to approx. 65 feet, 33 feet and 23 feet respectively with ISO 100 film. (* Non-AF Module CN does not have this setting.)

USING THE EXPOSURE CALCULATOR

- (a) Normal Auto Operation for Standard SLR Cameras.
 - (1) Set the ISO/DIN film selector switch to the ISO/DIN film speed in use.
 - (2) Select the required auto operating range on the exposure calculator (blue, yellow or green).
 - (3) Set the Flash Mode Selector switch on the module to the corresponding color. Set the aperture on your camera to the corresponding f-number indicated by the color on the exposure calculator.
- (b) TTL Auto Operation for Dedicated TTL Cameras
 - (1) Set the ISO/DIN film Selector Switch to the ISO/DIN film speed in use.
 - (2) Note the flash-to-subject distance and the camera's aperture setting.
 - (3) To check whether your flash-to subject distance is within auto range, locate the camera's lens aperture on the flash unit's exposure calculator. If your flash-to-subject distance is not within the distance indicated opposite your selected aperture, then you must set a wider aperture on your camera or decrease the flash-to-subject distance accordingly.
- (c) Manual Flash Operation
 - (1) Set the ISO/DIN film selector Switch to the ISO/DIN film speed in use.
 - (2) Focus on your subject and note the flash to subject distance. Locate this distance on the distance scale.
 - (3) Read the aperture opposite this distance and set the f-number on your camera.

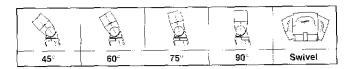
LOW POWER MANUAL FLASH (When used with DX Module NK or FTM5000/FTA5000/Slave Module)

In the Manual Flash Mode, you can set the Flash Mode Selector switch on some modules to the '1/16' or 'ML' power position, which gives a faster recycling time and more flashes. This is useful for close-up work and shooting with a motor-drive (up to 2 frames per second). The guide number at this setting is 1/4 of the full power guide number (see Guide Number Table).

BOUNCE FLASH PHOTOGRAPHY

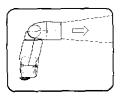
This involves "bouncing" the flash off a ceiling or other reflective surfaces to obtain a soft illumination. The auto mode should be used for bounce lighting.

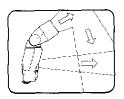
After determining the position of your subject, adjust the bounce angle. (The flash head is variable from 0° , 45° , 60° , 70° and 90° as desired). If necessary you can swivel the flash head in a horizontal direction by 180° to the right, and 150° to the left. Do not attempt to swivel the flash head further than it was meant to.

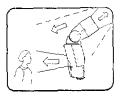


FILL-IN FLASH PHOTOGRAPHY

The fill-in Flash Reflector is particularly useful during bounce flash photography for "filling-in" unwanted shadows; see illustrations below. To use this feature, slide the Fill-in Flash Reflector switch to the appropriate position. Switch the Fill-in Flash Reflector off when not required, especially when shooting direct flash photography.



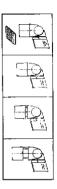




ZOOM OPERATION

The lighting angle mechanism built into the flash unit allows a selection of 3 lighting angles by pulling or pushing the zoom flash head. The guide number changes in relation to the angle. Use the chart below to determine the best angle for the flash in relation to the focal length of the lens used.

Zoom Position	Lighting Coverage	Lighting angle	Guide number	
Indicator	(with digital cameras)	(with 35mm SLR camera)		
W+Diffuser (28)	for extra wide	Covers 28mm lens (vertical 53°) (horizontal 70°)	80	
W (35)	for wide angle lens	Covers 35mm lens (vertical 45°) (horizontal 60°)	105	
N (50)	for extended flash range	Covers 50mm lens (vertical 34°) (horizontal 46°)	118	
T (85) for maximum flash distance		Covers 85mm lens (vertical 23°) (horizontal 31°)	130	



SPECIFICATIONS

Power Source

: Four 1.5V size AA Alkaline Batteries or PROMASTER Rechargeable NIMH batteries

Recycling Time

: Automatic : 0.3 - 10 sec.

Battery Life

: Approx. 100 - 700 flashes

(Depending on the type of batteries and flash distance)

Flash Duration

: Automatic : 1/30,000 to 1/1,000 sec

Manual : 1/1,000 sec

Angles of illumination:

Zoom Flash Head Position	Lighting Coverage (with digital cameras)	Lighting Angle (with 35mm SLR camera)	Horizontal	Vertical
Wide (W) + Diffuser	For extra wide	Covers 28mm lens	70°	53°
Wide (W)	For wide angle lens	Covers 35mm lens	60°	45°
Normal (N)	For extended flash range	Covers 50mm lens	46°	34°
Tele (T)	For maximum flash distance	Covers 85mm lens	31°	23"

Guide Number Table (in Feet) for Main Flash Only:

Zoom Head Position	ISO 25	!SO 50/64	ISO 100	ISO 200	ISO 400	1900 1000
Wide (W) + Diffuser	40	56	80	112	160	250
Wide (W)	52	74	105	148	210	330
Normal (N)	59	83	118	166	236	372
Tele (T)	65	92	130	184	260	410

^{*} The Guide Number at 1/10 or ML power is 1/4 of the above. (on DX Module NK or FTM5000 / FTA5000/Slave Module)

Guide Number Table (in Feet) for Dual flashes :

Zoom Head Position	iSO 25	ISO 50/64	ISO 100	ISO 200	ISO -400	ISO 1000
Wide (W) + Diffuser	36	50	73	100	146	228
Wide (W)	49	69	99	138	198	310
Normal (N)	52	74	105	148	210	328
Tele (T)	57	81	115	162	230	360

^{*} The Guide Number at 1/16 or ML power is 1/4 of the above. (on DX Module NK or FTM5000 / FTA5000/Slave Module)

Bounce Angle

: 0° to 90°

(Click Stop : 0°, 45°, 60°, 75° and 90°)

Swivel Angle

: 0° to 180°

(Click Stop : Left 0°, 30°, 60°, 90° 120°, 150°

Right 0°, 30°, 60°, 120°, 150°, 180°)

Weight (without batteries and Module): approx. 308 gm

Dimensions (without Module)

: approx. 155 (H) x 75 (W) x 45 (D) mm

^{*} Design and specifications are subject to change without prior notice.