PROMASTER®

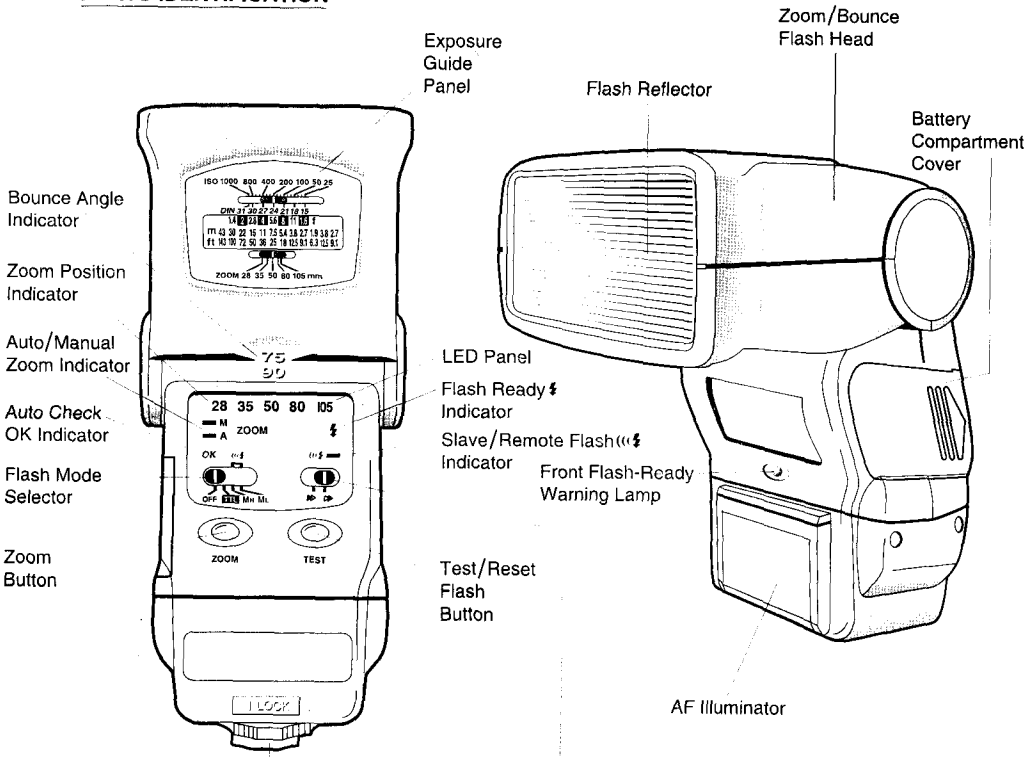
FTD 6500M

OPERATING INSTRUCTIONS

ELECTRONIC FLASH

MOTORIZED ZOOM • BOUNCE

PARTS IDENTIFICATION



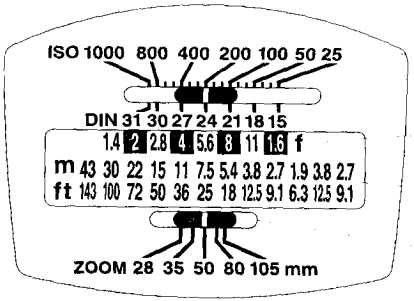
FLASH DEDICATION

The flash unit is dedicated to work with compatible cameras only.
As different models of cameras operate differently for flash photography, you should read the Instruction Manual of your camera for details of flash operation.

- **Use with incompatible cameras may cause damage to the camera, the flash unit or both.**

CN - For CANON EOS cameras
NK - For NIKON AF cameras
ML - For MINOLTA Xi, Si cameras
PX - For PENTAX AF cameras

EXPOSURE GUIDE PANEL



ISO Film Selector

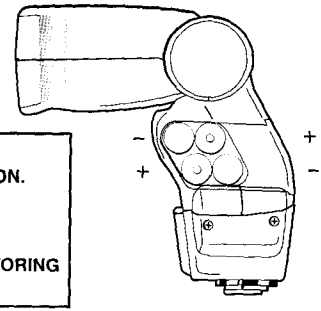
Aperture Indicator

Auto-Flash Distance Indicator

Zoom Position Selector

BATTERY OPERATION

1. Open the battery compartment cover.
2. Insert four 1.5 V AA batteries following the (+) (-) sign as indicated inside and replace the cover.



IMPORTANT:
- **THE BATTERIES SHOULD BE INSERTED IN CORRECT POSITION.**
- **FOR BEST RESULTS, USE ALKALINE BATTERIES.**
- **USE FRESH BATTERIES REGULARLY.**
- **DO NOT MIX FRESH AND WEAK BATTERIES.**
- **TO PREVENT BATTERY LEAKAGE, REMOVE BATTERIES IF STORING FOR LONG PERIODS.**

AF ILLUMINATOR FOR AUTOFOCUSING

When subject contrast is low or in low light, the AF illuminator is automatically activated when the camera's shutter release button is pressed halfway. This illumination enables the camera's autofocus system to focus correctly.
The AF illuminator enables autofocusing with subjects up to about 16 feet away. This working range of the AF illuminator is based on standard testing method with a 50 mm lens.

- The AF illuminator may not be effective if your subject has very low reflectance.
- In wireless/remote flash mode (Minolta only), the off-camera flash's AF illuminator will blink when the flash is charged.

AUTO POWER-OFF

A battery-saving automatic power-off circuit is incorporated in this flash unit. If you do not operate any of the flash or camera controls for about five minutes, the flash-ready lamp will be automatically extinguished. The flash unit will be in stand-by mode. To re-activate the flash, simply press lightly the camera's shutter button or the flash's test button or switch the flash unit OFF and then ON again. In slave/remote flash mode, the off-camera flash will be switched off automatically if not used for about one hour.

FILM

The flash unit is compatible with ISO 25 to ISO1000 film speeds.
No setting is required on the flash unit. If you use film outside this range, correct exposure may not be obtained.

AUTO CHECK

When using the flash unit in TTL Autoflash mode, if exposure was sufficient, the auto check indicator "OK" will appear in the LED panel at the same moment when the camera's shutter button is pressed.

FLASH MODE

- As different models of camera operate differently for flash photography, you should read the Instruction Manual of your camera for details of flash operation.

This flash unit has three firing flash modes: **TTL Auto, Manual and Slave / Remote** (((.

You can select the desired mode by setting the flash mode selector to the correct position.

CANON / NIKON / PENTAX UNIT :

- When the flash unit is not mounted on the camera and the flash mode's selector is on 'MH' or 'ML' position, the flash mode is automatically set to Slave Flash mode and the (((▭ LED Indicator will glow.

MINOLTA UNIT :

- The flash mode for remote Wireless TTL Auto flash operation is set by your MINOLTA camera's Controls. When the flash is ready, the flash unit AF illuminator will blink and the (((▭ LED Indicator will also glow.

A. TTL AUTOMATIC FLASH OPERATION TTL

The flash unit provides automatic Through-The-Lens (TTL) control of the flash exposure when used with compatible cameras which have TTL auto flash metering feature.

The TTL autoflash mode balances the exposure between the main subject illuminated by the flash and the background in ambient light, whenever possible. Thus, this TTL mode can be used under conditions ranging from darkness to fill-in flash.

a. Program TTL Autoflash Mode

1. Set the camera's shooting mode to full auto program and the flash unit's mode to 'TTL'.
2. Press the shutter button halfway to focus the subject.
3. When the flash-ready indicator lights, the camera will automatically set the aperture and shutter speed values.

- When using the flash unit (for Minolta) with a compatible Minolta camera in Program mode, the flash unit may or may not fire when the shutter is released, based on the camera metering system's evaluation of the ambient lighting (i.e. the flash fires when needed)

b. Shutter-Priority TTL Autoflash Mode

1. Set the camera's shooting mode to shutter-priority and the flash unit's mode to 'TTL'.
2. Set a desired shutter speed. If a shutter speed faster than X-sync time is selected, the camera will automatically switch to the X-sync time when the flash is ready. You can select slower shutter speeds.
3. Press the shutter button halfway to focus the subject .
4. When the flash-ready indicator lights, the camera automatically sets the aperture.
5. Take the picture after confirming that the distance from the camera to the subject is within the autoflash range.

c. Aperture-Priority TTL Autoflash Mode

1. Set the camera's shooting mode to Aperture-Priority and the flash unit's mode to 'TTL'.
2. Set a desired aperture value. This enables you to have greater control over depth of field.
3. Press the shutter button halfway to focus the subject and confirm that the distance from the camera to the subject is within the autoflash range.
4. When the flash-ready indicator lights, the camera will automatically set the shutter speed.

d. Manual TTL Autoflash Mode

For back-lit subjects, or in low light situations, slower shutter speeds can be set to increase the background exposure while maintaining normal exposure of the main subject. This is helpful for filling in shadows and balancing the lighting situation.

1. Set the camera's mode to Manual and set the flash unit's mode to 'TTL'.
2. Set the camera's shutter speed and the desired aperture manually.

   - If a shutter speed faster than the X-sync speed is selected, the camera will automatically switch to the X-sync speed when the flash is ready. You can select slower shutter speeds.

3. Press the shutter button halfway to focus the subject and confirm that the distance from the camera to the subject is within the autoflash range.

B. MANUAL FLASH OPERATION M

1. Set the camera's shooting mode to Manual and set the flash unit's mode to 'MH'(1/1M) or 'ML'(1/16M).
2. Manually set the camera's shutter speed to X-sync speed or slower and set the desired aperture and then take the picture after confirming that the distance from the camera to the subject is within the flash range.

   - When the flash unit is not mounted on the camera, the flash mode is automatically set to Slave Flash mode (Canon / Nikon / Pentax unit).

C. SLAVE/REMOTE FLASH OPERATION

(a.) SLAVE FLASH OPERATION (CANON / NIKON / PENTAX)

This flash unit can be used as a slave flash unit (a flash-stand is provided), which will fire when the wireless Slave Flash sensor catches any light from a master flash unit. You can select the flash power level by setting the flash unit's mode to 'MH' (1/1M) or 'ML' (1/16M).

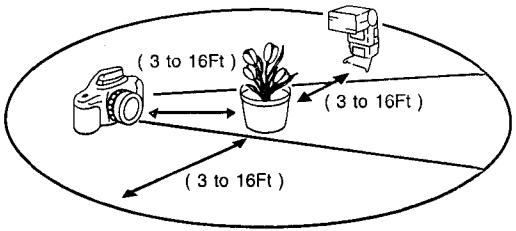
- When used for the slave flash operation, the flash unit is operated in manual mode.

(b.) WIRELESS/REMOTE OFF-CAMERA FLASH OPERATION (MINOLTA only)

The flash unit for MINOLTA can be set for wireless/remote off-camera flash control with TTL flash metering. A flash-stand is provided for this flash operation.

- Please refer to your camera's Instruction Manual for more information.

There are two control channels (CH1 and CH2) to ensure that signals from your flash do not interfere with another flash in Wireless/Remote mode. A 2:1 lighting rate is set automatically.



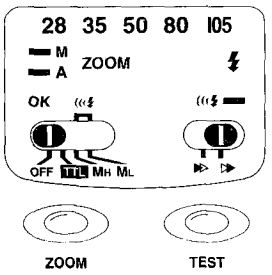
- The off-camera flash may not detect the control signals if it is positioned behind the subject.
- When used for wireless/remote off-camera flash operation, the flash unit is operated in TTL mode and the flash mode is set by your MINOLTA camera's Controls.
- In wireless mode, when the flash is ready, the AF illuminator will blink.

FLASH COVERAGE ANGLE

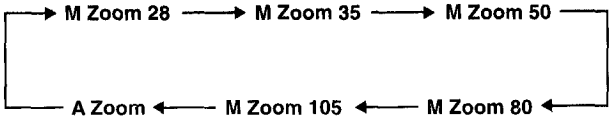
Coverage angles are available for focal lengths ranging from 28 mm to 105 mm.

- AUTO ZOOM OPERATION **(A ZOOM)**
  If this facility is not supported by your camera, use the manual zoom operation.

  The flash unit automatically adjusts the zoom-head position to provide an angle of coverage that matches the focal length of the lens in use. The setting is displayed in the LED panel. The angle of coverage automatically changes when the lens zoom position is changed.



- The guide number changes when the flash coverage angle is changed.
- If the focal length of the lens in use is less than 28 mm, only "A Zoom 28 mm" will be indicated.
  If the focal length of the lens in use is larger than 105 mm, only "A Zoom 105 mm" will be indicated.
- If M Zoom is indicated in the LED panel, press the Zoom button until "A ZOOM" is indicated.



- MANUAL ZOOM OPERATION **(M Zoom)**

  Press the Zoom button once to change from auto zoom to manual zoom mode. Each press of the Zoom button changes the coverage angle in the above cycle. Press zoom button until your desired zoom-head position appears in the LED panel.

Advanced Photo System (APS) lenses require shorter focal lengths to obtain the same angle of coverage as their 35mm counterparts. (e.g. a 28mm APS focal length is approximately equivalent to a 35mm focal length in the 35mm format)

BOUNCE PHOTOGRAPHY

Bounce lighting involves 'bouncing' the light off a ceiling or other reflective surfaces to obtain soft illumination. The flash head can be rotated vertically to achieve the optimum bounce position. (The flash has click stops at the most commonly used positions). It is recommended to operate the flash unit in TTL mode.

REAR-CURTAIN SYNCHRONIZATION (CANON/NIKON/PENTAX only)

Select by sliding the switch to ▶▶ or ▷▶ to have the flash fire as soon as the shutter opens (▶▶ - front curtain sync.) or immediately before the shutter closes (▷▶ - rear curtain sync.)

Rear Curtain Synchronisation provides ambient exposure "before" the flash is fired. This in turn ensures a natural blur of motion "behind" a moving subject. Without Rear Curtain Synchronisation, ambient exposure is made "after" the flash is fired. This unnaturally causes the blur of motion to be shown "in front" of a moving subject.

- Not all camera models are capable of rear-curtain sync.
- Use shutter-priority auto or manual exposure mode.
- For Rear-Curtain Synchronization on PENTAX cameras, use TTL auto flash mode. If Manual flash mode (MH or ML) is selected, the camera will automatically switch to the TTL auto flash mode operation when the flash is ready.

SPECIFICATIONS:

Power Source	:	4 (1.5V) 'AA' Alkaline Batteries or Rechargable Batteries
Recycling Time	:	0.3 - 10 sec
Battery Life	:	Approx. 100 - 700 flashes (Depends on the type of batteries and distance)
Flash Duration	:	1/30,000 to 1/1,000 sec.
Colour Temperature	:	5500°K (Daylight)
Bounce Angle	:	-7° – 90° (Click stops: -7°, 0°, 45°, 60°, 75°, and 90°)
Power Zoom	:	Motorized Zoom 28-35-50-80-105 focal length (mm)

Flash Coverage :

	28mm	35mm	50mm	80mm	105mm
Verticle	53°	45°	34°	23°	20°
Horizontal	70°	60°	46°	31°	27°

AF Illuminator : The illuminator is automatically activated for autofocusing when required, with low-contrast subjects in low light. The range is up to approximately 16 feet based on standard test with 50 mm lens.

Guide Number (at ISO100 in feet)

Power Level	FLASH COVERAGE SETTING				
	28mm	35mm	50mm	80mm	105mm
1/1	75	88	100	112	120
1/16	19	22	25	28	30

TTL Autoflash Range in feet

ISO FILM SPEED							FLASH COVERAGE SETTING				
25	50	100	200	400	800	1600	28mm	35mm	50mm	80mm	105mm
		1.4	2	2.8	4	5.6	7 – 54	10 – 63	12 – 72	12 – 80	12 – 86
	1.4	2	2.8	4	5.6	8	6 – 38	6 – 44	8 – 50	10 – 56	10 – 60
1.4	2	2.8	4	5.6	8	11	5 – 27	5 – 32	7 – 36	9 – 40	9 – 43
2	2.8	4	5.6	8	11	16	4 – 19	4 – 22	5 – 25	6 – 28	6 – 30
2.8	4	5.6	8	11	16	22	3 – 13	3 – 16	3 – 18	5 – 20	5 – 22
4	5.6	8	11	16	22	32	2 – 9.4	3 – 11	3 – 12.5	5 – 14	5 – 15
5.6	8	11	16	22	32		2 – 6.8	3 – 8	3 – 9.1	4 – 10	4 – 11
8	11	16	22	32			2 – 4.7	3 – 5.5	3 – 6.3	4 – 7	4 – 7.5
11	16	22	32				2 – 3.4	3 – 4	3 – 4.5	4 – 5.1	4 – 5.5

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