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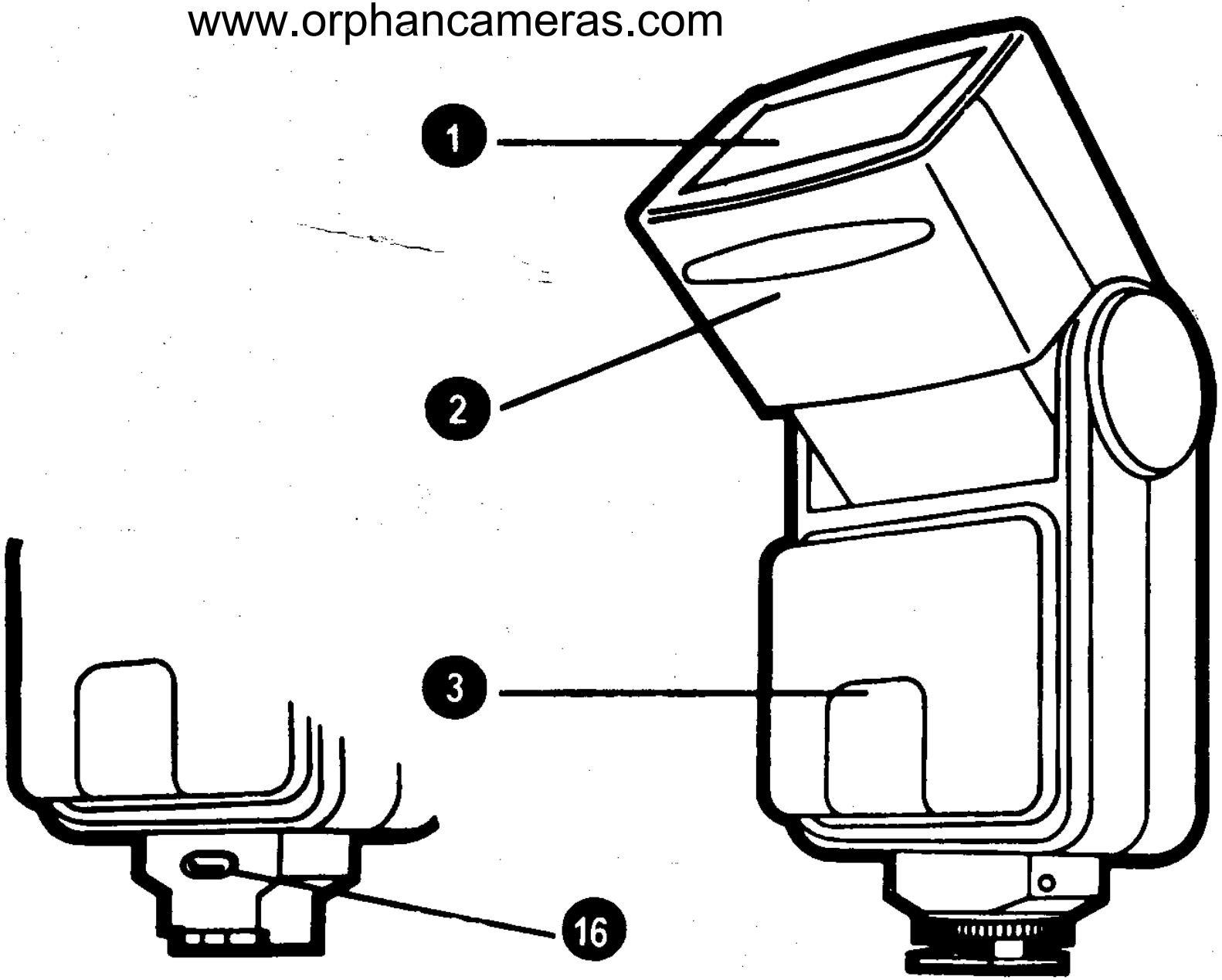
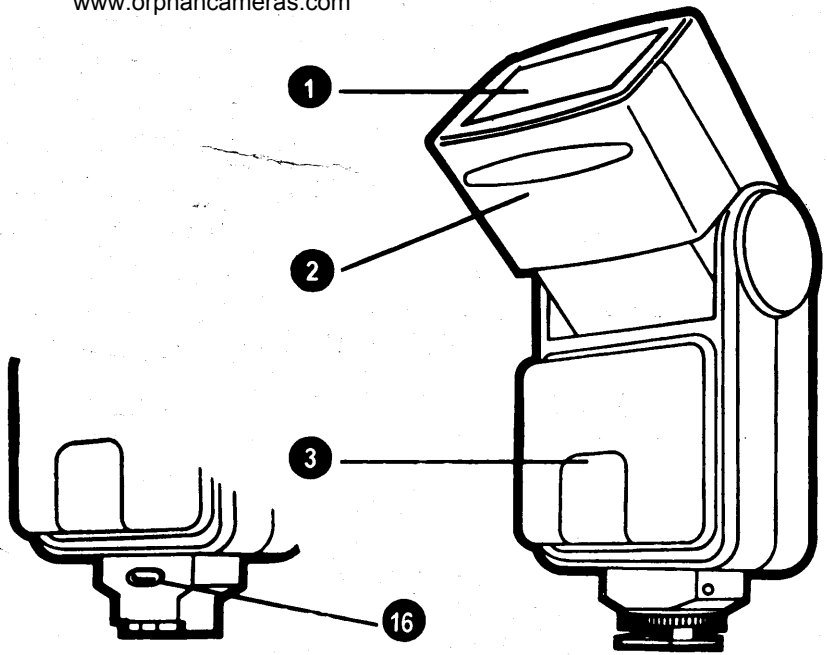
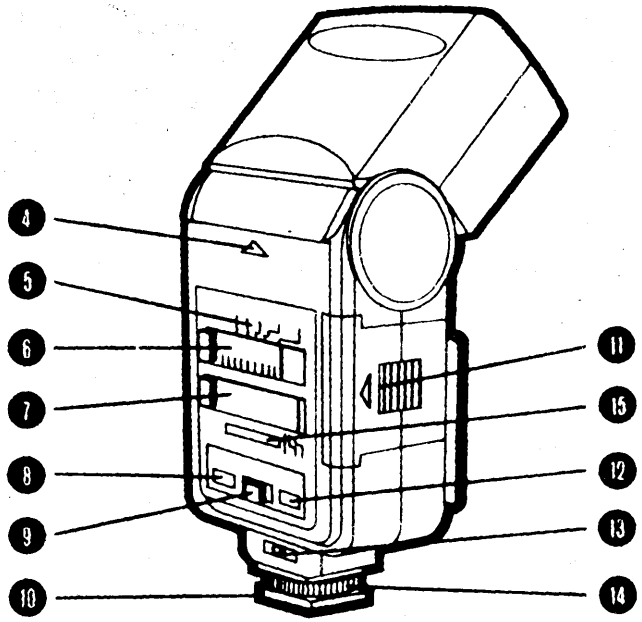
Vivitar

728 Auto Focus Flashgun







PARTS DESCRIPTION

1. Flash Window
2. Bounce Head
3. AF Illuminator (NIKON/CANON)
4. Bounce Angle Indicator
5. ISO/DIN (Film Speed Chart)
6. Sliding Scale for f Stops (Aperture)
7. Guide Scale for Flash to Subject Distance
8. Auto OK Indicator
9. ON/OFF Switch
10. Hot Shoe (Flash/Camera Contact)
11. Battery Door
12. Flash Ready Light
13. Flash Test Button
14. Shoe Locking Screw (NIKON/CANON/PENTAX)
15. Program Coverage Range Line
16. Foot Release Button (MINOLTA)

SPECIFICATION

Guide Number : 28 (metres)/92 (feet) (ISO 100)
Colour Temperature : Balanced to Daylight Film (5600K)
Flash Duration : 1/1000th Sec. on Manual Mode
1/1000-1/40000 Sec. on Auto TTL Mode
Recycle Time : Approx. 0.5-9 Sec.
Illumination Angle : 28mm - 50mm Lens

Auto TTL Coverage Range : 0.5 - 20m / 1.6 - 66 feet dependent on film speed and lens aperture setting
Power Source : 4 x 1.5v Alkaline AA Batteries
Battery Life : 120 - 2500 flashes, depending on distance
Dimension : 148mm x 70mm x 45mm
Weight : 235g

TABLE 1

Coverage range for TTL-Auto & Program (ISO 100 Film)

Lens Aperture F/Stop	Effective Distance
1.4	2.0 - 20m (8 - 66ft)
2	1.5 - 14m (5 - 46ft)
2.8	1.2 - 10m (4 - 33ft)
4	1.0 - 7m (3.3 - 23ft)
5.6	0.7 - 5m (2.3 - 16ft)
8	0.5 - 3.5m (1.6 - 11ft)
11	0.5 - 2.5m (1.6 - 8ft)
16	0.5 - 1.75m (1.6 - 6ft)
22	0.5 - 1.3m (1.6 - 4ft)

	Camera Mode	Effective Distance (100 ISO Film)
Canon	'P' Mode	1.0 - 14mm (3.0 - 46ft)
Nikon / Minolta / Pentax	'P' Mode	1.0 - 7m (3.0 - 23ft)

PREPARTION

Battery Loading

1) Turn the power ON/OFF switch (9) to the OFF position.
2) Slide open the battery cover (11) and insert four AA size alkaline batteries.
3) When inserting batteries, be sure the positive and negative terminals of the batteries are correctly aligned as indicated in the battery chamber.

NOTE: Remove the batteries if the unit is likely to be out of use for a long period. Always change the batteries as a set.

Attaching and removing flash unit

1) Before attaching or removing the flash unit on the camera, be sure the power switch (9) is in the OFF position.

2) To attach: Slide the shoe (10) into accessory shoe of camera and tighten the locking wheel (14) (NIKON/CANNON/PENTAX).
3) To remove: Loosen the locking wheel (NIKON/CANON/PENTAX), press the foot release button (16) (MINOLTA). Grasp base of flash unit and slide the flash unit out.

Bounce Photography

The head of the flash unit rotates up to 90°. Automatic bounce flash photography is easily achieved with the TTL signal from the camera. This provides the basis for much better flash photography by the reduction of harsh unwanted shadows and improved lighting of the subject - particulary importance with portrait pictures.

Auto Fill-in Flash

By setting the camera to "P-Mode", fill-in flash can be used. In this position, the flash will operate automatically without any further setting. Just point and shoot. Using the AE lock mechanism of the camera and setting it to "A-Mode", fill-in flash can also be used. (Refer to "Slow Shutter Synchronization").

Test Button

The flash test button (13) is only used to make sure the flash functions. When the flash is on and the Ready Light glows, the test button can be depressed to fire the flash. PLEASE NOTE THE TEST BUTTON OPERATES INDEPENDENTLY OF THE TTL AUTO

EXPOSURE MECHANISM AND CANNOT BE USED FOR CORRECT EXPOSURE TEST.

TTL-Auto Operating Range

The operating range changes with the film speed (sensitivity) and the lens aperture in use. Refer to Table 1.

To obtain the maximum operating distances for different film speeds (ISO), multiply the effective distances shown in Table 1 by the following ratios.

Film Speed (ISO)	25	50	100	200	400	1000
Ratio	0.5	0.7	1	1.4	2	3.17

For example, if the maximum operating distance is 4.2 metres (13ft) with ISO 100 film, it will be 8.4 metres (27 ft) when using ISO 400 film.

Aperture/Program Distance Scale (6) and (7)

The Aperture/Program Distance Scales on the rear of the unit show the combinations of maximum operating distance and lens aperture for different film speeds. This combination will help you select a lens aperture with Aperure Priority mode camera operation.

Example: In Aperture Priority with ISO 100 film, aperture set at f4, the maximum distance will be 7m (23ft). See Table 1.

When using the camera's TTL-Program mode, the coverage range is indicated by the length of the "Program" line (15).

NOTE: Changing the ISO speed will vary the effective flash to subject distance. (See Ratio Scale under "TTL - Auto Operating Range").

AF Illuminator for Auto Focusing (3) (NIKON/CANON ONLY)
In low light, or total darkness, with the flash in the ON position, the single LED AF illuminator (3) will automatically be activated when the camera's shutter release is depressed half way. Light from the illuminator will be projected on the subject to activate the camera's auto focus mechanism. The effective range of the illuminator is 1-8 metres (3.3 - 26ft) with a 50mm normal lens. When using a zoom lens with a small maximum aperture, the maximum effective distance will be shorter than above and you may want to use manual focusing.

IMPORTANT:
The flash auto focus illuminator will only function when the auto focus mode selector located on the front of the camera is set to AF.

Auto OK Indicator (8)

When the flash is fired and there is sufficient light output for a good exposure, the Auto OK Indicator (8) will glow for approximately 1 to 2 seconds.

Motor Drive Synchronization

The flash unit can be used at short distances to synchronize with built-in or accessory auto winders in bursts of three to four shots.

New fresh batteries are recommended. Rapid sequence shots can be made in the Aperture Priority mode by using a very wide aperture e.g. f1.8, and maintaining a relatively short flash-to-subject distance. i.e. maximum of 6 feet (2 metres).

CANON

Four Modes Flash Operation

Flash unit is designed to operate automatically with Canon Auto Focus SLR cameras.

Mode Operation	P-Mode	A-Mode	M-Mode M	TV-Mode
Mode setting on camera	P-Mode (Program)	A-Mode (Aperture priority)	M-Mode	TV-Mode
Lens aperture	Automatic		Manual setting	Automatic
Shutter	Automatic	Automatic (1/125-30 s) (1/250-30 s) (620)	Manual setting (1/125-30 s) (1/250-30 s) (620)	Manual setting (1/125-30 s) (1/250-30 s) (620)
Operation of flash	TTL-Auto operation			

No shift of program can be made when using flash in P-mode.

NOTE: If camera is set to S-mode, (Shutter priority), the flash will operate as in "P-mode".

OPERATING INSTRUCTION

1. **P-Mode Operation (Program)**
   1) Set camera to "P-mode".
   2) Slide Power ON/OFF switch (9) to ON position.
   3) After a few seconds, ready lamp (12) lights up. When pressing shutter release button halfway, flash mark in the viewfinder lights up and the selected aperture and shutter speeds are displayed in the viewfinder.
   4) Make sure the subject is within the automatic operating range and depress the shutter release button fully to take the picture.
   5) If the output power is sufficient, the Auto OK indicator (8) lights up for one to two seconds. If the Auto OK indicator does not come on, move closer to the subject or switch to "A-mode" operation and use the widest aperture (smallest f number).

2. **A-Mode Operation Aperture Priority**
   1) Set camera to A-mode and set the desired lens aperture (f stop). The shutter is automatically set between 30 seconds and 1/125 second. (On the EOS 620

model, the shutter is set between 30 seconds and 1/250 second).

2) Slide the flash ON/OFF Switch (9) to the ON position.
3) Make sure the subject is well within the flash exposure range for the lens aperture (f stop) selected (see the TTL distance scale on the back of the flash).
4) Look in the viewfinder and note the lightning symbol which indicates the flash is ready and the shutter speed for flash has been set. The camera and flash are now ready for automatic TTL flash photography.
5) Place the AF frame located in the viewfinder on the subject. Depress the shutter release button fully to take the picture.
6) If there is enough light for a good exposure, the Auto OK LED (8) on the back of the flash will glow for about 2 seconds. If the Auto OK indicator does not come on, move closer to the subject.

3. Manual Camera Mode Operation

1) In the Manual Camera mode, shutter speed and f stop are set manually, but the exposure is still automatic TTL. This capability permits you to selectively balance ambient (non-flash) light with light from the flash unit. Once the flash unit's ready light is on, you will not be able to set the shutter speed higher than 1/125th second (1/250th second on the EOS 620).

2) Set the lens aperture based on TTL flash exposure just as you would when using the Aperture Priority (A-mode). Make sure the lens aperture selected permits TTL auto exposures within the range of the subject distance. Set the shutter speed from 30 seconds to 1/125 (1/250 - EOS 620), depending on the effect desired. See also M-Mode Slow Shutter Synchronization.
3) Look in the viewfinder and note the lightning symbol which indicates the flash is ready. The camera and flash are now ready for automatic TTL flash photography.
4) Place the AF frame located in the viewfinder on the subject. Press the shutter release button all the way to take the picture.
5) If there is enough light for a good exposure, the Auto OK LED (8) on the back of the flash will glow for about 2 seconds. If this Auto OK indication does not come on, move closer to the subject or use a wider aperture. Alternatively, use a higher ISO speed film.

4. TV-Mode Operation

1) Set the camera to TV mode which allows you to set any shutter speed up to 1/125th second (1/250th second on EOS 620).
   The aperture is set automatically.
2) Slide the flash ON/OFF Switch (9) to the ON position.

3) Make sure the subject is well within the flash exposure range for the lens aperture (f stop) selected (see the TTL distance scale on the back of the flash).
4) Look in the viewfinder and note the lightning symbol which indicates the flash is ready and the shutter speed for flash has been set. The camera and flash are now ready for automatic TTL flash photography.
5) Place the AF frame located in the viewfinder on the subject. Fully depress the shutter release button to take the picture.
6) If there is enough light for a good exposure, the auto OK LED (8) on the back of the flash will glow for about 2 seconds. If this Auto OK indicator does not come on, move closer to the subject or switch to A-Mode operation and use the widest aperture (smallest f number).

Slow Shutter Synchronization

Slow shutter synchronization means flash operation with a shutter speed slower than ordinary X-Synchro speed. This will increase background exposure while maintaining proper exposure on the main subject.

M-Mode Slow Shutter Synchronization

1) Set camera in M-Mode and point camera to background.
2) Set lens aperture and shutter speed slower than 1/125th second (1/250th second for EOS 620) to have proper exposure for background.

3. Fully depress shutter release button to take picture.

Operations with Camera's C-Drive-mode (Continuous)

The flash unit is designed to synchronize with the camera's C-Drive-Mode of up to two frames per second in all TTL metered modes. In this case, subject should be at close distance and focusing should be manual as AF Illuminator only allows single frame shooting.

In A-Mode, by selecting wider lens aperture and the flash-to-subject distance less than 1.5 metres, it may be possible to shoot continuously up to four frames per second.

High speed film is recommended for this purpose.

NIKON / MINOLTA MAXXUM / DYNAX

Three modes flash operation

This flash unit is designed to operate automatically with Nikon AF SLR cameras and Minolta Maxxum/Dynax models.

Mode operation	TTL Program Mode	TTL Auto Mode	M-Mode
Mode setting on camera	P-mode (Program)	A-mode (Aperture priority)	M-Mode
Lens aperture setting	Automatic	Manual Setting	Manual Setting
Shutter	Automatic	Automatic	Manual Setting
Operation of Flash	TTL-Auto Operation		

OPERATING INSTRUCTIONS

1. **TTL-Program auto flash Operation (with Nikon Auto focus cameras and Minolta Maxxum/Dynax)**
   1) Set camera to either one of its P-Modes (Program).
   2) Set lens aperture to minimum aperture.
   3) Slide power switch to ON.
   4) After a few seconds the flash ready light (12) on the flash unit will come on, together with the ready light in the camera's viewfinder.
   5) After making sure the subject is within the TTL auto range, press shutter release button in halfway. The operating shutter speed will be illuminated in the viewfinder.
   6) Release the shutter by pressing the shutter release button all the way.
   7) If the output power is sufficient, Auto Indicator (8) lights up for one to two seconds. If the Auto OK indicator does not come on, move closer to the subject or switch to TTL-Auto Mode operation and use the widest aperture (smallest f number).

2. **TTL-Auto Flash Operation (with Nikon Manual focus cameras)**
   1) Set camera to A-mode (Aperture Priority) or select any shutter speed slower than X-synch of the camera in use.

2) Select the lens aperture by consulting the TTL-Auto coverage, and set the lens aperture accordingly.
3) Follow instructions in points (3) to (6) under "TTL-Program Auto Flash Operation" above.

3. Manual Camera Mode Operation

1) In the Manual Camera mode, shutter speed and f stop are selected manually, but the exposure is still automatic (TTL). This capability permits you to accurately balance ambient light (non flash) with light from the flash unit. Because the camera's maximum shutter speed for flash is 1/125th sec., the shutter speed cannot be set higher than 1/125th sec. once the flash ready light (12) is on.
2) Set the lens aperture based on TTL flash exposure just as you would when using the Aperture Priority flash mode. Turn the flash OFF. Set the camera to Aperture Priority mode and note the shutter speed. Now reset the camera to M-Mode, set the shutter speed you noted and turn on the flash. The shutter speed will remain at the set speed. Take the picture.

Slow Shutter Synchronization

Slow Shutter Synchronization means flash operation with a shutter speed slower

than ordinary X-Synchro speed. This can increase background exposure while maintaining proper exposure on the main subject.

M-Mode Slow Shutter Synchronization

1) Set camera to M-mode and point camera to subject background.
2) Set lens aperture and adjust shutter speed lower than 1/100 sec. to provide proper exposure for background.
3) Fully depress the shutter release button all the way to release shutter and fire the flash.

Operations with camera's C-Drive Mode

This flash is designed to synchronize with camera's C-Drive Mode of up to two frames per second in all TTL metered modes. In this case, subject should be at close distance and focusing should be manual, as AF Illuminator only allows single frame shooting.

NOTE: In A-Mode, by selecting wide lens aperture and flash-to-subject distance of less than 1.5 metres, it may be possible to shoot continuously up to four frames per second.

High speed film is recommended.

CAUTION

Keep flash unit away from water and other liquids. Never handle unit with wet hands.

Flash unit may not operate satisfactorily at temperatures above 50°C (120°F) or below -10°C (15°F).

Never fire flash at close range into the eyes of people or animals.

When dirty, flash unit may be wiped with a clean, dry cloth. Do not allow alcohol or other chemicals to touch surfaces.

Never subject the flash unit to shock, excessive heat or humidity. Be particularly 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 flash unit for more than two weeks, remove the batteries and keep it in a cool, dry place away from dust or chemicals.

Using Flash Test Button (13), fire flash several times a month to keep it in good operating condition.

Always switch unit OFF before attaching to or removing from camera.