

Vivitar®

4600

Auto Thyristor

Electronic Flash

with Dedicated Capability

Flash électronique

automatique à thyristor

couplable en automatisme

Systemintegrierbares

Automatik-Blitzgerät

Flash electrónico

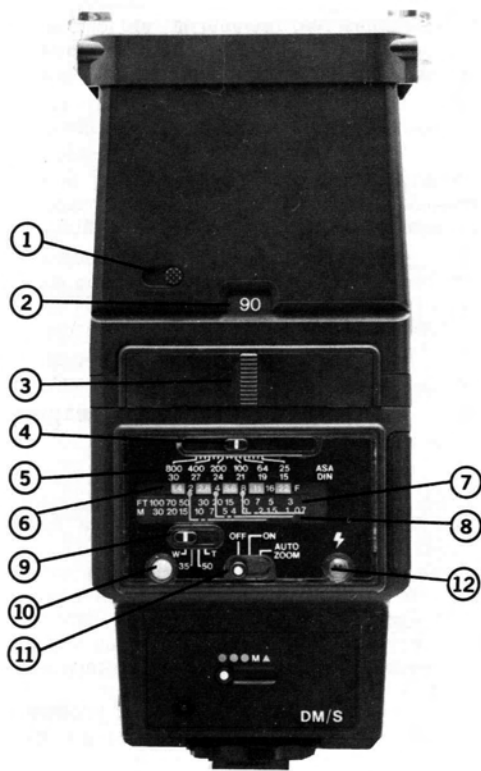
automático de tiristor

con posibilidad de

acoplamiento de automatismo

Instructions • Mode d'emploi

Gebrauchsanleitung • Instrucciones



To maximize flash range in bounce positions using the motorized zoom head, head should be in the Telephoto position.

Avoid colored reflective surfaces when using color film, since bounced light will be influenced by such colors and affect the exposure accordingly.

Follow normal flash and camera setting procedures as previously explained.

Eyelight panel

The eyelight panel (14) has two functions: When photographing people, it adds a pleasing highlight to your subject's eyes and fills in shadows when using your flash in the bounce position. Place the retaining clip of the panel over the top of the flash head and raise the panel so that it faces your subject. This will reflect a small portion of the bounced light directly on your subject.

With direct flash usage and the panel in the down position covering the flash head lens, the eyelight panel provides extra wide angle 28mm flash coverage. Zoom head must be in the "W" (Wide angle) position. Open camera lens one full stop wider than indicated by calculator dial, when used in manual flash operation mode.

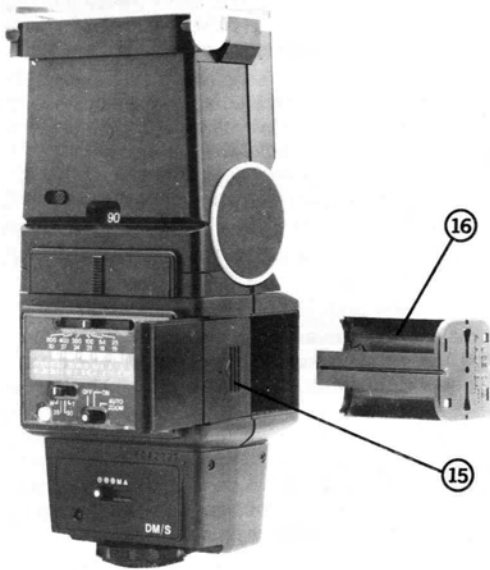
Super wide panel (Included with motorized zoom head)

This panel is used to cover a 21mm lens. The zoom head must be in the "W" (Wide angle) position when using this accessory. NOTE: When using the super

wide panel, the effective guide number and maximum auto ranges are approximately half that of the 35mm ("35") position. Refer to the specification section following.

Manual flash operation

- 1) Set your camera to the manual mode (or flash synch mode)
- 2) Set your camera shutter speed manually to the correct flash shutter speed as outlined in your camera instruction book.
- 3) Set index line on the film speed selector switch on the flash slide rule calculator dial to the ASA/DIN speed of the film you're using.
- 4) Set mode on "dedicated" flash module to "M" (manual position).
- 5) Focus on your subject and note the flash-to-subject distance. Locate this distance on the slide rule calculator dial distance scale.
- 6) Set your lens to the f-stop located on the aperture scale on the slide rule calculator dial, directly above your flash-to-subject distance.
- 7) When the flash is charged and ready, the visual and audible ready indicators will function as discussed previously.
- 8) NOTE:
There is no sufficient light indication in the manual mode. When you're using the 28mm wide angle panel, you must open your lens one



Description of controls

- 1) -10° Release button
- 2) Bounce angle indicator scale
- 3) Release button for flash head
- 4) Film speed indicator switch
- 5) ASA/DIN film speed scale
- 6) Aperture (f-stop) scale
- 7) Distance scales (feet and meters)
- 8) Automatic ranges (Red, Blue and Orange lines)
- 9) Control switch — motorized zoom head
- 10) Calculator light button
- 11) Three-position power switch
- 12) Flash ready light/open flash button
- 13) External power receptacle
- 14) Eyelight/wide angle panel
- 15) Battery compartment cover
- 16) AP-1 battery holder

- 1) Slide open battery compartment cover (15) and remove AP-1 battery holder (16). Insert four "AA" Alkaline or Nickel-Cadmium batteries or a Vivitar NC-3 battery pack. If using batteries, follow position markings on the AP-1 holder. Insert battery pack in battery compartment and replace cover.
- 2) Attach Dedicated Module per module instruction manual.

full stop wider than the f-stop recommended on the flash aperture scale for the given camera-to-subject distance.

Autowinder operation (not applicable to Canon cameras)

If using your flash with an auto-winder (up to 2 fps) the flash will deliver up to 4 flashes in sequence at 2 fps. Allow 30 seconds for flash to recycle between sequences. The auto-winder setting also reduces manual output to 1/32 power (-5 f-stops) for fill light applications.

Follow manual instructions preceding, with these exceptions:

- a) Set dedicated module to yellow ▲ on position.
- b) Refer to flash-to-subject distance on calculator scale and note lens aperture indicated at this distance.
- c) Set lens 5 f-stops wider than indicated on calculator scale (see chart)

Calculator scale reading	5.6	8	11	16	22
Correct lens setting:	1.2	1.4	2	2.8	4

NOTE: The one f-stop compensation requirement for 28mm wide angle panel also applies. The sufficient light indicator will light, but this should be disregarded.

Macro flash sensor operation

Follow the general mounting instructions of the

MFS-1 as shown in the MFS-1 instruction sheet with the following exceptions:

If you want to retain your dedicated interface connections with your camera do not attach the flash swivel shoe.

Follow general instructions given in the 4600 instruction book with the following exceptions:

- a) Close down aperture 4 stops from the auto f-stop chosen in instruction point 6.
- b) Canon camera lenses must be set manually and the 4 f-stop compensation applies as well. Do not set the lens in the "A" position.
- c) For Olympus and Contax TTL cameras, use auto modes on module (not TTL position) and set f-stop per a) above.
- d) For Nikon EM, use Auto modes on module (not EM position) and set f-stop per a) above.

If you decide to use the swivel shoe with the flash "on camera" you must set your flash shutter speed manually and you will not receive dedicated viewfinder information. You can still utilize automatic flash operation as discussed in the general operating instructions preceding.

To utilize full dedicated macro flash interface with the flash off camera, attach the DSC-1 to the module and connect it to the flash unit. You can now use the swivel shoe and still retain full camera/flash dedication.

- 3) Make certain power switch (11) is in the "Off" position, then insert mounting foot into camera hot shoe and rotate thumb wheel to the right to lock unit in place.
- 4) Set index line on film speed switch (4) to match film speed in camera.
- 5) Set zoom control switch (9) to desired position ("W", "35", "50", or "T", explained later). NOTE: When using standard head, set switch at "35" position.
- 6) Three automatic operating ranges are provided, indicated by the Red, Blue and Orange lines (8). Select desired auto range/f-stop combination, using the appropriate auto range line and the corresponding f-stop on the scale (6) directly above the vertical line.
EXAMPLE: With the unit set for 100 ASA/DIN 21 and at the "35" position, the automatic working range is from 6.6 ft. (2 m) to 50 ft. (15 m) with an f-stop setting of f-2 in the Red auto mode.
The corresponding auto mode, in this example Red, must also be set on the dedicated module. Incorrect module setting can result in improper exposure!
NOTE: Not applicable to TTL (Through-The-Lens) operation with Olympus OM-2, OM-2N, Contax 137 and 139 cameras. Refer to dedicated module manual for specific instructions.
- 7) Refer to dedicated module manual for

information pertaining to your particular camera model.

- 8) The power switch (11) has three operating positions: "Off", "On" and "Auto Zoom". When using the standard head, the "On" position turns the flash on. However, the flash is also turned on in the "Auto Zoom" position so, when turning the unit off, make certain the switch is in the extreme left "Off" position.
- 9) Turn the power switch on and wait for the flash ready light (12) to glow. If switched on, the module "beeper" will also sound intermittently. You are now ready to shoot. The 4600 is equipped with an energy saving circuit to conserve battery life. If you do not fire the flash and power remains on, the flash ready light will change from Red to Green and the power will automatically turn off until the control circuit determines that the capacitor has lost the equivalent of one f-stop (-1EV). At this point the power will be restored automatically, and the flash ready light will change from Green back to Red, starting the normal operating cycle again.

Sufficient light indicator

A visual (Green Light) and an audible (continuous "beep" tone) sufficient light indicator is incorporated in the dedicated module (switchable). These indicators operate in all three auto modes — Red, Blue or Orange. To check for sufficient light, wait for the flash ready light to glow, aim the flash at subject

External power supply operation

When using any of the external power supplies such as the HVP-1, the SB-4 or the PPG-1, which plug into external power supply receptacle (13), fresh batteries must be installed. These batteries power the low voltage circuit of the dedicated module. The use of external power supplies extends internal battery life.

Using the Vari-Power Slave with the 4600

When using the VPS refer to the following chart:

Vari-power switch position:	Full	1/2	1/4	1/8	1/16
Actual output of 4600:	Full	1/8	1/16	1/32	1/64

Specifications

Guide number ASA 100/ft (DIN 21/m)

Normal head: 100 (30) (35 mm)
with EW/A-1: 70 (21) (28 mm)
with SUPER WIDE (FA-3): 50 (15) (21 mm)

Motor zoom head:

Standard: 120 (36) (50 mm)

Normal: 100 (30) (35 mm)

Wide: 70 (21) (28 mm)

Tele: 140 (42) (105 mm)

Super wide: 50 (15) (21 mm)

Bare bulb: 60W/Sec max at full power

Flash duration

Manual: 1/1,000 second

Automatic: 1/1,000 - 1/30,000 second

Automatic f-stop settings & corresponding ranges

	ASA 100/ DIN 21	Normal 35mm
Red mode	2	6-50' (2-15 m)
Blue mode	4	3-25' (1-7.6 m)
Orange mode	8	2-12' (0.7-3.8 m)
		Standard 50mm
Red mode f-stop 2		8-60' (2.5-18 m)
Blue mode f-stop 4		4-30' (1.2-9 m)
Orange mode f-stop 8		3-15' (1.0-4.5 m)
		Wide 28mm
Red mode f-stop 2		5-35' (1.5-10 m)
Blue mode f-stop 4		2-18' (0.7-5.3 m)
Orange mode f-stop 8		1.6-9' (0.5-2.5 m)
		Superwide 21mm
Red mode f-stop 2		5-25' (1.5-7.6 m)
Blue mode f-stop 4		2-13' (0.7-3.8 m)
Orange mode f-stop 8		1.6-6' (0.5-1.9 m)
		Tele 105mm
Red mode f-stop 2		10-70' (3-21 m)
Blue mode f-stop 4		5-35' (1.5-10 m)
Orange mode f-stop 8		4-18' (1.3-5.3 m)

Sensor measuring angle

Approximately 18°

and press the open flash button (12). If light is adequate for correct exposure, the green module indicator will glow, accompanied by a continuous "beeeeeep" tone if audible signal is "on". If sufficient light signal(s) are not evident, use an auto mode with a larger f-stop setting, or decrease flash-to-subject distance.

Interchangeable flash heads

To remove head, first turn power switch to the "Off" position. Hold base of unit firmly with one hand and use thumb to push release button (3) downwards. When button is fully depressed, slide flash head forward with other hand to remove. To install alternate head, reverse preceding instructions.

Motorized zoom head

This unit provides optimum lighting because the head can be zoomed in or out automatically to narrow or widen the light pattern to match the lens you are using. The motorized zoom head should be set to match the lens being used on your camera, i.e.: For 28 mm lens, set control switch (9) to "W" (Wide angle). For 35 mm lens, set switch to "35". For 50-55 mm lens, set switch to "50". For 105 mm to 135 mm lens, set switch to "T" (Telephoto). Angle of light coverage will comply to these settings. The power switch (11) must be in the "Auto Zoom" position to activate motorized zoom head. If the power switch is in the "On" position, the motorized zoom head can be shifted manually to any of the previously noted positions.

NOTE: If used manually, zoom head will return to the position set on zoom control switch when the power switch is moved from "On" to "Auto Zoom" position. Select desired auto range as previously described and you are ready to shoot.

Bare bulb head

This head offers the creative advantage of being able to position one or more 4600 units to effect a "natural lighting" look. The bare bulb unit should be thought of as a portable electronic substitute for the standard incandescent light bulb. For example, placed inside of a table lampshade, the bare bulb unit will create a pleasing, natural effect. A major advantage is that bare bulb units are compatible with other on and off-camera flashes, all balanced for daylight film. Since bare bulb light output is measured in power (60 watt/seconds), it is helpful to use an electronic flash meter to help determine correct exposures.

Bounce flash

By "bouncing" flash output off reflective surfaces such as ceilings or walls, subjects can be more softly lighted, creating varied effects. In addition to the normal straight ahead (0°) position, the 4600 has up and down click-stop bounce settings at 45°, 65°, 90° and -10° for straight-on flash parallax correction. Horizontal rotation permits bounce shots in 15° increments from straight ahead (0°) to 90° right or 180° left.

Recycle time (average)

		Automatic	Manual
4 AA alkaline (AP-1)		0.2-12 s	12 s
NC-3		0.2-6.5 s	6.5 s
			Full Power Flashes
	PPG-1	Main Unit	R.T.
	Alk.	Alk.	0.2-6
	Alk.	NC-3	0.2-5
PPG-1	NC-3	NC-3	0.2-4
	NC-3	Alk.	0.2-5
	SB-4	Alk.	15
	SB-4	NC-3	12
			500
			100

Number of flashes (average)

	Automatic	Manual
4 AA alkaline	up to 700	90
NC-3	up to 300	40

Angle of coverage

	Vertical	Horizontal
Normal head (35mm)	45°	60°
with EW/A-1 (28mm)	53°	70°
with FA-3 (21mm)	67°	85°
Motor zoom head		
Standard (50mm)	34°	46°
Normal (35mm)	45°	60°
Wide (28mm)	53°	70°
S. Wide (21mm)	67°	85°
Tele (105mm)	20°	27°

Bounce

Horizontal

right: 0, 15, 30, 45, 60, 75, 90°
left: 0, 15, 30, 45, 60, 75, 90, 105, 120, 135, 150, 165, 180°

Vertical

-10 lock*: 0, 45, 60, 75, 90°

*NOTE: When the head is set at -10 position, the head does not move horizontally.

Motorized zoom head capability

4 position switch setting (W/N/S/T)
Capability of coupling with super module.

Energy saving

Ready light

Red LED

Illuminated calculator

By push button

Open flash button

Accessories included

EW/A-1... regular head only
AP-1... body only
Super wide... motor zoom head only