WILSONWERKS ARCHIVES

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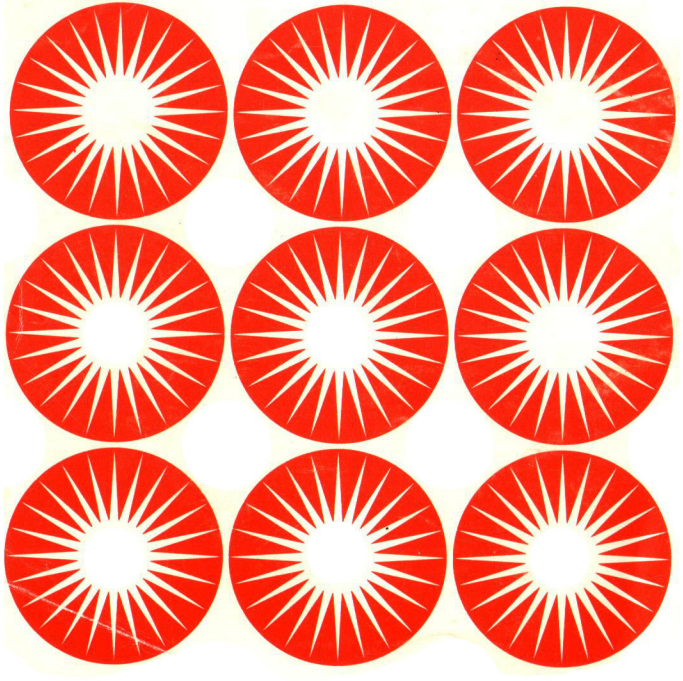
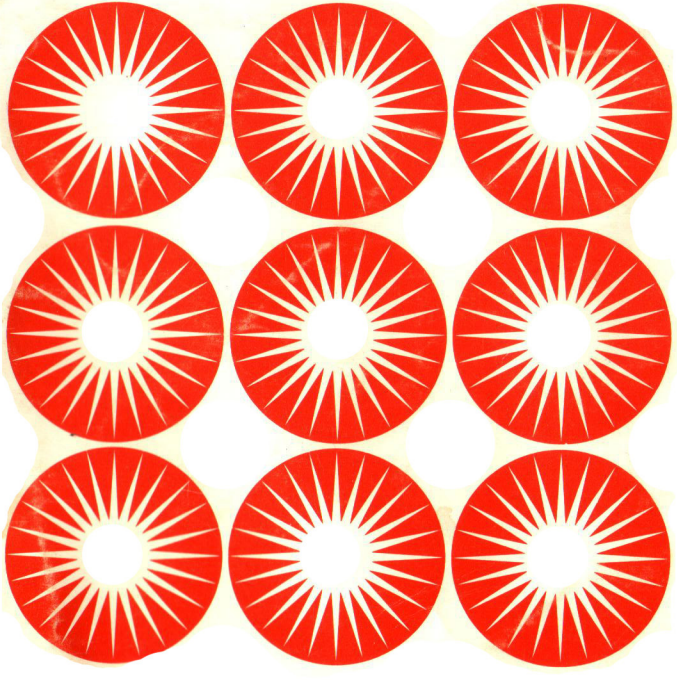
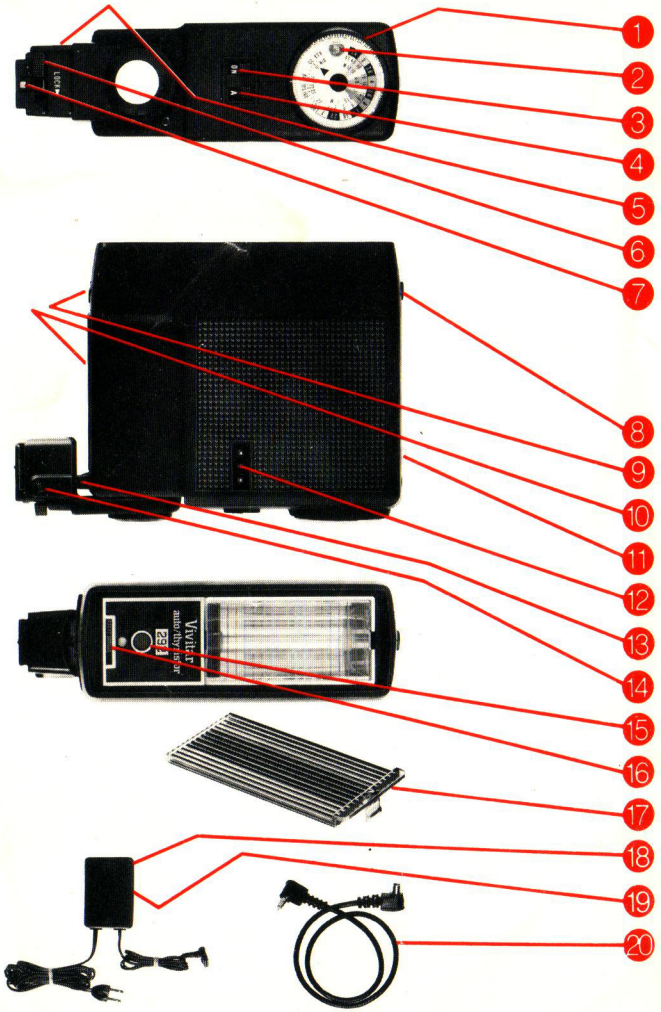


Vivitar®
automatic electronic flash
Model 292

Owner's Manual





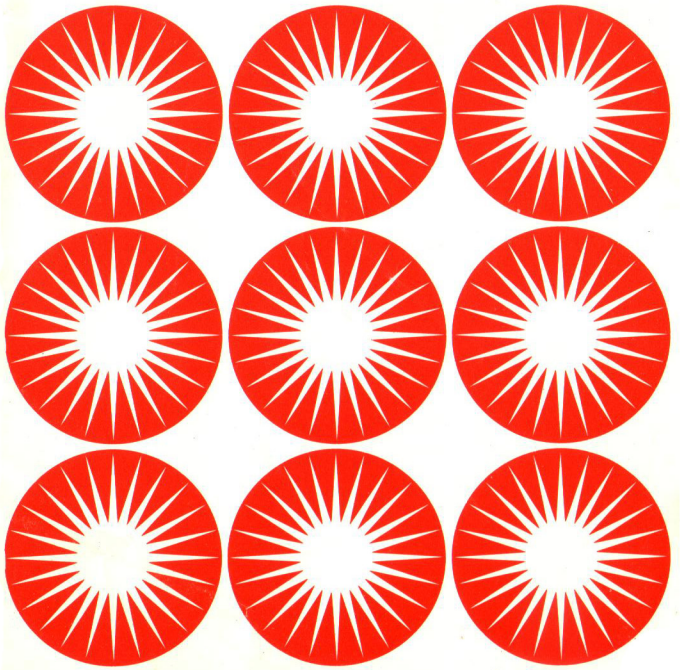
1. Illuminated Calculator Dial
2. Ready Light
3. On-Off Switch
4. Auto/Manual Control Switch
5. PC Cord Socket
6. Mounting Shoe Locking Lever
7. Open Flash Button

Description of parts

8. Auxiliary PC Socket
9. Remote Sensor Socket
10. NC-2 NiCad Battery Pack
11. Calculator Dial Illumination Button
12. AC/Charge Unit Receptacle
13. Battery Compartment Release
14. Mounting Shoe
15. Sensor
16. Auto f-Stop Selector
17. Wide Angle Attachment
18. MV-3 AC/Charge Unit
19. AC Voltage Selector
20. Detachable PC Cord

CONGRATULATIONS . . . AND WELCOME
to the ever-increasing number of photographers now enjoying Vivitar electronic flash. This Owner's Manual is a handy reference guide and we suggest you refer to it whenever questions arise.

We know you will enjoy your new Vivitar 292 and we wish you many years of picture taking fun.



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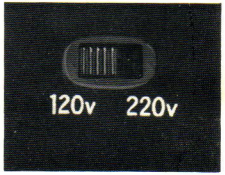
Short course of instructions

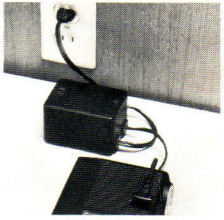
1

Set AC voltage selector on charger to proper line voltage [see page 5].



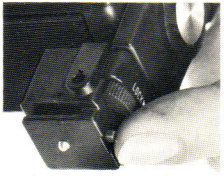
2

Charge unit for 1 hour [see page 5].



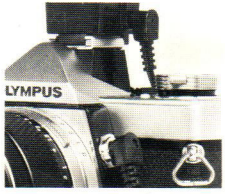
3

Flash unit 5 times to form capacitor [see page 7].



4

Mount flash on camera. Attach PC Cord to flash unit and "X" terminal on camera.

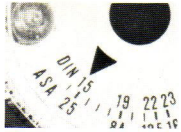


5

Set camera to correct shutter speed for electronic flash.

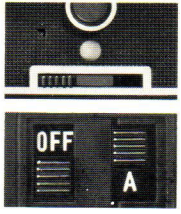
6

Set film speed on calculator dial. Read f-stop within color-keyed triangle for auto f-stop you prefer.



7

Set automatic f-stop selector to same color and set auto/manual control switch to automatic ("A").



8

Set f-stop on camera lens. No further f-stop adjustments are required within auto range.

9

Slide On-Off switch to "ON" position. Focus camera. Take the picture when ready light glows.

Detailed operating instructions

BATTERY OPERATION

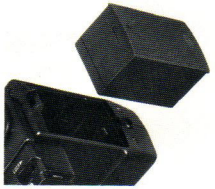
Your Vivitar 292 is supplied with an interchangeable NC-2 Nickel Cadmium Battery Pack already inserted into the unit. For convenience, additional NC-2 NiCad Battery Packs are available as accessories from your Vivitar Electronic Flash dealer allowing you to carry one or more fully recharged battery packs when traveling where AC outlets are not readily accessible.

To insert a new NC-2 NiCad Battery Pack:

1
Move the Mounting Shoe ⑭ to the horizontal position.

2
Pull back on the Battery Compartment Release ⑬.

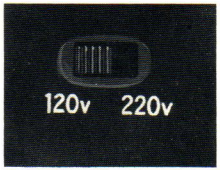
3
Remove discharged battery pack and insert new pack into the compartment as shown.



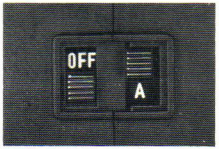
4
Push down on the battery pack until it locks securely in place.

Charging the Batteries

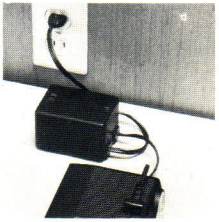
1
Set the AC Voltage Selector ⑲ on the AC/Charge Unit to match the line voltage you will use. CAUTION: The Selector must be set correctly to prevent damage to the charger.



2
Slide the On-Off Switch ③ to the "OFF" position.



3
Attach the charger cord to the flash unit ⑫ and plug the AC/Charge Unit into any standard AC wall outlet. The light on the charge unit will glow when proper connection has been made.



4
Charge the 292 for 1 hour. Once the batteries are charged, the charger will automatically switch down to a reduced charge rate and a built-in safety circuit will protect your flash from overcharging.

5
Remove the AC/Charge Unit and slide the ON-OFF Switch to "ON". When the Ready Light ② glows your flash is ready to fire.

Quick Charge Feature

Your Vivitar 292 has the ability to deliver enough flashes to shoot an entire roll of film after only a few minutes of charging. The chart below shows the percentage of flashes obtainable as the charging time increases:

Charging Time (min.)	10	15	30	45	60
% of Flashes	10%	25%	50%	67%	100%

Battery Saving Circuit

Your flash unit has a built-in IC circuit that acts to *significantly* prolong battery life. When this circuit is in operation, the Ready Light ② will *BLINK*.

AC OPERATION

Your flash unit can be operated on either 120-volt or 220-volt AC current.

If your batteries are drained it may take a few minutes for the ready light to glow after connecting your unit into an AC outlet. Because the battery circuit is active even in AC mode, it is necessary to re-charge the batteries after extended AC operation.

1

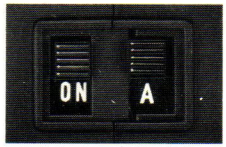
Set the AC Voltage Selector on the AC/Charge Unit to match the line voltage you will use. *CAUTION:* The Selector must be set correctly to prevent damage to your unit.

2

Attach the AC/Charge Unit to the flash unit and to any standard AC wall outlet. The light on the AC/Charge Unit will glow when proper connection has been made.

3

Slide the On-Off Switch to the "ON" position. When the Ready Light glows your flash is ready to be fired.

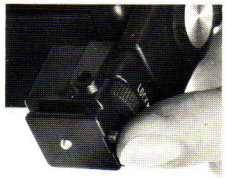


Form the capacitor

When your flash is new or when it has not been used for a long time, the capacitor may lose some of its ability to store electricity. When this occurs, you can "reform" the capacitor as follows:

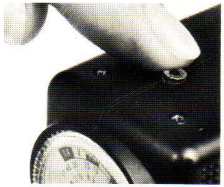
Set the Auto/Manual Control Switch to manual ("M").

After charging the batteries, or with the AC/Charge Unit plugged in to both flash and wall outlet, slide the On-Off Switch to "ON" and fire the flash using the Open Flash Button ⑦. Repeat this about 5 times allowing the Ready Light to glow 5 to 10 seconds after each flash.



The illuminated calculator dial

Your Vivitar 292 has an Illuminated Calculator Dial ① which is designed for use when you are taking pictures in dim light. To activate the lighted dial, press the Calculator Dial Illumination Button ⑪. The light will go out when the button is released.



Attaching your flash to the camera

1

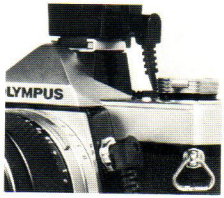
Select vertical or horizontal operation and insert the Mounting Shoe ⑭ into the accessory clip on the camera. Lock the flash in place by moving the Locking Lever ⑥ in the direction of the arrow. Use vertically for half-frame 35mm cameras; horizontally for full-frame 35mm and instant-load 126 cameras.

2

If your camera has a Hot Shoe, it is not necessary to use the detachable PC Cord. Once attached to the camera, the flash is fully synchronized to the camera through the contacts in the shoe.

3

If your camera does not have a Hot Shoe, plug the pointed end of the PC Cord ⑳ into the Socket ⑤ on the flash. Attach the other end of the cord into the camera flash terminal marked "X". If an "X" terminal is not provided, set the camera synchronization switch to "X". (Refer to your camera instructions for specific information regarding your camera's flash synchronization.)

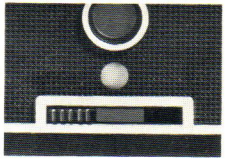


Automatic operation

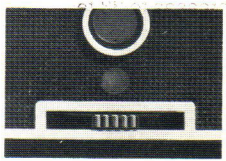
Multiple f-Stop Control

The Automatic f-Stop Selector ⑯ has three positions allowing you to set your Vivitar 292 to operate automatically with your camera at three different f-stops:

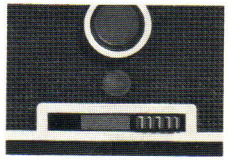
YELLOW—
This position allows you to use a larger lens opening for shallow depth of field and an automatic operating range of from 2 to 33 feet (.6m to 10m).



RED—
This position allows you to use a smaller lens opening for moderate depth of field with an automatic operating range of from 2 to 16 feet (.6m to 4.9m).



BLUE—
This position allows you to use the smallest auto f-stop for maximum depth of field and for shooting close-up pictures with fast film. Automatic operation is from 2 to 8 feet (.6m to 2.4m).



Remote Sensor (optional accessory, not included)

The Vivitar RS-1 Remote Sensor is designed to provide indirect (off camera) automatic exposure control with your Vivitar 292. Ideal for "bounce" flash and other off-camera electronic flash applications, the Remote Sensor works automatically with your camera at five f-stop settings for maximum depth of field control and a variety of automatic operating ranges.

Thyristor Circuit

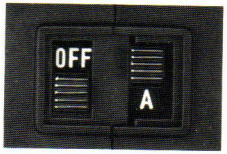
Your Vivitar Model 292 has a unique power conservation system called a thyristor circuit. This circuit saves the excess energy not needed for a proper exposure thereby providing incredibly fast recycling and a greater number of flashes per charge.

The recycle time and the number of flashes per charge vary depending upon the flash to subject distance. For example, with a flash to subject distance of 6 feet (1.8m), the 292 will recycle in approximately 2 seconds or less and deliver over 200 flashes per charge. As the flash to subject distance increases to 33 feet (10m), recycling with fully charged batteries increases to approximately 8 seconds and the number of flashes is reduced accordingly.

Shooting automatically

1

Set the auto/manual control switch ④ to automatic ("A").



2

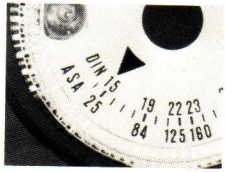
Set the camera shutter speed to 1/60, 1/30 or "X"—

Note: Refer to your camera instructions for the proper speed setting for electronic flash.

3

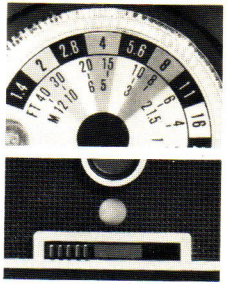
Set the correct ASA or DIN film speed on the Calculator Dial.

Example: For Kodachrome II, set the ASA (DIN) indicator mark to 25 (15).



4

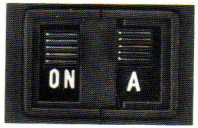
Read the f-stop within the color-keyed triangle for the auto f-stop you prefer. Set the automatic f-stop selector ⑯ to the same color and set your lens to the correct f-stop.



Note: The correct auto f-stop for most popular films are listed in the specifications, page 18.

5

Slide the On-Off Switch ③ to the "ON" position. Focus camera. Take the picture when the Ready Light glows.



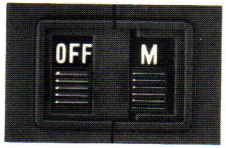
Your flash unit will automatically give you a perfect exposure of any subject within the automatic range you have selected without further f-stop adjustments.

Manual operation

When you wish to use your Vivitar 292 in the manual mode (for example, pictures beyond the auto flash range, fill-in flash, etc.)—

1

Set the auto/manual control switch to manual ("M").



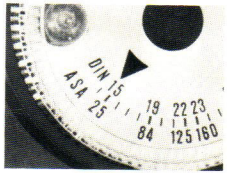
2

Set the camera shutter speed to 1/60, 1/30 or "X"—

Note: Refer to your camera instructions for the proper speed setting for electronic flash.

3

Set the correct ASA or DIN film speed on the Calculator Dial.

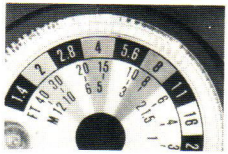


4

Focus your camera and estimate the distance from the flash to the subject. You can usually do this "by eye" or you can refer to the distance indicated on the camera lens barrel after focusing.

5

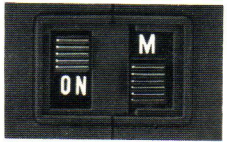
Read the f-stop indicated opposite the distance scale on the Calculator Dial and set this f-stop on your camera lens.



Example: If you are 15 feet from your subject and you are using Kodachrome II (ASA 25), set the lens f-stop to f4.

6

Slide the On-Off Switch to "ON." Focus camera. Take the picture when the Ready Light glows.



Cameras with built-in automatic flash control

Many new cameras have a feature which automatically sets the correct exposures for flash as you focus. For the camera and Vivitar 292 to operate properly together you MUST:

1

Set the correct guide number on the Guide Number Scale of your camera (refer to your camera instructions); and

2

Make sure the Auto/Manual Control Switch is in manual ("M").

The proper Flash Guide Numbers corresponding to both ASA and DIN film speeds are indicated in the specifications, page 18.

Wide angle attachment

Your Vivitar 292 is supplied with a Wide Angle Attachment ⑰ which snaps on the front of your flash as shown. This increases the angle of illumination to a pattern of 70° horizontal, 65° vertical for use with extreme wide angle lenses.

In the AUTOMATIC mode, no f-stop adjustment is required with this attachment in place. However, the automatic operating ranges are altered as follows:

YELLOW—2 ft. to 25 ft. (.6m to 7.6m)
RED—2 ft. to 12 ft. (.6m to 3.7m)
BLUE—2 ft. to 6 ft. (.6m to 1.8m)

In the MANUAL mode, allow one full f-stop increase in exposure. For example, if the Calculator Dial indicates f4, open your lens to f2.8.

Helpful hints

Let it glow!
Do not discharge (flash) your unit before putting it away. Just turn the unit off. *It's better to leave the Ready Light glowing!* The next time you use it, your flash unit will "reform" faster and this procedure will prolong the life of your equipment.

Shadows
To avoid harsh shadows in your picture, position your subjects at least 3 to 4 feet from walls or use "bounce flash."

Bounce flash
You can soften the light, making it less harsh and less directional, by simply placing a handkerchief over the flash head and increasing the exposure. You can get even softer lighting by "bouncing" the light off a reflective surface onto your subject. White walls and ceilings that are not too high, large sheets of paper, and even bed sheets can be used as reflective surfaces.

Since bounce flash reduces the amount of light on your subject, make sure your Vivitar 292 has been set for manual operation ("M") and open your camera lens 2 additional f-stops. You can determine exposure more accurately by measuring the distance from flash to reflector to subject and dividing the total into the guide number.

When using bounce flash, remove the flash unit from your camera and aim it at the reflective surface.

IMPORTANT: You can retain fully automatic exposure control for bounce flash by using the optional Vivitar RS-1 Remote Sensor. This sensor measures the light striking the subject even when the flash is off camera and delivers the exact amount of light needed for a proper exposure.

Mirrors
Never shoot flash pictures straight into mirrors, glass, or other highly reflective surfaces. Reflections will result and cause poor pictures. Stand at an angle so that any reflections will be directed away from the camera. *Hint:* If you can't see yourself in the mirror, you're safe.

Group shots
Don't lose some of your friends in the shadows! Be sure that the whole group is about the same distance from the camera. If you're not careful people closest to the camera will be overexposed or "washed out" and those furthest away will be underexposed because not enough light reached their spot in the picture.

Flash fill
Outdoors, electronic flash is used extensively by professionals to "fill-in" shadow areas. It softens hard shadows resulting from bright sunlight and is particularly useful with color film which can only record a limited contrast range.

Here is a simple procedure which you can modify according to your preference. Set your camera's shutter speed and f-stop for a proper exposure of the subject without flash. Keep in mind that only some shutter speeds can be synchronized with the flash. Divide the flash guide number for the film you are using by the f-stop you have set. This will give you the flash to subject distance. Then, for a bright fill place the flash at that distance. For a more normal fill, move the flash back half again

the distance; for a weaker fill (not recommended with color film) double the bright fill distance.

Set the Auto/Manual Control Switch ④ of your 292 to manual ("M") for flash fill.

Simulating sunlight

There are times when the sun disappears, but the picture calls for sunlight. Your electronic flash can then be used as the main light and very successfully simulate sunlight.

When you wish to simulate sunlight outdoors in dull weather, first determine the proper exposure for the natural daylight and then stop down 1 full f-stop. Determine your normal flash to subject distance for that f-stop. Set your flash at that distance. The flash will then be the main light, and your reduced exposure on the natural light will convert it to fill light.

Set the Auto/Manual Control Switch ④ of your 292 to manual ("M") for simulating sunlight.

Open flash

This technique involves firing the flash independently while the camera shutter stays open. You can use it for a variety of creative effects. For example, while the shutter is open the film records both the image lit by the existing light and the image lit by the flash. You can capture both a sharp and a blurred image in the same picture to create a feeling of movement. Or, in a large dark interior you can open up the shutter and fire several electronic flashes from different positions until you have lit the entire scene.

Synchronization speed

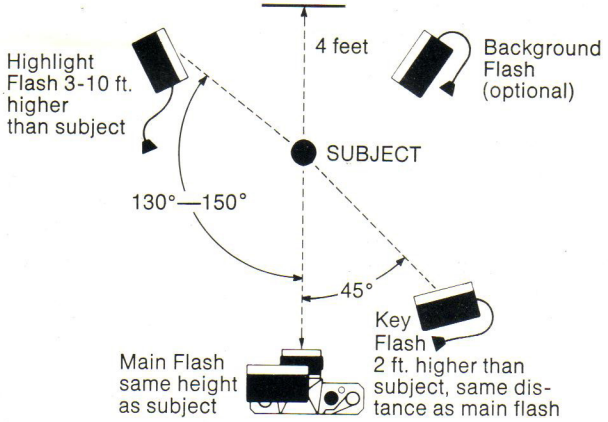
When taking pictures with your Vivitar electronic flash, always try to use the fastest possible shutter speed that provides full electronic flash synchronization (refer to your camera instructions for this information). This will eliminate "ghosts" or blurry images of brightly lit objects in the background.

Multiple flash with Vivitar slave units

When taking portraits or pictures of large groups, many photographers prefer to use more than one flash unit to produce a better light balance. To do this, you must be able to fire the main flash and each remote flash simultaneously.

Vivitar Slave Units are solid state light sensitive devices which when attached to the PC cord of a remotely positioned flash unit automatically trigger the flash in perfect synchronization with the main flash unit without external cables or wires.

Example: Here is a typical arrangement using a main flash and three remote flash units to balance the light.



NOTE: Set the Auto/Manual Control Switch ④ of your 292 to manual ("M") for multiple flash.

Your Vivitar 292 has an Auxiliary PC Socket ⑧ which can be used to attach wireless slave units without the need for a PC cord.

Vivitar Model 292 specifications

Manual Operation

Guide numbers (ASA-Feet):

ASA film speed	25	64	80	100	125	160	200	400	800
Flash Guide No.	65	103	120	130	145	165	185	260	365

Guide numbers (DIN-Meters):

DIN film speed	15	19	20	21	22	23	24	27	30
Flash Guide No.	20	30	35	40	45	50	55	80	110

Automatic Operation

Auto f-stop settings to the closest half f-stop:

Film Speed: ASA	25	64	80	100	125	160	200	400	800
DIN	15	19	20	21	22	23	24	27	30
YELLOW Mode	2	2.8	3.5	4.9	5.6	5.6	6.9	8	11
RED Mode	4	5.6	8	9.8	11	11	13.5	16	22
BLUE Mode	8	11	16	19.6	22	22	—	—	—

Automatic operating ranges . . . . . YELLOW Mode 2 ft. to 33 ft. (.6m to 10m)
RED Mode 2 ft. to 16 ft. (.6m to 4.9m)
BLUE Mode 2 ft. to 8 ft. (.6m to 2.4m)

With Wide Angle Attachment . . . . . YELLOW Mode 2 ft. to 25 ft. (.6m to 7.6m)
RED Mode 2 ft. to 12 ft. (.6m to 3.7m)
BLUE Mode 2 ft. to 6 ft. (.6m to 1.8m)

Automatic Sensor Measuring Angle . . 20°

General specifications

BCPS (Beam Candle Power Seconds) 3400

Recycle times (approx.) . . . . . 8 seconds (manual)
.25 to 8 seconds (automatic)
[Based on average of second through eleventh flashes with fully charged batteries. Recycling takes longer as the batteries drain.]

Flash duration (approx.) . . . . . 1/1000 second (manual)
1/1000 to 1/30,000 second (automatic)

Color temperature . . . . . 6000° Kelvin

Angle of Illumination(s)

Normal . . . . . 65° horizontal, 45° vertical

With Wide Angle Attachment . . . . . 70° horizontal, 65° vertical

Operating positions . . . . . Vertical and horizontal

Power sources . . . . . DC—Interchangeable, rechargeable NiCad Battery Pack (NC-2)
AC—Multiple Voltage (120v/220v)

Battery saving circuit . . . . . Built-in IC module automatically regulates power flow from batteries to capacitor

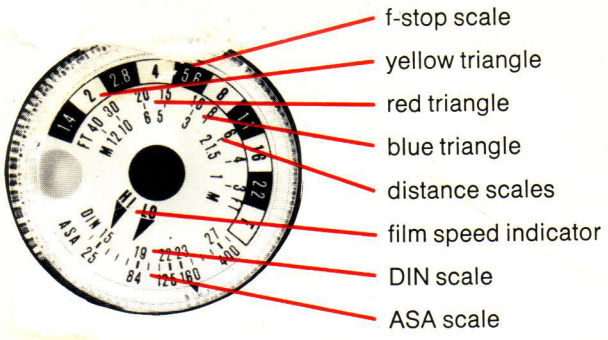
Flashes per charge . . . . . 50+ (manual)
50 to 700+ (automatic, depending on flash to subject distance)

Camera/Electronic flash synchronization connection(s) . . . PC Cord, Hot Shoe

Weight with batteries	17½ oz. (496 gr.)
Dimensions	4⅝ x 3¾ x 1¾
	(116mm x 96mm x 43mm)
Accessories included	Wide angle attachment, MV-3 Multiple Voltage AC/Charge Unit (120v/220v), pouch case
Accessories available	Remote Sensor, NC-2 NiCad Battery Packs

Specifications subject to change without notice

The Vivitar Model 292 calculator dial



FILM SPEED SCALE

DIN	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
ASA	20	25	32	40	50	64	80	100	125	160	200	250	320	400	500