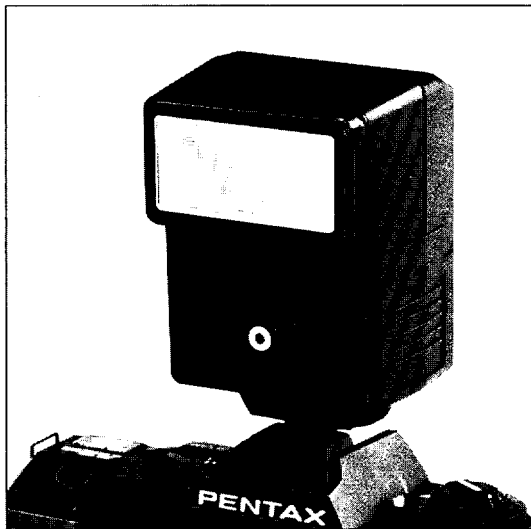


PENTAX®

AF 200SA

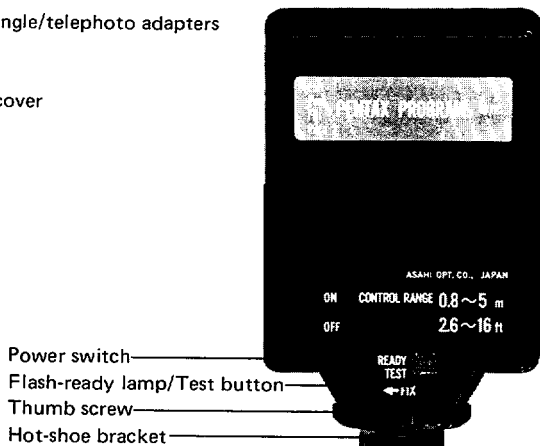
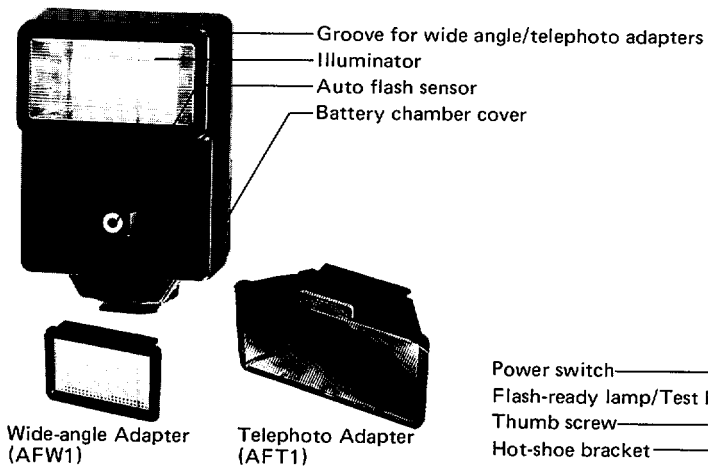
AUTOMATIC ELECTRONIC FLASH UNIT



The AF200SA has a Guide Number of 20 with ISO 100 film, and when used with any Pentax programmed camera, becomes a high-performance, clip-on type flash unit that easily gets ready for flash photography by just turning the power switch to ON. Can also be used with the camera set to the Aperture-priority AE mode. Its wide angle of illumination can cover the area seen by a 28mm wide-angle lens.

The AF stands for Auto Flash Unit, and it has an electronic sensor that measures the amount of light reflected from the subject instantaneously. It turns the flash off automatically when the sensor registers enough light for correct exposure. This eliminates the need to measure distances and change the f-stop each time you move in relation to the subject.

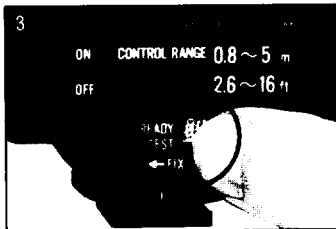
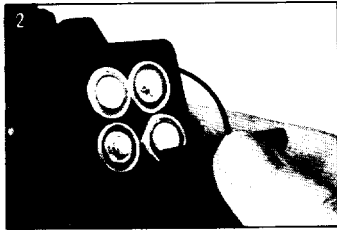
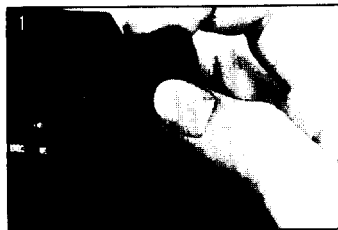
NAMES OF PARTS



INSERTING BATTERIES

1. Slide the battery chamber cover down and open it by raising its bottom part.
2. Insert four AA-size batteries into the chamber with their (+) (-) sides placed exactly as indicated inside the chamber. Close the cover.

3. Turn the power switch to ON, and in several seconds the flash-ready lamp will light up. Press the test button, and make sure the flash fires. If the flash-ready lamp does not light, the batteries may be loaded improperly or worn out. Be sure to turn the switch off after the test flash.



BATTERIES

Use four AA-size batteries mentioned below.

Manganese batteries

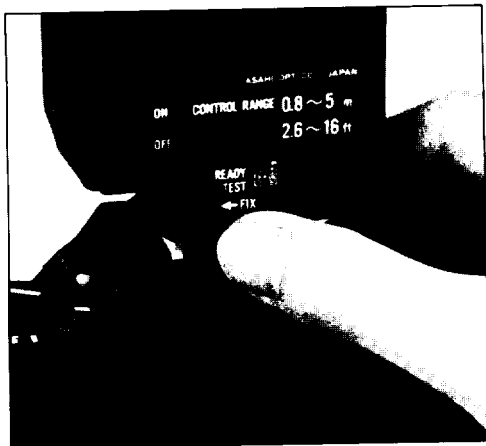
Alkaline batteries

Ni-Cd rechargeable batteries (You need a battery recharger.)

- Remove batteries when not using the flash unit for long periods of time. Batteries tend to leak if left too long in the unit and may cause serious damage.
- Batteries are very sensitive to cold and performance tends to deteriorate at temperatures near freezing. Performance is restored to normal as soon as batteries are subject to room temperatures. Keep a set of spare batteries warm in your pocket when shooting in freezing weather to substitute when the others become cold.

- Battery performance tends to differ depending upon brand and type. Best results are obtained when high-performance alkaline batteries are used. Rechargeable Ni-Cd (nickel-cadmium) batteries offer the advantage of shorter initial recycling time and rechargeability, but give less number of flashes per charge.
- Replace batteries at the same time. Do not mix battery brands and types, or old batteries with new batteries.

MOUNTING FLASH UNIT ONTO CAMERA



Slide the hot-shoe bracket of the flash unit into the camera's hot shoe completely, then tighten the thumb screw above the bracket by turning it to the direction of the arrow to fix the bracket. The flash unit can be dismantled by first loosening the thumb screw.

- If the flash unit is not properly mounted, it does fire, but may not provide proper flash sync. To avoid this problem, always make sure that the ↵ mark appears in the viewfinder, which indicates the proper mounting of the flash unit.
- When mounting or dismantling the flash, be sure to do it while holding somewhere around the hot-shoe bracket, not the flash head, in order to avoid any damage.



COMPATIBLE CAMERAS AND EXPOSURE MODES

The AF200SA is an electronic flash designed to work with a programmed camera. As shown in the table below, it can be used in the Aperture-priority AE mode as well.

As soon as the flash has been fully charged, the functions of the camera and lens are automatically set as indicated in the table.

*Set to flash-sync speed.

**Lens aperture is set to the programmed f-stop.

Exposure Mode	A3, A3000, P3, P30, Super A, Super Program, Program A, Program Plus	LX, ME Super, ME-F, MG	X shutter speed	Lens aperture
Programmed AE (Lens set to "A")	⊙	—	*Automatically set	**Automatically set
Aperture-priority AE (Lens set to any f-stop)	○ *	○	*Automatically set	Manually set

⊙ = Especially compatible ○ = Compatible * = Except P3 and P30

ISO FILM SPEED, APERTURE, FLASH RANGE

Depending on the ISO number of the film in use, a proper f-stop should be used as shown in the table. The flash range (flash-to-subject distance) is fixedly from 0.8 to 5 m (2.6–16.4 ft.).

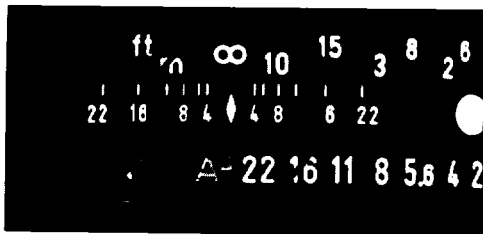
- When the camera is set to the Programmed AE mode, the aperture is automatically set to the f-stop as shown in the table, depending on the film speed.
- In the Aperture-priority AE mode, a proper f-stop must be selected, according to the film speed, as shown in the table.
- When using slow-speed film like ISO 25, an f-stop near maximum aperture must be selected. With high-speed film like ISO 800, an f-stop near minimum aperture must be selected, thus making the depth of field greater.

Film Speed (ISO)	Aperture (f)	Flash Range
25	2	0.8–5 m (2.6–16.4 ft.)
50	2.8	
100	4	
200	5.6	
400	8	
800	11	
1600	16	

OPERATION

In Programmed AE mode

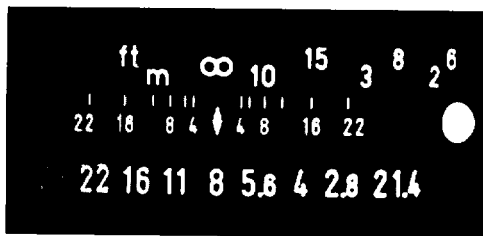
Make sure that the camera is set to the Programmed AE mode. Set the lens aperture to "A" (Auto.)



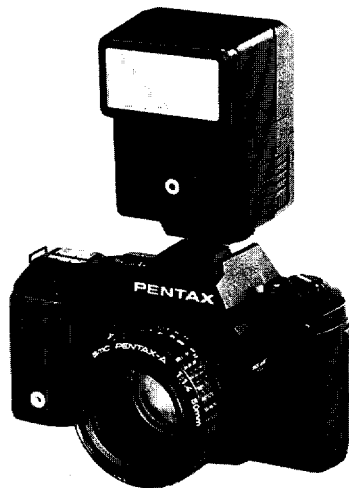
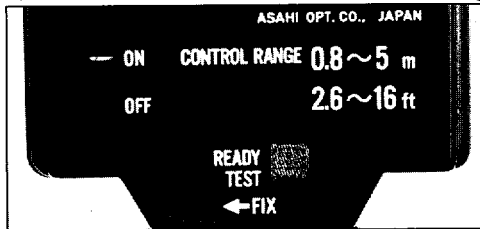
In Aperture-priority AE mode

Make sure that the camera is set to the Aperture-priority AE mode. Set the lens aperture to any f-stop other than "A."

When ISO 100 film is used, set the aperture to $f/4$, as shown in the table on page 7.



1. Turn the power switch to ON. When the flash-ready lamp on the flash lights up, the flash is ready to fire.
2. The ∇ mark also appears in the viewfinder to indicate the flash is ready to fire.
3. Focus on the subject, then make sure that it is within the flash range (0.8–5 m), and release the shutter.
4. Be sure to turn the switch to OFF after shooting.



USING WITH OTHER CAMERAS

You can also use the AF200SA with any other non-programmed Pentax camera that has a hot shoe on top of the pentaprism, as a conventional auto flash.

1. Set the camera's shutter speed to X (flash-sync speed).
2. When using ISO 100 film, set the aperture to f/4. With any other film, set the aperture as indicated in the table on page 7.
3. Whatever the film speed may be, the flash range is fixedly 0.8–5 m. Refer to the camera's operating manual as well.

Caution: If the AF200SA is used with any camera other than Pentax, it may cause malfunction or harm the electronic mechanism of the camera.

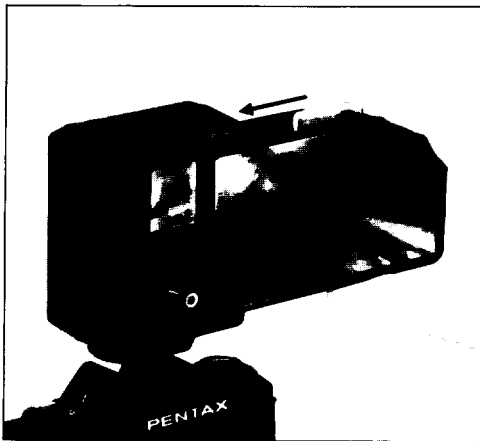
FLASH-READY LAMP (READY/TEST)



When the flash-ready lamp is on after the power switch is turned on, you are ready to fire the flash, but you had better wait a few seconds to fire the flash, as it makes the flash output more stable than just after the flash-ready lamp is on.

Caution: If you leave the AF200SA switched on, using it with the Pentax cameras (except A3/A3000 and P3/P30) in the table on page 6, the camera's meter stays ON as well, thus exhausting the battery power. When the flash is not in use, be sure to turn the power switch of the flash to OFF.

WIDE-ANGLE (AFW1) AND TELEPHOTO (AFT1) ADAPTERS



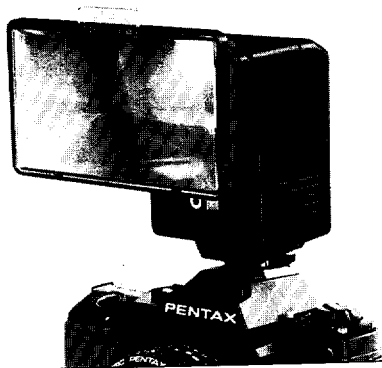
Slide either adapter into the grooves on top or at the bottom of the flash illuminator until it stops with a click. Using the AFW1 adapter broadens the flash angle as wide as the 24mm wide-angle lens can see or cover the subject. Using the AFT1 improves the result obtainable with telephoto lenses from 85 to 200mm by providing more concentrated light output to the subject.

When these adapters are used, the flash range changes as follows:

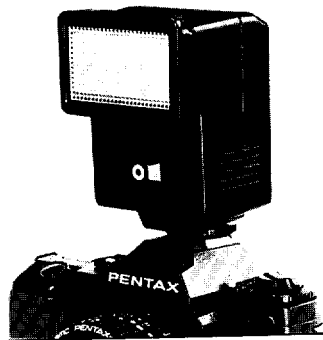
AFW1 = 0.6–3.5 m (2–11.5 ft.)

AFT1 = 1.2–7 m (4.7–23 ft.)

Telephoto Adapter (AFT1)



Wide-Angle Adapter (AFW1)



SPECIFICATIONS

- Type:** Clip-on type, automatic thyristor electronic flash, specifically designed for use with Pentax programmed cameras.
- Guide number:** 20 with ISO 100, in meters.
- Flash duration:** Auto, full flash output. 1/2500 sec. (1/2 peak); auto, shortest: 1/15000 sec. (1/2 peak).

Number of flashes and Recycling time:

Power source	Recycling time	Number of flashes
Manganese batteries	Approx. 10 sec.	Approx. 60
Alkaline batteries	Approx. 8 sec.	Approx. 200
Ni-Cd batteries	Approx. 4 sec.	Approx. 90

- Flash coverage angle:** 65° horizontally; 50° vertically (covers 28mm lens).
- Auto sensor angle:** Approx. 20°
- Color temperature:** Equivalent to daylight.
- Auto flash range:** 0.8–5 m (2.6–16.4 ft.)
- Compatible film speed:** ISO 25–1600

Aperture auto set function:

Film speed	Auto
ISO 25	f/2
ISO 100	f/4
ISO 1600	f/16

(Functions when used on any Pentax programmed camera with its A-lens set to A.)

Sync and dedicated flash features:

Flash-ready indication, automatic shutter-speed setting, slow shutter-speed sync, automatic aperture setting.

Power source:

Four AA-size batteries (1.5V x 4): Manganese, Alkaline or Ni-Cd.

Dimensions & weight:

62(W) x 97(H) x 58(D)mm; 160 g less batteries.

Accessories:

Case, AFW1 adapter (option), AFT1 adapter (option).

- Number of flashes is the average number of flashes fired every 30 sec. with the flash-ready lamp lighted within 30 sec. Test made at 20°C. The number also differs from one brand to another.

SPECIAL NOTES ON FLASH PHOTOGRAPHY

- If you take a flash photo of two persons, one very near and the other distant, in one picture frame, the near person tends to be overexposed. So, in such a case, keep an extremely near subject out of the frame.
- If the subject you are shooting in places like a theater is small, not in the center of the picture area, and the central background is black, it tends to be overexposed.

SAFETY PRECAUTIONS

- Because the flash unit contains high voltage inside, never try to dismantle it.
- Do not leave the flash unit in a hot or humid place like in a car or near a heater. Do not give vibration to the unit.
- Do not wipe the flash unit and its accessories, using a solvent such as thinner, alcohol, ether, etc. Wipe them with a soft cloth or silicone cloth.





Asahi Optical Co., Ltd. C.P.O. 895, Tokyo 100-91, JAPAN
Pentax Europe n.v. Weiveldlaan 3-5, 1930 Zaventem Zuid-7, BELGIUM
Pentax Handelsgesellschaft mbH Postfach 54 0169, 2000 Hamburg 54, WEST GERMANY
Pentax U.K. Limited Pentax House, South Hill Avenue, South Harrow, Middlesex HA2 0LT, U.K.
Pentax France S.A. Z.I. Argenteuil, 12, Rue Ambroise-Croizat, 95100 Argenteuil, FRANCE
Pentax (Schweiz) AG Industriestrasse 2, 8305 Dietlikon ZH, SWITZERLAND
Pentax Svenska AB Box 650, S-751 27 Uppsala, SWEDEN
Pentax Nederland Spinveld 25, 4815 HR Breda, THE NETHERLANDS
Pentax Norge A/S Stenersgt. 18, Oslo 1, NORWAY
Pentax Corporation 35 Inverness Drive East, Englewood, Colorado 80112, U.S.A.
Pentax Canada Inc. 1760 West 3rd Avenue, Vancouver, B.C. V6J 1K5, CANADA
Asahi Optical Brasileira Ind. e Com. Ltda. Rue Capitão Antonio Rosa 376, Sala 121 Ed. PBK, São Paulo, BRASIL