Instructions • Mode d'emploi

Make certain positive (+) and negative (-) battery symbols match the illustrations inside battery compartment. Replace cover securely.

3) Power switch (11) must be in the "off" position before inserting flash mounting foot (6) in your camera's hot shoe and locking it in place with the thumbwheel.

4) Set camera to correct shutter speed for electronic flash per your camera owner's manual.

Automatic operation

Two automatic operating ranges are provided (Red and Blue settings) to simplify flash photography. Using ASA 100/ISO 21 film, auto ranges/aperture settings are:

Blue Auto Range: From 3 feet (0.9 m) to 20 feet (6 m), Aperture setting 14.
Red Auto Range: From 6 feet (1.8 m) to 40 feet (12 m), Aperture setting 12.

Correctly lighted pictures may be taken at any distance within either auto range without changing the aperture setting.

NOTE: Auto range settings are directly related to the film speed being used; i.e., the faster the film speed, the smaller the f-stop setting will be.

1) Slide the film speed selector (13) along the scales (12) until the normal index mark (vertical line) aligns with the ASA/DIN film speed you are using.

   *If you have the 35mm wide angle panel mounted, align the index dot (14) with the film speed.*

2) Focus camera lens on subject, check the distance and select auto range.

3) Read available f-stop settings from the scale (15) directly above the verticals of the blue (17) and the red (18) auto indicator lines. Select and set preferred f-stop on camera lens.

4) Ensure subject is within the minimum/maximum distance of the auto range selected by reading the distance scales (16) directly above both ends of the auto range indicator lines. You may also use the auto check indicator (19) described in step 7 following.

5) Move the mode setting switch (3) to selected auto setting (blue right, red left)

6) Turn the power switch (11) to the red "on" position. When the flash ready light (10) glows, picture can be taken. Never shoot until flash ready light is on, or incorrect exposure will result.

NOTE: Once the flash ready light is on, and as long as it remains on, the flash will operate to provide a correct exposure and reactivate the charging circuit automatically. Once the flash ready light goes out, the flash will still fire, but incorrect exposure may result.

To reactivate the unit and obtain a ready light prior to releasing camera shutter, turn power switch off, then back on again. When flash ready light glows you are ready to shoot.

The light sensor (4) controls light output automatically and ensures correct exposure at all distances within the auto range.

7) The auto check indicator (19) confirms that your subject is within selected auto range and will be correctly lit. To operate, aim flash at key subject and press the open flash button (20) while watching the auto check indicator. The auto check will flash green if the subject is within the auto range. If no green flash is seen, adjust your flash-to-subject distance.

Bounce flash in auto modes

The adjustable bounce head permits special lighting effects to be accomplished by "bouncing" light onto the subject from a ceiling or similar reflective surface. Your flash unit has click-stop settings at 3°, 45°, 60°, and 80° (9) and may be used in either blue or red auto mode, following the preceding instructions with one important exception: the calculation of flash-to-subject distance.

In order to correctly expose bounce flash subjects, it is necessary to calculate the distance from the flash to the reflective (bounce) point, then to the subject. The total distance must not exceed the maximum distance to the auto range being used. The auto check indicator described in step 7 may still be used in all bounce positions.

Manual operation

Flash photography beyond the scope of the two auto ranges is accomplished by switching to the manual ("M") mode.

1) Set film speed as described under auto operation, step 1.

2) Center mode setting switch (3) under "M" on the mode index (2).

3) Focus camera lens on subject, note the distance and find corresponding distance on flash scales (16).

4) Set lens aperture to the setting shown on the
f-stop scale (15) directly above noted flash-to-subject distance.

**NOTE:** Aperture settings may also be calculated mathematically by dividing the flash-to-subject distance into the flash guide number (80 for feet or 24 for meters, using ASA 100/DIN 21 film — varies with different film speeds). Example: With a guide number of 80 (24) and a flash-to-subject distance of 10 feet (3 meters), the correct aperture setting would be 8.8.

5) Turn the power switch to the red “on” position, wait for the flash ready light to glow, and shoot.

6) If you are using the bounce flash feature, calculate flash to reflective (bounce) point to subject distance as previously described and determine the correct aperture, using the distance and f-stop scales.

### Use of color filters

The following information is provided as a guide only. Specific data may vary as you adapt filtered flash to your creative style.

**Accessories included:**
- Wide angle panel (35 mm)
- Red, blue, yellow and 85B wide angle filters

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<th>Exposure Compensation Guide</th>
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<td>Red</td>
<td>Produces red-colored flash illumination</td>
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<td>Produces yellow-colored flash illumination</td>
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<tr>
<td>85-B</td>
<td>A warming filter which converts flash illumination for use with Type B (tungsten) color films — no change in ASA/DIN film speed</td>
<td>Open lens</td>
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### Specifications

**Guide number:**
- ASA 100/foot: 80 (56 with wide angle panel)
- DIN 21/meters: 24 (17 with wide angle panel)

**Flash duration:** 1/2000th to 1/30,000th sec

**Auto range (Blue mode):**
- 3.0 to 20 ft. (3.0 to 14 ft. with wide angle panel)
- (0.9 to 6.1 m / 0.9 to 4.3 m with wide angle panel)

**Auto range (Red mode):**
- 5.0 to 40 ft. (4.5 to 28 ft. with wide angle panel)
- (1.5 to 12.2 m / 1.4 to 8.5 m with wide angle panel)

**Sensor measuring angle:** 10° and 30°

**Recycle time (four “AA” alkaline batteries):** 0.5 to 5.0 seconds

**Number of flashes:** 450 approx.

**Angle of coverage:** 46° (H) x 34° (V)
- (60° x 45° with wide angle panel)

**Vertical bounce angles:** 0°, 45°, 60°, 75° and 90°

**Auto circuit:** Thyristor

**Color temperature:** 5500° Kelvin

**Open flash button**

**Auto check circuit**

**Auto off circuit**