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* Authorized Independent
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Polaroid



Polaroid introduces sonar focusing – the ultimate in One-Step photography.

The instant you see your picture, just aim and shoot. With sonar focusing, the camera sets the lens instantly, automatically.

How sonar focusing works

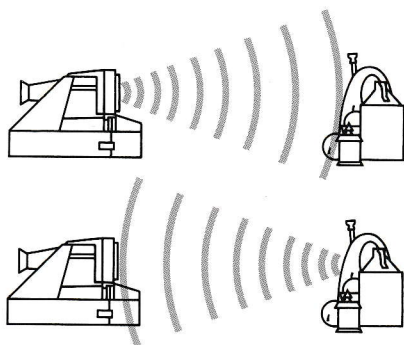
As you begin to press the shutter button, your camera releases sound waves to the central part of the scene.

The frequencies are far beyond our range of hearing and travel at the speed of sound.

The split second it takes for the sound to reach your subject and the echo to return is fed into a tiny electronic computer inside the camera.

The computer uses this time measurement to calculate the distance between the camera lens and your subject, then signals a motor to turn the lens until your subject is in sharp focus.

This extraordinary chain of events takes place in less than 1/3 of a second.



Features

- Automatic and precise focusing in any light, even total darkness.
- Built-in "use flash or tripod" indicator.
- Pictures from 90 cm/3 feet to infinity (flash to 4 m/12 feet).
- Can shoot as fast as every 1.5 seconds.
- 3-element, 114 mm lens.
- Variable aperture from f/9.5 to f/24.
- Variable shutter speed from 1/180 of a second to 1 second.
- Flash in daylight to eliminate shadows.
- Automatic time exposures to 1 second.

Camera Parts

- | | |
|---|---|
| A Lens
(3-element, 114 mm, f/9.5) | P "Use flash or tripod" indicator |
| B Transducer (sends the sound waves and receives the echo) | Q Neckstrap |
| C Shutter button | R Tripod socket |
| D Cable release socket | S Thumb grip |
| E Film door latch | T Picture counter (goes to 10 when you load a new or partly used film pack into the camera, counts down to show how many pictures are left) |
| F Film door | |
| G Film shade (shields the film from light; if it does not roll back after the film is ejected, gently lift its front end) | |
| H Picture exit slot | |
| I Electric eye | |
| J Sensor (for the "use flash or tripod" indicator) | |
| K Lighten/Darken control | |
| L Focus switch | |
| M Socket for a future accessory | |
| N FlashBar socket | |
| O Viewfinder | |

Film and flash

Your camera uses Polaroid SX-70 Land film, and FlashBars. Each film pack provides ten color pictures and contains a battery that powers the camera. Each FlashBar has ten bulbs. You will never waste a flash or film with this camera. It will not let a bulb fire when a film pack is empty and will not take a picture when all the bulbs on the side of the FlashBar facing the subject have been fired. Your camera also finds the next good bulb in a partly used FlashBar.

To load the film

Push the latch **(1, A)** forward. The film door will drop open. Hold the film pack by its edges only. Push the film pack into the camera until the narrow strip **(1, B)** snaps open. Close the film door. The camera will immediately eject the film cover. To remove an empty pack, pull the yellow tab.

To hold the camera

Grip it firmly in the palm of your left hand. Place your right thumb on the thumb grip, index finger on the shutter button, and curl the other fingers into your palm **(2)**.

Never put your fingers in front of the picture exit slot.

Look through the viewfinder eyepiece. Be sure you can see all four corners of the image area inside.

To take the picture

Squeeze the shutter button. The camera automatically sets the lens. Hold the camera steady until the film is ejected **(3)**. Remove and handle the developing picture by its wide white border.

Use flash for most indoor pictures

Insert a FlashBar into the FlashBar socket **(4)**. Always do this with the camera pointing away from you. You can take flash pictures of subjects (90 cm-4m/3 -12 feet) from the camera (no more, no less). You will get particularly good flash pictures of people when they are 1.2-2 m (4-6 feet) away and near a colorful background.

Flash pictures should not be taken where the atmosphere contains gases or dust that may be ignited by a spark.

The "use flash or tripod" indicator

When you are not using flash, a red light may appear under the viewfinder **(5)** as you begin to press the shutter button. It warns that the lighting on the scene is not bright enough for picture taking without a tripod or other firm support. Release the shutter button. Use flash or place the camera on a tripod for a time exposure.

You can use flash in daylight

This feature, called "fill-flash", can correct lighting situations that might otherwise produce disappointing results. Although you can use "fill-flash" when your subjects are 90 cm-4 m (3-12 feet) from the camera (no more, no less), you will get particularly good results when they are 1.2-2 m (4-6 feet) away.

Here is how "fill-flash" can help in daylight:

In strong sunlight, flash can fill in harsh facial shadows with even, flattering light.

In bright sunlight, your subject may be forced to squint. Take your subject out of the direct sunlight and use flash.

When the sun is behind your subject (but not shining directly into the lens) your subject usually will be too dark in the picture. "Fill-flash" can provide the added light your subject needs.

Indoor flash hints*Watch the background*

To assure that it will be well lit by the flash, the background should be colorful and near your subject.

When the background is dark, or beyond the flash range, it will be too dark in the picture.

To avoid a flash reflection

When shooting toward a reflective object or background (mirror, window, eyeglasses, etc.), stand to one side of your subject and shoot from an angle to avoid a flash reflection in the picture.

However, when the reflective surface is smooth and flat and is the central part of your main subject (glass-enclosed art, wall hanging, etc.), shooting at an angle may cause the sound waves to reflect away from the camera. If this happens, the lens will be set incorrectly and your picture may be unsharp.

To avoid this, you can set the lens manually (see **To set the lens manually**).

Arrange groups carefully

All the people in a group should be about the same distance from the camera. Then everyone will be lit evenly by the flash.

Picture hints

- Outdoors, in bright sunlight, stand so the sun is behind you or to the side.
- Move in close. You will get particularly good results when your subject is about 1.2-1.5 m (4-5 feet) from the camera.
- Bright sunlit days are especially suitable for action pictures. Your camera's shutter will work at top speed, stopping all but extremely fast action. For best results, have your subjects move toward you, rather than across the picture.
- Watch the background. It should complement your subjects, not distract from them. Keep it simple.

Time exposures

Your camera can make automatic time exposures up to one second. Keep the camera steady by placing it on a firm support – a tripod is best – and use the Polaroid Cable Release.

To take the picture, hold the cable release button down until the film is ejected.

For best results indoors, stand so bright lights are behind you or to the side.

Tips on outdoor lighting

Outdoors, your camera's electric eye controls the lens opening and shutter speed to let just the right amount of light reach the film.

The electric eye works best when the scene is evenly lit. It can be "fooled" by uneven lighting as described below.

Bright backgrounds: When a bright background is a large part of the scene and reflects more light than your subject, the electric eye sets the camera for the background, causing your subject to appear too dark in the picture.

In this situation, either

- move closer to your subject to reduce the effect of the background; or
- turn the Lighten/Darken control toward Lighten (**6, A**) to lighten your subject.

Dark backgrounds: When a dark background is a large part of the scene and reflects less light than your subject, the electric eye will again set the camera for the background. Now, your subject may appear too light.

This time, either move closer to your subject or set the Lighten/Darken control toward Darken (**6, B**) to darken your subject.

To set the lens manually

A few special situations call for setting the lens manually:

- When shooting straight-on through glass, it will block the sound waves from reaching your subject. The lens will focus on the glass and your picture may be unsharp. Screens or bars could cause the same result.
- When shooting at an angle toward a flat, smooth surface (glass-enclosed art, wall hanging, etc.), the sound waves may reflect away from the camera. If this happens, your picture may be unsharp.

To set the lens manually: Set the focus switch (7, A) to the manual position.

Then estimate the camera-to-subject distance and turn the manual focus wheel (7, B) until that distance is opposite the white pointer (7, C). The yellow broken line shows your camera's flash range: 90 cm-4 m (3-12 feet).

When you have finished using the manual focus system, remember to flip the focus switch back to the automatic position.

Picture problems and their solutions

Repeated spots: If a repeated spot or bar pattern appears on the picture, the rollers inside the camera need cleaning. It is best to check the rollers each time you load film.

To clean the rollers: In dim light, open the film door and rotate the rollers (8, A). Remove any specks of dirt with a clean, lint-free cloth, moistened with water if needed. Check the raised ends (8, B) on the top roller; dirt can collect there too.

Part of the picture is fogged: White areas on the picture mean light reached the film before the picture was taken. This can happen when you remove and reinsert a film pack in the light. The top picture will always be fogged; others may be fogged in one corner. It is best to remove and reinsert a film pack in dim light.

Part of the picture is missing: This happens when you damage the film by squeezing the pack above and below the yellow tab. As you load the camera, remember to hold the film pack by its edges.

Causes of fuzzy pictures

- *Moving the camera during picture taking.* Hold the camera steady until the film is ejected from the camera.
- *Taking a picture in dim light.* When the red light appears in the viewfinder, remember to use flash or a tripod.
- *Shooting through glass.* The glass will block the sound waves from reaching your subject and the lens will focus on the glass. Set the lens manually.
- *Forgetting to reset the focus switch to the automatic position after setting the lens manually.*
- *The sound waves striking a foreground object and not reaching your subject.* As you press the shutter button, the sound waves travel to the central part of the scene. Be sure they have a clear path to your subject.
- *Shooting at an angle toward a smooth, flat surface.* The sound waves will reflect away from the camera. Set the lens manually.
- *Your subject was closer to the camera than 90 cm (3 feet).*
- *Your subject moved during picture taking.* You will get the best action pictures when your subject is moving toward you, rather than across the picture.

Camera problems and their solutions

If the camera does not eject the film cover:

1. Press the shutter button. If the cover is not ejected, in dim light remove the film pack, then reinsert it.
2. If the cover still is not ejected, remove the pack (its battery may be dead) and insert a new one.

If the film is not ejected when you press the shutter button:

1. Check the picture counter; the film pack may be empty.
2. Check the FlashBar.

3. In dim light, pull the film pack out. Reinsert the pack. The film should come out when you close the door. If the top piece of film is pushed forward when you reinsert the pack, pull that piece out. Then, close the door.
4. If the above fail to get your camera working, insert a new film pack. The battery in the first pack may be dead.

If the film cover or film is ejected only part way:

1. Release the film shade so it snaps back.
2. In dim light, open the film door and pull the cover or film out.
3. If the camera still does not work properly, remove the film pack (its battery may be weak) and insert a new one.

If these remedies fail to get the camera operating, call Customer Service at the nearest Polaroid Office.

Care of your system

The camera

Treat your camera with care. Rough handling may damage delicate parts. The lens and viewfinder will seldom need cleaning. If they do, blow off any dust, then wipe them gently with a clean, lint-free cloth. From time to time clean the rollers inside the film door with a similar cloth, moistened with water if necessary.

The film

Polaroid SX-70 Land film, like all film, should be kept cool. If possible, store below 24°C (75°F). For longer storage, keep below 18°C (65°F). In its sealed box, the film can be refrigerated (not frozen). Let it reach room temperature before using it. This will take at least an hour.

To preserve its freshness, keep the film sealed in its protective box until ready for use. Then, take the same care of a loaded camera as you do of your film. Keep the camera in a cool place (but not a refrigerator).

The pictures

When your SX-70 picture comes out of the camera, handle it by its wide white border. Do not bend, crush, or fold the picture. Do not cut the picture's borders, this can ruin the picture.

The brilliant pictures made with your SX-70 system are among the most stable and resistant to fading ever known in photography. Fingerprints on your pictures can be easily removed. Simply "mist" the surface with your breath, then lightly polish with a tissue or a soft clean cloth.

Electronic flash

Your camera was designed to use FlashBars and with a FlashBar it will produce well exposed pictures over the full flash range from about 90 cm-4 m (3-12 feet).

Because of the special electronic circuitry in your camera, an electronic flash unit must have matching electronic characteristics in order to give good picture results with this camera.

See your Polaroid Customer Service office for information on electronic flash units designed to work with your camera.

Electronic flash units other than those recommended by Customer Service may not give consistently good results and may cause your camera to malfunction.

There is a general rule that applies to any electronic flash unit. If you get poor picture results with it, try a FlashBar. If you get good pictures with a FlashBar, but not with electronic flash, the cause of the problem is the electronic flash, not the camera or the film.

To obtain information and help

If you are unable to get good pictures, review this instruction book. Incorrect operation of the camera may be the cause. If you need further help, and before you return your camera for repair, please see your dealer or contact the nearest Polaroid Office. If you write about a problem, please state the camera model, explain the problem and, if possible, enclose sample pictures. Include your return address.

Accessories

- Polaroid Cable Release 2327
- Polaroid 138 Carrying Case
- Polaroid SX-70 Photo Album 129

For information, see your dealer or contact the nearest Polaroid Office.

Copies and enlargements

Beautiful copies and enlargements can be made from your favorite SX-70 pictures. For copy service information, contact your dealer or the nearest Polaroid Office.

Warranty

If this camera proves defective within **three years** of the original purchase date, we will repair or, at our option, replace it free of charge. We will make no charges for labor, service or parts. We will also supply one pack of film, to replace pictures spoiled before the defect was identified. This warranty does not cover damage caused by accident, misuse or tampering with the camera. Repairs to correct such damage will be made at a reasonable charge.

To take advantage of this warranty, the camera must be returned to, and repaired by, one of the Polaroid Service Centers.

The above warranty and provisions do not affect your statutory rights.