

# Product Information Manual

## Polaroid 690 SLR Instant Camera



October 1996

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**Product Information**



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## Product Information



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### *Product Name*

Polaroid 690 SLR Instant Camera

### *Product Description*

The Polaroid 690 Camera is the high-end Polaroid single-lens reflex camera, offering commercial, professional and consumer photo hobbyists the ultimate in 600 instant photography.

This model is an updated version of the Model 680.

Major differences include the strobe circuit, strobe circuit wiring connection, housing and specific parts for the light measuring sensor module.

The Model 690 offers through-the-lens viewing, AutoFocus with ultrasound, a precise, 4-element coated glass lens, close-up capability (without accessory closeup lens) to 10.4 inches (26cm) and an automatic electronic flash.

## Product Information



### *Marketing strategy*

Marketing strategy is to position the 690 as the world's finest single-lens reflex instant camera; the camera of choice for high-volume users of Polaroid film. The camera will be available through high-end photographic retailers.

Media plan:

- Advertise in photographic trade and hobby magazines.
- Direct mail to Polaroid customers and other professional and amateur names in the industry.
- Direct mail to photographic dealers explaining how the 690 represents a unique opportunity for increased sales and profits by:
  1. Offering a high-end instant product to the customer.
  2. Attracting a high-profile customer to the store.
  3. Creating repeat customers for film sales.
  4. Meeting the needs of more advanced instant photographers.

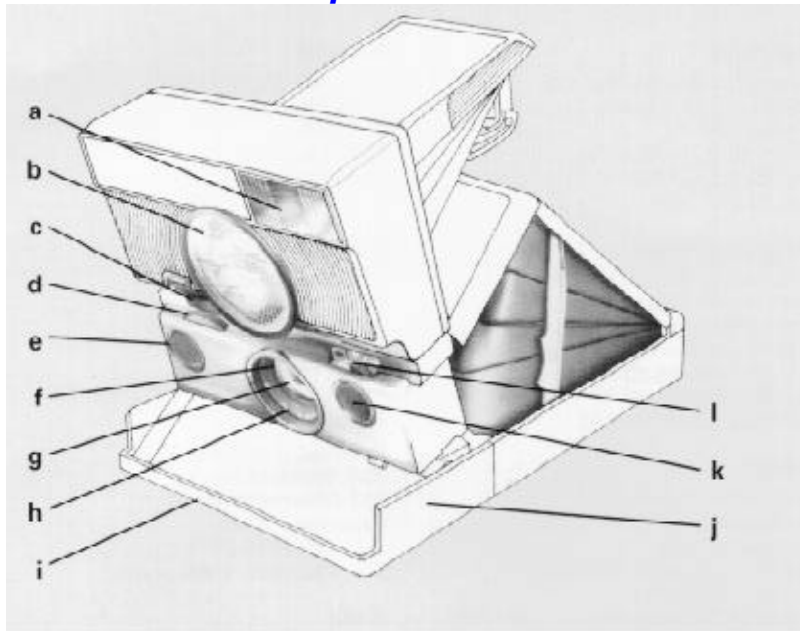
### *Forecast for Fourth Quarter 1996*

Product	U.S No. Units	Europe No. Units
690 camera	5000	2280
Camera bag	200	850
Close-up lens	200	590

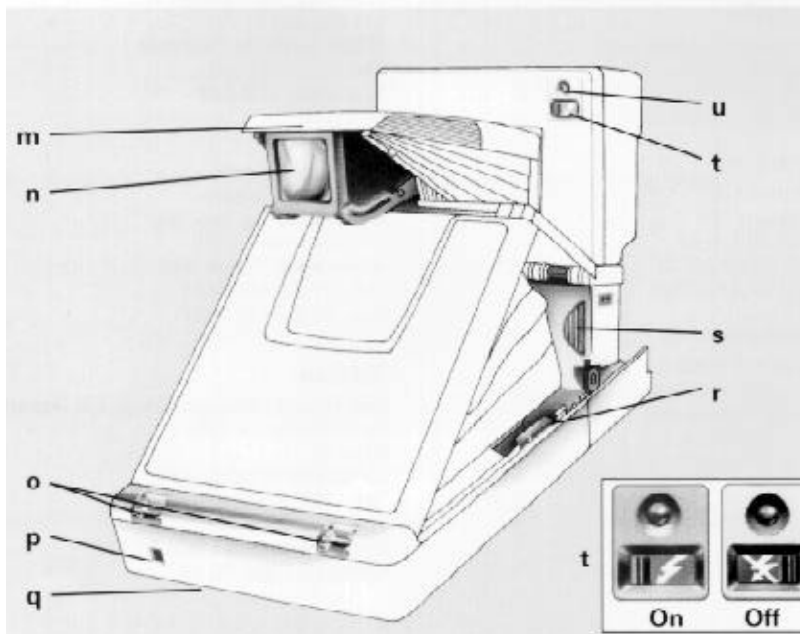
## Product Information

# Polaroid 690

### Camera Components



- a. Built-in electronic flash
- b. Transducer
- c. Manual focus switch
- d. Manual focus wheel
- e. Shutter button
- f. Automatic variable speed/aperture shutter system
- g. Four element glass lens
- h. Distance scale
- i. Film exit slot
- j. Film door
- k. Photocell
- l. Lighten/darken control
- m. Viewfinder cap
- n. Viewfinder eyepiece
- o. Neckstrap connectors
- p. Picture counter
- q. Tripod socket
- r. Yellow bar (opens film door)
- s. Thumb rest
- t. Flash switch
- u. Red light (indicates when flash is charging)



## Product Information



### *Features*

<b>AutoFocus</b>	<ul style="list-style-type: none"><li>• Split second 127-zone sonar AutoFocus from as close as 10.4 inches to infinity.</li><li>• Automatic variable speed/aperture shutter system (speeds range from 1/180 of a second to 5 seconds or more; apertures from f/8 to f/90)</li><li>• Four (4) element, f/8, 116mm coated glass lens</li></ul>
<b>Manual Focus</b>	Optional manual focusing system, with focusing wheel
<b>SLR</b>	Single Lens Reflex - "What you see is what you get"
<b>Picture Preview</b>	Two-stage shutter button lets the user preview the picture before taking it
<b>Flash</b>	Built-in electronic flash; automatically positions flash for proper distance and correct flash exposure. 1/3000 of a second, range 10.4 inches to 14 feet, articulating, on/off switch

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### *Benefits*

Flash and camera are powered by the **high-energy battery** that is built into every pack of Polaroid 600 film. Eliminates the concern of unexpected battery drain.

**Automatic flash positioning** ensures proper illumination throughout the flash range; eliminates complicated exposure adjustments. The strobe system is linked to the sonar gear train. As the sonar system focuses, the strobe pivots to the proper angle for that distance.

The camera's **automatic electronic flash** is designed to correct common lighting problems in daylight; softening facial shadows in direct sunlight and providing even lighting in the shade.

With the camera's **close-up capability**, pictures can be taken as close as 10.4 inches (26cm) without the need for an accessory diopter lens attachment.

The camera's **AutoFocus system** provides split-second automatic focusing from 10.4 inches to infinity. Ideal for candid shots.

With **through-the lens viewing** what you see in the viewfinder is exactly what the final picture will look like.

By sliding the flash switch OFF, **time exposures** can be made for up to 13 seconds; exposure duration depends on available light. Press the shutter button for at least a second, then release it. The camera will do the rest.

## Product Information



## Specifications

### DATA SHEET

<b>Film</b>	Type 600 color film
<b>Size</b> Folded  Open  Weight	cm 25.2 (L) x 10.7 (W) x 4.1 (H) inches 9.94 (L) x 4.20 (W) x 1.63 (H)  cm 17.8 (L) x 10.7 (W) x 15.0 (H) inches 7.00 (L) x 4.20 (W) x 5.13 (H)  0.79 kg (1.75lb)
<b>Focusing</b> Range Zones	Sonar AutoFocus, selectable manual focus mode 26.4cm (10.4 inches) to infinity 124 (AutoFocus)
<b>Exposure Control</b>	Automatic ambient exposure Follow focus strobe exposure Light/Dark trim adjust $\frac{3}{4}$ stop
<b>Viewing</b>	SLR (Single Lens Reflex), Fresnel focus screen
<b>Lens System</b> f number Equiv. Focal Length System Resolution	4-element glass lens 8.16 115.9mm (4.563 inches) 8 lp/mm (on axis), 6 lp/mm (at corners)
<b>Strobe System</b> Output Recharge Time Range Special Features	Follow focus control (non-quenching) 400 BCPS (15 Watt seconds) 4.5 seconds 4.5m (14 feet) SPAR (strobe preferred automatic recharge) Articulating strobe, ready LED, strobe disable switch
<b>Other Features</b>	Automatic trim and manual focus reset (when camera is folded) Film counter Neck strap Tripod socket



## Product Information



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### *Applications*

The Model 690 camera is designed for professional photographers and photo hobbyists. It's ideal for business imaging activities such as documentation and verification.

Possible applications include: Medical, law enforcement, manufacturing, quality control, real estate, and insurance.

### *Recommended Films*

The Model 690 camera uses 600 HighDefinition film only. Other integral film types will not fit into this camera.

### *Operating Tips*

#### **Red-eye reduction**

To help reduce the appearance of red eyes in pictures of people or pets:

1. Have your subjects look toward a bright light just before taking the picture.
2. Turn on additional lights in the room.

#### **Focus distance for close-ups**

Subjects should be no closer than 10.4 inches (26cm) from the lens for proper focus.

**Operating tips continue on next page**

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### *Operating Tips (continued)*

#### **Previewing the subject**

To preview, lightly press the shutter button and hold it there. The lens will spin and bring the subject into sharp focus. If you press the shutter button too hard you will accidentally take a picture.

#### **Holding the camera**

When holding the camera during picture-taking, be sure to keep your fingers away from the front of the camera. Blocking the exit slot will prevent the film from ejecting.

#### **Flash tips**

For best indoor results, the subject should be from 10.4 inches (26cm) to 14 feet (4.25m) away and near a light-colored background.

Always use the flash for outdoor pictures. This will soften harsh facial shadows caused by bright sunlight. In the shade, it will provide additional light.

#### **Photographing a daylight scene through the window**

To avoid a flash reflection, slide the flash switch to the OFF position.

To avoid focusing on the window, press the manual focus switch, then focus manually by turning the focus wheel until the scene is in sharp focus.

**Operating tips continue on next page**

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### *Operating Tips (continued)*

#### **Close-ups**

To take a picture at the closest possible distance, move in closer to the subject than 10.4 inches (26cm). Look through the viewfinder and lightly press the shutter to set the lens. Move the camera back until the subject is in sharp focus, then take the picture.

#### **Time exposures**

When making time exposures always turn the flash switch OFF. Be sure to hold the camera steady to avoid camera movement. If possible, use a tripod.

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### *Potential Operator Errors*

Symptom	Cause	Remedy
Foggy, misty pictures, or flares in pictures	Camera lens dirty	Breathe on the lens and wipe gently with a clean, soft tissue
	Lens surface light struck	Avoid aiming camera into sun
	Flash reflecting off window glass	Turn flash OFF when photographing outdoor scenes through glass
Subject partly cut off	Improper framing of subject in viewfinder	Look through the viewfinder while holding the camera as close to the eye as possible  Frame subject on all sides in viewfinder
Blurry pictures	Flash not used in dim light	Always use flash indoors and outdoors in dim light
	Camera or subject motion when making time exposures	Keep camera/subject still when taking pictures in dim light without flash; use tripod
	Camera not focused accurately	When focusing manually, make sure the subject is in sharp focus before taking the picture
Picture too light	Camera on AutoFocus when photographing outdoor scene through glass window.	Press AutoFocus Override Switch to focus manually when taking pictures through a window.
	Inaccurate focus. The camera is focused behind the subject	When focusing manually, make sure the subject is in sharp focus

Potential operator errors continue on next page

## Product Information



### *Potential Operator Errors (continued)*

Symptom	Cause	Remedy
Picture too dark	Indoors without flash  Light level of scene too low  Beyond flash range  Sonar detects object closer than subject	Make sure the flash is ON for indoor pictures  Always use flash when taking pictures on dark, cloudy days, or at night  Position subject within the 14 foot (4.25m) flash range  Make sure there is no object (such as door frame) in front of subject that might "fool" the transducer into setting the camera distance inaccurately
Red reflection in subject's eyes (red eye)	Flash reflected from subject's eyes	Turn up room lights; have subject look away from camera
Poor color pictures	Outdated film Film stored in excessive heat Underexposed/overexposed	Use fresh film Keep film in a cool place See above: "Too dark and Too light"

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### **Warranty**

If this camera proves defective within five years of the original purchase date, Polaroid will repair it or, at its option, replace it free of charge with a camera of the same equivalent model. Polaroid will make no charge for labor, service or parts. To verify the warranty period, the customer should keep the sales slip or other proof of the purchase date. 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.

### **Service**

#### **Repairs and returns process**

In most cases, a customer will return a defective camera to the dealer. The dealer will either refund the customer's payment or replace the camera. Polaroid will replace defective cameras returned by dealers to both Enschede and Atlanta with exchange units or issue dealer credit. If a customer returns a defective camera directly to Atlanta or Enschede, Polaroid will be responsible for repairing (or replacing) and returning the camera to the customer.

#### **Early returns**

To detect any unusual problems, an early returns program will be administered through the Customer Care Center Operations group and the Atlanta Service Center. The first 50 returns will be analyzed and reports will be issued as results become available.

#### **Repair manual**

A comprehensive service manual will be provided to all service centers. It will include schematics, exploded views, parts lists, wiring diagrams, troubleshooting, parts replacement, and tools required for repair.

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### *Questions and Answers*

**Q. What is the warranty policy for the camera?**

A. Polaroid offers a warranty of five years from the original purchase date. Proof of purchase is required.

**Q. What is the focus distance of the camera lens?**

A. 10.4 inches (26cm) to infinity.

**Q. What is the flash range of the camera?**

A. 10.4 inches (26cm) to 14 feet (4.25m)

**Q. What film is used with the camera?**

A. Polaroid 600 HighDefinition film.

**Q. What is the focal length and lens aperture?**

A. The focal length is 116mm and the lens aperture is f/8.

**Q. What is the light output of the flash unit?**

A. 400BCPS (15 Watt seconds). BCPS = beam Candles Per Second.

**Questions and Answers continue on the next page**

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### ***Questions and Answers(continued)***

**Q. How long does it take for the flash to recharge?**

A. Approximately 4.5 seconds.

**Q. What is the aperture and shutter speed range?**

A. With the automatic variable speed/aperture shutter system apertures range from f/8 to f/90 and shutter speeds range from 1/180 of a second to 5 seconds.

**Q. Does the camera have fill flash capability?**

A. Yes. The camera is designed to use flash both indoors and outdoors.

**Q. How can I photograph a daylight scene through the window without focusing on the glass?**

A. By disabling the transducer and focusing manually. Do this by pressing the manual focus switch and turning the focus wheel until the scene is in sharp focus. Always turn the flash switch OFF to avoid reflections from the glass.