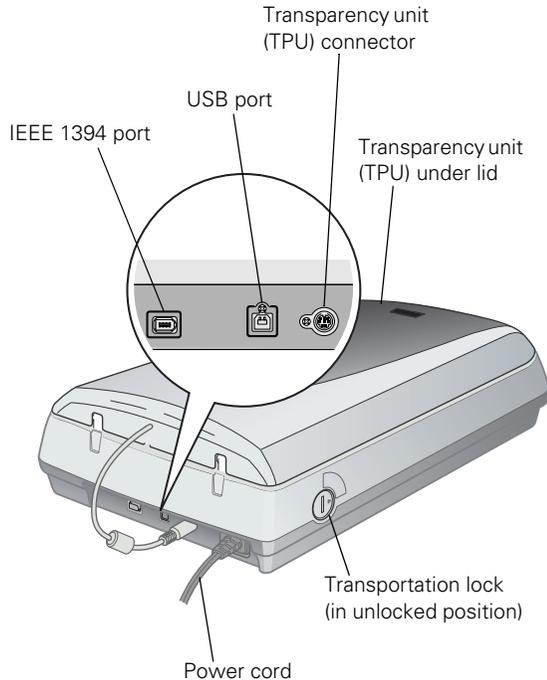


Scanner Parts



Scanner Specifications

Basic Specifications

Scanner type	Flatbed, color
Photoelectric device	Color CCD line sensor
Effective pixels	40,800 × 56,160 pixels at 4800 dpi
Maximum document size	US letter or A4 size (8.5 × 11.7 inches [216 × 297 mm])
Optical resolution	4800 dpi
Maximum resolution*	4800 dpi (main scan) × 9600 dpi hardware (sub scan)
* The maximum hardware resolution of 4800 × 9600 dpi is achieved using EPSON's Micro Step Drive™ technology.	
Maximum interpolated resolution	12,800 dpi
Output resolution	25 to 12,800 dpi in 1 dpi increments
Speed (color)	16.9 msec/line at 4800 dpi 4.1 msec/line at 600 dpi
Command level	ESC/I (B8), FS
Pixel depth	16 bits per pixel (input and output)
Brightness	7 levels (in EPSON Scan, gamma correction controls brightness)
Interface	USB 1.1/2.0 (Type B receptacle connector) IEEE 1394 (FireWire™)
Light source	White cold cathode fluorescent lamp
Reliability (MCBF)	36,000 cycles of carriage movements (scanner)
Dimensions	Width: 12.0 inches (30.4 cm) Depth: 18.7 inches (47.6 cm) Height: 5.3 inches (13.4 cm)
Weight	Approx. 14.8 lb (6.7 kg)

Electrical

Input voltage range	100-120 VAC ± 10%
Rated frequency	50 to 60Hz
Rated input current	0.7 A
Power consumption	Approx. 24 W operating Approx. 16 W in stand-by mode Approx. 4.5 W in power saving mode

Note:

Scanners sold outside the US market may operate at a different voltage. Check the label on the back of the scanner for voltage information.

Environmental

Temperature	Operation: 41 to 95 °F (5 to 35 °C) Storage: -13 to 140 °F (-25 to 60 °C)
Humidity (without condensation)	Operation: 10% to 80% Storage: 10% to 85%
Operating conditions	Ordinary office or home conditions; avoid extreme dust, direct sunlight, and strong light sources.

Safety Approvals

Safety	UL 60950 CSA C22.2 No. 60950
EMC	FCC part 15 subpart B class B CSA C108.8 class B

USB Interface

Interface type	Universal Serial Bus Specification Revision 2.0
Connector type	One receptacle (Type B)

FireWire Interface

Interface type	IEEE 1394a-2000 compatible
Data transfer	Half-duplex data/strobe differential serial
Synchronization	Clock synchronization with DS-Link
Encoding/Decoding	DS-Link
Logic level	3.3 V

Transparency Unit

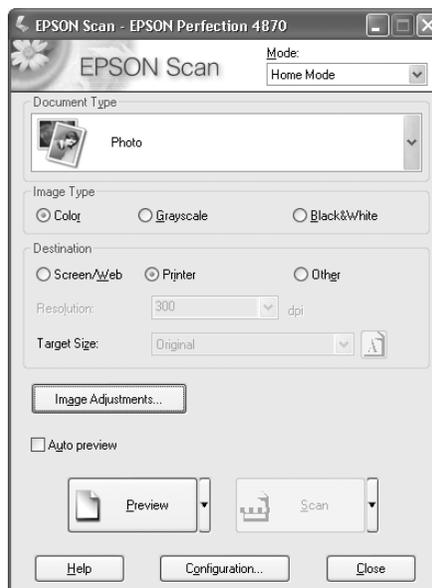
The transparency unit is built into the scanner lid.

Rated voltage	DC 24 V ± 10%, DC 5 V ± 5%
Document specifications	Positive or negative film in the following sizes: 35 mm strips (24 frames) 35 mm slides (8 slides) 120/220 (6 × 12 cm) film (3 frames) 4 × 5-inch film (2 frames)
Readable area	5.7 × 9.1 inches (144 × 231 mm)

Scanning and Restoring Photos

The following example uses Adobe® Photoshop® Elements and EPSON Scan. If you are using another software application, your steps may be different.

1. Start Adobe Photoshop Elements:
In Windows, click **Start > Programs or All Programs > Adobe Photoshop Elements 2.0**.
On a Macintosh, open the **Adobe Photoshop Elements 2** folder (in your Applications folder) and double-click the **Photoshop Elements 2.0** icon.
2. Select **File > Import > EPSON Perfection 4870**.
3. In EPSON Scan, choose Home or Professional mode. You see a screen similar to this:



4. Click the **Preview** button at the bottom of the screen. Your photo appears in the Preview window.
5. Click the  button to select the image area to be scanned. Adjust the marquee if necessary.
6. Do one of the following:
 - If you're using Home Mode, click the **Image Adjustments** button.
 - If you're using Professional Mode, scroll to the bottom of the screen.
7. Select the **Digital ICE** or **Color Restoration** checkbox:
 - If your photo is dirty, scratched, creased, or torn, select **Digital ICE**.
 - If the colors in your photo are faded, select **Color Restoration**.

- 
- Color Restoration
 - Dust Removal
 - Digital ICE(TM)

Note:

You can select both settings if necessary.

8. Click the **Scan** button.
9. Click the **Close** button. Your image now appears in Photoshop Elements.

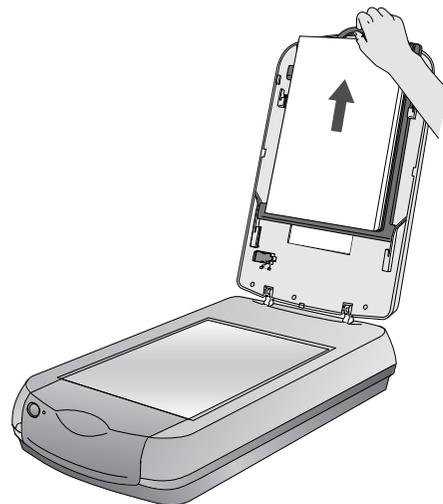
Scanning Transparencies and Film

Before scanning transparent documents, you need to remove the scanner's reflective document mat; this exposes the scanner's transparency unit (light source), which is built into the lid.

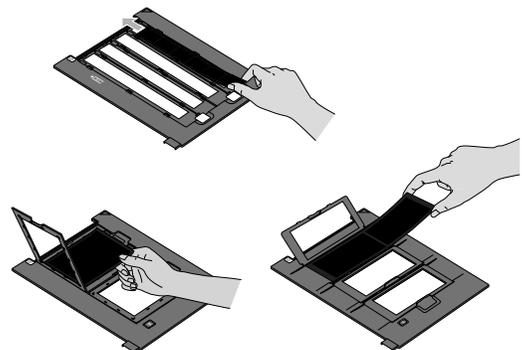
If you're scanning slides or film strips, you'll also need to use one of the film holders.

Using the Transparency Unit

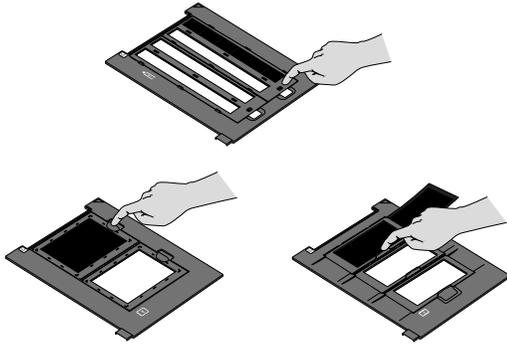
1. Make sure the transparency unit cable is connected to the option interface connector on the back of the scanner. (If it is not connected, turn off the scanner, connect the transparency unit cable, then turn the scanner back on.)
2. Lift the scanner lid all the way up and pull the reflective document mat up and off of the scanner lid, as shown.



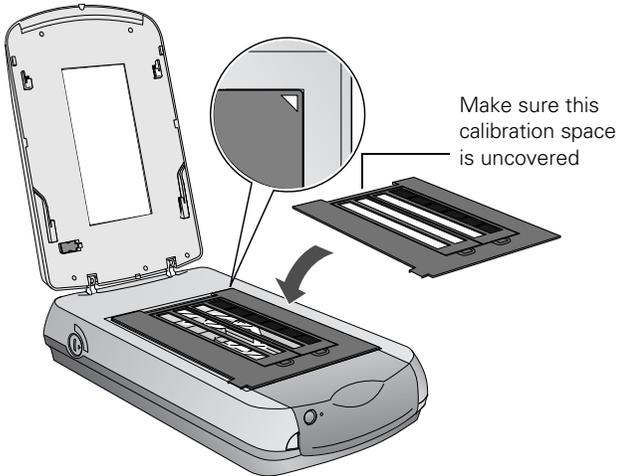
3. If you are scanning film or negatives, open the cover, then slide the film into the corresponding holder, with the film's shiny base side facing down. (If you are scanning slides, go to step 6.)



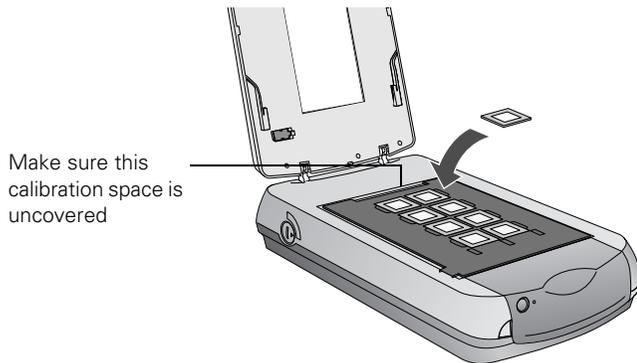
4. Lock the film holder cover into place



5. Place the film holder on the scanner as shown. Make sure the white triangle on the holder points to the upper-right corner of the scanner.



6. If you are scanning slides, place the holder on the scanner. Then place the slides in the holder.



7. Close the scanner cover.

Selecting Film or Slide Settings in EPSON Scan

The following example uses Adobe Photoshop Elements and EPSON Scan. If you are using another software application, your steps may be different.

1. Start Adobe Photoshop Elements:

In Windows, click Start > Programs or All Programs > Adobe Photoshop Elements 2.0.

On a Macintosh, open the Adobe Photoshop Elements 2 folder (in your Applications folder) and double-click the Photoshop Elements 2.0 icon.

2. Select File > Import > EPSON Perfection 4870.

3. In EPSON Scan, choose Home or Professional Mode. Select the Document Type (Home Mode) and Film Type (Professional Mode).



Home Mode



Professional Mode

Note:

When scanning slides, choose Positive Film.

4. Do one of the following:
 - If you're using Home Mode, click the **Image Adjustments** button.
 - If you're using Professional Mode, scroll to the bottom of the screen.
5. Click the **Preview** button at the bottom of the screen.

Thumbnails of your images appear in the Preview window:



6. For each thumbnail, select from the following Image Adjustment options:
 - Grain Reduction** (available only in Professional mode). Use with high-speed film or under-exposed images. Select the level of grain reduction by clicking the button.
 - Color Restoration**. Restores color to faded images.
 - Dust Removal**. Removes dust. Select the level of dust removal by clicking the button.
 - Digital ICE**. Removes scratches, dust and fingerprints.



Note:

You cannot select Dust Removal and Digital ICE at the same time.

7. Click the **Scan** button.
8. Click the **Close** button. Your images now appear in Photoshop Elements.

Indicator Light

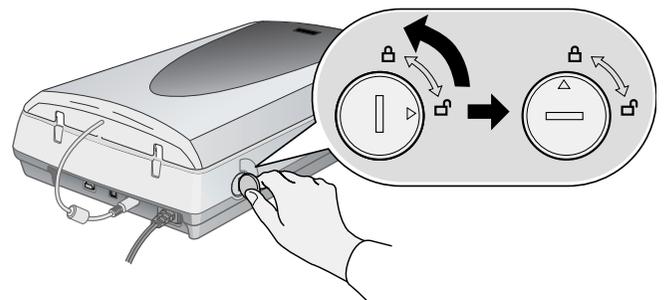
The indicator light (next to the Start button) indicates the status of the scanner, as described below.

Light	Color	Status
On	Green	The scanner is ready to scan images.
Flashing	Green	The scanner is initializing (warming up) or is busy scanning.
Flashing	Red	Check the following, then turn your scanner off and back on to reset it: <ul style="list-style-type: none"> <input type="checkbox"/> Make sure the transportation lock is turned to the unlocked position. See the <i>Start Here</i> sheet for details. <input type="checkbox"/> Make sure the scanner is properly connected to your computer. <input type="checkbox"/> If you are scanning transparencies, make sure you've removed the reflective document mat. See page 3. If this does not eliminate the error, the fluorescent lamp may need to be replaced or the scanner may have another problem. Consult your dealer or EPSON.
Off	—	The scanner is unplugged or turned off.

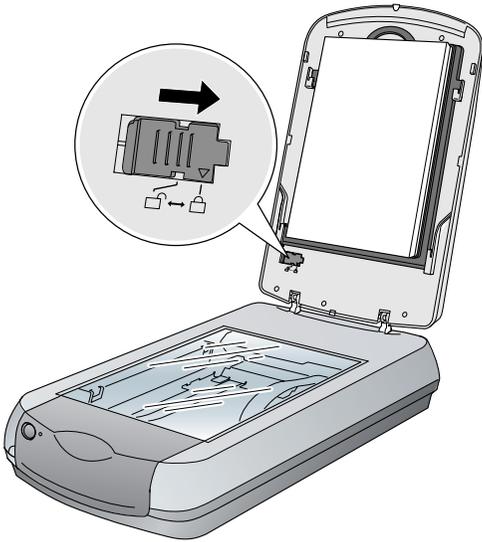
Transporting the Scanner

If you need to ship your scanner, you must prepare it for transportation in its original box or one of a similar size.

1. Turn on the scanner and wait until the carriage moves to the home position. When the indicator light remains solid green, turn off the scanner.
2. Disconnect the power cable.
3. Disconnect the USB or IEEE 1394 cable.
4. Disconnect the transparency unit cable.
5. Turn the transportation lock to the locked position to secure the carriage.



6. Slide the transportation lock to the locked position to secure the transparency unit.



Related Documentation

CPD-16641	EPSON Perfection 4870 Photo <i>Start Here</i> poster
CPD-16660	EPSON Perfection 4870 Pro <i>Start Here</i> poster
CPD-16643	EPSON Perfection 4870 Series scanner software CD-ROM
CPD-16642	EPSON Perfection 4870 Series <i>Quick Guide</i>
—	<i>Reference Guide</i> (HTML)