

***PEARL® Portable  
Reading Camera***

Quick Start Guide

Freedom Scientific, Inc.  
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## **Federal Communications Commission Notice**

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Reorient or relocate the receiving antenna.
- Consult the dealer or an experienced radio or television technician for help.
- Changes or modifications not expressly approved by Freedom Scientific could void the user's authority to operate the equipment.

## Industry Canada ICES-003 Notice

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

### Regulatory Compliance

#### CAUTION

Possibly hazardous optical radiation emitted from this product.

#### PRUDENCE

Le rayonnement optique probablement hasardeux a émis de ce produit.

<b>Wavelengths:</b>	400 nm to 780 nm
<b>Power:</b>	5V 500mA
<b>Safety:</b>	UL 60950-1 CAN/CAS-C22.2 No. 60950-1 IEC 60950-1
<b>EMC:</b>	FCC (CFR-47, part 15) Class B Industry Canada ICES-003 EN 55022 Class B EN 55024

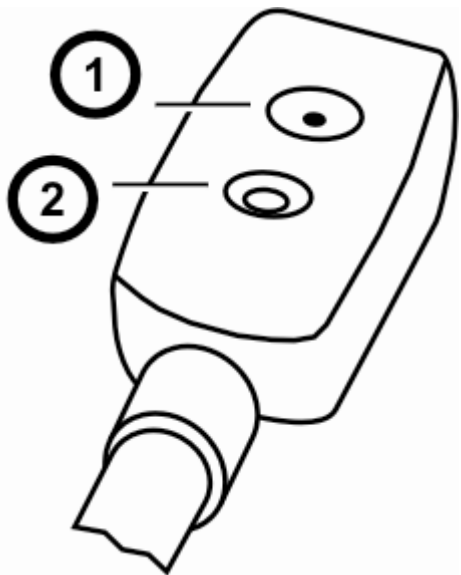
## Safety and Maintenance

The LED lamp used in this product is in excess of the Exempt Risk Group defined in CEI IEC 62471:2006-07. This lamp has been found to be in the Risk Group 2 classification at an exposure distance of 20cm or less from the glass surface of the lamp. Care should be taken to avoid exposure when operating and installing this lamp. The specific hazard is retinal blue light. Do not stare at the lamp as it may be harmful to the eyes.

To keep your PEARL in good condition, observe the following guidelines:

- Read the instructions in this user's guide before attempting to use PEARL.
- Do not attempt to repair PEARL or open its case. This product contains no user serviceable parts.
- Keep PEARL away from wet areas, rain, and other sources of liquids. Do not submerge PEARL.
- Always operate PEARL in a place where the temperature is between 10° and 35° C (50° and 95° F).
- Do not store in places subject to temperature extremes such as a parked car.

- When cleaning PEARL, make sure the unit is unplugged from the computer. Use a lightly dampened, soft, clean cloth with water or mild detergent. Do not use alcohol, solvents, abrasives, or aerosol sprays.



1. Camera LED
2. Camera lens

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# Introducing PEARL

Congratulations on your purchase of PEARL!

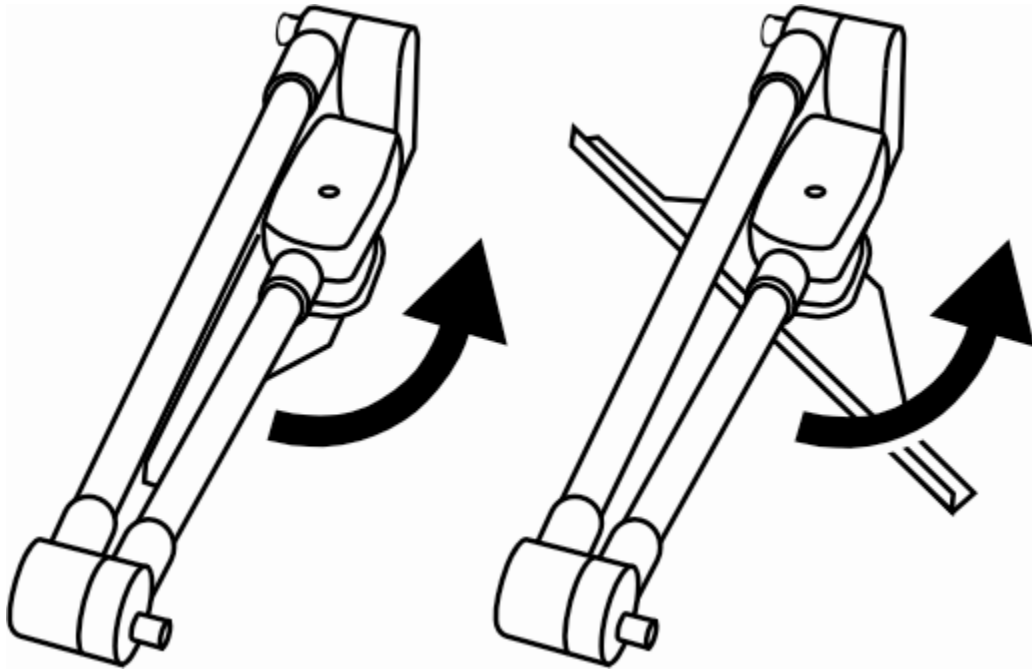
PEARL is a portable reading camera used in combination with Freedom Scientific's OpenBook software version 9.0 and later. Use these tools to read books, magazines, documents, and more. The PEARL camera has an automatic mode that senses motion and allows it to scan an image whenever a page is turned.

PEARL can also be used as a video magnifier showing a magnified image of your document on your computer monitor. It works in most room lighting. If the room is dark, simply turn on the built-in LED light.

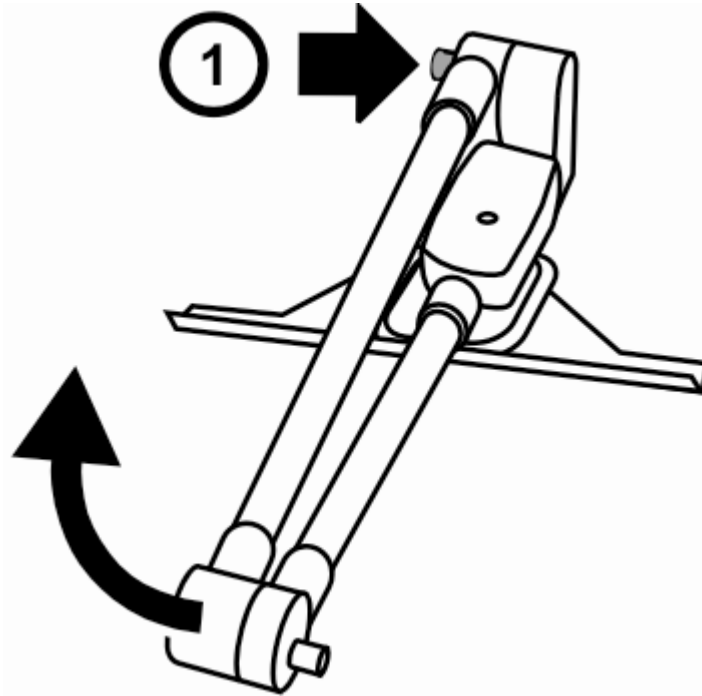
# Opening and Closing PEARL

Use the following steps and illustrations to open PEARL and connect it to your computer.

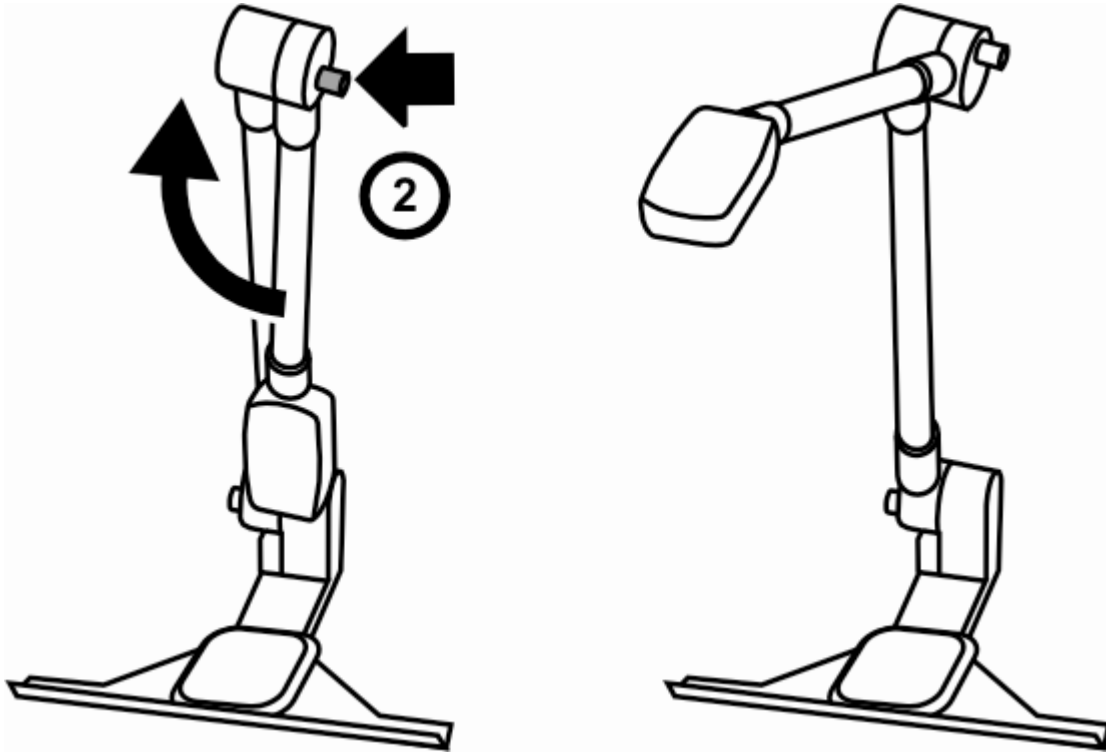
1. Remove PEARL from its carrying case, and rotate the page guide until it is perpendicular to the two support posts. The page guide locks in place. See *Figure 1* on page 3.
2. Press and hold the release button that is closest to PEARL's base, and raise both support posts. The posts lock in place. See *Figure 2* on page 4.
3. Press and hold the second release button, and raise the camera post until it locks in place. See *Figure 3* on page 5.



*Figure 1: Rotate page guide from closed position*



*Figure 2: Press and hold release button (1) to raise both posts*



*Figure 3: Press and hold release button (2) to raise camera post*

4. Connect PEARL's USB connector to your computer.
5. Start OpenBook to turn on and use PEARL.

When using PEARL for the first time, select it using the Device Selection option found in OpenBook's Advanced menu.

Refer to OpenBook's quick start guide and help file for scanning and reading procedures.

**Important:** Do not stare into the camera's LED.

## **Closing PEARL**

To close PEARL, disconnect its USB connector from your computer, and repeat steps 1 through 4 in reverse order.

# Aligning Documents for Scanning

The camera's scan area is 9 inches wide by 12 inches long (22.86 cm by 30.48 cm).

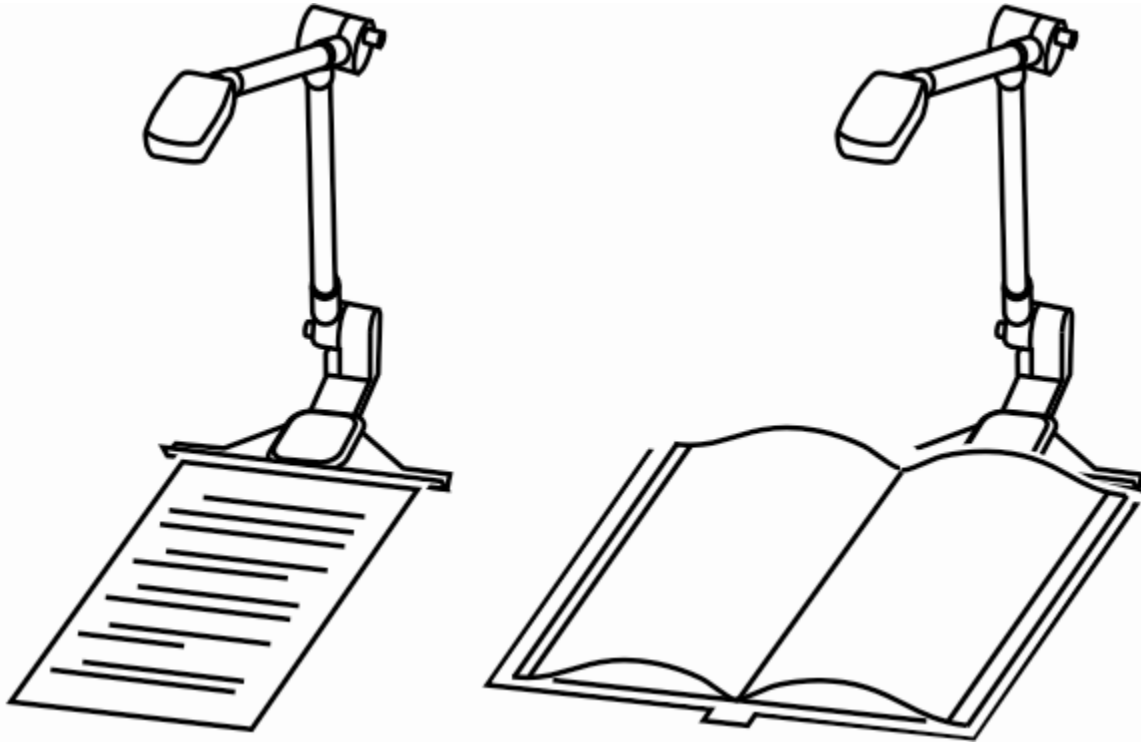
## Documents and Large Books

To align a single page document or large book under the camera, do the following:

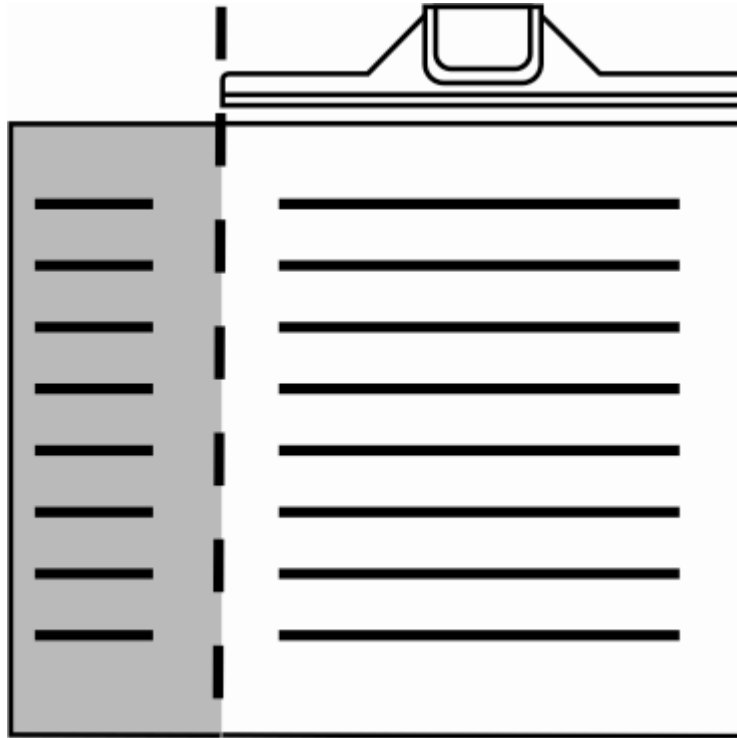
1. Place the document's top edge against the page guide. See *Figure 4* on page 9.
2. To align a single page document, do one of the following: center it between the outer edges of the page guide, or line up a side edge of the document with an outer edge of the page guide.

To align a large book with facing pages, make sure that the inside margin of the page to be scanned is aligned with the edge of the page guide. This prevents needless information on the opposite page from being scanned. *Figure 5* on page 10 shows a right-hand page aligned with the left edge of the page guide.

3. After aligning a document, move your hands out of the way, and press **F4** to acquire an image and start reading.
4. Scan one page at a time when scanning a full-size book with facing pages. Slide the book to the left or right to capture the next page.



*Figure 4: Document and large book alignment*



*Figure 5: Inside margin alignment with page guide*

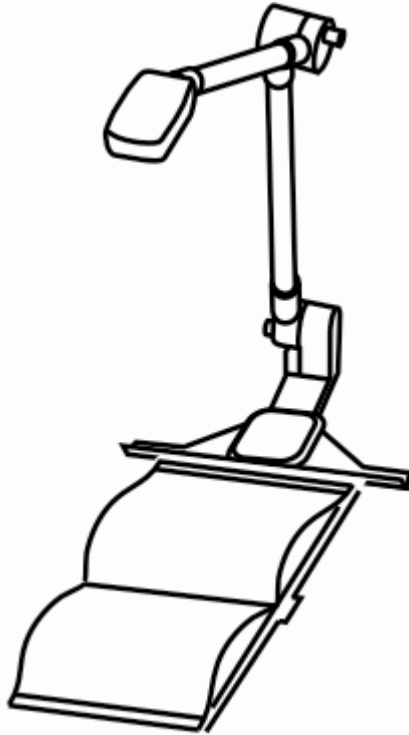
# Small Books

When scanning small books, such as paperback books, do the following:

1. Place the book sideways with one edge against the page guide, and then center the book between the outer edges of the page guide. See *Figure 6* on page 12.

This allows you to capture two pages at once and maintain pagination.

2. After aligning the book, move your hands out of the way, and press **F4** to acquire an image and start reading.



*Figure 6: Small book alignment*

# Low Vision Magnification

You can use PEARL as a low vision magnifier while cycling through OpenBook's four viewing modes: Text View, Exact View, Split View, and Camera View. For additional information and procedures describing low vision operation, refer to OpenBook's quick start guide and help file.

## Text View

Text View shows the text of an acquired page after it has been recognized by OpenBook. Use it to apply various low vision features such as contrasting text and background colors, increasing or decreasing magnification, changing font, changing character and line spacing, and adjusting the spotlight cursor. To quickly access low vision settings, choose the Low Vision menu in OpenBook.

## **Exact View**

Exact View is the acquired page displayed exactly as the original document. You can increase or decrease screen magnification, and pan left, right, up, and down to view the image.

For a brief list of magnification and panning keystrokes, refer to the *Keystrokes* section on page 16. For a complete list, refer to the *Zooming the View* topic or the *Panning* topic in the OpenBook help file.

## **Split View**

Split View is a combination of Text View and Exact View. Text View appears in the upper half of the monitor screen and Exact View in the lower half of the monitor screen.

## Camera View

This view displays a real-time view from the PEARL camera on your monitor. With the live image of a document on your screen, you can change the zoom level, rotate the image left or right, or pan left, right, up, and down to view and navigate the image.

For a brief list of magnification and panning keystrokes, refer to the *Keystrokes* section on the next page. For a complete list, refer to the *Zooming the View* topic or the *Panning* topic in the OpenBook help file.

# Keystrokes

For additional keystrokes, refer to OpenBook user documentation.

- **F4**: Scan and read document (Read-only mode and Edit mode)
- **SPACEBAR**: Scan and read document (Read-only mode)
- **CTRL+SHIFT+V**: Cycle between views
- **CTRL+PLUS**: Increase zoom (press and hold for continuous zoom)
- **CTRL+MINUS**: Decrease zoom (press and hold for continuous zoom)
- **CTRL+SHIFT+R**: Rotate camera view right
- **CTRL+SHIFT+L**: Rotate camera view left
- **WINDOWS Key+CTRL+DOWN ARROW**: Pan view down
- **WINDOWS Key+CTRL+UP ARROW**: Pan view up

- **WINDOWS Key+CTRL+LEFT ARROW:** Pan view left
- **WINDOWS Key+CTRL+RIGHT ARROW:** Pan view right
- **CTRL+ALT+PAGE UP:** Increase speech rate
- **CTRL+ALT+PAGE DOWN:** Decrease speech rate
- **CTRL+L:** Toggle camera LED on or off

## Service and Support

**Note:** This device has no user-serviceable components. Any unauthorized attempt to service or replace internal components will void the product warranty.

If you have difficulty with your device or its operation, first see *Troubleshooting* on page 22 to try to resolve your problem quickly.

If you cannot resolve your issue, visit [www.FreedomScientific.com](http://www.FreedomScientific.com), choose the **Support** link, and search the Knowledge Base. It contains articles that address many common questions and technical issues concerning Freedom Scientific products. If you still experience difficulties, contact Freedom Scientific Technical Support by telephone at (727) 803-8600, Monday through Friday, from 8:30 A.M. to 7:00 P.M. (Eastern Time). Alternatively, you can receive support by e-mail. Send your questions and problems to [Support@FreedomScientific.com](mailto:Support@FreedomScientific.com).

When you call, have your documentation ready and be prepared to provide the following information:

- Product name
- What you were doing when the problem occurred
- How you tried to solve the problem

# Warranty

PEARL and its accessories come with a 2-year warranty against manufacturing defects.

**Note:** These devices have no user-serviceable components. Any unauthorized attempt to service or replace internal components by opening the case will void the product warranty.

Please call Freedom Scientific Technical Support at (727) 803-8600 for assistance in troubleshooting any problems. If necessary, the technical support specialist will issue a Return Materials Authorization (RMA) number that must be referenced on the outside of the package containing your returned unit. Your PEARL or its accessory will then be exchanged or repaired as needed.

**Return your unit to:**

Freedom Scientific, Inc.  
13000 Automobile Blvd.  
Building 1 Unit 103  
Clearwater, FL 33762

# Troubleshooting

Problem	Solution
PEARL not working.	<p>Verify that PEARL's USB cable is connected to your computer.</p> <p>Select PEARL using the OpenBook software. To do this, choose the Advanced menu and then Device Selection.</p>
No camera LED.	<p>From within OpenBook, press <b>CTRL+L</b> to turn on or off the LED.</p>

<b>Problem</b>	<b>Solution</b>
Glare on a glossy document.	Turn off camera's LED. Dim room lighting. Reposition PEARL's work area.
Shadows on a document.	Turn on camera's LED. Dim room lighting. Reposition PEARL's work area.