TOPAZ® Ultra

Portable Video Magnifier

User's Guide

To register your product, visit http://www.freedomscientific.com/forms/ProductRegistration.

Safety and Care

To ensure your safety and obtain the most benefit from TOPAZ Ultra, review these safety precautions carefully.

TOPAZ Ultra enlarges and enhances text and objects in order to improve the quality of life for people who are visually impaired. The extent to which this product can improve the ability to see images depends on a person's individual condition and level of visual impairment.

TOPAZ Ultra is not designed to restore vision, correct eye conditions, or halt degenerative vision loss. An eye care professional can determine the usefulness and suitability of TOPAZ Ultra for a patient's individual condition.

Precautions for Use

Follow all warnings, cautions, and instructions marked on the product. In addition, note these precautions:

- Use TOPAZ Ultra on a stable, level surface such as a solid desk or table, according to its intended design specifications.

- Avoid placing TOPAZ Ultra on an unstable table, cart, or stand. It may fall, causing serious damage to the device or bodily injury.

- Use TOPAZ Ultra indoors only—it should NOT be exposed to extreme or rapid changes in temperature or humidity. Do not place TOPAZ Ultra near a radiator, heater, or areas exposed to long hours of direct sunlight. These conditions may cause damage to the device's electronics or optics.

- At least once per week, clean TOPAZ Ultra with a soft dry cloth or an electrostatic dusting cloth. DO NOT use liquid cleaners on its plastic surfaces. No additional methods of sterilization or cleaning are recommended or required.

- Do not use TOPAZ Ultra near flammable materials or liquids.

Additional Mechanical Safety Precautions

Your TOPAZ Ultra has moving parts. Do not attempt to forcibly reposition or adjust the parts. It may cause damage to the device.

> **CAUTION:**
> Use caution when moving parts or when transporting the TOPAZ Ultra to avoid possible injury to hands and fingers.

Caring for TOPAZ Ultra

To care for your TOPAZ Ultra, follow these recommendations:

- When TOPAZ Ultra is not in use and not connected to external power, always turn the power off by pressing the Power button for two seconds.

- Ensure that your TOPAZ Ultra is completely off before cleaning it.

- Clean TOPAZ Ultra with a soft dry cloth or an electrostatic dusting cloth. DO NOT use liquid cleaners on its plastic surfaces.

- To prolong the life of TOPAZ Ultra, remove the battery from the device if it will not be in use for one week or more.

- The protective glass covering the camera can be cleaned as needed with the lens cloth provided within the packaging of TOPAZ Ultra. DO NOT use liquid cleaners on the plastic surfaces. No additional methods of sterilization or cleaning are recommended or required.

Susceptibility to Interference

There may be temporary degradation of the image when TOPAZ Ultra is subjected to a strong radio frequency field, electrostatic discharge, or transient electrical noise. An electrostatic discharge (caused by static electricity) may cause the screen to go blank. If this happens, follow these steps:

1. Disconnect the DC adapter power supply from the electrical wall outlet.

2. Wait 30 seconds.

3. Connect the DC adapter power supply again.

Additional Electrical Safety Precautions

Read these safety precautions before using TOPAZ Ultra:

- Use only the power supply provided with your TOPAZ Ultra. Using unauthorized power supplies may cause serious damage to TOPAZ Ultra's electronic components. Using any power supply other than the one provided by Freedom Scientific for TOPAZ Ultra will **void the warranty**.

- If using DC power, the TOPAZ Ultra device should be near a wall outlet that is easily accessible.

- Do not use TOPAZ Ultra in, near, or around water. TOPAZ Ultra is not designed to offer protection against contact with liquids of any kind.

- Always place the power cord away from traffic areas to avoid damage to the power supply.

- Prevent the risk of electrical shock by NOT attempting to disassemble the device. Refer all service to an authorized repair facility.

- Ensure that you make all proper cable connections.

Transporting TOPAZ Ultra

Carry the device by firmly grasping the TOPAZ Ultra main body when it is in the folded position.

WARNING:
> Do not carry TOPAZ Ultra by the camera head since this may result in damage to your device.

The TOPAZ Ultra 15" comes with a convenient carrying case for transport. To prevent the device from being accidentally dropped and damaged, always return the TOPAZ Ultra to the carrying case when not in use. Disconnect and secure all cables before moving the device.

Federal Communications Commission (FCC) Compliance Statement

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation. 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 some instances. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, you are encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.

- Increase the separation between the equipment and receiver.

- Connect the equipment to a wall outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modifications to this system can void your authority to operate this equipment.

This unit is an EMC-registered device.

This device bears the CE and FCC, KC approval mark.

Table of Contents

TOPAZ Ultra offers the same reading comfort, ease of use, and functionality as a desktop video magnifier, but in a compact, foldable and portable design. It is the ideal solution for people who need magnification at different distances. With TOPAZ Ultra, you can comfortably read text and view objects at home, in the office, in the classroom, or on the go. Its foldable and lightweight design makes it extremely portable.

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14.
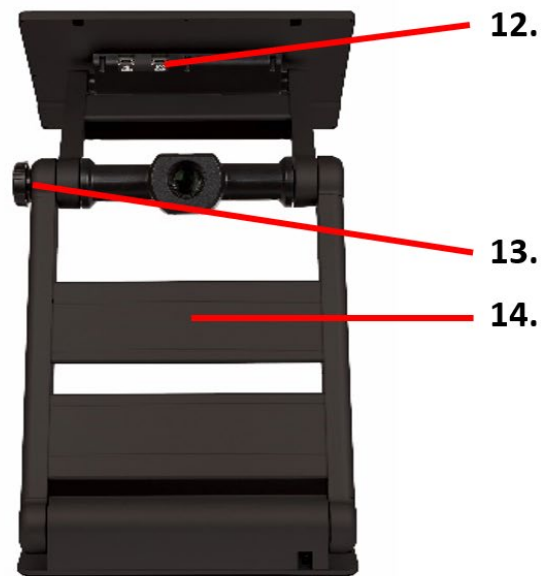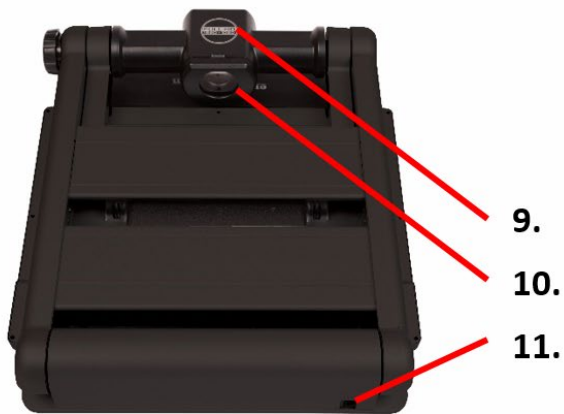
Hardware Components

1. LCD screen

2. Power on/off

3. Image optimizer wheel (adjusts brightness and contrast)

4. Image capture

5. Zoom wheel

6. Color mode

7. Natural color

8. Super Function Key

9. Camera

10. Close-up lens (open this lens for distance view)

11. DC jack (insert the power adapter here to charge the battery)

12. HDMI output

13. Camera Positioning wheel

14. LED lights

> **Note:** With the camera ⑨, be careful not to allow foreign material to adhere to the camera lens. If any foreign material is on the lens, wipe it off with the provided microfiber cloth.

About This Manual

This manual familiarizes you with the TOPAZ Ultra features and operation. Please read it thoroughly before using your TOPAZ Ultra.

Some features are accessed by pressing a button or a combination of buttons. When steps refer to a button on the device or its control console, the button name is capitalized, such as the Zoom wheel.

When steps refer to text displayed on the TOPAZ Ultra screen, the text is bold. For example, the **More Settings** menu is in boldface, as well as the **Power Saving Mode** option on that menu.

If you have any questions or suggestions concerning the use of this product, contact your Freedom Scientific distributor or Freedom Scientific's service center (refer to page 19).

What's in the Box

The TOPAZ Ultra packaging contains the following.

- TOPAZ Ultra foldable and portable magnifier

- Power adapter

- Carrying case (15" model only)

- User manual

- Microfiber cloth for cleaning the display

Note: If any of these items are missing from your package, please contact your distributor.

Before Initial Use

The battery must be fully charged prior to the initial use. Connect the supplied power adapter to the DC input jack to charge the battery (refer to ⑪ on pages 2 and 3). While charging, a red light is illuminated. When fully charged, the light is green.

Remove the LCD protection film before using the unit. Be careful not to allow foreign material to adhere to the camera lens. If any foreign material is on the lens, wipe it off with the provided microfiber cloth.

Opening the TOPAZ Ultra

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1. Place the folded TOPAZ Ultra on a stable surface such as a table.

2. Press on the base plate with one hand, while the other hand lifts the top of the body frame.

3. Lift the arm until it locks in place.

4. Put both hands on the left and right sides of the LCD monitor.

5. Pull the LCD monitor towards you.

6. Push the LCD monitor up using both hands and adjust it to a suitable position.
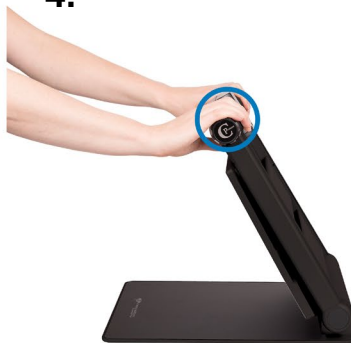
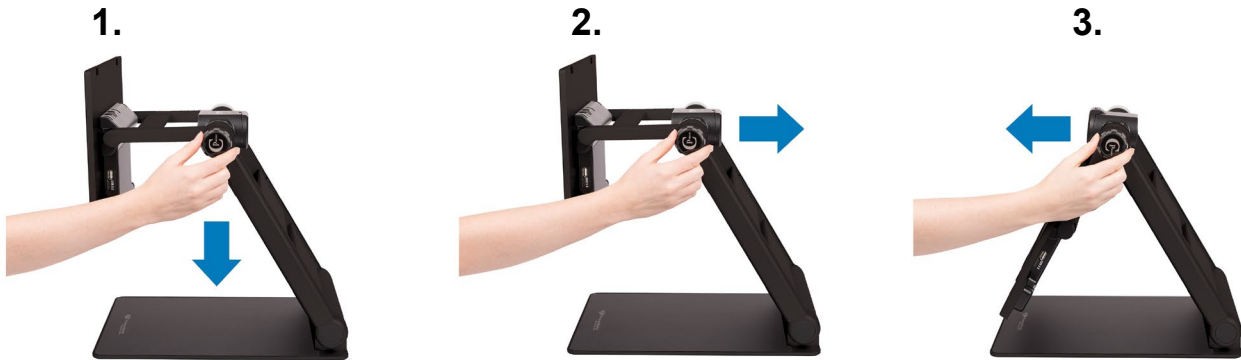## Closing the TOPAZ Ultra

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1. Put both hands on the left and right sides of the LCD monitor.

2. To close the TOPAZ Ultra, lower the LCD monitor using both hands.

3. Push the LCD monitor toward the main body frame.

4. Place both hands on top of the body frame.

5. Lower the top of the body frame until it is closed.

Camera Positions

1.   2.   3.

You can switch between modes by rotating/adjusting the camera using the Camera Positioning wheel (refer to ⑬ on pages 2 and 3).

1. **Reading / Desktop mode**

2. **Distance-View mode**
    Open the close-up lens for distance viewing. Refer to page 13 for more information.

3. **Self-View mode**
    Use like a mirror. Refer to page 13 for more information.

1.   2.   3.   4.   5.   6.   7.

1. **Power On/Off Button**
   Power on/off by pressing the button for two seconds.

2. **Image Optimizer Wheel**
   Provides different functions:

   - **Natural color mode:** Turn the knob to adjust the brightness of the display (five levels).

   - **Color mode:** Turn the knob to adjust the image contrast. Press it to return to the default setting.

   - **Auto Focus on/off:** Press and hold the button for two seconds.

3. **Image Capture Button**
   Briefly press the Image Capture button ③ and the image on the screen freezes.

   - You can zoom in/out on the frozen image and adjust the color and screen brightness.

   - When the image is magnified, you can pan around the image using the Super Function Key ⑦.

   Press the Image Capture button again to return to the live viewing mode.

4. **Zoom Wheel**
   To adjust the magnification, turn the knob. The level of magnification depends on whether you own the TOPAZ Ultra 15" or the TOPAZ Ultra 17".

   - **TOPAZ Ultra 15"**
     Magnification: 1.4x to 20x, 2.0x to 32x (default), or 3.5x to 60x.
     Additional magnification in captured image: 5.5x.

- **TOPAZ Ultra 17"**
 Magnification: 1.4x to 25x, 2.3x to 35x (default), or 3.5x to 70x.
  Additional magnification in captured image: 5.5x.

Different magnification levels can be set in the Menu. Press and hold the Zoom wheel to access the Menu and select **Zoom Ratio** to adjust. For more information about the Menu, refer to page 15.

5. **Color Mode Button**
   The image on the screen can be viewed in eight color modes—the natural color mode and seven high contrast color modes:

   - Natural color mode

   - White text on black background

   - Black text on white background

   - Yellow text on black background

   - Black text on yellow background

   - Green text on black background

   - Blue text on yellow background

   - Yellow text on blue background
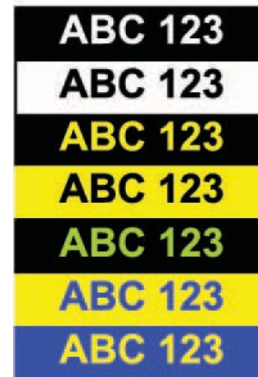
Up to 35 high contrast color modes can be selected using the Menu (refer to page 14).

6. **Natural Color Button**
   Press the Natural Color button ⑥ to view pictures or documents in natural color.

   The Natural Color button ⑥ is also used for the Find Function. Press and hold the Natural Color button ⑥ to use the Find function when magnified. The Find function allows you to quickly zoom out and see the entire image. Releasing the button returns the camera to the original magnification level.

7. **Super Function Key**
   Used for panning/scrolling the frozen image when magnified (refer to page 12).

   Used to select and apply the line/mask function (refer to page 10).

Line & Mask

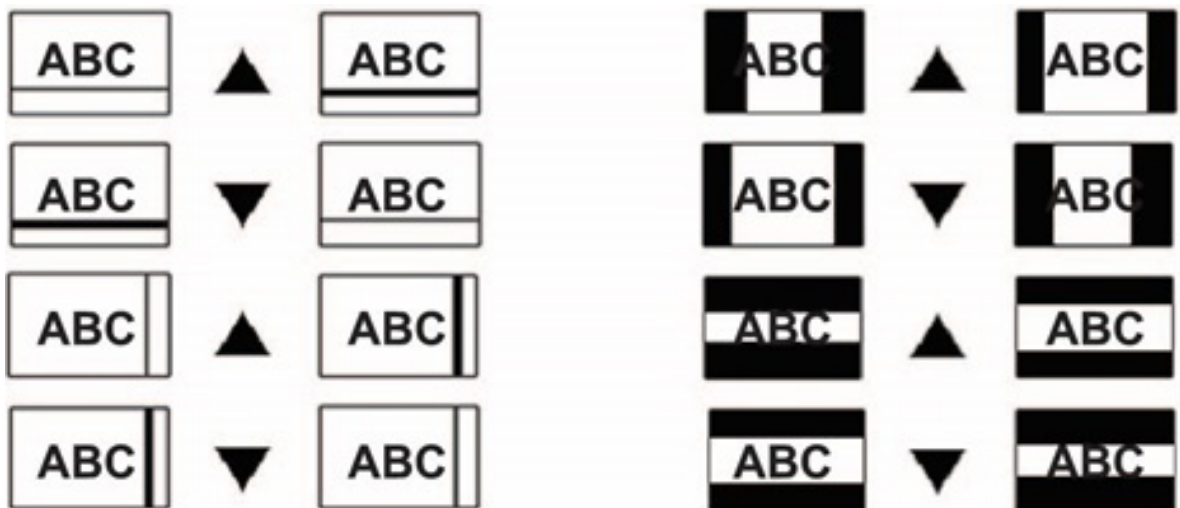Press and hold the Super Function Key ⑦ to activate or deactivate Line & Mask. When Line & Mask is active, the direction key and wheel of the Super Function Key ⑦ work as follows.

- Left and right ◄ ► : Choose the function.

1. Horizontal line

2. Vertical line

3. Horizontal mask

4. Vertical mask
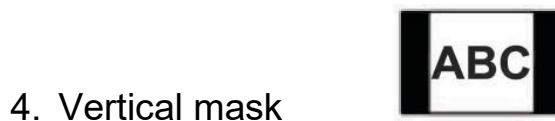
- Up and down ▲ ▼ : Increase or decrease the thickness of a line and the distance between masks.

- Turning the Zoom wheel moves the position of the line or mask.

1. Counterclockwise
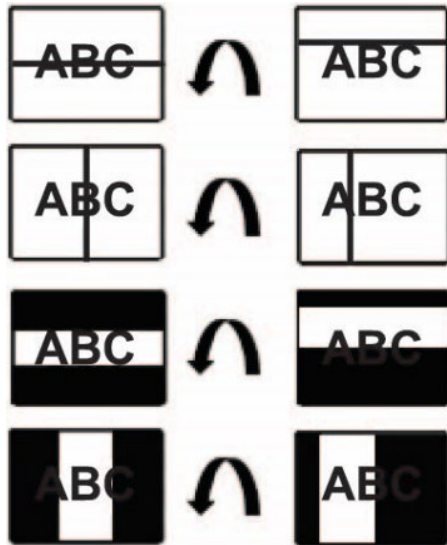
2. Clockwise

Battery Status

The status of the remaining battery power is not continuously displayed. The battery charging icon is displayed when the power adapter is connected.

To check the status of the remaining battery, press the Image Capture button ③ for three seconds or more.

HDMI OUT Mode

When the HDMI output cable is connected, the LCD display is blank and the image is displayed on an external monitor. Switch between the LCD display and an external monitor by pressing the Super Function Key ⑦.

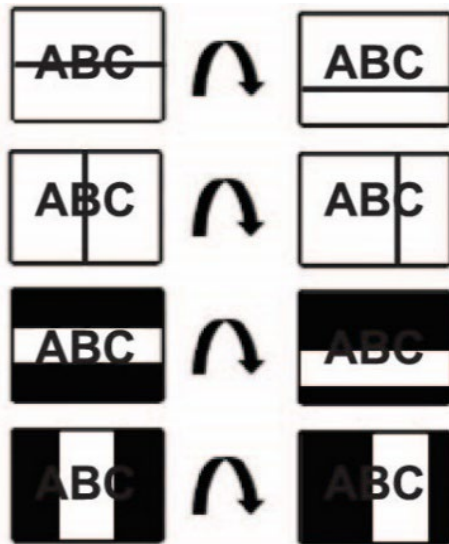## Scroll the Frozen Image

Adjust the zoom level as desired to frame the entire area you would like to read. Then, press the Image Capture button ③ to freeze the image.

When you press the Zoom wheel ④ while in the frozen image, a horizontal line marker appears. You can move this line by rotating the Super Function Key ⑦.

You can pan around the frozen image using the up/down and left/right direction keys around the Super Function Key ⑦. When you pan to the end of a frozen image, you can advance to the next paragraph or line by releasing the left or right direction key and pressing it again.

At any time while panning the image, your current reading position is displayed by pressing and holding the Natural Color button ⑥. The location of the magnified area is shown within the entire field of view.

Power Saving Mode

If you leave the unit turned on and unused for 10 minutes, the LCD screen turns off to conserve battery power. If the unit is left unused for three additional minutes, the power is automatically switched off. These times can be adjusted in the Menu (refer to page 16).

Color Mode Selection

Press and hold the Color Mode button ⑤ and rotate the Zoom wheel ④ to cycle through the available color modes. Colors can be selected using the Menu (refer to page 14).

- Color Mode ⑤ + Zoom wheel ④, right is next color mode.

- Color Mode ⑤ + Zoom wheel ④, left is previous color mode.

- Press the color mode button repeatedly to cycle through the available color modes.

Self-View & Distance-View Mode

Change the viewing mode by moving the camera with the Camera Positioning wheel (refer to ⑬ on pages 2 and 3).

Self-View Mode (Mirror Mode)

Use when the direction of the camera is pointing towards you.

- Camera switches automatically into self-view mode.

- Magnification range is minimized.

- Camera switches automatically to natural color mode.

Distance-View Mode

Use this mode to view a distant object, such as a whiteboard. Open the close-up lens when using this mode.

- Camera switches automatically into distance-view mode.

- Magnification ratio is minimized.

- Camera switches automatically to natural color mode.

You use the Menu to customize the product. This section describes how to navigate the Menu and select options to change the look and feel of your TOPAZ Ultra.

Navigating the Menu

Press and hold the center of the Zoom Wheel ④ to enter and exit the Menu.

Once in the Menu, change or save settings by using the Zoom wheel ④ or Super Function Key ⑦:

- Move around the menu by turning the Zoom wheel ④ or Super Function Key ⑦.

- Select an option by pressing the center of the Zoom wheel ④ or Super Function Key ⑦.

- To return to the previous screen, press and hold the center of the Zoom wheel ④ or Super Function Key ⑦.

Menu Options

The following menu options are available: **Color Mode**, **Zoom Ratio**, **LED Brightness**, **More Settings**, and **Reset**.

Within the **More Settings** menu, the following options are available: **Language**, **Capture Scroll Speed**, **Key Lock Mode**, **Personal & Public**, and **Power Saving Mode**.

Color Mode

Using the **Color Mode** option, you can add or remove your preferred high contrast color combinations. The default is a selection of seven high contrast color modes.

- **Default**: Seven high-contrast color modes selected.

- **Extend**: All 35 color modes selected.

Select your preferred color modes using the Zoom Wheel ④ or the Super Function Key ⑦. Enable and disable a color mode by pressing the Zoom Wheel ④. A color mode is enabled when circled in red. A color mode is disabled when circled in gray. Press **save** to apply the changes you made.

Zoom Ratio

For TOPAZ Ultra 15", the default magnification range is 2.0x to 32x. You can set the magnification range to:

- 1.4x to 20x

- 2.0x to 32x

- 3.5x to 60x

For TOPAZ Ultra 17", the default magnification range 2.3x to 35x. You can set the magnification range to:

- 1.4x to 25x

- 2.3x to 35x

- 3.5x to 70x

LED Brightness

With this option, you can adjust the LED brightness through 11 different levels including turning the lights completely off.

Reset

This menu resets all settings back to default values.

More Settings

If you select **More Settings**, you can adjust the **Language**, **Capture Scroll Speed**, **Key Lock Mode**, **Personal & Public**, and **Power Saving Mode**. To save your updated settings, select **Save & Exit** or press and hold the Image Optimizer Wheel ②.

Language

This menu enables you to select your preferred language.

Capture Scroll Speed

When this option is selected, you can adjust the capture scroll/panning speed. Or, use the Image Optimizer wheel ②. You can test the scroll speed in real-time using the Super Function Key ⑦. Make sure that you are zoomed in to be able to test the scroll speed.

Key Lock Mode

If you select **Yes**, only three buttons are available: Zoom wheel ④, Color Mode button ⑤, and Natural Color button ⑥. If you select **No**, all buttons are available.

Personal & Public

With **Personal** mode, all current customized user settings are remembered after the device is rebooted. With **Public** mode, all settings are returned to their factory default values after the device is rebooted. Public mode is recommended when a device is used by several people, such as in a library.

Power Saving Mode

To conserve battery life, you can adjust the length of time before the LCD automatically turns off after a period of non-use. You can also adjust the time when all power is turned off. The defaults settings are:

- **Auto LCD OFF** time is 10 minutes.

- **Auto Power OFF** time is three minutes.

LCD screen size	15.6 inches (396mm), 16:9 wide
LCD resolution	1920 x 1080 (full HD)
LCD tilt	180 degrees
Camera specifications	1920 x 1080, 60 fps, auto focus
Dimensions	Folded: approx. 15.1 x 16 x 2.5 inches In use: approx. 15.1 x 15.75 x 22.7 inches (max. height)
Lightweight	10.65 lbs
Color modes	Default 8, including natural color (extended 35)
Magnification range	Live image mode: 1.4x to 20x, 2.0x to 32x (default), or 3.5x to 60x. Additional magnification in captured image: 5.5x
Camera mode	Reading mode, distance-view mode, self-view mode
Battery capacity	16.8V, 5200mAh
Battery weight	0.90 lbs
Power consumption	14~20W in operation
Battery life	5 hours
Input power rating for adapter	100-240V, 50-60Hz, 1.7A
Output power rating for unit	DC +19V-3.42A
Connectivity	HDMI OUT

LCD screen size	17.3 inches (439mm), 16:9 wide screen
LCD resolution	1920 x 1080 (full HD)
LCD tilt	180 degrees
Camera specifications	1920 x 1080, 60 fps, auto focus
Dimensions	Folded: approx. 16.2 x 17 x 2.5 inches
	In use: approx. 16.2 x 17.5 x 25.7 inches (max. height)
Lightweight	12.05 lbs
Color modes	Default 8, including natural color (extended 35)
Magnification range	Live image mode: 1.4x to 25x, 2.3x to 35x (default), or 3.5x to 70x.
	Additional magnification in captured image: 5.5x
Camera mode	Reading mode, distance-view mode, self-view mode
Battery capacity	16.8V, 5200mAh
Battery weight	0.90 lbs
Power consumption	14~20W in operation
Battery life	5 hours
Input power rating for adapter	100-240V, 50-60Hz, 1.7A
Output power rating for unit	DC +19V-3.42A
Connectivity	HDMI OUT

Appendix A – Service and Support

For technical assistance, contact Technical Support.

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

To contact Technical Support by Web, visit **www.FreedomScientific.com**, choose Support, and complete the form to submit questions.

To contact by e-mail, send questions to **Support@FreedomScientific.com**.

To contact by telephone, U.S. customers can call **(727) 803-8600**, Monday through Friday, from 8:30 AM to 7:00 PM (Eastern Time).

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

- Product name

- Product serial number

- What you were doing when the problem occurred

- How you tried to solve the problem

To register your product, visit **www.freedomscientific.com/forms/ProductRegistration**.

Notes

Notes

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