

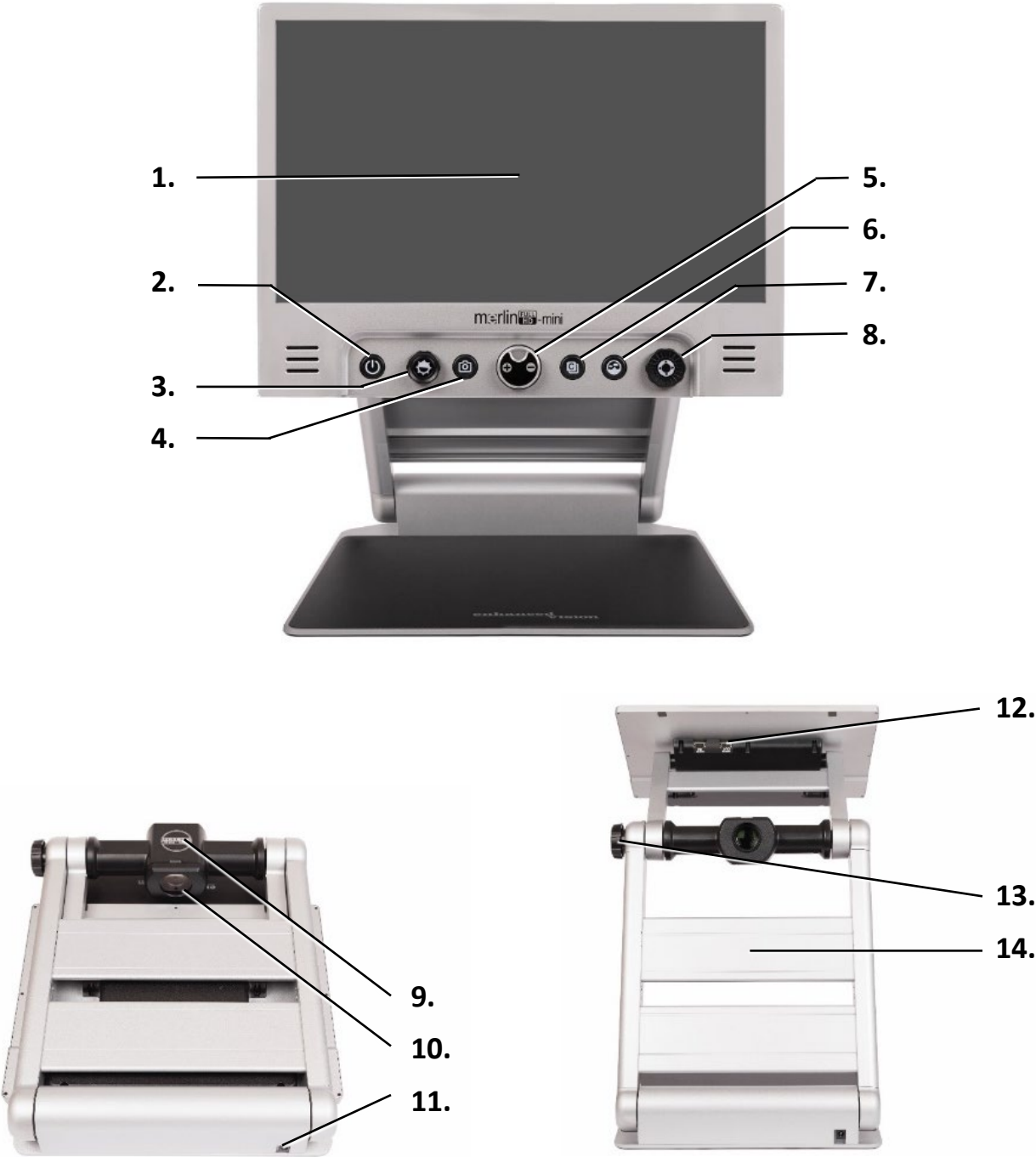
merlin **FULL  
HD** -mini

**enhanced**  
**vision**  
A VISPERO® BRAND



# User Manual

Hardware Components



## 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.

**Product enhancements and revisions are an integral part of what we do here at Enhanced Vision. Visit us at <https://www.enhancedvision.com/support/user-manuals.html> and select your Enhanced Vision product. You will find the most up-to-date version of your User Manual here.**

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## Notes

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

## Introduction

Merlin Mini 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 Merlin Mini, 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.

## About This Manual

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

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 Merlin Mini 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 Enhanced Vision distributor or Enhanced Vision's [service center](#) (see page 19).

## What's in the Box

The Merlin Mini packaging contains the following.

- Merlin Mini 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.*

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## Instructions Before 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. 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 Merlin Mini

1.



2.



3.



4.



5.



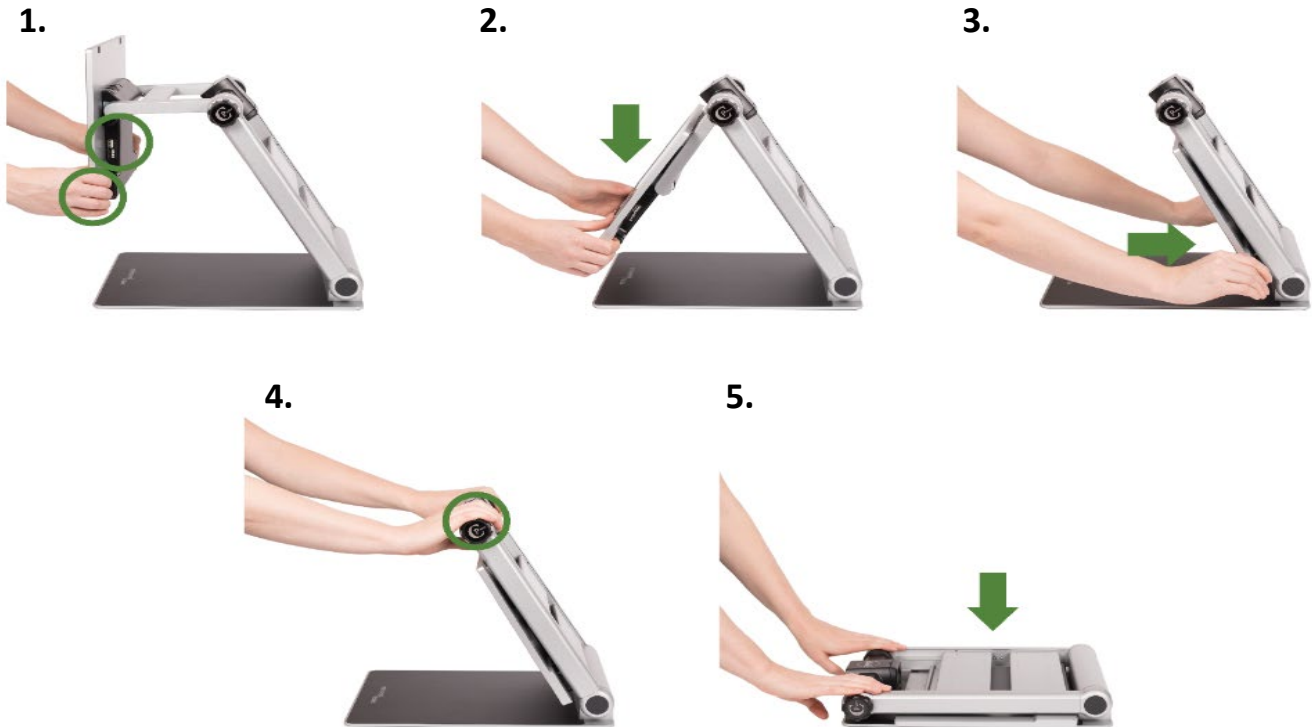
6.



1. Place the folded Merlin Mini 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.

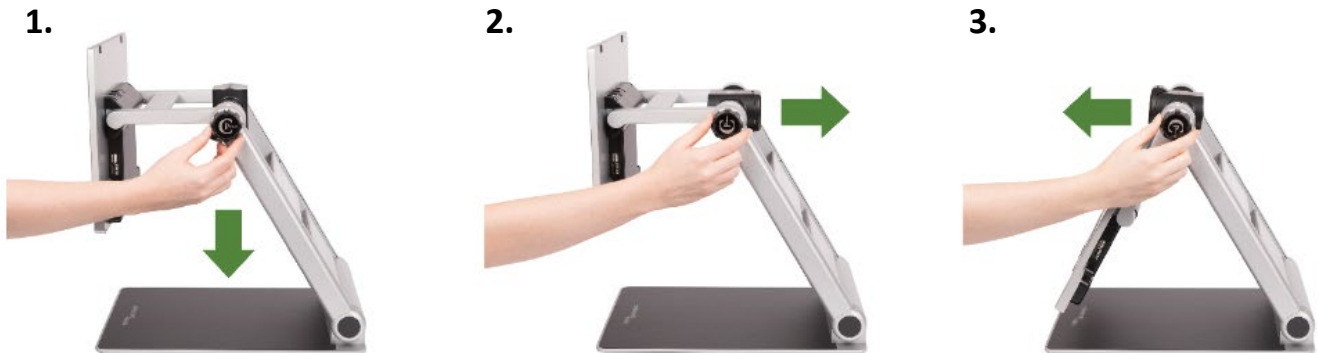


## Closing the Merlin Mini



1. Put both hands on the left and right sides of the LCD monitor.
2. To close the Merlin Mini, 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



You can switch between modes by rotating/adjusting the camera using the Camera Positioning wheel.

1. Reading / Desktop mode
2. Distance-View mode (open the close-up lens for distance viewing)
3. Self-view mode (use like a mirror)

---

## Buttons



### 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 Merlin Mini 15" or the Merlin Mini 17".

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

- **Merlin Mini 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](#), see page 10.

**5. Color Mode Button:** The image on the screen can be viewed in eight (8) color modes: the natural color mode and seven (7) 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](#) (see page 10).

**6. Natural Color Button**

Press the Natural Color button (6) to view pictures or documents in natural color.

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 (see page 8).

Used to select and apply the line/mask function (see page 7).

## Hot Keys & Features

### 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) works as follows.

- Left and right ◀ ▶ : Choose the function.

1. Horizontal line



2. Vertical line



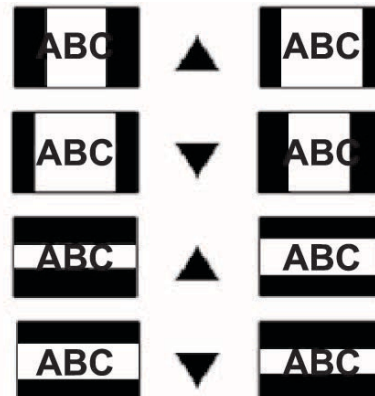
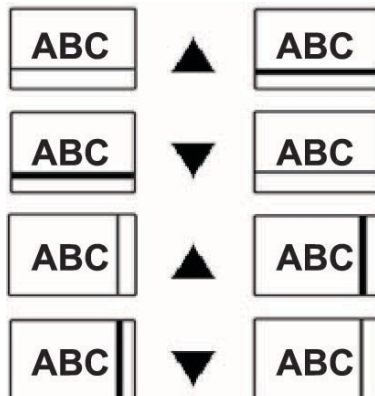
3. Horizontal mask



4. Vertical mask

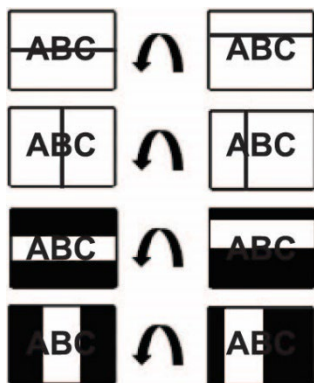


- Up and down ▲ ▼ : Increase or decrease the thickness of a line and the distance between masks.

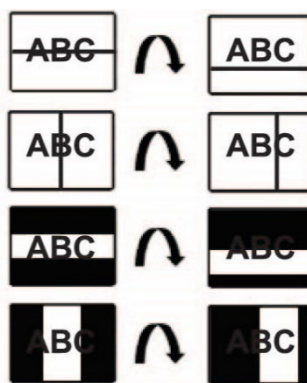


- Turning the Zoom wheel moves the position of the line or mask.

#### 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 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](#) (see page 12).

## 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](#) (see page 10).

- 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 (13).

### ***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.

---

## Menu

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 Merlin Mini.

### 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, 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** : 7 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 Merlin Mini 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 Merlin Mini 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***

The stored Personal and Public modes are maintained even after the device is reset.

With **Personal** mode, all current settings are restored after the device is rebooted.

With **Public** mode, all settings are reset after the device is rebooted.

### ***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.

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## FCC Compliance Notice

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.

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## Safety and Care

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

Merlin Mini 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.

Merlin Mini 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 Merlin Mini for a patient's individual condition.

### Precautions for Use

- Follow all warnings, cautions, and instructions marked on the product.
- Use Merlin Mini on a stable, level surface such as a solid desk or table, according to its intended design specifications.
- Avoid placing Merlin Mini on an unstable table, cart, or stand. It may fall, causing serious damage to the device or bodily injury.
- Use Merlin Mini indoors only—it should NOT be exposed to extreme or rapid changes in temperature or humidity. Do not place Merlin Mini 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 Merlin Mini 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 Merlin Mini near flammable materials or liquids.

### Additional Mechanical Safety Precautions

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

**Note:** Use caution when moving parts or when transporting the Merlin Mini to avoid possible injury to hands and fingers.

## **Caring for Merlin Mini**

To care for your Merlin Mini, follow these recommendations:

- When Merlin Mini 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 Merlin Mini is completely off before cleaning it.
- Clean Merlin Mini with a soft dry cloth or an electrostatic dusting cloth. DO NOT use liquid cleaners on its plastic surfaces.
- The protective glass covering the camera can be cleaned as needed with the lens cloth provided within the packaging of Merlin Mini. 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 Merlin Mini 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 Merlin Mini:

- Using any power supply other than the one provided by Enhanced Vision for Merlin Mini will **void the warranty**.
- If using DC power, the Merlin Mini device should be near a wall outlet that is easily accessible.
- Do not use Merlin Mini in, near, or around water. Merlin Mini is not designed to offer protection against contact with liquids of any kind.
- Use only the power supply provided with your Merlin Mini. Using unauthorized power supplies may cause serious damage to Merlin Mini's electronic components.
- 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 Merlin Mini

Carry the device by firmly grasping the Merlin Mini main body when it is in the folded position.

**Warning:** *Do not carry Merlin Mini by the camera head since this may result in damage to your device.*

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

## Merlin Mini 15” Specifications

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

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## Merlin Mini 17” Specifications

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



## Warranty Statement & Contact Information

### Enhanced Vision Merlin Mini Warranty Policy

Enhanced Vision products are designed to give you the highest quality image, convenient features, ease of use, and reliable service. **Merlin Mini has been inspected and tested prior to shipping.** Enhanced Vision warrants Merlin Mini against defects in material and workmanship under normal use for **two years** from the date of original purchase. Enhanced Vision, at its option, will either repair the product or replace it during the warranty period at no charge. There are no other expressed or implied warranties accompanying this product.

This warranty does not cover: a) Defects or damage from misuse, use in other than normal and customary manner, accident or neglect; b) Defects or damage from improper operation, maintenance, installation, adjustment, alterations or modification; c) Defects or damage from spills of food or liquid; d) All plastic surfaces and all other externally exposed parts that are scratched or damaged due to normal use; e) Damage due to operation of Merlin Mini with equipment not supplied by Enhanced Vision.

- You must provide proof of purchase, bearing the date of purchase, in order to receive warranty service.
- Anyone using this product does so knowingly assuming certain risks, due to the need to utilize vision enhancement devices.
- A two-year extended warranty option is available within 12 months from the date of purchase. Please contact Enhanced Vision for detailed information.

### Service Process

If technical support or repair service is needed, please contact your local Enhanced Vision representative or the Enhanced Vision warranty service center.

If warranty service is required, please contact Enhanced Vision at 800-440-9476 extension 2 (international +001 714-465-3400 extension 2) Monday through Friday, from 8 a.m. to 5 p.m. Pacific Standard Time (UTC-8) to request a return authorization number.

Warranty repairs will not be accepted without a valid return authorization number. You may wish to keep the original product packaging in case warranty service is required. The manufacturer cannot provide packaging for warranty repairs.



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**merlin FULL HD-mini**