

**merlin**<sup>®</sup>  
*ultra* —

**enhanced**  
**vision**<sup>®</sup>



User Manual

---

Congratulations on your purchase of Merlin ultra from Enhanced Vision. Merlin ultra is a full-color, auto-focus video magnifier system designed to enhance the lifestyle of the visually impaired. With the LCD monitor's adjustable arm, Merlin ultra can provide the user with the ultimate flexibility in the position of the screen.

Merlin ultra enables individuals with low vision to read, write, view photos, enjoy crafts and hobbies, and more – in color, black-and-white, or enhanced high-contrast positive or negative viewing modes. Merlin ultra also includes 3 different preset color combinations for both text and background to provide improved viewing when reading. An additional 25 color combinations are available and can be programmed. With easy-to-use buttons that are also distinguishable by touch, you can enlarge or reduce the image in seconds, change-viewing modes for easier visibility, and establish preset buttons to your favorite viewing image sizes.

Please read this booklet and familiarize yourself with Merlin ultra's features and operation before using this system. Your Merlin ultra is ready to use right out of the box. By reviewing all Merlin ultra features and controls before use and following the directions carefully, you'll be able to enjoy all the great benefits from your purchase.

Enhanced Vision products are designed to give you the highest quality image, convenient and easy-to-use features and years of reliable service. Thank you for choosing the Enhanced Vision Merlin ultra.

---

## 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 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:

- Reorient or relocate the receiving antenna.
- 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.
- Consult the dealer or an experienced radio/TV technician for help.

Unauthorized changes or modification to this system can void the user's authority to operate this equipment.

If your Low Vision device has an option to connect to a TV, it must be used with shielded interface cables to meet FCC emissions limits for Class B digital devices. It is the responsibility of the user to use the shielded interface cables supplied with the equipment.

---

<b>Safety and Care</b>	5-8
<b>Merlin ultra at a Glance</b>	9-10
<b>Merlin ultra Setup</b>	11
<b>Turning on Merlin ultra</b>	12
<b>Changing Viewing Modes</b>	13-14
<b>Using Merlin ultra Color Select</b>	15-17
<b>Changing Magnification</b>	18
<b>Changing Brightness</b>	19
<b>Light Switch On/Off</b>	20
<b>System Configuration Menu</b>	21-23
<b>Using X-Y Table</b>	24
<b>Tips for Reading and Writing</b>	25
<b>Using Optional Ultra Pack</b>	26-27
<b>Computer Pass Through</b>	28
<b>Troubleshooting</b>	29-30
<b>Specification</b>	31-32
<b>Other Products from Enhanced Vision</b>	33-35
<b>Contact Information</b>	36
<b>Warranty Statement</b>	37-38

---

## SAFETY AND CARE

---

To obtain the most benefit from your Merlin ultra, please read these safety precautions very carefully.

Merlin ultra is designed to enlarge and enhance images in order to offer improvement in the quality of life for people with visual impairment. The extent to which Merlin ultra can improve the ability to see images depends on a person's individual condition and level of visual impairment.

Merlin 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 Merlin ultra for a patient's individual condition.

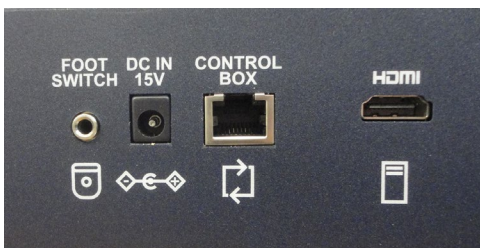
### **Precautions for Use**

- Follow all warnings, cautions, and instructions marked on the product.
- Use the Merlin ultra on a stable, level surface such as a solid desk or table, according to its intended design specifications.
- Avoid placing the Merlin ultra on an unstable table, cart or stand. It may fall causing serious damage to the unit or bodily injury to the user.
- Use the Merlin ultra indoors only – it should NOT be exposed to extreme or rapid changes in temperature or humidity. Do not place the Merlin ultra near a radiator, heater or areas exposed to long hours of direct sunlight. These conditions may cause damage to the unit's electronics or optics.
- At least once per week, clean the Merlin ultra with a soft dry cloth or an electrostatic dusting wipe. DO NOT use liquid cleaners on its plastic surfaces. No additional methods of sterilization or cleaning are recommended nor required.
- Do not use the Merlin ultra near flammable materials or liquids.

---

## Additional Electrical Safety Precautions

- The power supply cord is a disconnect device for electrical equipment. The socket-outlet should be installed near the equipment and be easily accessible.
- This product is equipped with a 3-wire grounding type plug as a safety feature. This plug has a third (grounding) pin and can only be plugged into a grounding-type power outlet. If necessary, contact an electrician to replace your power outlet with a grounding-type power outlet.
- Do not use the Merlin ultra in, near or around water. The Merlin ultra is not designed to offer protection against contact with liquids of any kind.
- Use only the power supply provided with your Merlin ultra. Using unauthorized power supplies may cause serious damage to Merlin ultra's electronic components.
- Using any other power supply than the one provided by Enhanced Vision for the Merlin ultra will void the warranty.
- Prevent the risk of electrical shock by NOT attempting to disassemble the unit. Please refer all service to an authorized repair facility.
- To avoid personal injury or damage to the Merlin ultra, do not make any other type of connections to the input jacks other than those indicated in the photos below.



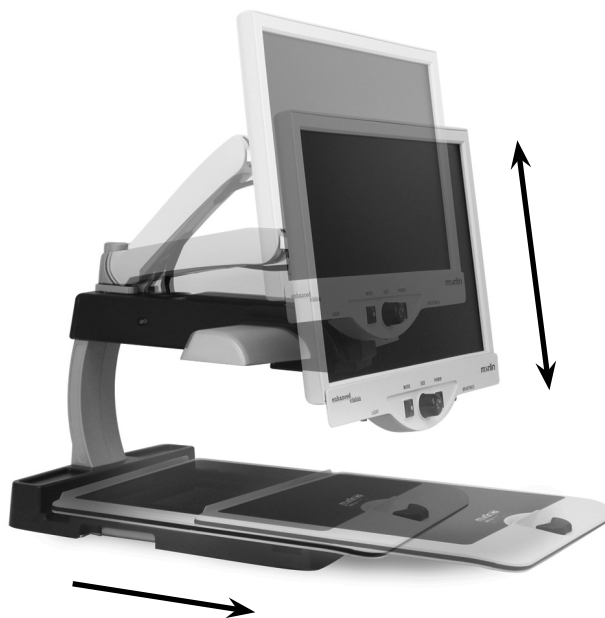
---

## Additional Mechanical Safety Precautions

Your Merlin ultra contains moving parts. Please use caution when moving the X-Y table, adjusting the LCD monitor arm, or when transporting the Merlin ultra to avoid possible injury to hands and fingers.



 **Caution**  
**Moving Parts!**



---

## **To Move Merlin ultra to Another Location:**

- If you are repositioning Merlin ultra a short distance across a desk or table, make sure you do not pull on any power cords or connector cables.
- Disconnect and secure all power and video cables and lock the X-Y table before moving the unit.
- Carry the unit only by the two recessed handles located on either side of its base. **Do not carry it by the LCD monitor arm.**

## **Caring for Merlin ultra:**

- Always turn the power OFF for the Merlin ultra and the monitor when the system is not in use.
- Always turn the power OFF before cleaning Merlin ultra.
- The protective glass covering the camera can be cleaned as needed with the lens cloth provided within your Merlin ultra's packaging.

## **Susceptibility to Interference:**

There may be temporary degradation of the image when the Merlin ultra is subjected to a strong radio frequency field, electro-static discharge or transient electrical noise. An electrostatic discharge (caused by static electricity) may cause the screen to go black. If this happens, unplug the AC Adaptor, wait 30 seconds, and plug the cable back in.

## **Compliance Warnings:**

Electromagnetic compatibility: The use of accessories and cables other than those specified by Enhanced Vision may result in increased emissions or decreased immunity of the Merlin ultra.

Placement of equipment: The Merlin ultra should not be used adjacent to or stacked with other equipment.



---

# MERLIN ULTRA AT A GLANCE

---

**Take a few moments to familiarize yourself with the components of your Merlin ultra:**

1. Merlin ultra
2. LCD Monitor
3. Light ON/OFF Switch
4. Viewing Mode button
5. Size (Magnification) dial
6. Merlin ultra power button
7. LCD Brightness Control Lever
8. X-Y table locking lever
9. X-Y table
10. Recessed handles for carrying Merlin ultra
11. LCD monitor arm
12. Merlin ultra 15V power supply
13. Merlin ultra Base & LCD Monitor “Y” Power Cord  
(style of power cord may vary based upon country)

**Optional Accessories:**

14. Merlin ultra Foot Pedal (For PC Toggle)
15. Ultra Pack (Lines, Windows & PC Toggle)





Figure 1

1. Find a steady and level location, such as a table or desk, where you will be comfortable using Merlin ultra. Carry the Merlin ultra only by the two recessed handles on the side of the base for a secure grip. **Do not lift the unit by the LCD monitor arm.** Place it on the table or desk (see *Figure 1*).



Figure 2

2. Connect the short end of the “Y” power cord to the Merlin ultra Power Supply (see *Figure 2* and items #12 & #13 on page 9).



Figure 3

3. Connect the long end of the “Y” power cord to the monitor power input on the rear of the Merlin ultra as shown (see *Figure 3*).

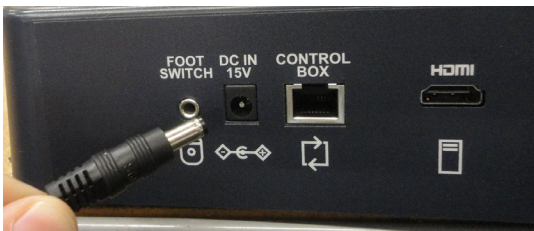


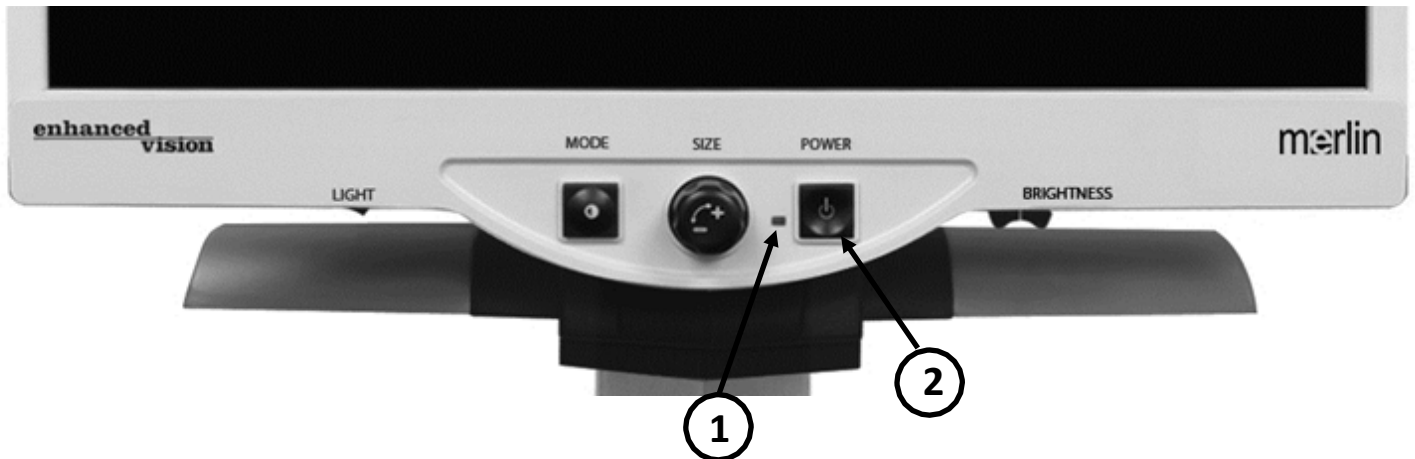
Figure 4

4. Connect the power lead from the Merlin ultra Power Supply to the power input labeled “DC IN 15V” on the rear of the unit as shown (see *Figure 4*). Finally, connect the AC power plug to an available wall outlet or surge protector.

---

## TURNING ON MERLIN ULTRA

---



### Merlin ultra Power Button

The Power button on your Merlin ultra is located on the far right of the control panel (*item #1 above*).

- Press the Power button. Notice the green light will illuminate on the Control Panel, indicating the power is ON (*item #2 above*).
- The screen should automatically come on in a few seconds.

If the green light does not illuminate or if an image does not appear on the LCD monitor, please check the power supply connections (review steps 2-4 on page 11 for details).

**Note:** *If your Merlin ultra is plugged into a power strip/surge protector make sure the power switch is turned on before attempting to turn on Merlin ultra. If the power strip/surge protector comes with a circuit breaker, make sure the circuit breaker has been reset before attempting to turn on Merlin ultra.*

---

# CHANGING VIEWING MODES

---



You can choose a viewing option by pressing the MODE button on the control panel. Each press will cycle through all 7 viewing options. These available options are:

- Full Color Image
- Black and White Image
- Enhanced Positive Image
- Enhanced Negative Image
- Color Select 1
- Color Select 2
- Color Select 3
- Color Select 4 - Off by default
- Color Select 5 - Off by default

Crisp, Clear  
Text Images!

Enhanced Positive

Crisp, Clear  
Text Images!

Enhanced Negative

## Full Color Image

This mode is used most often because it gives you a true color representation of the image that is being magnified. When Merlin ultra is first turned on, it displays the image in full color.

## Black and White Image

Based on preference, you can choose the black-and-white mode.

---

## **Enhanced Positive Image**

This mode provides a white background with black text. This mode increases the contrast to offer crisp text images for reading.

## **Enhanced Negative Image**

This mode provides a black background with white text. This mode increases the contrast to offer crisp text images for reading.

## **Color Select 1**

In factory default this mode provides a blue background with yellow text. This is one of the most commonly used color combinations. To change this mode to any of the 28 available follow the instructions on page 15-17.

## **Color Select 2**

In factory default this mode provides a black background with yellow text. To change this mode to any of the 28 available follow the instructions on page 15-17.

## **Color Select 3**

In factory default this mode provides a yellow background with black text. To change this mode to any of the 28 available follow the instructions on page 15-17.

## **Color Select 4**

In factory default this mode is turned off. Follow the instructions on page 15-17 to turn this color mode on.

## **Color Select 5**

In factory default this mode is turned off. Follow the instructions on page 15-17 to turn this color mode on.



---

# USING MERLIN ULTRA COLOR SELECT

---

Merlin ultra was designed to provide optimum viewing for people with certain visual conditions by offering an extended range of choices in both text and background colors.

Merlin ultra offers 28 combinations of text and background colors, called color select modes. The Merlin ultra offers the following:

- 28 text/background color combinations (see page 16)
- 3 factory preset color select modes (see page 13)
- 2 additional user color select modes

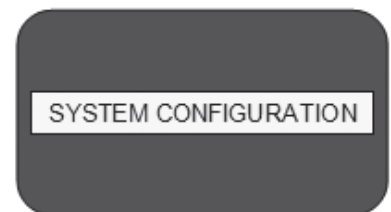
Both the preset and user color select modes can be independently programmed to your preferences, using the procedure listed below.

## How to Program a Color Select Mode



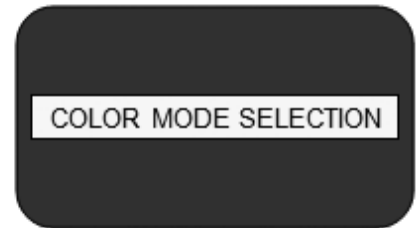
With Merlin ultra turned ON, place a piece of reading material on the X-Y table so that it appears on your monitor at a magnification size that is comfortable for viewing. Follow these steps to program any of the 5 color select modes:

Step 1: Press and hold the MODE button (approximately 5 seconds) until the words "SYSTEM CONFIGURATION" appear on your LCD monitor.



Step 1

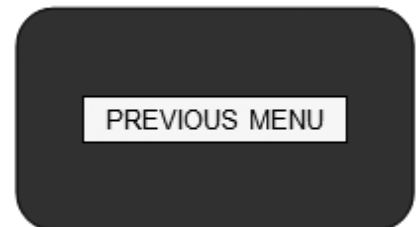
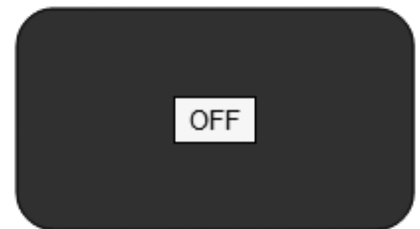
Step 2: Rotate the SIZE dial to scroll through the available menu options. Choose COLOR MODE SELECTION (see the photo at right) and press the MODE button again.



Step 2

Step 3: Rotate the SIZE dial to choose the Color Select number (1-5) you wish to program. Press the MODE button and choose one of the following options:

- Rotate the SIZE dial to cycle through the color combination of your choice (1-14). To access color combinations 15-28, press the MODE button first, before rotating the SIZE dial again. (Please refer to the list on next page.)
- If you want to turn OFF the current COLOR SELECT (1-5) option, select OFF by turning the SIZE dial clockwise. If no change is desired, select PREVIOUS MENU by turning the SIZE dial counterclockwise.



Step 3b & Step 5

Step 4: Press and hold the MODE button (~ 5 seconds) to register the color combination you've programmed into the Color Select.

Step 5: When you're finished, rotate the SIZE dial all the way counterclockwise to PREVIOUS MENU and press the MODE button. Press MODE again when EXIT appears to finish programming.



Step 5



Using the procedure outlined on pages 14-15, the following 28 color combinations can be programmed into any of the 5 color select programs, based on your personal preferences.

Color Mode	Background Color	Text Color	Notes
#1	Black	Green	
<b>#2</b>	<b>Black</b>	<b>Yellow</b>	<b>*Default Color Select 3</b>
#3	Black	Red	
#4	Black	Blue	
#5	Black	Purple	
#6	Black	Orange	
#7	White	Green	
#8	White	Red	
#9	White	Purple	
#10	White	Blue	
#11	White	Orange	
#12	Yellow	Red	
#13	Green	Yellow	
#14	Yellow	Blue	
#15	Green	Black	
<b>#16</b>	<b>Yellow</b>	<b>Black</b>	<b>*Default Color Select 2</b>
#17	Red	Black	
#18	Blue	Black	
#19	Purple	Black	
#20	Orange	Black	
#21	Green	White	
#22	Red	White	
#23	Purple	White	
#24	Blue	White	
#25	Orange	White	
#26	Red	Yellow	
#27	Yellow	Green	
<b>#28</b>	<b>Blue</b>	<b>Yellow</b>	<b>*Default Color Select 1</b>

---

# CHANGING MAGNIFICATION

---



Figure 1

You can increase or decrease the size of the image by using the SIZE dial at the center of the control panel (see *Figure 1*).

There are 16 levels of magnification available on Merlin ultra.

- To increase the size of the image, turn the dial clockwise, or to the right.
- To decrease the size of the image, turn the dial counterclockwise, or to the left.

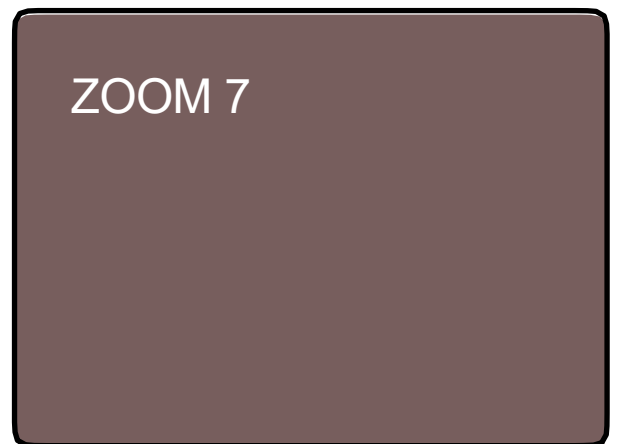


Figure 2

The size you selected will be displayed in the upper left corner of your monitor (see *Figure 2*).

---

# CHANGING BRIGHTNESS

---



Figure 1

You can increase or decrease the brightness of the image by using the brightness lever located underneath the right bottom of the control panel. (see *Figure 1*) The Merlin ultra will show the most natural image quality when brightness is set in the middle in normal color mode.

To increase the brightness, slide the lever to the right.

To decrease the brightness, slide the lever to the left.

An on-screen display will show the level of brightness.

**Note:** You can also increase or decrease the LED lighting brightness setting for your specific needs. (See page 22.)

---

## LIGHT SWITCH ON/OFF

---



Figure 1

Your Merlin ultra has a built-in LED lighting system for illuminating your reading material. When magnified images are displayed on your monitor, the built-in lighting system assists in providing a bright and clear image with true-to-life colors, ideal for most applications. From factory default, the LED lighting system will come on automatically when you turn on the power for your Merlin ultra. However, depending on ambient lighting conditions within the room (i.e., bright sunlight), it may be helpful to turn the built-in lighting OFF in order to provide the clearest possible image. This may help reduce glare when viewing certain “glossy” or reflective images such as color photos or magazines.

- To turn the light OFF, move the rocker switch to the left. The rocker switch is located underneath the lower left-hand side of the LCD monitor faceplate (see *Figure 1*).
- To turn the light ON (default setting), move the rocker switch to the right. The rocker switch is located underneath the lower left-hand side of the LCD monitor faceplate (see *Figure 1*).

---

# SYSTEM CONFIGURATION MENU

---

To enter the Merlin ultra System Configuration Menu:

Press and hold the MODE button (approximately 5 seconds) until the words “SYSTEM CONFIGURATION” appears on your LCD monitor.

Rotate the Size dial clockwise/counterclockwise to navigate through the Merlin ultra menu items. Press the Mode button once to select a menu item or to turn a setting ON or OFF.

Items that are ON are indicated by a filled box:



Items that are OFF are indicated by an empty box:



## **SCREEN MESSAGES**

Toggle the On-Screen Display Messages On/Off.

## **BLACK & WHITE**

Toggle the Black & White video mode On/Off.

## **COLOR MODE SELECTION**

Toggle all Color Select video modes On/Off.

## **COLOR MODE SELECTION**

Enters a sub-menu to configure up to 5 color select modes.

---

## **ZOOM RANGE**

2.4x to 73x on 24" monitor

2.2x to 67x on 22" monitor

1.97x to 61x on 20" monitor

\*Zoom Ranges are subject to change

*Steps 1-12 use optical zoom. Steps 13-16 use digital zoom.*

*Recommended option for best image quality.*

## **Light Intensity/LED'S**

Rotate the Size dial clockwise/counterclockwise to navigate to the desired LED brightness. Press the Mode button once to set. Rotate the Size dial counterclockwise to 'Exit' and press the Mode button to exit.

## **Light Switch Configuration**

Merlin Ultra has a customizable light switch that can be configured with several different product functions. By default, this switch is lights on or off. However, depending on user preference, the switch can be easily changed to a different and unique function.

When entering the menu by pressing and holding the "Mode" button, simply turn the zoom wheel until you see the option "Control Switch" then press the "Mode" button. From here the user has the option to select (with a check mark).

## **Intelligent Focus Lock**

The focus lock feature will prevent the camera from hunting for ideal focus and will allow you to maintain consistency in your focus regardless of how you move your target material. If you change magnification sizes Focus Lock will automatically refocus on the desired object or page.

## **Freeze**

Freeze allows the image to remain "frozen" on the screen so you have extended time to view the image. This is particularly helpful when taking notes in a classroom.

## **Locate**

The locate feature can help you quickly locate something you're looking for on a page, or a specific part of an object you want to view more closely. It quickly zooms to minimum magnification and then back to your previous setting.

---

## FEATURES MENU

To enter the Merlin ultra Features Menu:

1. Turn the Merlin ultra ON.
2. Rotate the Size dial to Level 4 then hit Mode once.
3. Rotate the Size dial to Level 3 then hit Mode once.
4. Rotate the Size dial to Level 2 then hit Mode once.
5. Rotate the Size dial to Level 1 then hit Mode once.

The Merlin ultra will display “Features Menu”.

Press the Mode button once to select a menu item or to turn a setting ON or OFF.

### Languages

The Merlin ultra can be set to 12 different languages. English, French, German, Italian, Spanish, Japanese, Swedish, Danish, Norwegian, Finnish, Polish, and Dutch.

### Product Information

The PRODUCT INFORMATION menu item, when selected, will display the unit configuration and the unit Serial Number.

### 50/60 Hz

Allows user to toggle the Merlin ultra operating electrical frequency between 50 and 60Hz to eliminate image flicker.

---

# USING X-Y TABLE

---

## Locking the X-Y Table

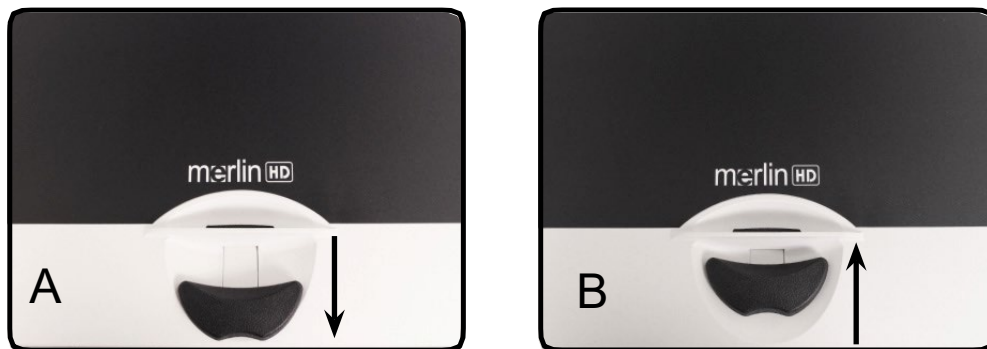
To lock the X-Y table, pull the lever all the way to the front position until it locks (A). Unlock the X-Y table by pushing the lever to the back position (B).

## Using the Locking Lever:

Placing the locking lever in the 'locked' position is primarily used when you want to move or transport the Merlin ultra to a new location.

Placing the locking lever in the 'unlocked' position allows for full movement of the X-Y table for activities such as reading.

Placing the locking lever between 'locked' and 'unlocked' (Intermediate lock) can be used for tasks such as writing, hobbies, etc...



## Reading With the X-Y Table

1. With the X-Y table unlocked, place a book, newspaper, etc., on the table.
2. Use the magnification dial to enlarge the image to a comfortable viewing size.
3. Glide the X-Y table to the left, which will make the words flow across the screen for reading.
4. When you have reached the end of a line, glide the table back to the beginning of the line.
5. Move the table away from you slightly to display the start of the next line.
6. Repeat steps 4, 5 and 6 to continue reading.



---

## TIPS FOR READING AND WRITING

---

### **Reading with Merlin ultra**

- New users of video magnifier systems tend to over- magnify their reading material. Make the type large enough to see it comfortably, but not so large that it becomes tedious to scan across a page.
- Use the X-Y table to move reading materials under the camera, rather than moving the material manually, except small items such as a checkbook or a business card.
- New users should use two hands when moving the X-Y table for reading, until they become comfortable using one hand.

### **Writing with Merlin ultra**

- Beginners should start at smaller magnification sizes, and then increase magnification as they become more comfortable using Merlin ultra for writing.
- The smaller the magnification size, the bigger you tend to write. The higher the magnification size, the smaller you'll write.
- Use a pen that makes a bold line, such as a heavy point pen, a felt-tip marker or a fine point marker, for easier visibility.
- It might be helpful to use lined paper to more easily find and keep your place.
- It might be easier to keep your place if you write a few words at a time, then move the X-Y table and write again, rather than moving continually as you write.
- Write in either color, black-and-white or positive viewing modes.

---

## Using Optional Ultra Pack

---

If an Ultra Pack is purchased, the Merlin ultra can display and adjust Line Markers and Window Markers. Additionally, it can toggle the display between the Merlin ultra and HDMI enabled

### **Installing the Ultra Pack**

- Plug the coiled cable into the Ultra Pack and the other end into back of the Merlin ultra which is labeled Ultra Pack.

### **Using the Ultra Pack**

#### **Line Marker**

- The Line Marker option can help guide you when reading a line of text on a document by providing horizontal lines.
- Press the button labeled LINES once to turn the Horizontal Line markers on.
- Pressing the button labeled LINES again will turn the Vertical Line markers on.
- Pressing the button again will turn the Line Markers off.

#### **Window Marker**

- The Window Marker option can help guide you when reading a paragraph of text on a document by blocking a portion of the screen.
- Press the button labeled WINDOW once to turn the Horizontal Window Markers on.
- Pressing the button labeled WINDOW again will turn the vertical window markers on.
- Pressing the button again will turn the Window Markers off.

---

## Using Optional Ultra Pack

---

### **Adjusting Markers**

To adjust the line Horizontal Markers downwards or the Vertical Markers to the left, turn the knob on the Ultra Pack labeled **POSITION** counterclockwise

To adjust the line Horizontal Markers upwards or the Vertical Markers to the right, turn the knob on the Ultra Pack labeled **POSITION** clockwise.

To increase the distance between the markers, turn the knob labeled **WIDTH** clockwise. To decrease, turn the dial counterclockwise.

### **Options/Toggle**

Pressing the options/toggle button on the Ultra Pack allows you to toggle between the Merlin ultra and an HDMI video source. This also enables the Computer Pass-through Feature.

---

## Using Computer Pass-Through

---

The Merlin Ultra can also be used as a Computer Monitor with the Computer Pass-through feature. This gives you the ability to swap back and forth between CCTV and your Computer Monitor by following the below instructions. (*HDMI Connection required*)

**Note:** *Turning off your Merlin ultra while connected to HDMI allows the video to pass through without user interaction.*

- You can change between the Merlin Ultra camera and your Computer with the optional Ultra Pack or Foot Pedal accessory (Sold Separately).
- Ensure that your Foot Pedal or Ultra Pack is attached to the rear port labeled “Foot Switch” for Pedal (Shown in *Figure 1* with a black arrow) or “Control Box” for Ultra Pack (Shown in *Figure 1* with a grey arrow).

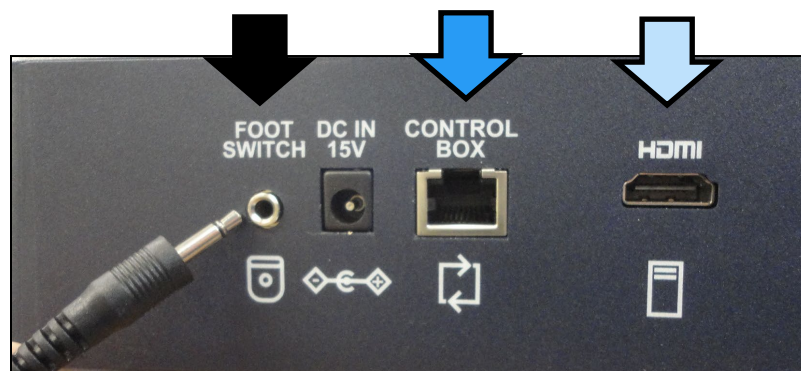


Figure 1

- Also connect your PC Via HDMI to the Rear of Merlin ultra whose location is indicated in *Figure 1* with a white arrow.
- When you have made the connections, you should depress the Foot Pedal DOWN or Press “Option or toggle” to engage Pass-Through. This should engage the HDMI from your computer and it will display on Merlin ultra.
- Press the Foot Pedal DOWN or Press “Option” again to return to the Merlin ultra Live CCTV Camera.

---

# TROUBLESHOOTING

---

## 1. No Power to Merlin ultra

- Push the Power button on Merlin ultra's control panel. A light next to the Power button should illuminate, indicating the power is turned on.
- Make sure the power supply cord is completely plugged into the AC outlet.
- Make sure the two parts of the power supply cord are securely connected.
- Make sure the power supply cord is completely plugged into the DC 15V IN jack on the back of the viewing stand base.
- Check the power strip/surge protectors on/off switch and circuit breaker if Merlin ultra is plugged into one.

## 2. Blurred or Out-of-Focus Image

- Clean the protective glass covering the camera with the non-abrasive lens cleaning cloth provided with your Merlin ultra.
- Clean the monitor screen with a non-abrasive cloth sprayed with a glass cleaning solution.
- Turn the Auto Focus ON or OFF to adjust the specific type of focus needed. Please see page 22 for more details about focus lock.
- Make sure the target material is steady on the tray. It might take a few moments for the camera to achieve perfect focus after motion has stopped. This is normal.

If you have any questions or require technical assistance with your product, please call (800) 440-9476, ext. 2 Monday – Friday, from 8 a.m. to 5 p.m. PST(UTC-8).

---

### 3. X-Y Table Does Not Move Smoothly

Make sure the locking lever is positioned completely to the left.

### 4. X-Y Table Does Not Stay in Locked Position

Make sure the locking lever is all the way to the right and that the handle pops up into the locking slot.

### 5. Replacement LED lamps

Your Merlin ultra comes equipped with two 100,000-hour LED lamps designed to provide years of trouble-free service. However, in the unlikely event that the LEDs need replacement, contact your place of purchase or Enhanced Vision at (800)440-9476 for instructions or assistance on replacing the LEDs.

### 6. Managing HDMI Computer Pass-Through Display

- How the HDMI Computer pass-through functions when connected is dependent on your PC graphics settings. Identify if you are using this as an Extended or Duplicated Display.
- You can change between these options by opening “Screen Resolution,” which is accessed by clicking the Start Button and then entering the system Control Panel.
- Under “Appearance and Personalization,” click the “Adjust screen resolution.” You can change between “Extend these displays” or “Duplicate these displays.”

**Note:** *The range of available resolutions and how they appear is dependent on the model of Merlin ultra you are using and your PC.*

- See the specifications on page 31 for the maximum supported resolution on your Merlin ultra.

---

# SPECIFICATIONS

---

## **General:**

LCD 20", 22" or 24"

Dimensions: 24"H (maximum) x 20"W x 20"D

(61cm x 51cm x 51cm)

Operating temperature range: 50-104°F / 10-40°C

Storage temperature range: 32-122°F / 0-50°C

## **Monitor:**

Resolution: 1280 x 720 (20" model)

Resolution: 1920 x 1080 (22" model)

Resolution: 1920 x 1080 (24" model)

Controls: Light Switch ON/OFF, Brightness, Magnification, Mode, Power and Focus Lock.

## **Magnification:**

1.97x to 61x on 20" monitor

**\*Zoom range for 20" monitor is based on a 16:9 aspect ratio**

2.2x to 67x on 22" monitor

**\*Zoom range for 22" monitor is based on a 16:9 aspect ratio**

2.4x to 73x on 24" monitor

**\*Zoom range for 24" monitor is based on a 16:9 aspect ratio**

***Note:** Zoom ranges subject to change.*

---

**Power Supply:**

110V-240 VAC 50-60HZ

15VDC 1.5A

**Equipment Classification (IEC 601-1):**

Type of Protection: Class 1

Degree of Protection: Type B

Mode of Operation: Continuous

**Color Modes:**

- 4 Default Modes (True Color, Black & White, Enhanced Positive, Enhanced Negative)
- 5 Color Select Modes
  - 3 Default Modes: (Yellow on Blue, Black on Yellow, Yellow on Black)
  - 5 Programmable\* Modes

\* Up to 28 Color Select Mode Combinations are available

**XY Table:**

XY table size: 16" (406 mm) x 16 1/4" (413 mm), 3/8" retaining edge

Working space height: 7 3/8" (187mm)

Table height clearance: 1 3/8" (35mm)

**Video output Resolution on LCD:**

SMPTE 296M – HD 720p 60/50

SMPTE 292M – HD 1080P 60/50

**Accessories:**

Power Supply & "Y" Power Cord

Owner's Manual & Quick Start Guide

Warranty Card

**Warranty:**

3 Years, Parts and Labor



---

## OTHER PRODUCTS FROM ENHANCED VISION

---



### Pebble HD

Pebble HD boasts a new HD camera providing a crisp, clear, colorful, high definition picture. A new ergonomic lightweight compact design makes it the perfect companion whether at home or on the go. Carry Pebble HD in your purse, pocket, or clip it on your belt with the included carrying case.

Magnification 1.25x to 13.5x



### Acrobat HD Ultra

Acrobat HD ultra LCD is a complete system featuring a Full HD 3-in-1 camera with a 20", 22", 24", or 27" high resolution LCD producing maximum picture detail for clear, vivid color display. The adjustable arm, tilting screen, and rotating capability allows the camera to be positioned at any angle for optimal viewing. A built-in handle allows for easy transport.

Magnification: 1.8X to 70.9X



### Jordy

Jordy is a battery-operated, full-color portable system that can be worn like a pair of glasses to see near, far and everything in between. Jordy becomes a fully functioning HD desktop video magnifier when placed on its optional 24" monitor docking stand.



---

## OTHER PRODUCTS FROM ENHANCED VISION

---

### Transformer HD



Transformer HD with Built-in Wi-Fi is a high-performance portable video magnifier (CCTV), featuring a Full HD 1080p 3-in-1 camera for reading, writing, and viewing magnified images at any distance. Wi-Fi capable and optional Full-Page Text-to-Speech (OCR) makes it a perfect solution for school, work or home



---

### Amigo HD



Amigo HD is a truly portable desktop magnifier. Optimal viewing is achieved with a tilting 7-inch viewing screen. Amigo HD provides 1.4x to 14x digital magnification and the lightest weight in its class. Amigo HD has an integrated battery and can be taken anywhere.

Magnification: 1.4x – 14x  
(With extended zoom up to 25x)



---

### DaVinci Pro



DaVinci Pro is a high-performance desktop video magnifier (CCTV), featuring Full HD, text-to-speech (OCR) and a 3-in-1 camera. With HD you will experience high definition color and contrast giving you a beautiful, crystal clear picture and vibrant colors. Experience the joy of reading with our new text- to-speech feature. DaVinci Pro will read any printed text aloud with the push of a button.

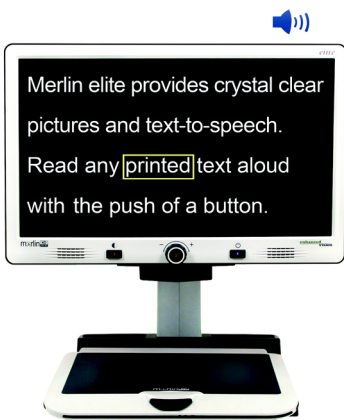
Magnification: 24" LCD: 2X (min.) - to 80X (max.)



---

## Merlin elite Pro

### See and hear the difference!



Merlin elite Pro is a high-performance desktop video magnifier (CCTV), featuring Full HD and Full-Page text-to-speech (OCR). High definition color and contrast provides a beautiful, crystal clear picture and vibrant colors. Merlin elite's unique design allows for a wide field of view, displaying more text on the screen.

Magnification: 2.4x - 70x



---

## Smart Reader



A Full-Page reader that makes reading enjoyable again! Easy-to-use, Smart Reader boasts a lightweight portable sleek design with a user-friendly console. Position your document and press a button, in seconds Smart Reader begins reading aloud. Connect Smart Reader to a T V or monitor and enlarge your captured image to follow along as it reads. Perfect for work, home, school, vacation and on the go.



---

## Acrobat HD-mini ultra



See near, far and everything in between with Acrobat HD-mini ultra. Full high definition allows you to experience vivid colors and contrast, giving you a crystal-clear picture and vibrant display. Its small footprint and lightweight design provide true portability from the classroom to home and work. A generous 13.3" display offers a large field of view, allowing you to see more on the screen. Easy to set up and ready to use.



---

## CONTACT INFORMATION

---

Enhanced Vision manufactures many different types of products tailored to meet the needs of our low vision customers. If you have questions about any of our products, please don't hesitate to give us a call.

### **Contact Information:**

**(US Office) Phone:** (714) 465-3400 **Fax:** (714) 374-1821

**(UK Office) Phone:** +44 (0)115 9442317 **Fax:** +44 (0) 115 9440720

**(DE Office) Phone:** +49 (0) 6078 969827-0 **Fax:** +49 (0) 6078 969827-33

[www.enhancedvision.com](http://www.enhancedvision.com)

### **Technical Support:**

Main Toll Free (800) 440-9476 ext. 2

Local Phone: (714) 465-3400 ext. 2

E-mail: [evsupport@enhancedvision.com](mailto:evsupport@enhancedvision.com)

Website: [Enhanced Vision Support](#)

---

## WARRANTY STATEMENT

---

### **Enhanced Vision Merlin ultra Video Magnifier Warranty Policy**

Enhanced Vision products are designed to give you the highest quality image, convenient features, ease of use and reliable service. **Merlin ultra has been inspected and tested prior to shipping.** Our company stands behind the quality materials, components and workmanship of the Merlin ultra video magnifier.

For these reasons we are pleased to offer two warranty options. These options are available when the purchaser completes the warranty registration form.

#### **Three-year warranty for the Merlin ultra base and the monitor.**

**This option can be selected on the warranty registration form by the agencies, states, groups, multi-users, product demonstration sites and the individual purchasers.** Enhanced Vision warrants Merlin ultra against defects in materials and workmanship under normal use for three years from the date of original purchase. Enhanced Vision, at its option, will at no charge either repair the product or replace it during the warranty period.

#### **Restrictions**

All product purchases need to be registered with Enhanced Vision. Registering Merlin ultra confirms the right to maximum protection and service of the product warranty. If no selection is made on the warranty form or payment is missing, the individual purchaser will default to the three-year warranty.

The lifetime warranty is non-transferable and does not apply to groups, multi-users, companies or agencies. It has been designed for end-consumer / individual purchaser. Agencies, states, group homes, classrooms and demo site units will receive Enhanced Vision standard 3-year product warranty detailed above. Enhanced Vision also reserves the right to repair or replace any purchasers Merlin ultra with a similar or better product.

If the end-consumer / original individual resells the Merlin ultra within 3 years of the original purchase date and the product is resold by a recognized manufacturer representative, the Merlin ultra warranty will default to the balance of what remains of the standard 3-year warranty (from original purchase date). The lifetime warranty would be void.

#### **Consider the example below:**

After one year, Mary Smith's vision deteriorates past using the Merlin ultra to assist her. She resells the Merlin ultra to a recognized Enhanced Vision manufacturer representative, and he/she then sells the Merlin ultra to Anne Clark. Anne Clark will receive a two-year warranty with the Merlin ultra (the amount left on a standard three-year warranty).

Anne will need to complete and submit a warranty registration form, marking the box that she is a "converted original owner" and provide the serial number for the product.

---

**The 3-year product warranty does not cover the following:**

1. Defects or damage from misuse, use in other than suggested manner, accident or neglect.
2. Defects or damage from improper operation, maintenance, installation, adjustment, alterations or modification.
3. Defects from spills of food or liquid.
4. All plastic surfaces and all other externally exposed parts that are scratched or damaged due to normal use.
5. Damage due to operating Merlin ultra with equipment not supplied by Enhanced Vision.
6. Light bulbs that are not covered under warranty.
7. The Merlin ultra monitor is not included in the lifetime warranty and it is covered for three years.

**THERE ARE NO OTHER EXPRESSED OR IMPLIED WARRANTIES ACCOMPANYING THIS PRODUCT.**

**Service Process**

We don't expect that you will need to have repairs on the Merlin ultra but if you do, you will need to send the unit to our warranty service center.

If warranty service is required, please call Technical Support at +001 714-465-3400 extension 2 Monday through Friday, from 8 a.m. to 5 p.m. Pacific Standard Time (UTC-8). for a return authorization number. Warranty repairs are not accepted without a return authorization number.

You may wish to keep your original packaging in case warranty service is required. Proof of purchase must be provided, bearing date of purchase, in order to receive warranty service. Purchaser is responsible and shall pay for shipment of products to Enhanced Vision for repair. Enhanced Vision is responsible and shall pay for return shipment of repaired products back to purchaser. Enhanced Vision reserves the right to use reconditioned and/or serviceable used parts for warranty repairs.

Anyone using this product knowingly assumes certain risks, due to the need to utilize vision enhancement devices.

**Thank you for making Enhanced Vision and Merlin ultra your choice for better vision.**

# NOTES

---

A series of horizontal dashed lines for writing notes.

# **enhanced vision**

The Merlin ultra video magnifier is designed to enlarge and enhance images to improve the lives of people who have low vision. The extent to which Merlin ultra can improve the ability to see images and text depends on a person's individual condition and level of visual impairment. Merlin ultra is not designed to restore vision, correct eye conditions or halt degenerative vision loss. An eye-care professional can best determine the suitability of Merlin ultra for a patient's specific condition. For more information, please visit [www.enhancedvision.com](http://www.enhancedvision.com).

**[www.enhancedvision.com](http://www.enhancedvision.com)**  
**(800) 440-9476 (US Office, toll free)**  
**(714) 465-3400 (US Office)**  
**+44 (0) 115 9442317 (UK Office)**  
**Tel. + 49 (0) 6078 969827- 0 (DE Office)**  
**Fax + 49 (0) 6078 969827- 33 (DE Office)**

Part # MAN-0507-00 X8  
July 2020

*Copyright © 2020 by Enhanced Vision. All rights reserved.  
Product specifications subject to change without prior notice.*