enhanced vision

merlin LCD™

Users Manual

Congratulations on your purchase of Merlin LCD from Enhanced Vision. Merlin LCD 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 LCD can provide the user with the ultimate flexibility in the positioning of the screen.

Merlin LCD 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 LCD 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. The auto focus feature on Merlin LCD makes it simple to use and allows optimum convenience for most daily activities. If desired, the integrated monitor of the Merlin LCD can be shared with your PC, saving valuable desk space.

Please read this booklet and familiarize yourself with Merlin LCD features and operation before using this system. Your Merlin LCD is ready to use right out of the box. By reviewing Merlin LCD features and controls before using it 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 LCD.

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 in order 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.

TABLE OF CONTENTS

SAFETY AND CARE

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

Merlin LCD 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 LCD can improve the ability to see images depends on a person's individual condition and level of visual impairment.

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

Precautions for Use

- Follow all warnings, cautions, and instructions marked on the product.
- Use the Merlin LCD on a stable, level surface such as a solid desk or table, according to its intended design specifications.
- Avoid placing the unit 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 LCD indoors only – it should NOT be exposed to extreme or rapid changes in temperature or humidity. Do not place the Merlin LCD 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 LCD 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 or required.
- Do not use the Merlin LCD 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 LCD in, near or around water. The Merlin LCD is not designed to offer protection against contact with liquids of any kind.

- Use only the power supply provided with your Merlin LCD. Using unauthorized power supplies may cause serious damage to Merlin LCD's electronic components.

- 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 LCD, do not make any other type of connections to the input jacks other than those indicated in the photos below.

⚠ **CAUTION**
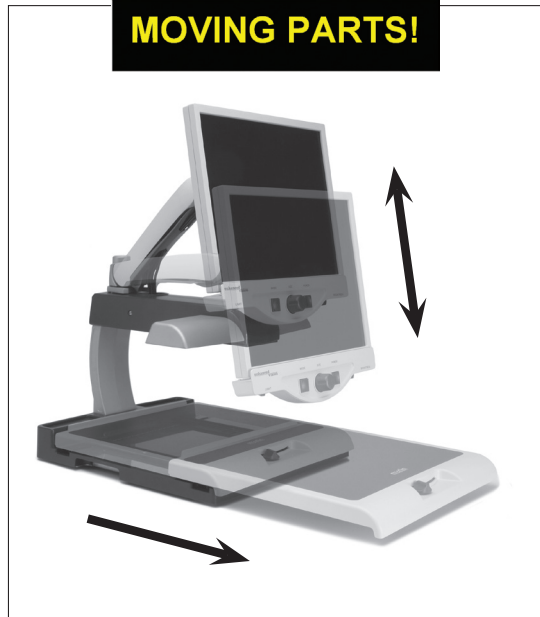**SPECIFIED INPUT CONNECTIONS ONLY!**
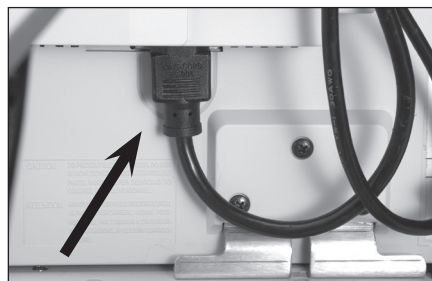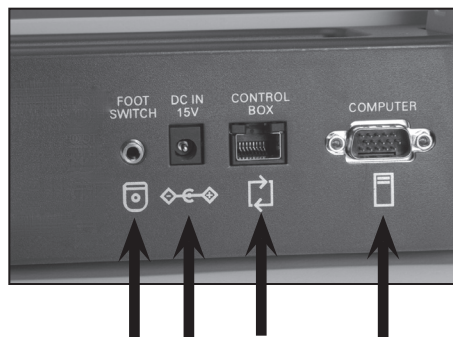
Additional Mechanical Safety Precautions

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

⚠ CAUTION
MOVING PARTS!

To Move Merlin LCD to Another Location

- If you are repositioning Merlin LCD 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 Merlin LCD 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 LCD

- Always turn the power OFF for the Merlin LCD and the monitor when the system is not in use.

- Always turn the power OFF before cleaning Merlin LCD.

- The protective glass covering the camera can be cleaned as needed with the lens cloth provided within the packaging.

Susceptibility to Interference:

- There may be temporary degradation of the image when the Merlin LCD is subjected to a strong radio frequency field, electro-static discharge or transient electrical noise. An electro-static discharge (caused by static electricity) may cause the screen to go black. If this happens, switch the unit off and on again.

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.

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

MERLIN LCD AT A GLANCE

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

1. Merlin LCD
2. LCD monitor arm
3. LCD Monitor (19", 22" or 24")
4. Power button
5. Size (Magnification) dial
6. Viewing Mode button
7. X-Y table
8. X-Y table locking lever
9. Light ON/OFF Switch
10. LCD Brightness Control Level
11. Recessed handles for carrying Merlin LCD
12. Merlin LCD 15V power supply transformer
13. Merlin Base & LCD Monitor "Y" Power Cord

Optional Accessories *(sold separately)***:**

14. Feature Kit Control Box *(optional)*
15. Extension VGA Cable *(optional)*
16. Foot Switch Pedal *(optional)*
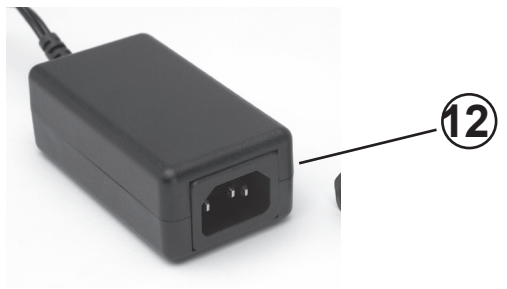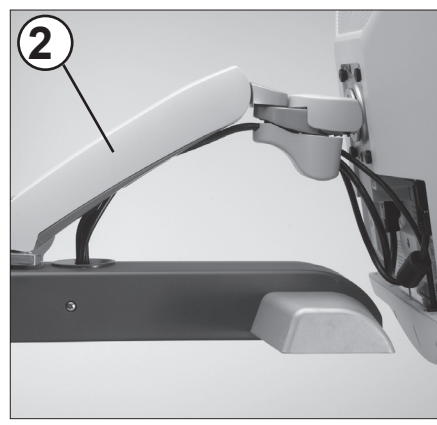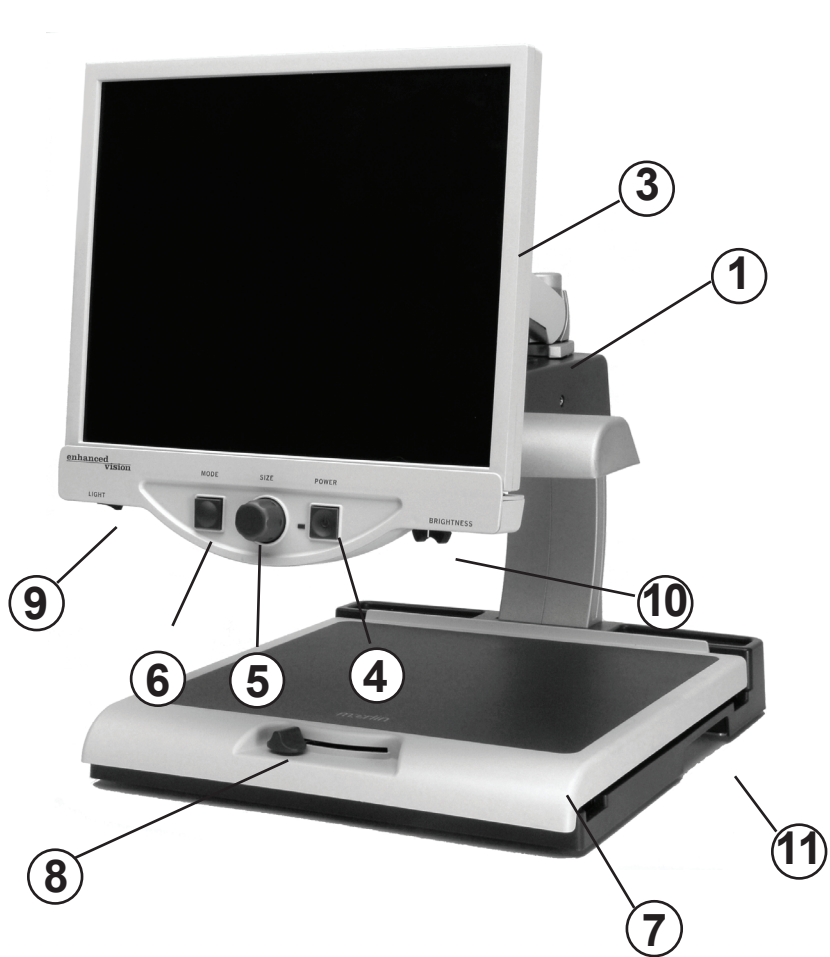
Optional Accessories:
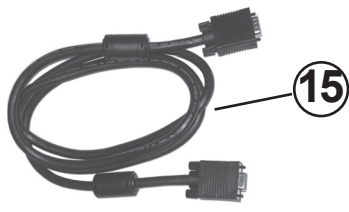
SETTING UP MERLIN LCD
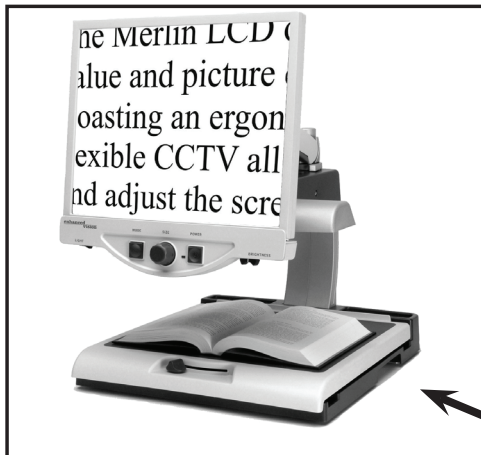
Figure 1

1. Find a steady and level location, such as a table or desk, where you will be comfortable using Merlin LCD. Carry the unit 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).
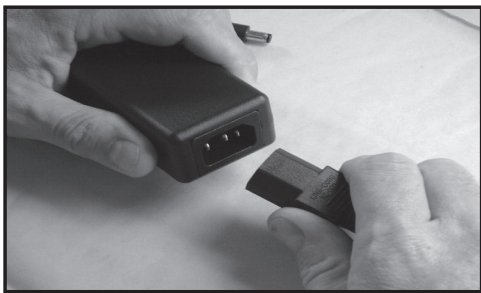
Figure 2

2. Connect the short end of the "Y" power cord to the Merlin LCD Power Supply Transformer (see Figure 2 and items #12 & #13 on page 9).
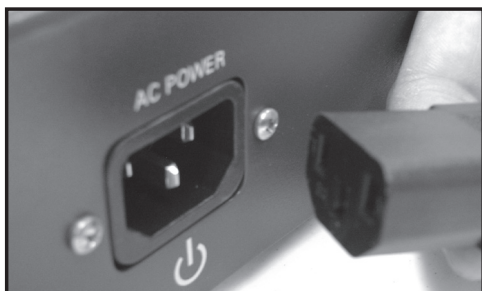
Figure 3

3. Connect the long end of the "Y" power cord to the monitor power input on the rear of the Merlin LCD as shown (see Figure 3).

Figure 4

4. Connect the power lead from the transformer to the Merlin LCD Power input on the rear of the unit as shown (see Figure 4). Finally, connect the AC power plug to an available wall outlet.

TURNING ON MERLIN LCD

#2   **#1**
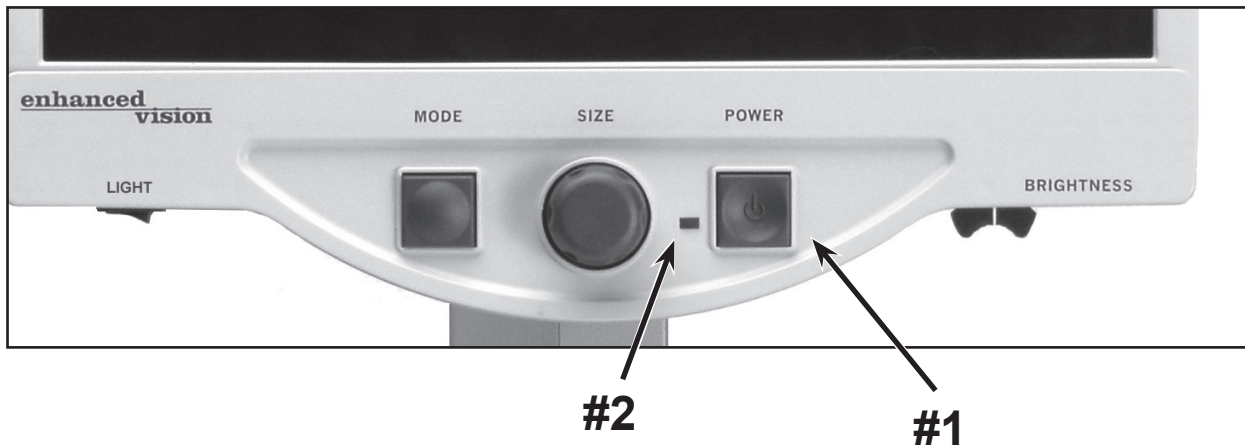
Merlin LCD Power Button

The Power button on your Merlin LCD 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 10 for details).

NOTE: If your Merlin LCD is plugged into a power strip/surge protector (recommended), make sure its power switch is turned on before attempting to turn on Merlin LCD. 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 LCD.

CHANGING VIEWING MODES
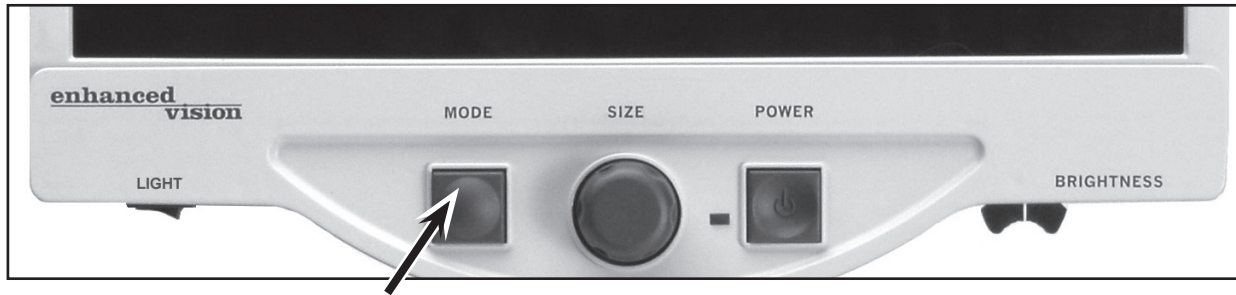
You can choose a viewing option by pressing the MODE button on the control panel. Each press will cycle through all 7 viewing options.

The available viewing options are:

• Full Color Image

• Black and White Image

• Enhanced Positive Image

• Enhanced Negative Image

• Color Select 1

• Color Select 2

• Color Select 3

**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 LCD is first turned on, it displays the image in full color.

Black and White Image

Based on your 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

This mode provides a blue background with yellow text. This is one of the most commonly used color combinations.

Same as Color Mode combination #28 (see page 16)

Color Select 2

This mode provides a yellow background with black text.

Same as Color Mode combination #16 (see page 16)

Color Select 3

This mode provides a black background with yellow text.

Same as Color Mode combination #2 (see page 16)

USING COLOR SELECT

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

This combination of text and background colors comprises a color select mode. The Merlin LCD 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
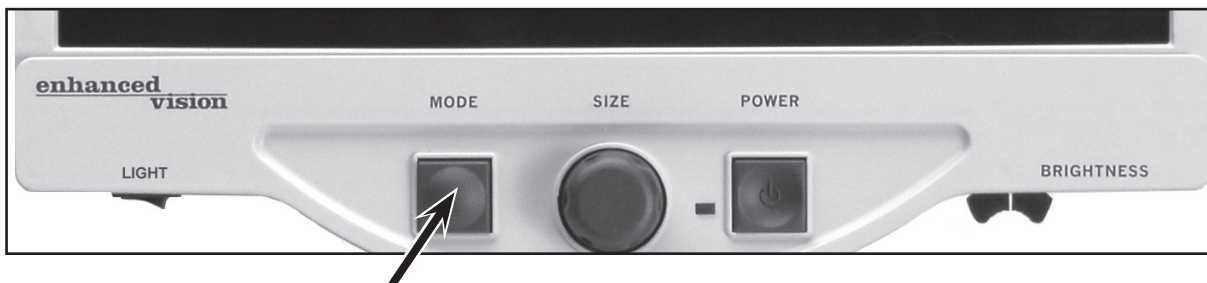
With Merlin LCD turned ON, place a piece of reading material on the X-Y table so that it appears on your monitor at a magnification size that is comfortable for viewing. Follow these steps to program any of the 5 color select modes:

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

ENTERING SETUP

Step 1

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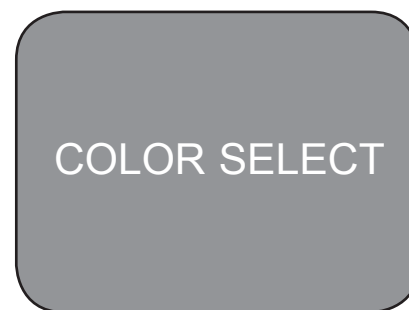
COLOR SELECT

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:
a) 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)
b) OR, 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 counter-clockwise.
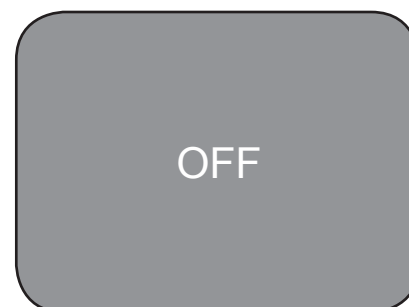
OFF

PREVIOUS MENU

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 counter-clockwise to PREVIOUS MENU and press the MODE button. Finally, rotate the SIZE dial all the way counter-clockwise to EXIT and press the MODE button to finish programming.

EXIT

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	
#2	**Black**	**Yellow**	***Default Color Select 3**
#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	
#16	**Yellow**	**Black**	***Default Color Select 2**
#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	
#28	**Blue**	**Yellow**	***Default Color Select 1**

CHANGING MAGNIFICATION

Figure 1

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

There are sixteen levels of magnification available on Merlin LCD.

- 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.

The size you selected will be displayed in the upper left corner of your monitor

(see Figure 2).

SIZE-7

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).

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

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

Up to 12 levels of brightness are available, ranging from 100% (full brightness) to 55% brightness reduction when using color select modes. When using Enhanced or Color Select modes, the range of brightness will be reduced to prevent the images from becoming too dark.

USING THE X-Y TABLE

Locking the X-Y Table

To lock the X-Y table, slide the lever all the way to the right until it clicks and locks (A). Unlock the X-Y table by sliding the lever to the right again and release the lever (B).

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 LCD

- New users of video magnifier systems have a tendency 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 LCD

- Beginners should start at smaller magnification sizes, and then increase magnification as they become more comfortable using Merlin LCD 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.

- Depending on ambient lighting conditions within the room, it may be helpful to turn the built-in light On/Off (see item #9 on page 8).

PROGRAMING SETUP OPTIONS

#2   **#1**
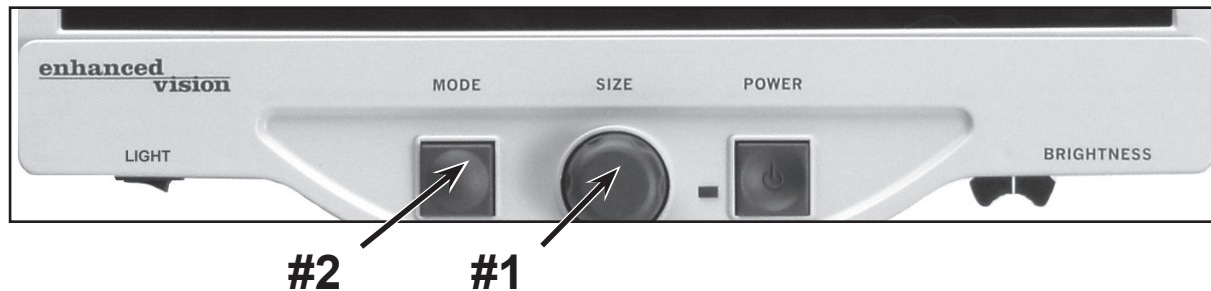
The Merlin LCD can be programmed in its set-up mode. This allows you to customize your experience when using the Merlin LCD. There are 5 options you can select within the programming set-up mode:

- Exit
- Screen Messages (On/Off)
- Black & White Mode (On/Off).
- Color Select (On/Off)
- Color Select (28 programmable color combinations, see page 16)

Entering Programming Setup:

1. Rotate the SIZE dial (#1 above) all the way counter-clockwise, to the lowest size. This will ensure that you start at the beginning of the menu options when you enter programming set-up.

2. Press and hold the MODE button (#2) for approximately 5 seconds or until "ENTERING SET-UP" is shown on the display, Momentarily, the screen will fade to black and the word "EXIT" will appear on screen.

3. Rotate the SIZE dial (#1) to the right to select each of the five different set-up options.

4. Press the MODE button (#2) to activate or deactivate each programming option.

5. Rotate the SIZE dial (#1) to make changes to the desired option.
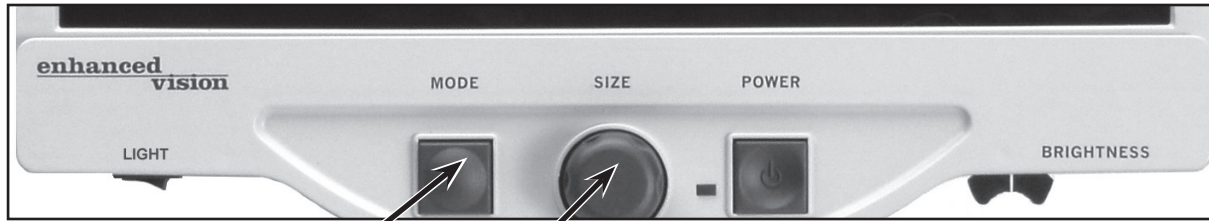
#2   **#1**

Exit: After making changes to the programming options listed below:

1) Rotate the SIZE dial (#1 above) all the way counter-clockwise until "EXIT" appears on the display.
2) Press the MODE button (#2 above) to exit and return to normal operation.

EXIT
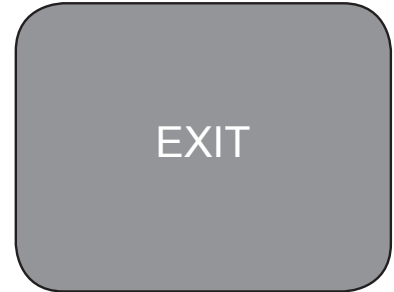
Screen Messages (On/Off): If Screen Messages are set to OFF, the Merlin LCD will not display magnification sizes or viewing modes. From factory default, Screen Messages are set to "ON"

Black & White Mode (On/Off): If Black & White Mode is set to OFF, the Merlin LCD will skip the availability of the Black & White Color Modes. From factory default, Black & White Mode is set to "ON"

Color Select (On/Off): If Color Select is set to OFF, the Merlin LCD will skip the availability of the Color Select Modes. From factory default, Color Select Mode is set to "ON"

Color Select: If this option is selected, up to 5 different color select modes can be programmed, from a choice of 28 different color combinations (see pages 14-16)

RSVD: In the interest of continuous product improvement, these options are reserved by the manufacturer for future programming and cannot be modified at this time.

SETTING UP WITH YOUR COMPUTER

The Merlin LCD allows computer connectivity using an optional VGA extension cable* *(see Figure 1)*. This allows your Merlin LCD display to be used for either the computer display or magnified, camera-based images.

Figure 1

The optional footswitch* allows you to easily toggle between either Merlin or computer viewing mode *(see Figure 2).*

optional accessories sold separately

Figure 2

NOTE: Be sure to complete the initial setup on page 10 prior to following the computer setup instructions below.

1. Connect the optional Foot Switch cable into the jack labeled "Foot Switch" on the back of Merlin LCD *(see Figure 3, #1)*.

Figure 3

2. Connect the female end of the optional VGA extension cable into the port labeled "COMPUTER" on the back of your Merlin LCD *(see Figure 3, #2).*

3. Connect the male end of the optional VGA Extension Cable into the VGA port of your computer. This is usually where you would connect your external VGA monitor to your computer *(see Figure 4)*.
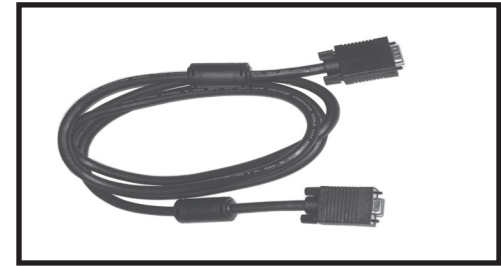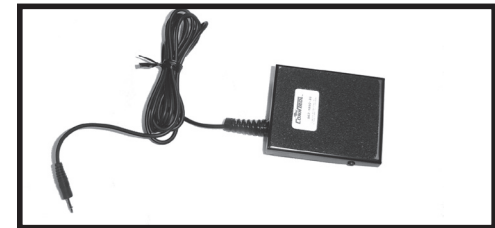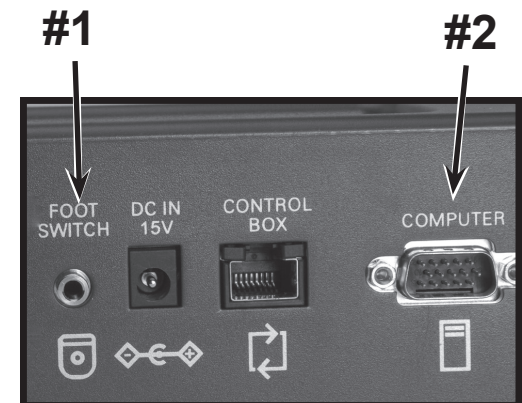
Figure 4

USING A COMPUTER WITH MERLIN LCD

Using a Computer with Merlin LCD turned OFF

Once properly connected as shown page 23, the computer's display signal will automatically flow through the Merlin LCD, even with the power turned OFF. There is no need to disconnect any cables.

Switching between Merlin LCD and a Computer

Once you have completed the set-up on pages 10 & 23 and turned on both the Merlin LCD and your computer, press down on the optional footswitch to toggle between computer viewing and the Merlin LCD. Alternately, you may simply use the power switch on the front of your Merlin for this purpose. When the Merlin power is turned off, the LCD will remain active and the computer signal will be displayed on the LCD screen.

Special Technical Notes when using a Computer

- For optimal results, please set your computer's display resolution to 1024x768 with a screen refresh rate of 60Hz. Adjustments to these settings are usually found within the operating system's "Display Properties" section of your graphics card. Please consult the documentation included with your PC for more information. Increasing the resolution beyond 1024x768 or using a refresh rate more than 60Hz may prevent the computer signal from being displayed properly on the Merlin LCD.

- Merlin LCD is compatible with both PC-based (Windows*) and Macintosh* (OSX) systems. The Merlin LCD does not distinguish between operating systems. The only requirement is that your PC is able to output an analog style VGA signal (D-sub 15 pin) as opposed to a digital signal (DVI). Computers equipped only with a DVI output will require a third-party DVI to VGA adaptor in order to be used with Merlin LCD.

- The Merlin LCD can be used in conjunction with optional third party computer magnification software. For optimal results, please temporarily disable these types of software (i.e. ZoomText$^{®}$, JAWS$^{®}$, BigShot$^{®}$ etc) while establishing the initial connection between the Merlin LCD and your computer. Once successful PC connectivity is established, please enable the software once again.

- When using a laptop/notebook style computer, be sure to enable your computer's VGA output port <u>after</u> connecting to the Merlin LCD computer input. This is accomplished on most laptop computers by using a function key combination [FN + F6, F7 or F8]. Please consult the documentation included with your PC for more information.

PROGRAMING REFERENCE

The Merlin LCD has advanced capabilities for modifying the default language used within the setup menus as well as advanced color select and screen message customization. Changes to these settings are completely optional and should not be modified under normal circumstances. The chart listed below is listed for reference purposes only. Please see your Enhanced Vision representative or call our toll-free technical support should it be necessary for you to modify these settings.

Merlin LCD Programming Reference (languages)

Secret 4321 code to enter menu:
Size 4, then Hit Mode
Size 3, then Hit Mode
Size 2, then Hit Mode
Size 1, then Hit Mode

1st MENU LEVEL

FEATURES MENU
Displayed for 2 seconds
then goes to level 2 menu

2nd MENU LEVEL
LANGUAGES

EXIT

Size + or / Size - to navigate — Press MODE to Select

ENGLISH

Size + or / Size - to navigate — Press MODE to Select

FRENCH

Size + or / Size - to navigate — Press MODE to Select

GERMAN

Size + or / Size - to navigate — Press MODE to Select

ITALIAN

Size + or / Size - to navigate — Press MODE to Select

SPANISH

Size + or / Size - to navigate — Press MODE to Select

JAPANESE

Size + or / Size - to navigate — Press MODE to Select

RESERVED 1 - 8

Merlin LCD Programming Reference
(Color Select & Screen Messages)

Press MODE for 5 seconds to enter MENU

1st MENU LEVEL

| ENTERING SETUP |
| Displayed for 2 seconds then goes to level 2 menu |

2nd MENU LEVEL

EXIT

Size + or Size - to navigate | Press MODE to EXIT

SCREEN MESSAGES ON OFF

Size + or Size - to navigate | Press MODE to enter menu

BLACK & WHITE ON-OFF

Size + or Size - to navigate | Press MODE to enter menu

COLOR SELECT ON-OFF

Size + or Size - to navigate | Press MODE to enter menu

COLOR SELECT

Size + or Size - to navigate | Press MODE to enter menu

RESERVED 1 - 11

SCREEN MESSAGES SUB MENU

PREVIOUS MENU

Size + or Size - to navigate | Press MODE to Select

SCRN MESSAGES ON

Size + or Size - to navigate | Press MODE to Select

SCRN MESSAGES OFF

Size + or Size - to navigate | Press MODE to Select

RESERVED 1 - 13

BLACK & WHITE SUB MENU

PREVIOUS MENU

Size + or Size - to navigate | Press MODE to Select

BLACK & WHITE ON

Size + or Size - to navigate | Press MODE to Select

BLACK & WHITE OFF

Size + or Size - to navigate | Press MODE to Select

RESERVED 1 - 13

COLOR SELECT SUB MENU

PREVIOUS MENU

Size + or Size - to navigate | Press MODE to Select

COLOR SELECT ON

Size + or Size - to navigate | Press MODE to Select

COLOR SELECT OFF

Size + or Size - to navigate | Press MODE to Select

RESERVED 1 - 13

COLOR SELECT SUB MENU

PREVIOUS MENU

Size + or Size - to navigate | Press MODE to enter menu

1. COLOR SELECT 1

Size + or Size - to navigate | Press MODE to enter menu

2. COLOR SELECT 2

Size + or Size - to navigate | Press MODE to enter menu

3. COLOR SELECT 3

Size + or Size - to navigate | Press MODE to enter menu

4. COLOR SELECT 4

Size + or Size - to navigate | Press MODE to enter menu

5. COLOR SELECT 5

Size + or Size - to navigate | Press MODE to enter menu

7 - 16. RESERVED

COLOR SELECT SUB SUB MENU

COLOR SELECT 1

Size + or Size - to navigate | Press MODE to Select

COLOR SELECT 2

Size + or Size - to navigate | Press MODE to Select

COLOR SELECT 3

Size + or Size - to navigate | Press MODE to Select

COLOR SELECT 4

Size + or Size - to navigate | Press MODE to Select

COLOR SELECT 5

Size + or Size - to navigate | Press MODE to Select

OFF

Size + or Size - to navigate | Press MODE to Select

EXIT

File: MERLIN 2 User Menu.vsd Rev X1

TROUBLESHOOTING

1. No Power to Merlin LCD
- Press the Power button on Merlin LCD's control panel. A light next to the Power button should turn on, indicating the power is 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 *(see page 10, Figure 2).*
- 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 protector's on/off switch and circuit breaker if the Merlin LCD 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 LCD.
- Clean the monitor screen with a non-abrasive cloth sprayed with a glass cleaning solution.
- Turn the Light switch ON or OFF as needed to compensate for any glare or shadows caused by the ambient room lighting.

3. Blue light is flashing on the LCD monitor
- This is part of normal operation, indicating the unit is in standby mode. Because the Merlin LCD monitor is an energy-saving device, it may automatically go into standby ("sleep") mode after several hours of non-use. Should this occur, simply power the unit off, then on again to resume normal operation.

4. Merlin LCD Lights are Not ON
- Check that Merlin LCD has power. If not, see item 1, above.
- Check that the light switch (item 9 on page 9) under Merlin LCD's control panel is ON.

5. "VGA Problem" is displayed when connected to a computer
- Verify that all cables are connected properly (see Page 23)
- Check to make sure your computer is turned ON
- Review the "Special Technical Notes when using a Computer" (see Page 24).

X-Y Table Does Not Move Smoothly
- Make sure the locking lever is positioned completely to the left.

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.

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

NOTE: If you have any questions or require technical assistance please call (800)440-9476, Monday – Friday from 8 a.m. to 5 p.m. PST.

SPECIFICATIONS

General (Dimensions & Weight):

19" LCD Dimensions: 25"H* x 16"W x 20"D (64cm x 41cm x 51cm)
          Weight: 39lbs. / 17.5kgs.
22" LCD Dimensions: 26"H* x 20"W x 20"D (66cm x 51cm x 51 cm)
          Weight: 40lbs. / 18kgs.
24" LCD Dimensions: 26"H x 22"W x 19"D (66cm x 56cm x 48cm)
          Weight: 40.9lbs. / 18.6kgs.
Operating temperature range: 50-104°F / 10-40°C
Storage temperature range: 32-122°F / 0-50°C
* Height dimensions listed are based upon adjustable arm in nominal position

Monitor (common to *19",*22 & *24" models):

Resolution: 1280 x 1024 (19" model)
Resolution: 1680 x 1050 (22" model)
Resolution: 1920 x 1080 (24" model)
Response Rate: 5 milliseconds (19" & 22" monitor)
Response Rate: 2 milliseconds (24" monitor)
Contrast Ratio: > 1000:1 (19" & 22" models)
Contrast Ratio: > 80000:1 (24" models)
LCD Brightness: 300 cd/m2
Color Depth: Over 16 million Colors
Controls: Light Switch On/Off, Brightness, Magnification, Mode, Power

* all monitor specifications subject to change without prior notice

Magnification:
19" LCD: 2.7x (minimum) to 62x (maximum)
22" LCD: 3.4x (minimum) to 77x (maximum)
24" LCD: 3.8x (minimum) to 85x (maximum)
Power Supply:

110V-240VAC 50-60Hz
15VDC 1.2A
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)
        2 Programmable* Modes

*Up to 28 Programmable 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" (18.7mm)
Table height clearance: 1 3/8" (35mm)

PC Compatibility:

Computer video pass-through functionality enabled via DSUB15 connectors when using foot switch, control box or turning OFF the unit.

Video output Resolution on LCD:

VESA (DMT 1.0) SXGA (1280*1024) at 60Hz

Accessories:

Power Supply Transformer & "Y" Power Cord
Owner's Manual & Quick Start Guide
Warranty Card
Footswitch *(optional accessory)*
VGA Extension Cable *(optional accessory)*

Limited Warranty:

3 Years Parts and Labor

OTHER ENHANCED VISION PRODUCTS

Pebble

The Pebble is a handheld electronic video magnifier that you can take anywhere. Weighing less than 8 ounces, Pebble features a uniquely-designed folding handle and includes both near-viewing and table reading modes. Small enough to fit in your pocket or purse, the Pebble is the ideal companion to provide magnification, on the go. Featuring a built-in 3.5" or 4.3" LCD screen, the Pebble's Freeze-Frame feature allows you to capture any still image and adjust magnification. Up to 28 different viewing modes allow you to choose alternate color combinations based on your personal preference. Pebble can be powered using standard rechargeable batteries (included)

Magnification: 2X – 10X

Pebble-mini

Pebble-mini's ultra-compact design makes it the ideal hand-held magnifier whether you're home or on the go. Easily read prescriptions, mail, labels, price tags, menus and so much more. 3.0"LCD screen. Freeze frame and image capture. 28 available viewing modes.

Magnification 2X to 10X

Transformer

Transformer is the most flexible and portable solution for reading, writing and viewing magnified images at any distance. Compatible with popular magnification software and the latest Windows operating systems. Transformer's unique design is perfect for work, home or school. Weighs less than 3 pounds. Battery operated up to 4 hours. 28 custom color select modes.

Magnification 2.4X to 30X
(based on 17"screen)

$C\epsilon$

Amigo

Amigo is a truly portable desktop magnifier. Optimal viewing is achieved with a tilting 6.5 inch viewing screen. Amigo provides 3.5 to 14x digital magnification and the lightest weight in its class. Amigo is battery operated and can be taken anywhere.

$C\epsilon$

DaVinci

DaVinci is a high performance desktop video magnifier (CCTV), featuring 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 will read any printed text aloud with the push of a button.

Magnification: 24" LCD: 2x (minimum)
- to 80x (maximum)

$C\epsilon$

CONTACT INFORMATION

Accessories

Merlin Feature Kit

A helpful accessory which provides line markers and windowing functions for the Merlin LCD (included with Merlin LCD Plus).

Smart Video/VGA Toggle Box

Connects selected Enhanced Vision low vision devices to a computer monitor.

Carrying Cases

Convenient cases for storage and transport of all Enhanced Vision products.

Battery

Rechargeable batteries for Enhanced Vision's low vision devices.

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) 06078 911772   **Fax:** +(49) 06078 911774

www.enhancedvision.com

Technical Support:

Main Toll Free (800) 440-9476 ext. 3

Local Phone: (714) 465-3400 ext. 3

E-mail: evsupport@enhancedvision.com

WARRANTY STATEMENT

Enhanced Vision
Merlin LCD 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 LCD has been inspected and tested prior to shipping.** Our company stands behind the quality materials, components and workmanship of the Merlin LCD 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 LCD 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 LCD 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.

Lifetime warranty for the Merlin LCD base at a one-time cost of $299.00.

> **LCD Monitor is not covered under this option. (Individual purchaser only)**
> **This option can be selected on the warranty registration form and it is only available to the individual purchaser.** Enhanced Vision warrants Merlin LCD base against defects in materials and workmanship under normal use for the lifetime of the individual purchaser. Enhanced Vision, at its option, will at no charge either repair the product or replace it during the warranty period.
> The LCD Monitor is not covered by the lifetime warranty and it is covered for 3 years only.
>
> **The lifetime warranty is non-transferable and only valid for an individual purchaser. This warranty is not available for International Customers.**
>
> On the warranty card the purchaser will be asked to select between the three-year (no-cost) or lifetime warranty for a one-time fee of $299.00. If lifetime coverage is elected, a $299.00 check made payable to "Enhanced Vision" will need to be included with the warranty form. **The lifetime product warranty is only valid if the product is registered within 30 days of purchase and a $299.00 check made payable to "Enhanced Vision" is included with the warranty registration form.** If this form has not been provided, please request one from the local Enhanced Vision representative or call us at (800) 440-9476.

Restrictions

All product purchases need to be registered with Enhanced Vision. Registering the product 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 LCD with a similar or better product.

In the case that the end-consumer / original individual resells the Merlin LCD within a 3 year time period from original purchase date and the product is resold by a recognized manufacturer representative, the Merlin LCD 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 LCD to assist her. She resells the Merlin LCD to a recognized Enhanced Vision manufacturer representative, and he/she then sells the Merlin LCD to Anne Clark. Anne Clark will receive a <u>two-year</u> warranty with the Merlin LCD (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 and optional Lifetime 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 LCD with equipment not supplied by Enhanced Vision.

6. Light bulbs that are not covered under warranty.

7. The Merlin LCD monitor is not included in the lifetime warranty and it is covered for 3 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 LCD but if you do, you will need to send the unit to our warranty service center.

If warranty service is required, please call Enhanced Vision between 8 a.m. – 5 p.m. PST 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 LCD your choice for better vision.

NOTES

enhanced vision

The Merlin LCD video magnifier is designed to enlarge and enhance images to improve the lives of people who have low vision. The extent to which Merlin LCD can improve the ability to see images and text depends on a person's individual condition and level of visual impairment. Merlin LCD 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 LCD for a patient's specific condition. For more information, please visit www.enhancedvision.com.

www.enhancedvision.com
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