Merlin LCD Plus™

User's Manual

In order to maintain the consistency with the printed version of this manual, this page is intentionally left without manual content.

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About Merlin LCD Plus

Congratulations on your purchase of Merlin LCD Plus from Enhanced Vision. Merlin LCD Plus is designed to enhance the lifestyle of the visually impaired. This is Enhanced Vision's most advanced full-color, auto-focus video magnifier system. Merlin LCD Plus is built for users who want a full-featured system. It incorporates connectivity to a computer and VGA monitor or an external video camera to allow the user to split the screen, create line markers and adjust window sizes to make multi-functional processes easier. It also provides optimum viewing for people with certain visual conditions by offering an expanded range of choices of both text and background colors.

Merlin LCD Plus enables individuals with low vision to read, write, view photos, enjoy crafts and hobbies, and more – in color, black and white, or enhanced positive or negative viewing modes. With easy-to-use buttons that are also distinguishable by touch, you can enlarge or reduce the image in seconds and change viewing modes for easier visibility.

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

Computer System Recommended Configuration

Merlin LCD Plus will work with a variety of computers. The computer system configuration listed below is recommended for usage with Merlin LCD Plus*.

- Operating System: Windows 98/NT/2000/XP

- Processor Speed: Pentium III 500mhz

- Hard Disk: 50MB of hard-disk space available

- Peripherals: CD-ROM drive

                                   One 9-pin serial port available

                                   USB port

- No Internet connection is required

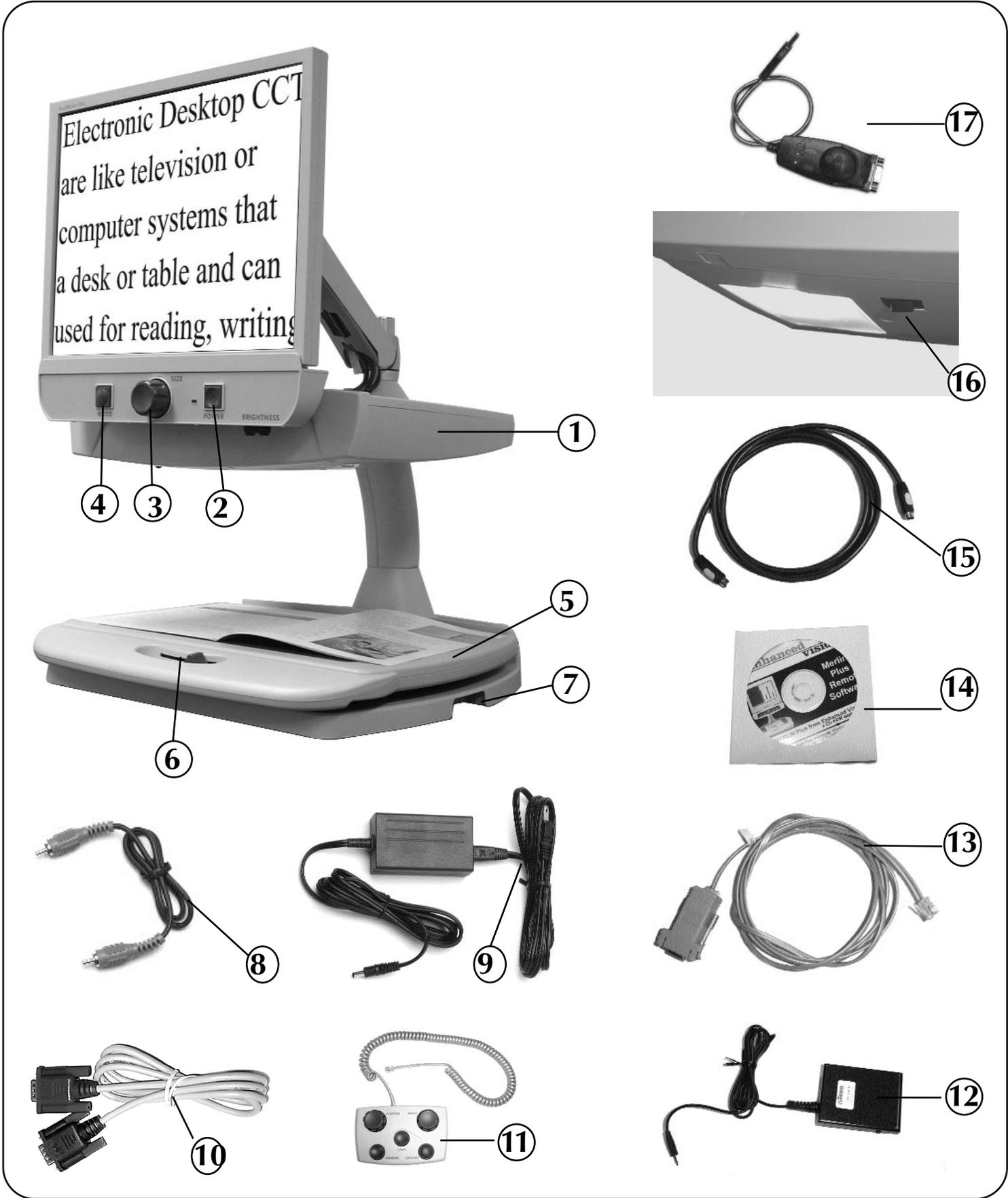- No additional software is required besides Merlin LCD Plus Remote Software

*For system video requirements, refer to the PC Compatibility section on Page 34.

Merlin LCD Plus at a Glance

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

1. Merlin LCD Plus
2. Merlin LCD Plus Power button
3. Magnification dial (Size button)
4. Viewing Mode button
5. X-Y table
6. X-Y table locking lever
7. Recessed handles for carrying Merlin LCD Plus
8. 6-foot RCA Video cable
9. Power supply and power cord
10. VGA extension cable
11. Merlin LCD Plus control box with coil cable
12. Foot Switch
13. Software cable and adapter
14. Merlin LCD Plus Remote Software CD ROM
15. 6-foot S-Video cable
16. Light ON/OFF Switch
17. USB Adapter

Safety and Care

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

Merlin LCD Plus is designed to enlarge and enhance images in order to improve the quality of life for people who are visually impaired. The extent to which Merlin LCD Plus can improve the ability to see images depends on a person's individual condition and level of visual condition.

Merlin LCD Plus 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 Plus for a patient's individual impairment.

Precautions

• Merlin LCD Plus is designed to be used on a stable, level surface such as a solid desk or table.

• Do not place Merlin LCD Plus on an unstable table, cart, or stand. It may fall, causing serious damage to the unit or bodily injury to a user.

• Merlin LCD Plus should be used indoors, and should not be exposed to extreme or rapid changes in temperature or humidity. Do not place Merlin LCD Plus near a radiator or heater, or where it will be exposed to long hours of direct sunlight. These conditions may cause damage to the unit's electronics or optics.

• Always place the power cord away from traffic areas to avoid the danger of someone tripping over the cord or damaging it.

• To prevent the risk of electrical shock, do not use Merlin LCD Plus near water and do not attempt to disassemble the unit.

• Use only the power supply provided with Merlin LCD Plus. Using an unauthorized power supply may cause serious damage to Merlin LCD Plus' electronic components.

To Move Merlin LCD Plus to Another Location

• If you are repositioning Merlin LCD Plus 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 Plus only by the two recessed handles located on either side of its base.

• Situate Merlin LCD Plus securely in its new location.

Caring for Merlin LCD Plus

• Always turn the power OFF when the system is not in use.

• Always turn the power OFF before cleaning.

• The plastic surfaces of Merlin LCD Plus can be cleaned with a soft dry cloth or an electrostatic dusting wipe. DO NOT use liquid cleaners.

• The protective glass covering the camera can be cleaned as needed with the lens cloth provided within your Merlin LCD Plus' packaging.
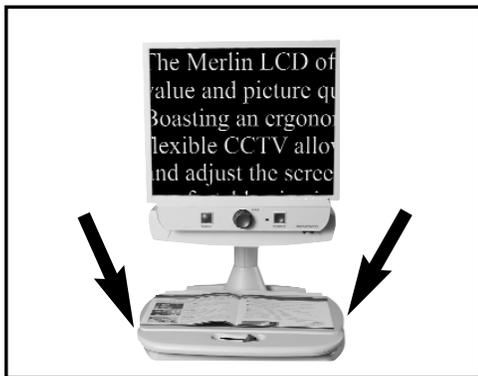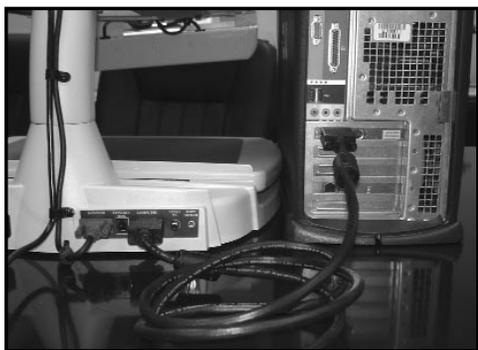
Setting Up Merlin LCD Plus

figure 1

figure 2

figure 3

figure 4

a. With a Computer

Note: Prior to installation, it is recommended you set your computer to one of the resolutions listed on the specification page 34.

1. Find a steady and level location, such as a table or desk, where you will be comfortable using Merlin LCD Plus.

2. Carry Merlin LCD Plus only by the two recessed handles on the sides of the base for a secured grip (see figure 1). Place it on the table or desk.

3. Connect the female end of the VGA extension cable provided (item 10 on page 7) into the port labeled "COMPUTER" on the back of your Merlin LCD Plus. Connect the male end of the VGA extension cable into the 15-pin VGA output port on your omputer. This is usually where you would onnect your VGA monitor to your computer (see figure 2).

5. Connect the foot switch cable provided (item 12 on page 7) into the jack labeled "FOOT SWITCH" on the back of Merlin LCD Plus (see figure 3).

6. Plug the power supply cord (item 9 on page 7) into the outlet and the other end into the DC IN 12V jack on the back of Merlin LCD Plus (see figure 4).

b. With Remote Software or Control Box

Two options are available to control the Merlin LCD Plus split screen, line markers, and window size features. It is recommended that you use the Merlin LCD Plus Remote Software provided on the CD-ROM enclosed (see item 14 on page 7). Using the software enables you to work more efficiently by using hotkeys and leaving your hands on the computer keyboard at all times.

1. Merlin LCD Plus with Remote Software

A. Connect using the USB port on your computer

figure 1

- Connect the serial end of the USB Adapter (item 17 page 7) to the serial end of Software cable (item 13 on page 7).
- Plug the phone jack end (item 13 on page 7) into the port labeled "CONTROL BOX" on the back of Merlin LCD Plus.
- Plug the USB end (item 17 page 7) into your computer (see figure 1).

OR

figure 2

B. Connect using the serial port on your computer

- Connect the software cable phone jack cord (item 13 on page 7) into the port labeled "CONTROL BOX" on the back of Merlin LCD Plus.
- Connect the 9-pin female adapter end of the software cable into a serial port on the back of your computer (see figure 2).
- Turn on the computer.
- Insert the Merlin LCD Plus Remote Software CD into your CD-ROM drive.
- After a few moments, a Welcome Menu will appear automatically. If no menu appears within 30 seconds, go to the Windows Explorer and double click on the CD-ROM drive letter.
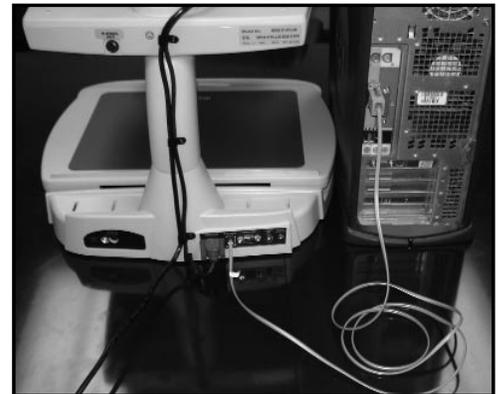
Setting Up Merlin LCD Plus

• On the Merlin LCD Plus Welcome Menu, click on the Merlin LCD Plus Software Installation icon. This will bring up an installation wizard to walk you through the set-up process.

figure 3

• At the end of the installation process, you may choose to run the application immediately. It is recommended you choose this option. Please note that the software will be always running as a permanent application in the background on your computer.

• For further details about the Remote Software, please click on the HELP menu on the main application window (see figure 3).
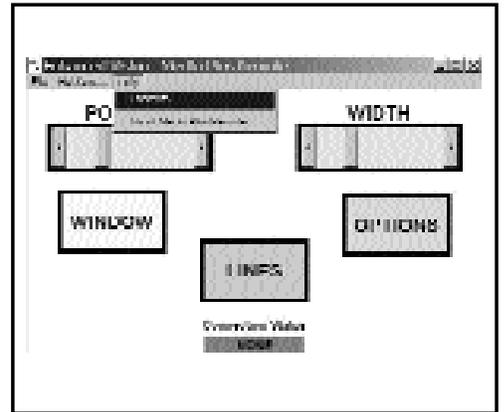
figure 4

2. Merlin LCD Plus with Control Box

Connect the phone jack end of the Control Box Coil Cable (see item 11 on page 7) into the port labeled "CONTROL BOX" on the back of Merlin LCD Plus (see figure 4).

c. With External Video Source

If you want to use an external video source with Merlin LCD Plus, simply connect a RCA video cable (see item 8 on page 7) from the video output of your external device (for example a JORDY or FLIPPER) to the port labeled "VIDEO IN" in the back of Merlin LCD Plus as shown in figure 1.

figure 1

#2   **#1**

Merlin LCD Plus Power Button

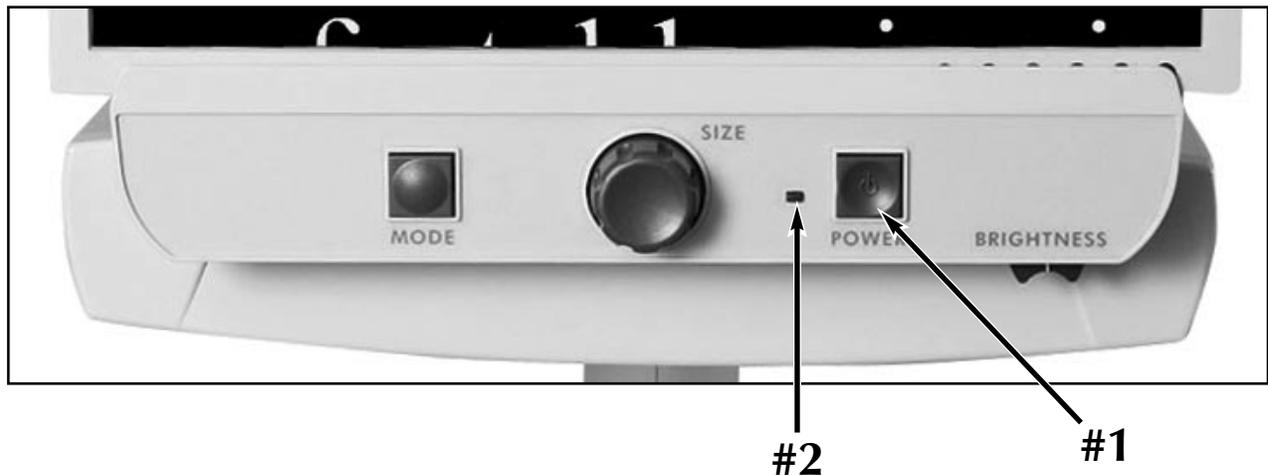The Power button on Merlin LCD Plus is located on the far right side of the control panel (#1 above).

• Press the Power button. A green light to the left of the Power button will illuminate, indicating the power is ON (#2 above).

If Merlin LCD Plus is plugged into a power strip/surge protector, make sure its power switch is turned ON before attempting to turn on   Merlin LCD Plus. 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 Plus.

About Merlin LCD Plus Remote Software

Merlin LCD Plus Remote Software Actively Running on Your Computer

Upon installation as described on page 12, your computer will now display the EV Remote Software icon at the lower portion of your screen as shown on figure 1.

This indicates the software is properly running as a permanent resident program on your computer and is ready for use.

figure 1

The software will always be automatically running upon a new Windows session. To turn OFF the software completely, please refer to page 17.

Accessing the Main Application Window

To access the main application window of the remote software as shown on figure 2, you may either:

figure 2

• Double left click on the EV Remote Software icon as shown on figure 1.

• Right click on the EV Remote Software icon as shown on figure 1 and left click on MAXIMIZE on the drop down list.

• Press the CONTROL+F5 keys simultaneously on your computer keyboard. You should then see the main application window as shown on figure 2.

Note: to close the Main Application Window, press the ALT+F4 keys on your computer keyboard simultaneously.

Minimizing the Main Application Window

To minimize the main application window, simply click on the minimize icon or the EXIT icon as shown on figure 2.

Note that clicking on the EXIT icon does not turn OFF the application. To do so, refer to page 17.
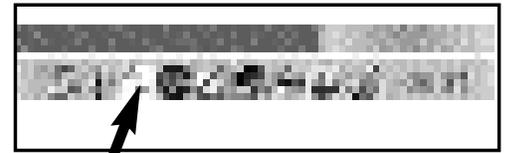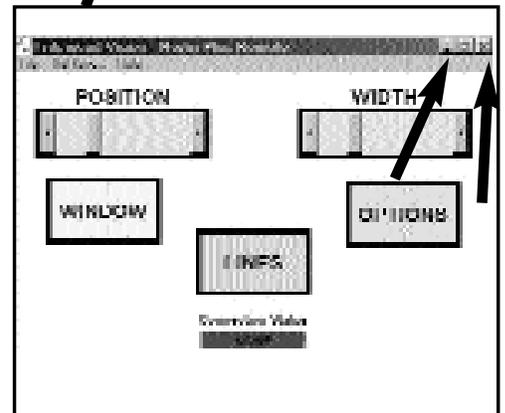
Using the Default HOT KEYS
Default HOT KEYS have been programmed into the Remote Software application.

Main Application Window	CRTL and F5
Windowing	CRTL and F6
Line Markers	CRTL and F7
Options	CRTL and F8
Width - Decrease	CRTL and F9
Width - Increase	CRTL and F10
Position - Decrease	CRTL and F11
Position - Increase	CRTL and F12

figure 3

HOT KEYS allow for a quick operation of Merlin LCD Plus without having to maximize the software application window. For instance, from another application, you may simply key in a preset HOT KEY combination and Merlin LCD Plus will react to it. There is no need to use the mouse. This allows you to keep your hands on the keyboard at all times.

Note: The HOT KEYS serve the same function as the Control Box.

Programming New HOT KEYS
HOT KEYS may be reprogrammed to your liking or to avoid a conflict with third party software. To view or change the HOT KEYS panel, you may either:

• Right click on the EV icon (see figure 1 on page 14) and left click on HOT KEYS on the drop down list.

• Left click on HOT KEYS in the Main Application Menu as shown in figure 2 on page 14. The HOT KEYS panel will then open as shown in figure 3.

To select a new HOT KEY, simply click on the function key icons that you wish to use as the combination desired and select an alphanumeric key from the drop down list. Your combination may include one or several keys.

Disabling HOT KEYS

If you do not wish to use any HOT KEY, you may simply disable them all without having to reprogram them at a later time. To do this, open the HOT KEY panel as described above and check OFF the ENABLE HOT KEYS mark at the top left of the panel as shown on figure 3. This will keep your settings yet make all HOT KEYS inoperable. This is a way to avoid a conflict with third party software HOT KEYS.

Note: The HOT KEYS are enabled by default during first time use.

Using the Main Application Window Controls

The controls on the main application window use a click and drag type of interface.

You may also use the HOT KEYS as described above for quicker access.

Note: A full description of each control is provided with the software. To access the help, click on HELP, CONTENTS on the main application menu as shown on figure 4.
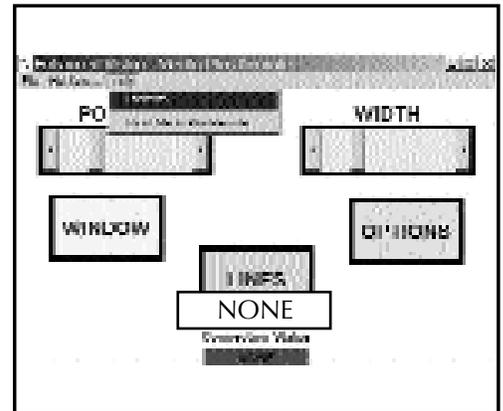
figure 4

About the CONNECTION STATUS Indicator

The CONNECTION STATUS indicates if a valid connection is detected with Merlin LCD Plus. A green indicator shows an active connection (ACTIVE PORT 1) (see figure 5). A red indicator shows a non-valid onnection-NONE (see figure 4).

The indicator is constantly updated to allow you to quickly detect a problem or a valid connection.

figure 5

If a problem occurs, please refer to the Troubleshooting section of this manual or the application software HELP as described earlier.

Turning OFF Merlin LCD Plus Remote Software:

If you want to completely exit from *Merlin LCD Plus Remote Software*, you may right click on the EV icon as shown in figure 1 and left click on EXIT on the drop down list. You will not be able to use HOT KEYS on page 15 anymore.
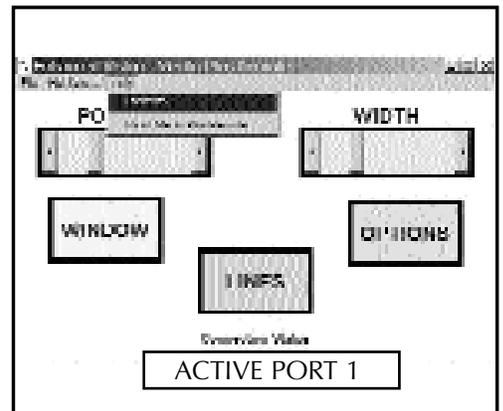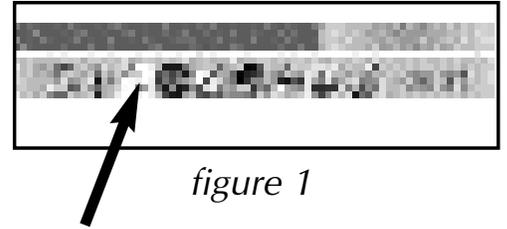
figure 1

To run the software again, use the START MENU, PROGRAMS, MERLIN PLUS REMOTE and click on the MERLIN PLUS REMOTE icon.

Uninstalling Merlin LCD Plus Remote Software:

To uninstall the application completely from your system, use the START MENU, PROGRAMS, MERLIN PLUS REMOTE and click on the UNINSTALL icon. In the uninstall window, click on YES to proceed with the un-installation.

Changing Viewing Mode

a. Using Merlin LCD Plus Control Panel Viewing Modes

You can choose a viewing option by pressing the MODE button on the control panel. Each push will change your viewing option. If you keep pressing the button you will cycle through all the default options.

The default options can be used regardless of the control box settings. They are as follows:

- 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 Plus 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 combination.

Color Select 2

This mode provides a black background with green text.

Color Select 3

This mode provides a black background with yellow text.

b. Using Merlin LCD Plus Control Box Viewing Modes

You can choose a viewing mode by pressing the OPTIONS button on the control box. This will change the current viewing mode as follows:

• Full Video Magnifier

• Full Computer Image

• Split Screen Between Computer Image and Video Magnifier Image

• Full Image with External Camera

• Split Screen Between Computer Image and External Image

Changing Viewing Mode

- **Full Video Magnifier Image**

This is the default video magnifier mode that comes on when Merlin LCD Plus is turned on (see figure 1).

- **Full Computer Image**

This mode displays the full image coming from the computer attached to Merlin LCD Plus. If this source is not available or not valid, an On Screen Display will warn you once (see figure 2).

NOTE: To reduce glare, Merlin LCD Plus' lights can be turned OFF. You may turn OFF Merlin LCD Plus' lights using the light control. See item #16 on page 7. This will prevent glare while keeping Merlin LCD Plus ON.

- **Split Screen Between Computer Image and Video Magnifier Image**

This mode displays a split screen between the video magnifier image and the computer image. If the computer source is not available, an On Screen Display will warn you once (see figure 3).

- **Full Image with External Camera**

This mode displays a full image from a connected external video source. If the external video is not available, an On Screen Display will warn you once (see figure 4).
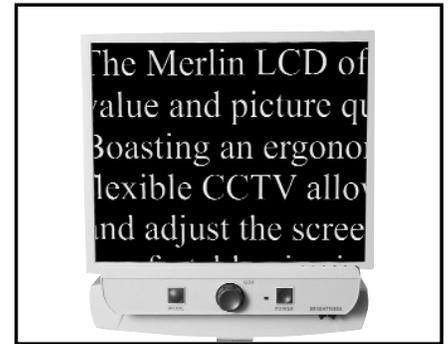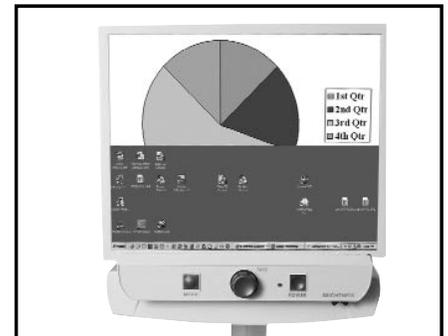
figure 1

figure 2

figure 3

figure 4

• **Split Screen Between Computer Image and External Image**

This mode displays a split screen between a connected external video source and the computer image. If the computer source is not available, an On Screen Display will warn you once (see figure 5).

VGA PROBLEM

figure 5

NOTE: A 20" TV monitor with S-Video will only display the full video magnifier image and full image with connected external camera.

c. Using Merlin LCD Plus Remote Software Viewing Modes

• The software provided on the CD-ROM features identical capabilities as the control box. Please refer to previous section "b" on page 23 for a list of all viewing options.

figure 6

• The Remote Software uses a "click and drag" type of interface. Simply click on the OPTIONS icon to toggle through the available viewing modes (see figure 6).
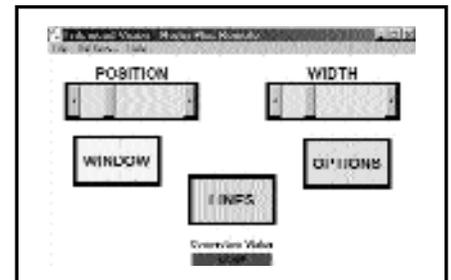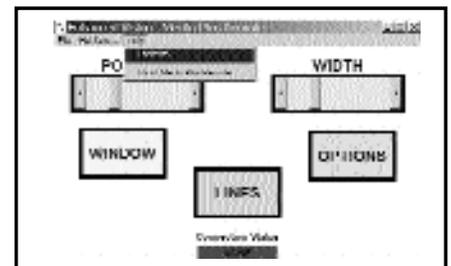
figure 7

d. Using Merlin LCD Plus Foot Switch Viewing Modes

• The foot switch is a convenient alternate to the OPTIONS button on the control box and the OPTIONS icon on the software. It enables you to cycle through the viewing modes hands free as described in section "b" starting on page 23.

Changing Magnification
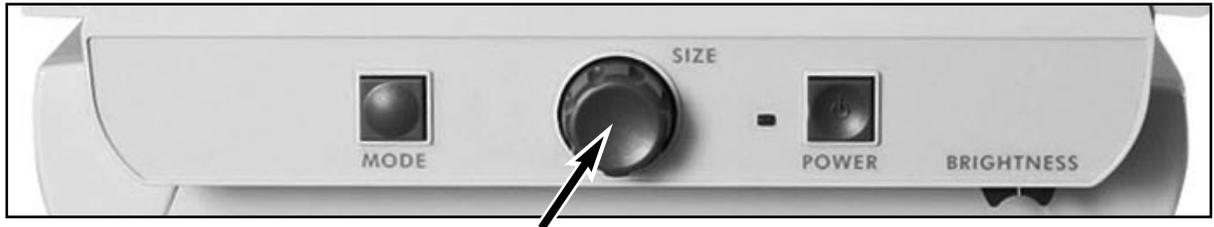
figure 1

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 sixteen levels of magnification available on Merlin LCD Plus.

SIZE-7

- To increase the size of the age, 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).

Line Markers are used to frame an image between two lines. These lines may be used as a reading guide for long lines of text, or as a guide to help keep your place as you move from one side of the page to the other, or just to make writing easier and neater.

a. With the Control Box

You can choose horizontal or vertical line markers by pressing the LINES button on the control box (see figure 1).

Line Markers are available in full video magnifier mode and external video source mode. See Viewing Mode Features Available on page 36.

You can increase or decrease the distance between the line markers by turning the WIDTH knob on the control box.

You can change the line markers' position across the screen in the horizontal or vertical direction by turning the POSITION knob on the control box.

figure 1

b. With the Remote Software

You can choose horizontal or vertical line markers by clicking on the LINES icon on the graphical user interface (see figure 2).

Line markers are available in full video magnifier mode and external video source mode. See Viewing Mode Features Available on page 36.

figure 2

You can increase or decrease the distance between the line markers by clicking and dragging the WIDTH cursor. You can also click on the left and right arrows on the graphical user interface.

You can change the line markers' position across the screen in the horizontal or vertical direction by clicking and dragging the POSITION cursor. You can also click the left and right arrows on the graphical user interface.
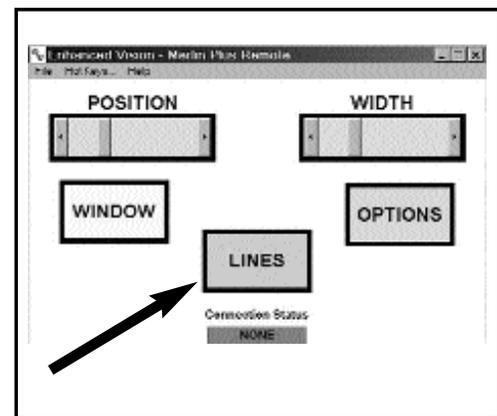
Using Windowing

Windowing is similar to Line Markers, except that it allows you to completely block out portions of the screen so that you display only the portion of the image you want to view.

a. With the Control Box

figure 1

You can choose horizontal or vertical windowing by pressing the WINDOW button on the control box (see figure 1).

Windowing is available in full video magnifier mode and external video mode source. See Viewing Mode Features Available on page 36.

You can increase or decrease the size of the windowing by turning the WIDTH knob on the control box.

You can change the windowing position across the screen in the horizontal or vertical direction by turning the POSITION knob on the control box.

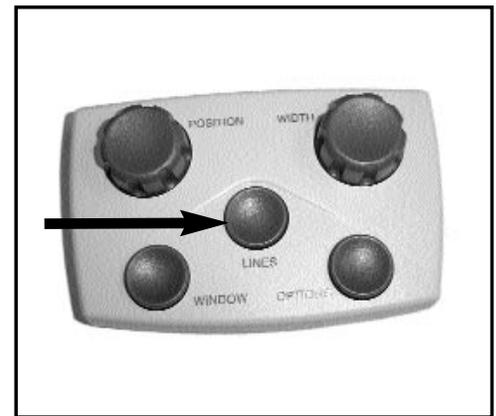**b. With Remote Software**

figure 2

You can choose horizontal or vertical windowing by clicking the WINDOW icon on the graphical user interface (see figure 2).

Windowing is available in full video magnifier mode and external video source mode. See Viewing Mode Features Available on page 36.

You can increase or decrease the size of the windowing by clicking and dragging the WIDTH cursor. You can also click on the left and right arrows on the graphical user interface.

You can change the windowing position across the screen in the horizontal or vertical direction by clicking and dragging the POSITION cursor. You can also click on the left and right arrows on the graphical user interface.
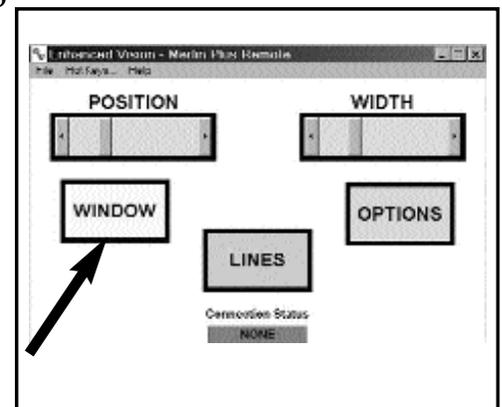
A Split-Screen picture is one in which both the computer and the video magnified image are displayed simultaneously on the SVGA or VGA monitor.

a. With the Control Box

You can choose horizontal or vertical split screen by pressing the WINDOW button on the control box (see figure 1).

Split screen is only available with a computer attached and a compatible VGA signal. See Viewing Mode Features Available on page 36.
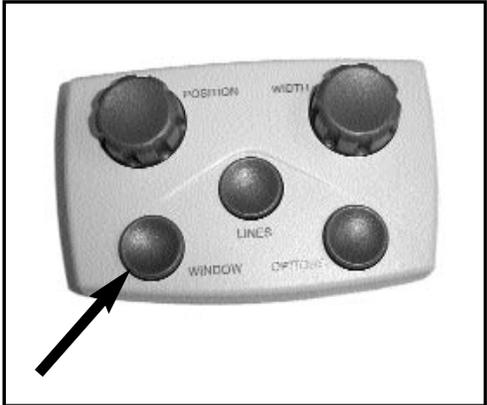
figure 1

You can increase or decrease the viewable split areas by turning the WIDTH knob on the control box. A minimum viewable area of either source will always be visible in split screen mode.

You change the viewable split areas' position by turning the POSITION knob on the control box.

b. With the Remote Software

You can choose horizontal or vertical split screen by clicking the WINDOW icon on the graphic user interface (see figure 2).

Split screen is only available with a computer attached and a compatible VGA signal. See Viewing Mode Features Available on page 36.
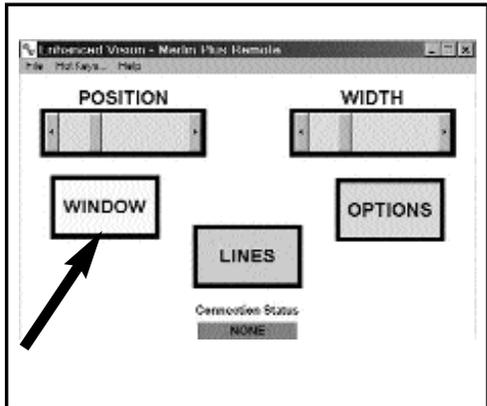
figure 2

You can increase or decrease the viewable split areas by clicking and dragging the WIDTH cursor. You can also click on the left and right arrows on the graphical user interface.

You can change the viewable split areas' position by clicking and dragging the POSITION cursor. You can also click on the left and right arrows on the graphical user interface.

Using Merlin LCD Plus Color Select Options

Merlin LCD Plus 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.

Merlin LCD Plus provides up to 28 color combinations to best fit your eye condition. See page 33 for a list of color combinations. Three modes have been pre-programmed for ease of use. Up to five color select viewing modes can be programmed per your personal preferences.

How to Program a Color Select Option

With Merlin LCD Plus 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 the color select options:

Step 1: Press and hold the MODE button until the words "ENTERING SETUP" appear on your monitor.

ENTERING SETUP

Step 1

Using Merlin LCD Plus Color Select Options

Step 2:   Turn the SIZE dial Clockwise to scroll through the menu options. Choose a COLOR SELECT prompt (1-5) and press the MODE button.

COLOR SELECT 2

Step 2

Step 3:   Turn the SIZE dial to choose your preferred color combination and select one of the following:

- You can reverse each color text and background set by pressing the MODE button.

- Then, hold down the MODE button to save the settings.

POSITIVE SET II

Step 3

- If you want to turn OFF the current COLOR SELECT (1-5) option, select OFF by turning the SIZE button clockwise and press MODE to return to previous menu.

- **OR**, if no change is desired select EXIT by turning the SIZE button clockwise and press MODE to return to previous menu.
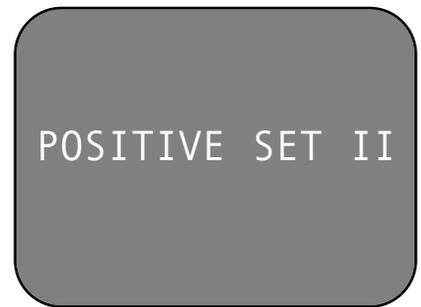
EXIT

Step 4:   To program another color select viewing mode, repeat steps 2-4. If you are finished, turn the SIZE dial counterclockwise to EXIT and press MODE to return to normal use.

Step 4

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).
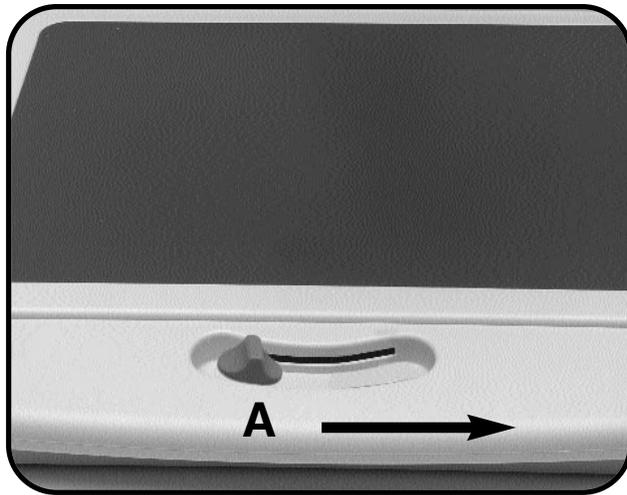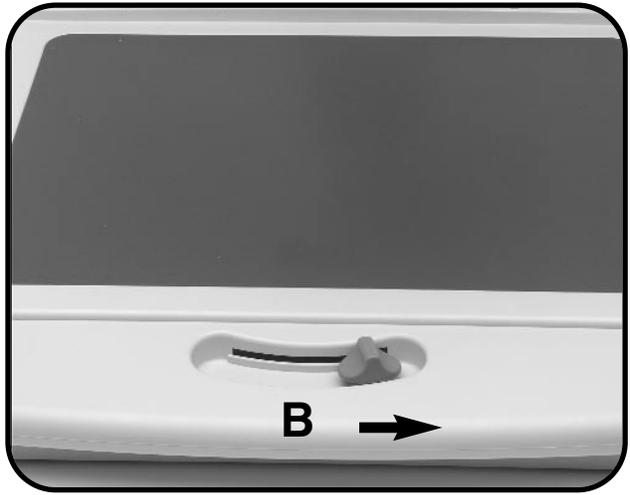
Unlock Position   Lock Position

Reading with the X-Y Table

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

Reading with Merlin LCD Plus

• 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 Plus

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

Programming Set-up Options

You can program Merlin LCD Plus' set-up options. There are three options you can select in set-up mode: **Exit**, **Screen Messages** and **Color Select**.

Entering Set-up

1. Turn the SIZE dial all the way counterclockwise, to the lowest size. This will start you at the beginning of the menu when you enter set-up.

2. Press and hold the MODE button. Merlin LCD Plus will say and display "ENTERING SETUP." Then the screen will fade to black and the word "EXIT" will appear.

3. Turn the SIZE dial to the right to select the different set-up options.

4. Press the MODE button to activate or deactivate each option.

Set-up Options
In clockwise order starting at Exit, the options you can program are:
Exit: When programming is complete, select this option and press MODE to exit.
Screen Messages: If Screen Messages are turned off, Merlin LCD Plus will not display magnification sizes or viewing modes.
Color Select: This allows you to choose up to 28 color combinations to best fit your eye condition. See Specifications on Page 33.

Using a Computer with Merlin LCD Plus OFF

figure 1

At times, you may want to use your computer without Merlin LCD Plus. Just make sure you turn Merlin LCD Plus OFF by pressing the POWER button (see figure 1). The computer's display signal will automatically flow through the Merlin LCD Plus even when it is turned OFF. There is no need to disconnect any cables (see figure 2).

figure 2

Merlin LCD Plus Specifications

General:

Up to 32 basic CCTV video modes available plus split screen functionality

Up to 5 split screen video modes supported

Smooth movable XY table

Maximum monitor weight 100lbs (45kg)

External composite video input

External control box module for split screen control with 5-foot coil cable

Virtual control box PC software for control box emulation and split screen control

Foot pedal module for quick video mode switching with 6-foot cable

Auto-focus camera

Large onscreen display

Auto detection of computer / external camera presence

Camera:

60Hz 1/4″ IT CCD (EXview HAD)

NTSC Resolution: 768(H) * 494 (V) / 470 TV lines

XY Table:

XY table size: 17.5″ (44.5cm) * 12.5″ (32cm)

Working space height: 7.5″ (19cm)

Total X dimension travel: 11″ (28cm)

Total Y dimension travel: 10.5″ (26.5cm)

Table height clearance: 1.75″ (4.4cm) greater than control box height

Video Magnifier Modes:

Full color mode

Black and White mode

High contrast Positive (Black text on White background)

High contrast Negative (White text on Black background)

Up to 28 Color Select Modes to Choose From (up to 5 enhanced modes storable):

Color Select Black text on Green background
Color Select Black text on Orange background
Color Select Black text on Blue background
Color Select Black text on Yellow background
Color Select Black text on Purple background
Color Select Black text on Red background
Color Select Green text on White background
Color Select Red text on White background
Color Select Purple text on White background
Color Select Blue text on White background
Color Select Blue text on Yellow background
Color Select Orange text on White background
Color Select Green text on White background
Color Select Green text on Yellow background
Color Select Green text on Black background
Color Select Orange text on Black background
Color Select Blue text on Black background
Color Select Yellow text on Black background
Color Select Purple text on Black background
Color Select Red text on Black background
Color Select White text on Green background
Color Select White text on Red background
Color Select White text on Purple background
Color Select White text on Blue background
Color Select Yellow text on Blue background
Color Select White text on Orange background
Color Select White text on Green background
Color Select Yellow text on Green background

Merlin LCD Plus Specifications

Split Screen Video Modes:

Full CCTV video

Full computer video (if VGA connected)

Split CCTV and VGA split screen (if VGA connected)

Full external video (if external camera attached)

Split external video and VGA split screen (if external camera and VGA attached)

PC Compatibility:

Connects to any computer with external VGA SUB-D15 connector outputting at least one of the following resolutions:

VESA (DMT 1.0) VGA (640*480)   at 60, 72, 75, 85Hz

VESA (DMT 1.0) SVGA(800*600)   at 60, 72, 75, 85Hz

VESA (DMT 1.0) XGA (1024*768)   at 60, 70, 75Hz

LCD Default Resolution:

VESA (DMT 1.0) XGA (1024*768)   at 60Hz

Magnification:

3X to 58X on a 19" LCD

2.7X to 52X on a 17" LCD

Control Panel:

Zoom: 16 preset zoom levels

Mode: Switches between 7 default video modes (up to 9 modes is possible when 5 enhanced modes are stored)

Color

Black and White

Enhanced contrast Positive

Enhanced contrast Negative

Color select Yellow text on Blue background

Color select Green text on Black background

Color select Yellow text on Black background

Mode to enter interactive menu for settings adjustments:

Screen messages ON/OFF

5 user defined color select modes

External Control Box:

Window: Adjusts the Video Magnifier/VGA split screen

Options: Switches between split screen video modes

Lines: Adjusts horizontal or vertical line markers on CCTV video

Foot Pedal: Switches between split screen video modes

Merlin LCD Plus Specifications

Viewing Mode Features Available:

The following charts illustrate the viewing mode features available on a VGA monitor and TV monitor.

LCD Features Available

FEATURES AVAILABLE	LINE MARKERS	WINDOWING
Viewing Mode		
1. Full Video Magnifier	YES	YES
2. Full Computer Image	NO	NO
3. Split Screen video magnifier / computer image	NO	YES
4. Full External Video	YES	YES
5. Split Screen external video / computer image	NO	YES

Optional TV Monitor Features Available Using S-Video Connection

FEATURES AVAILABLE	LINE MARKERS	WINDOWING
Viewing Mode		
1. Full Video Magnifier	YES	YES
2. Full Computer Image	N/A	N/A
3. Split Screen video magnifier / computer image	N/A	N/A
4. Full External Video	YES	YES
5. Split Screen external video / computer image	N/A	N/A

Illumination:

Two user-replaceable 5-watt fluorescent bulbs (10,000-hr life)

Connections:

S-Video output for CCTV modes with optional TV
RCA Composite video output for CCTV modes
RCA Composite video input for external camera modes
12VDC Power input
Computer VGA input (SUB-D15)
Foot pedal jack input
Control box RJ-11 input

Power:

100-240V / 50-60Hz / 29W max
External power supply with removable power cord
Connector IEC-C13/14

Weight/Dimensions:

Base unit: 23lbs (10.5kg)
Height: 13.75" (35cm)
Length: 20.5" (52cm)
Width: 19" (48cm)

Environment:

Operating temperature:	+32F to 122F (0C to 50C)
Storage temperature:	-4F to 140F (-20C to 60C)
Operating humidity:	20% to 95%
Storage humidity:	20% to 80%

Troubleshooting

1. Merlin LCD Plus Does Not Turn ON
- Make sure the power supply is the proper one for Merlin LCD Plus, 12V output, 3A minimum.
- Make sure the power supply cord is completely plugged into the 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 12V IN jack in the back of Merlin LCD Plus.
- Check the power strip/surge protector's ON/OFF switch and circuit breaker if Merlin LCD Plus is plugged into one.
- Push the POWER button on Merlin LCD Plus' control panel. A green light next to the POWER button should turn ON, indicating the power is ON
  (see page 13).

2. Merlin LCD Plus Lights are Not ON
- Check that Merlin LCD Plus is ON. If not, check FAQ 1.
- Check that the light switch (item 16 on page 7) under Merlin LCD Plus' control panel is ON.

3. The Foot Switch Does Not Work
- Check that the foot switch cable is properly secured into the part labeled foot switch.
- Check that a valid computer signal or external video is connected to the back of Merlin LCD Plus.
- If no computer or external video is connected to Merlin LCD Plus, you will not be able to use the FOOT SWITCH. An OSD should warn you once about missing computer signal or external video source.

4. The Control Box Does Not Work
- Check that the coil cable is properly secured in the control box.
- Check that the coil cable is properly secured in the port labeled "CONTROL BOX" in the back of Merlin LCD Plus.
- Please refer to Setting Up Merlin LCD Plus with Remote Control Software or Control Box on page 11 for further details.

5. The Remote Software Does Not Work
- Check that the software cable and its adapter are properly secured into a serial port on your computer.
- Check that the software cable is properly secured into the port labeled "CONTROL BOX" in the back of Merlin LCD Plus.
- Maximize the application software window and make sure the communication indicator is green. A red indicator indicates a faulty computer to Merlin LCD Plus communication. The software automatically detects a proper connection so no configuration is required.

6. The Image is Blurred or Out of Focus
- Clean the protective glass covering the camera with the non-abrasive lens cleaning cloth provided with your Merlin LCD Plus.
- Clean the monitor screen with a non-abrasive cloth sprayed with a glass cleaning solution.

7. X-Y Table Does Not Move Smoothly
- Make sure the locking lever is positioned completely to the left (see page 28).

8. 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 (see page 28).

15. Light Bulb Burns Out
Your Merlin LCD Plus comes equipped with two 10,000-hour fluorescent light bulbs designed to provide years of trouble-free service. However, if one burns out, contact your place of purchase or Enhanced Vision at (800)440-9476 for instructions or assistance on replacing the bulb.

16. When Reading Using the X-Y Table, the Video Magnifier Image Appears Jerky or Not Smooth
- Make sure your computer is set to a 60Hz refresh rate. This will provide the smoothest picture possible. However, this may cause a picture flicker sensation. Adjust to the settings that work best for you.

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.

Other Enhanced Vision Products

Jordy – Two Low Vision Systems in One

For distance, intermediate and near viewing.

Magnification: 1X – 30X

Four viewing modes for optimum visibility: Color, Black/White, Enhanced Positive, Enhanced Negative

Jordy Docking Stand (optional)

Magnification: 4X – 40X

$C\epsilon$

Acrobat

The Acrobat's innovative rotating camera design enables people with low vision to perform daily tasks more effectively. By rotating the camera, the user can read, write, self-view, and magnify images at any distance. This full color, auto-focus Acrobat has the most versatile and flexible arm available.

$C\epsilon$

Flipper – The Ultimate in Flexibility

Read, write, get more out of life! Our innovative camera design lets you magnify in almost any position with images in full color.

Magnification: 1X – 44X*
*With optional stand

Available with Color and Black & White Display Modes

$C\epsilon$

Flipper Stand

The Flipper Stand is compatible with both the Flipper and FlipperPort products. The Flipper Stand extends the flexibility of these products by elevating Flipper to 15 inches on a platform which allows users to view materials easily in classroom or audience settings. The Stand also converts quickly to a desktop Video Magnifier once the user points the Flipper camera down towards the table.

$C\epsilon$

Max – Powerful Magnifier

A powerful magnifier for reading. Connects to any TV in seconds.

Magnification: 17X – 25X on a 20" Television

Available in Color or Black & White

$C\epsilon$

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.

$C\epsilon$

Other Enhanced Vision Products

Accessories

Smart Video

Connects Enhanced Vision's low vision devices to a computer monitor.

Carrying Cases

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

MaxTrak

An essential accessory to keep your Max straight while rolling across a page.

Battery

Rechargeable batteries for Enhanced Vision's low vision devices.

Contact information:

Toll Free: (800)440-9476   www.enhancedvision.com

Phone: (714)465-3400   evinfo@enhancedvision.com

Fax: (714)374-1821   evsupport@enhancedvision.com

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

For these reason 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 Plus 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 Plus 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 Plus base at a one-time cost of $299.00.

> **Monitor is not included in 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 Plus 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 Monitor is not covered by the lifetime warranty and it is covered for three years only.

> **The lifetime warranty is non-transferable and does not apply to groups, multi-users or agencies. 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 Merlin LCD Plus 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 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 three-year product warranty detailed above. Enhanced Vision also reserves the right to repair or replace any purchasers Merlin LCD Plus with a similar or better product.

Warranty

In the case that the end-consumer / original individual resells the Merlin LCD Plus within a THREE year time period from original purchase date and the product is resold by a recognized manufacturer representative, the Merlin LCD Plus warranty will default to the balance of what remains of the standard THREE 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 Plus to assist her. She resells the Merlin LCD Plus to a recognized Enhanced Vision manufacturer representative, and he/she then sells the Merlin LCD Plus to Anne Clark. Anne Clark receives a two-year warranty with the Merlin LCD Plus (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 THREE-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 Plus with equipment not supplied by Enhanced Vision.

6. Light bulbs that are not covered under warranty.

7. The Merlin LCD Plus monitor is not included in the lifetime warranty and it is covered for three years.

THERE ARE NO OTHER EXPRESSED OR IMPLIED WARRANTIES FOR THIS PRODUCT.

Service Process

We don't expect that you will need to have repairs on the Merlin LCD Plus 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. **The manufacturer cannot provide packaging for warranty repairs.** 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 Plus your choice for better vision.
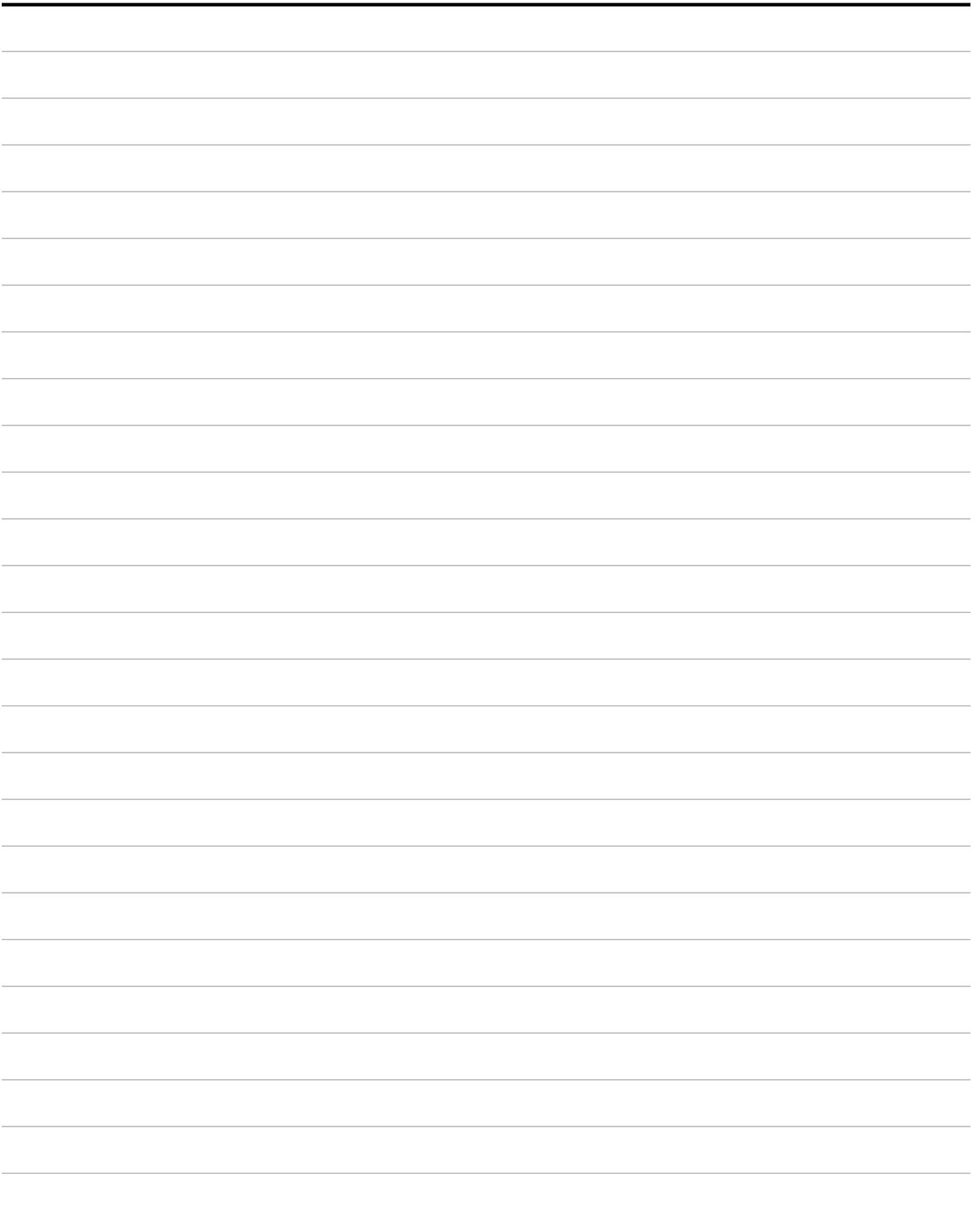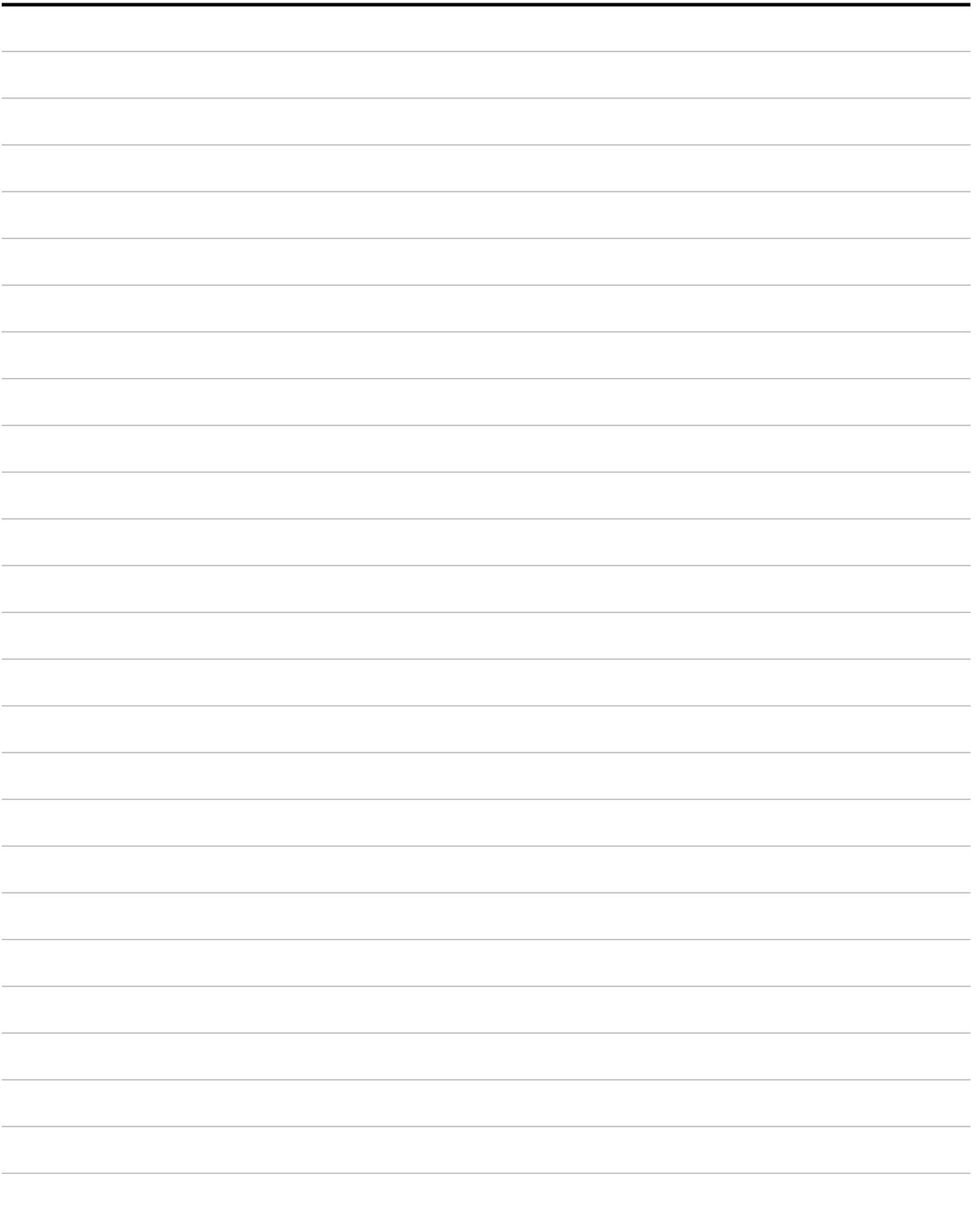
The Merlin LCD Plus video magnifier is designed to enlarge and enhance images to improve the lives of people who have low vision. The extent to which Merlin LCD Plus can improve the ability to see images and text depends on a person's individual condition and level of visual impairment. Merlin LCD Plus is not designed to restore vision, correct eye conditions or halt degenerative vision loss. An eyecare professional can best determine the suitability of Merlin LCD Plus for a patient's specific condition. For more information, please visit www.enhancedvision.com.

enhanced vision

www.enhancedvision.com

(800)440-9476
(714)465-3400

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