merlin PLUS

Users Manual

Congratulations on your purchase of Merlin Plus from Enhanced Vision. Merlin 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 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 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, change viewing modes for easier visibility, and establish preset buttons to your favorite viewing image sizes.

The auto-focus feature on Merlin Plus makes it simple to use and allows optimum convenience for most daily activities. Merlin Plus also includes an Intelligent Focus Lock feature for special viewing situations, such as writing.

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

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.

COMPUTER SYSTEM RECOMMENDED CONFIGURATION

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

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

- Processor Speed: Pentium III 500mhz

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

- Monitor: VGA/SVGA/XGA monitor with 15-pin
          analog connector

- Peripherals: CD-ROM drive

          One 9-pin serial port available

- No Internet connection is required

- No additional software is required besides Merlin Plus Remote Software

* For system video requirements, refer to the PC Compatibility section on Page 38.

MERLIN PLUS AT A GLANCE

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

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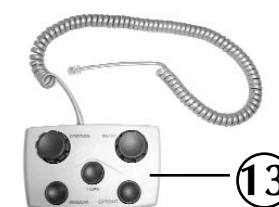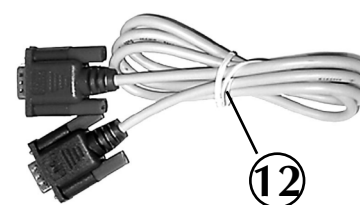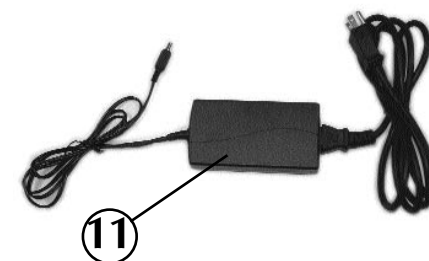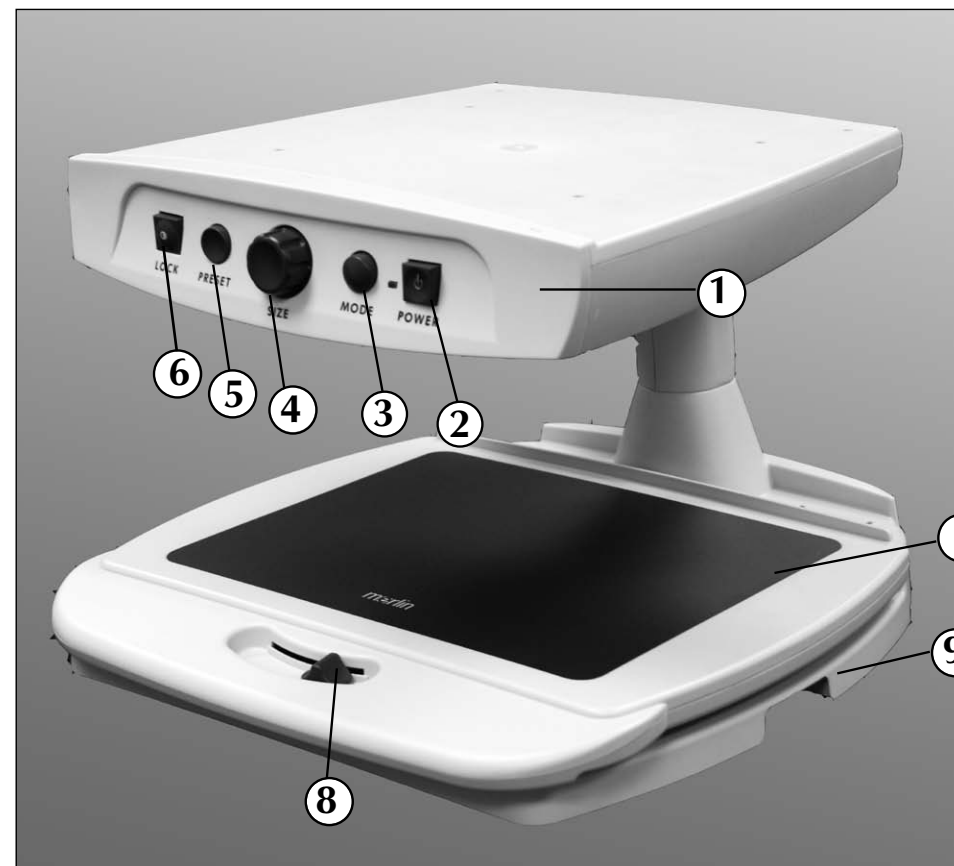
SAFETY AND CARE

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

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

Merlin 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 Plus for a patient's individual impairment.

Precautions

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

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

• Merlin Plus should be used indoors, and should not be exposed to extreme or rapid changes in temperature or humidity. Do not place Merlin 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.

• Do not put a TV or monitor weighing more than 100 lbs., or one larger than a 20-inch screen on Merlin Plus' upper platform.

• 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 Plus near water and do not attempt to disassemble the unit.

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

To Move Merlin Plus to Another Location

• If you are repositioning Merlin Plus a short distance across a desk or table, make sure you do not pull on any power cords or connector cables.

• If you are moving the system to a different location within your home or office, it is recommended that Merlin Plus and the monitor are moved separately, not with the monitor on Merlin Plus' upper platform.

• Disconnect and secure all power and video cables and lock the X-Y table before moving the unit.

• Carry Merlin Plus only by the two recessed handles located on either side of its base.

• Situate Merlin Plus securely in its new location before replacing the monitor on the upper platform.

Caring for Merlin Plus

• Always turn the power OFF for both Merlin Plus and the monitor when the system is not in use.

• Always turn the power OFF before cleaning Merlin Plus.

• The plastic surfaces of Merlin 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 Plus' packaging.

SETTING UP MERLIN 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 38.

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

2. Carry Merlin 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. Place the VGA monitor on the Merlin Plus platform.

3. Connect the built-in VGA cable from your VGA monitor to the port labeled "MONITOR" on the back of Merlin Plus (see figure 2). Plug the VGA Monitor's power cord into the outlet.

4. Connect the female end of the VGA extension cable provided (item 12 on page 7) into the port labeled "COMPUTER" on the back of your Merlin Plus. Connect the male end of the VGA extension cable into the 15-pin VGA output port on your computer. This is usually where you would connect your VGA monitor to your computer (see figure 3).

5. Connect the foot switch cable provided (item 14 on page 7) into the jack labeled "FOOT SWITCH" on the back of Merlin Plus.

6. Plug the power supply cord (item 11 on page 7) into the outlet and the other end into the DC IN 12V jack on the back of Merlin Plus (see figure 4).
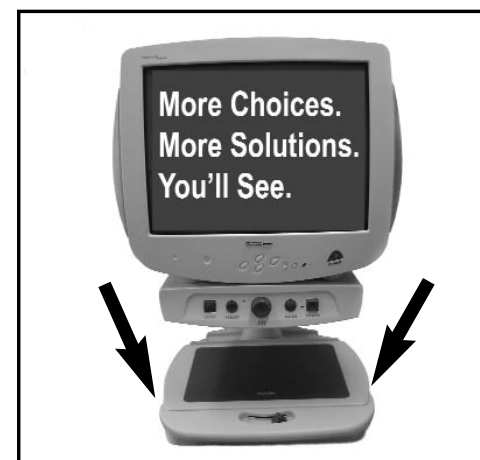
b. With a TV Monitor

figure 1

figure 2

figure 3

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

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

3. Use the S-VIDEO cable (item 17 on page 7) to connect the TV-monitor to Merlin Plus. Connect one end to the jack on the back of the upper platform, and the other to the S-VIDEO jack on the back of the monitor (see figure 2).

4. Plug the power supply cord (item 11 on page 7)into the outlet and the other end into the DC IN 12V jack on the back of Merlin Plus' base (see figure 3).

5. Plug the TV monitor's power cord into the outlet.

Note: You may use the RCA yellow jack labeled "VIDEO OUT" on the back of Merlin Plus to connect a secondary TV monitor. Please be aware that this monitor will have functionality limited to Merlin Plus control panel viewing modes only (see page 19). For more information, refer to TV Monitor Features Available section on page 38.

c. With Remote Software or Control Box

Two options are available to control the Merlin Plus split screen, line markers, and window size features. It is recommended that you use the Merlin Plus Remote Software provided on the CD-ROM enclosed (see item 16 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 Plus with Remote Software

A. Connect using the USB port on your computer
• Connect the serial end of the USB Adapter to the serial end of Software cable (item 15 on page 7).
• Plug the phone jack end into the port labeled "CONTROL BOX" on the back of Merlin Plus.
• Plug the USB end into your computer
(see figure 1).

OR

B. Connect using the serial port on your computer
• Connect the software cable phone jack cord (item 15 on page 7) into the port labeled "CONTROL BOX" on the back of Merlin 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 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.

figure 1

figure 2

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

• 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 3

2. Merlin Plus with Control Box

Connect the phone jack end of the Control Box Coil Cable (see item 13 on page 7) into the port labeled "CONTROL BOX" on the back of Merlin Plus(see figure 4).
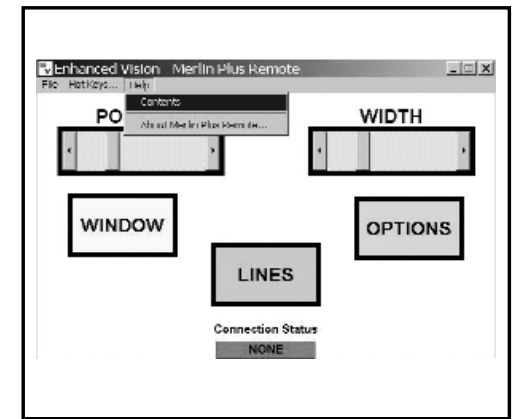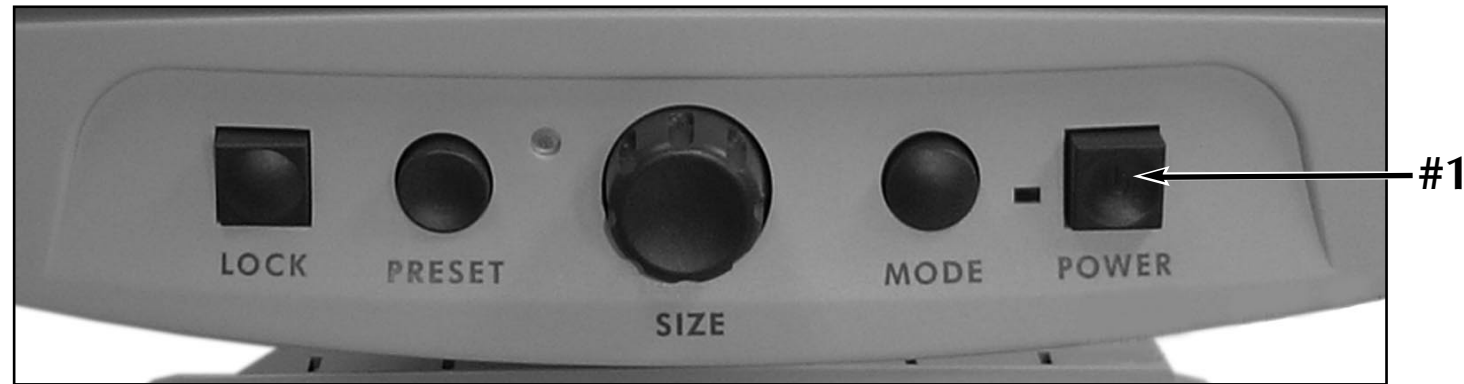

figure 4

d. With External Video Source

If you want to use an external video source with Merlin Plus, simply connect a RCA video cable (see item 10 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 Plus as shown in figure 1.

figure 1

TURNING ON MERLIN PLUS

#1

Merlin Plus Power Button

The Power button on Merlin 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.

ABOUT MERLIN PLUS REMOTE SOFTWARE

Merlin 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.

figure 1

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

The software will always be automatically running upon a new Windows session. To turn OFF the software completely, please refer to page 18.

figure 2

Accessing the Main Application Window

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

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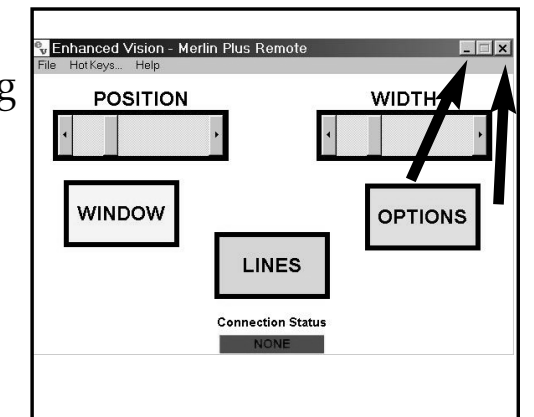
Note: to close the Main Application Window, press the ALT+F4 keys on your computer keyboard simultaneously.

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 18.

Using the Default HOT KEYS

Default HOT KEYS have been programmed into the Remote Software application.

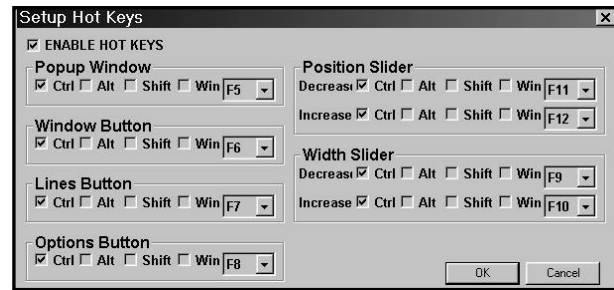|	
Main Application Window	CRTL and F5
Windowing	CRTL and F6
Line Markers	CRTL and F7
Options	CRTL and F8
Width - Decrease	CRTL and F9
Width - Increase	CRTL and F10
Position - Decrease	CRTL and F11
Position - Increase	CRTL and F12

figure 3

HOT KEYS allow for a quick operation of Merlin 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 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 15) 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 15. 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.
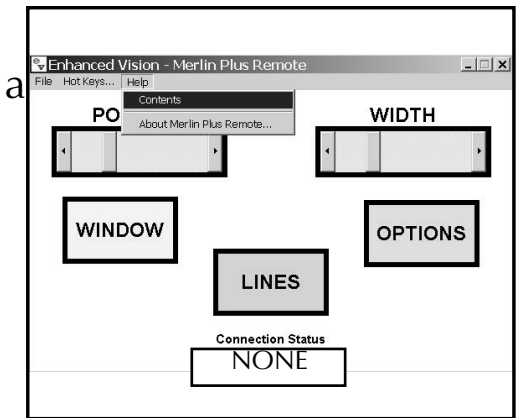
figure 4

About the CONNECTION STATUS Indicator

The CONNECTION STATUS indicates if a valid connection is detected with Merlin Plus. A green indicator shows an active connection (ACTIVE PORT 1) (see figure 5). A red indicator shows a non-valid connection-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 Plus Remote Software:

If you want to completely exit from Merlin 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 16 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 Plus Remote Software:

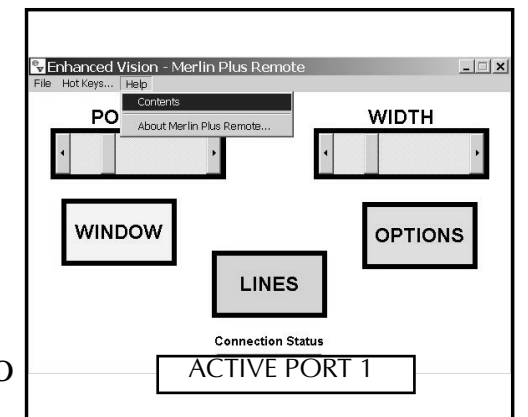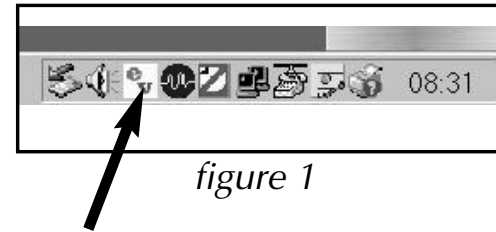To uninstall the application completely from your system, use the START MENU, PROGRAMS, MERLIN PLUS REMOTE and click on the UNINSTALL icon. In the uninstall window, click on YES to proceed with the un-installation.

CHANGING VIEWING MODE

a. Using Merlin 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

Enhanced Positive

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 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.

NOTE: The control panel viewing modes are applicable to either a VGA monitor or a 20" TV monitor.

b. Using Merlin 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

• **Full Video Magnifier Image**

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

• **Full Computer Image**

This mode displays the full image coming from the computer attached to Merlin 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 Plus' lights can be turned OFF. You may turn OFF Merlin Plus' lights using the light control. See item #18 on page 7. This will prevent glare while keeping Merlin 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).
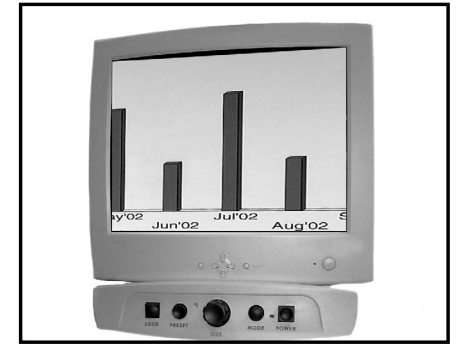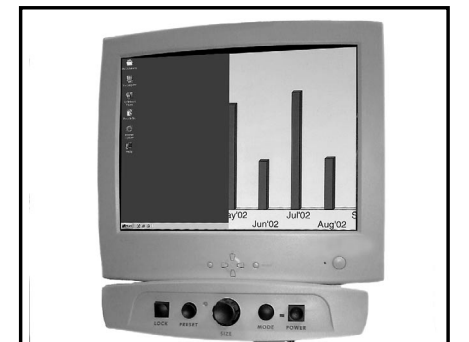

figure 1

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 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 20 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).
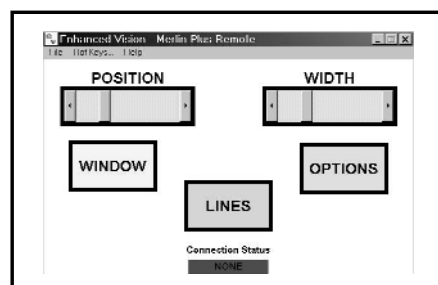
d. Using Merlin Plus Foot Switch Viewing Modes

• 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 20.
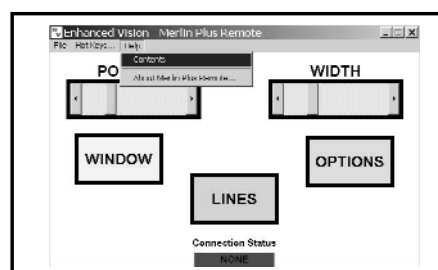
figure 7

CHANGING MAGNIFICATION
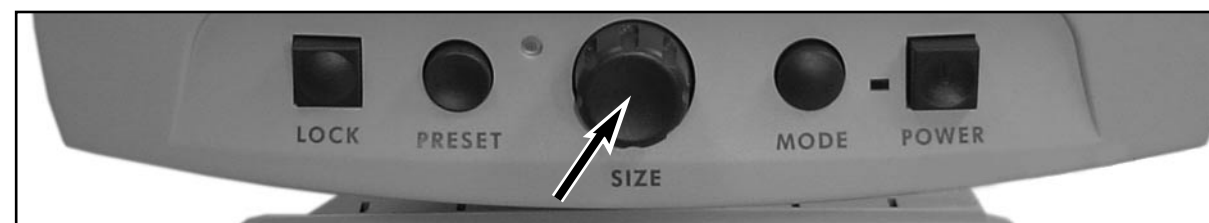
figure 1

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 Plus.

• 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

USING LINE MARKERS

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 38.

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 38.

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.

figure 2

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

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 38.

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.

figure 1

b. With Remote Software

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 38.

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.
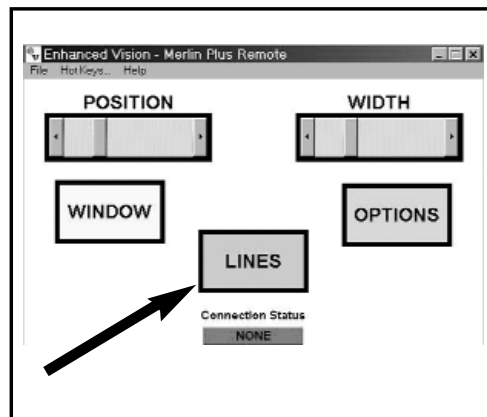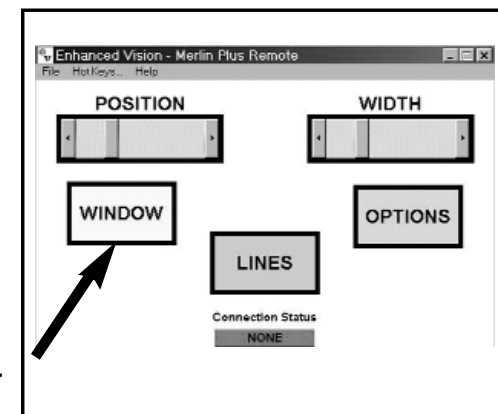

figure 2

USING SPLIT SCREEN

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 38.

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 38.

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.
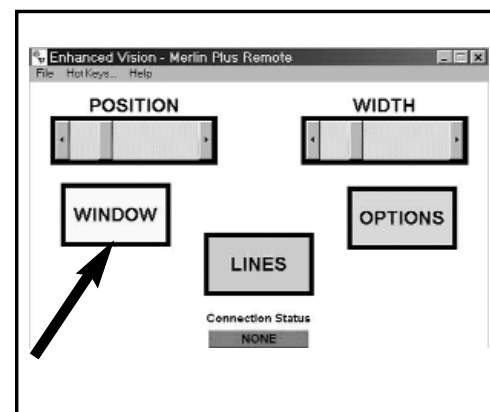
SETTING MAGNIFICATION PRESETS

#1   **#2**
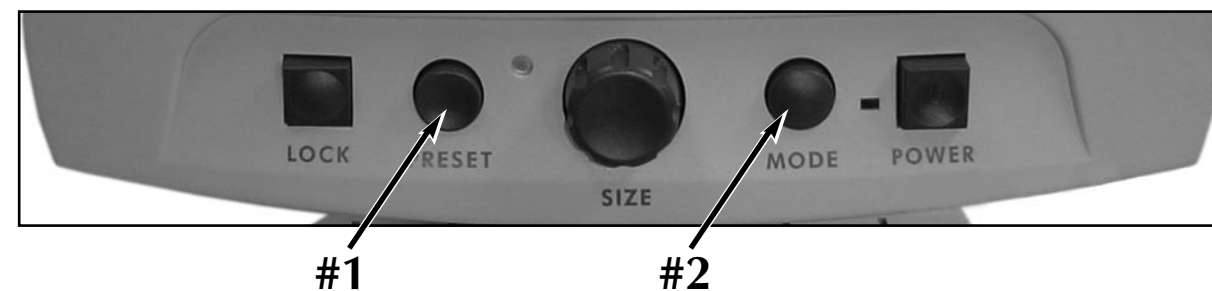
At the factory, Merlin Plus has been preset at magnification levels 4 and 11. However, you can program Merlin Plus to your two favorite levels, and change those levels at any time.

Using the Preset Button

Merlin Plus' Preset button is used for three operations: 1) **to switch between two different magnification presets; 2) to run the Object Locator feature; 3) to select an option when programming or training Merlin Plus.**

PRESET-SETUP

SET-PRESET-1

SET-PRESET-2

To Program Magnification Presets

1. Press and hold the PRESET button (#1 above) and then at the same time press and hold the MODE button (#2). The words "PRESET SET-UP" will appear on your monitor.
2. Take your hands off the two buttons and "SET PRESET 1" will appear on the monitor.
3. Turn the SIZE dial to any size you desire.
4. Press the PRESET button once to make that selection.
5. The monitor will now display "SET PRESET 2."
6. Turn the SIZE dial to the second size you desire.
7. Press the PRESET button once again to make that selection.

Your two favorite magnification sizes have now been programmed.

The level set with the SIZE dial overrides sizes arrived at by using the PRESET button. For example, if the SIZE dial is set to size 8 and then you press PRESET to go to a smaller size, the next time you turn the SIZE dial to increase or decrease size it will immediately go to that new size.

OBJECT LOCATOR

Merlin Plus' Object Locator feature can help you quickly locate something you're looking for on a page, or a specific part of an object you want to view more closely.

To Locate the Desired Object:

1. Select the level of magnification desired.

2. Press and hold the PRESET button. Merlin Plus will automatically zoom out to the widest field of view, and a "target" (as shown in figure 1) will appear in the center of the monitor screen.

If you hold the button down for more than 10 seconds the target will disappear.

figure 1

3. Use the X-Y table and move your work or reading material until you have located the desired item within the "target" area.
4. Release the button and Merlin Plus will magnify the item you located within the targeted area.
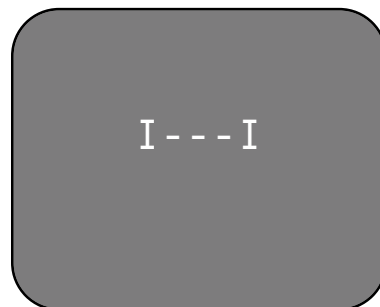
INTELLIGENT FOCUS LOCK

When Merlin Plus is turned on, it is automatically set on auto focus. This is the most convenient setting for everyday activities, such as reading anything from a single page to a thick book, reading a prescription bottle, or working with arts and crafts.

FOCUS LOCK allows you to maintain focus on a specific object at a fixed distance, such as for writing. Merlin Plus' INTELLIGENT FOCUS LOCK feature will automatically refocus on the object you are viewing after changing magnification size.

To Use Focus Lock for Writing

1. Place your note paper, stationery, checkbook or other writing material on the X-Y table.

2. Press the LOCK button on the control panel. The letters "FL" will appear and remain in the upper left corner of the monitor.

Merlin Plus will now keep your writing in focus, rather than your hand when it comes into the camera's frame.

If you change magnification sizes, INTELLIGENT FOCUS LOCK will automatically refocus on the desired object or page.

3. To return to AUTO FOCUS, press the LOCK button. The letters "AF" will appear in the upper left corner of the monitor.

USING MERLIN PLUS COLOR SELECT OPTIONS

Merlin 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 Plus provides up to 28 color combinations to best fit your eye condition. See page 37 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 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

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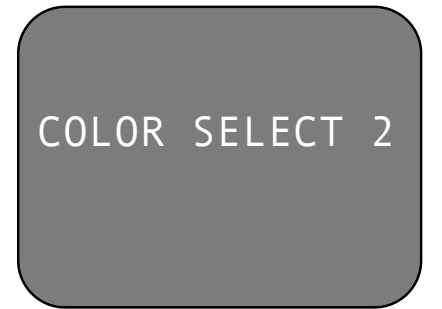
COLOR SELECT 2

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.

• If you want to turn OFF the current COLOR SELECT (1-5) option, select OFF by turning the SIZE button clockwise.

• **OR**, if no change is desired select EXIT by turning the SIZE button clockwise.

• Then, press the PRESET button to save the settings.

POSITIVE SET II
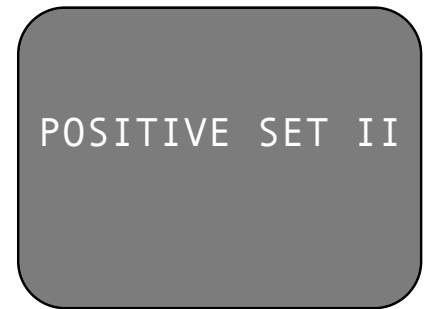
Step 3

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

EXIT

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
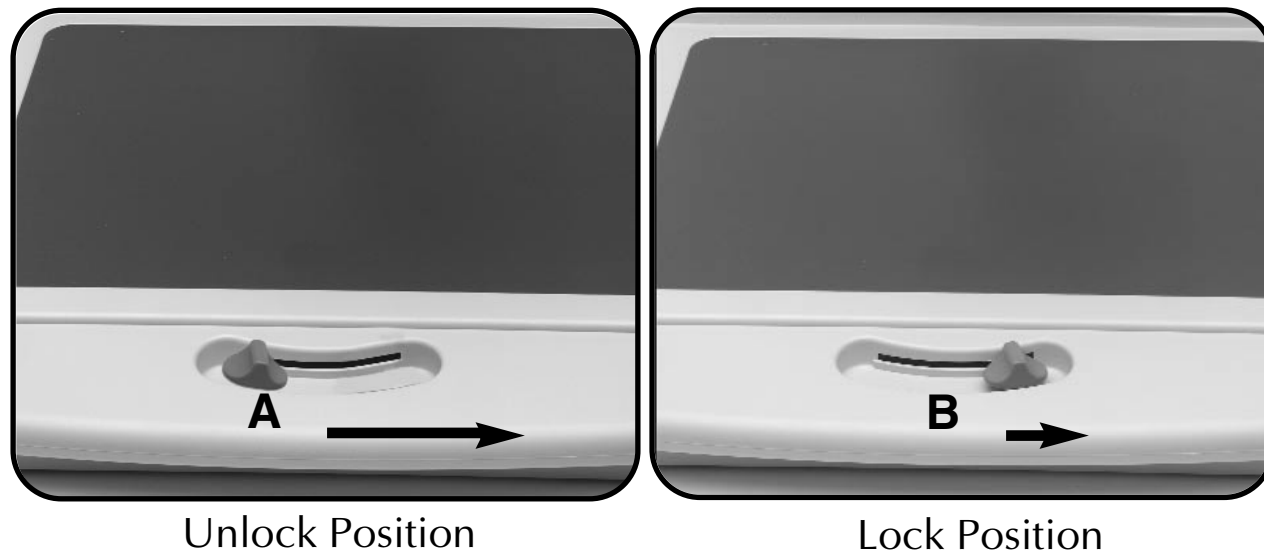
Reading with the X-Y Table

1. With the X-Y table unlocked, place a book, newspaper, etc., on the table.

2. Use the Object Locator feature (see Page 28) and move the X-Y table to position the start of your reading in the approximate center of the monitor screen.

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 3, 4, and 5 to continue reading.

TIPS FOR READING AND WRITING

Reading with Merlin 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.

• When using the Object Locator feature, place your finger where you want to begin reading to quickly find your place.

Writing with Merlin Plus

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

USING A COMPUTER WITH MERLIN PLUS OFF

figure 1

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

figure 2

MERLIN 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

Intelligent focus lock function for fixed targets applications

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

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

Magnification:

6X to 72X on a 20″ monitor   Field of view: 2.8″ (7.2cm) (H) * 2.1″ (5.4cm) (V) at 6X

5X to 61X on a 17″ monitor

4X to 50X on a 14″ monitor

Control Panel:

Intelligent focus lock: Auto-focuses upon zoom adjustment then freezes focus for tasks requiring fixed focus

Locator/Preset: Quick locator finder that displays an onscreen target to help orientation at high zoom levels

Allows 2-user defined zoom levels to be stored for convenience

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

     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

Viewing Mode Features Available:

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

VGA Monitor 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

TV Monitor Features Available

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

RCA Composite video output for CCTV modes

RCA Composite video input for external camera modes

12VDC Power input Computer VGA input (SUB-D15)
Split screen VGA output (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 Plus Does Not Turn ON
- Make sure the power supply is the proper one for Merlin 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 Plus.
- Check the power strip/surge protector's ON/OFF switch and circuit breaker if Merlin Plus is plugged into one.
- Push the POWER button on Merlin Plus' control panel. A green light next to the POWER button should turn ON, indicating the power is ON (see page 14).

2. The VGA Monitor Does Not Turn ON
- Make sure the VGA monitor power cord is completely plugged into the AC outlet.
- Check the power strip/surge connector if the monitor is plugged into one.
- Check that Merlin Plus is ON, a green light should be lit next to the control panel POWER button. If not check FAQ 1.
- Check that the VGA monitor cable is properly secured into the port labeled MONITOR in the back of Merlin Plus (see page 10).

3. The 20" TV Monitor Does Not Turn ON
- Make sure the power cord is completely plugged into the outlet.
- Check the power strip/surge protector if the monitor is plugged into one.
- Press the power button on the lower right corner on the front of the monitor. A picture should appear within a few moments (see page 11).

4. Merlin Plus Does Not Display any Picture on the TV Monitor
- Check that Merlin Plus is ON. If not, check FAQ 1.

- Check that the TV monitor is ON. If not, check FAQ 3.
- Check that the S-VIDEO cable is properly secured in the back of both Merlin Plus and the TV monitor.

5. Merlin Plus Does Not Display any Picture on the VGA Monitor
- Check that Merlin Plus is ON. If not, check FAQ 1.
- Check that the VGA monitor is ON. If not, check FAQ 2.
- Check that the VGA monitor cable is properly secured into the port labeled MONITOR in the back of Merlin Plus.
- Check that the VGA monitor used is compatible with Merlin Plus. See specs sheet on page 38. Merlin Plus outputs a default XGA 1024x768 60 Hz resolution when no computer is connected.

6. Merlin Plus Lights are Not ON
- Check that Merlin Plus is ON. If not, check FAQ 1.
- Check that the light switch (item 18 on page 7) under Merlin Plus' control panel is ON.

7. 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 Plus.
- If no computer or external video is connected to Merlin 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.

8. 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 Plus.
- Please refer to Setting Up Merlin Plus with Remote Control Software or Control Box on page 12 for further details.

9. 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 Plus.
- Maximize the application software window and make sure the communication indicator is green. A red indicator indicates a faulty computer to Merlin Plus communication. The software automatically detects a proper connection so no configuration is required.

10. The Computer Display is Not Available on Merlin Plus Even Though My Computer is ON and Connected Properly
- Turn Merlin Plus OFF, you should see the full computer image on the VGA monitor. If not, check that all VGA cable connections are secured.
- Once you can see the computer image with Merlin Plus OFF, check that your computer is set to one of the compatible resolutions and refresh rates listed on the PC Compatibility Specifications on page 38.
- For directions on how to change display properties on your operating system, please refer to your operating system user's guide.
- Once a compatible resolution and refresh rate have been set, turn ON Merlin Plus. You should now be able to use the FOOT SWITCH on the control box.

11. 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 Plus.
- Clean the monitor screen with a non-abrasive cloth sprayed with a glass cleaning solution.
- Check the FOCUS LOCK/AUTO-FOCUS button and switch to the other setting (AUTO-FOCUS) (see page 29).

12. X-Y Table Does Not Move Smoothly

• Make sure the locking lever is positioned completely to the left (see page 32).

13. 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 32).

14. Using a Non-Enhanced Vision or Additional TV/Monitor

• If you choose to use a TV or monitor other than one from Enhanced Vision, it must have an RCA-style VIDEO IN jack, either on the back or the front, to work with Merlin Plus.

• Your TV or monitor must not weigh more than 100 lbs. or be larger than a 20" model to be used safely on Merlin Plus' upper platform. It should be connected to the VIDEO OUT jack on the back of the upper platform.

• A TV or monitor larger than 20" or weighing more than 100 lbs. must be placed next to Merlin Plus on the desk or table at which you will be working. It should be connected to the VIDEO OUT jack on the back of Merlin Plus' base.

15. Light Bulb Burns Out

Your Merlin 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

Pebble – *Compact, Ultra-Portable Magnification!*

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. Six 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

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

Flipper Panel – *Integrated and Portable!*

This powerful, portable magnifier integrates the Flipper 225-degree rotating camera with a slim, LCD platform. Powered by an innovative battery pack, the Flipper Panel runs up to 4 hours on a single charge. The discrete camera projects a full-color, auto-focus image on the screen for both near and distance viewing.

Magnification: 1X – 26.4X (with optional stand)

$C\epsilon$

Acrobat LCD

With a built-in 19" LCD, the Acrobat is a 3-in-1 video magnifier ideal for near, distance and self viewing. By rotating the camera, you can read, write, groom, and magnify images at any distance. The Acrobat LCD offers a complete system for those at work, school or home.

$C\epsilon$

Magnification: 2.5X – 65X (19" LCD)

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.

$C\epsilon$

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.

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

Contact information:

(US Office, toll free): (800) 440-9476
(US Office) Phone: (714) 465-3400   **Fax:** (714)374-1821
(UK Office) Phone: +44 (0)115 9442317 **Fax:** +44 (0)115 9440720
www.enhancedvision.com   evsupport@enhancedvision.com

WARRANTY

Enhanced Vision
Merlin 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 Plus has been inspected and tested prior to shipping.**Our company stands behind the quality materials, components and workmanship of the Merlin 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 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 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 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 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 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 Plus with a similar or better product.

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

6. Light bulbs that are not covered under warranty.

7. The Merlin 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 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 Plus your choice for better vision.

enhanced
vision

The Merlin 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 Plus can improve the ability to see images and text depends on a person's individual condition and level of visual impairment. Merlin 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 Plus for a patient's specific condition. For more information, please visit www.enhancedvision.com.

www.enhancedvision.com
(800) 440-9476 (US Office, toll free)
(714)465-3400 (US Office)
+44 (0) 9442317 (UK Office)

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