



***Pointmaker*® PVI-40™**
Video Marker

User's Manual

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Release Notes: **For PVI-40**

OVERVIEW:

Recently, Boeckeler Instruments, Inc., made the following enhancements to the **PVI-40 video marker**:

- Added a second RS-232 port.
- Added compatibility with certain touch screens.

These release notes supplement the **PVI-40 User's Manual** by providing information specific to these two new features.

ADDITIONAL RS-232 PORT:

A second RS-232 port has been added to the **PVI-40** back panel (refer to Figure 1.1). With the addition of this port, two controllers that use an RS-232 port may be installed rather than just one as previously. For example, two touch screens can be installed, or two digitizing tablets, or a touch screen and a light pen. Figure 1.1 on the following page replaces Figures 1.6 and 1.7 in the **PVI-40 User's Manual**.

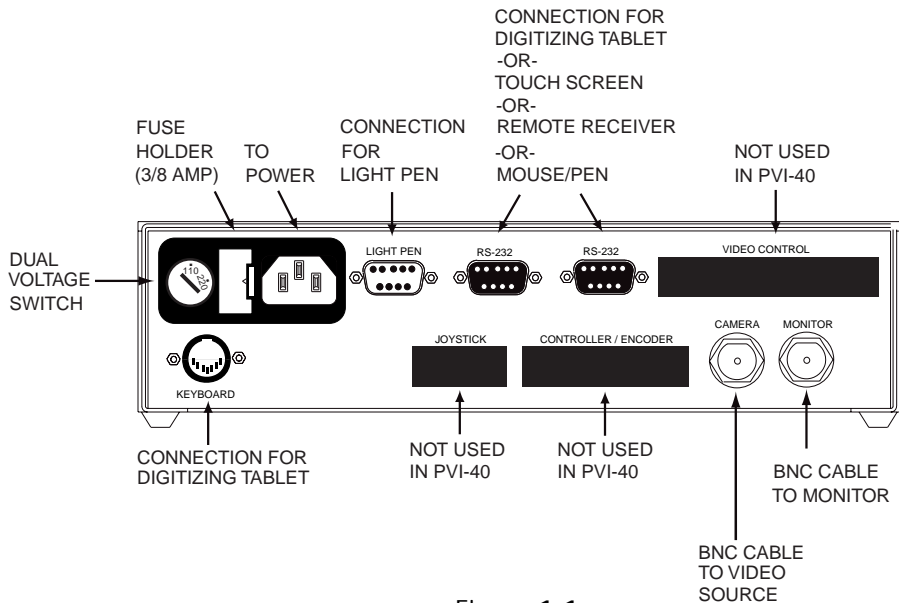


Figure 1.1
Back Panel of PVI-40

TOUCH SCREEN:

The **Pointmaker PVI-40** is engineered for use with some Elographics AccuTouch® and IntelliTouch® touch screen products (sold by that manufacturer, custom ordered for use with composite systems). The touch screen functions as a primary interface for the **Pointmaker PVI-40**. We recommend that when using two touch screens, the touch screens be the same model and size to ensure proper calibration.

In general, a human finger is used on the touch screen to draw, position pointers, or make menu selections. The broad definitions of the areas (or zones) on the touch screen are listed on the next page. Refer to this section and Figure 1.2, if needed, when general instructions in the manual ask users to make setup selections, to position or anchor a pointer, to draw, or to move a cursor.

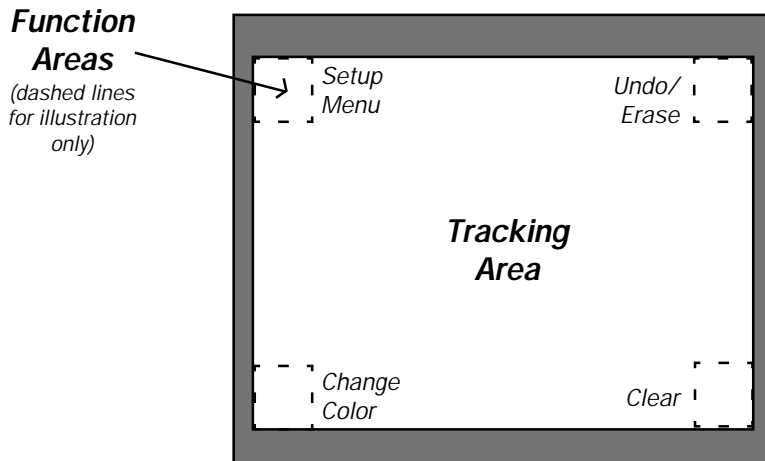


Figure 1.2
Elographics Touch Screen
when used with a PVI-40

TRACKING AREA

The area on the touch screen that responds to the movements of a human finger. Users draw and point in this *Tracking Area*.

FUNCTION AREAS

The four corners on the touch screen that, when tapped, activate a function. Tapping the *upper-left corner* calls up the **Setup Menu** from which to make a variety of selections including pointer type, line style, color palette, brightness, background, hardware setup, or help. Tapping the *lower-left corner* changes the shade of the next pointer that will be displayed or next line to be drawn. Tapping the *lower-right corner* clears the screen of all markers (drawn lines and pointers). Tapping the *upper-right corner* will undo (erase) only the most recently anchored marker.

Marker and Cursor Movement

When operating the **PVI-40** with an Elographics touch screen, the pointer will be displayed and anchored any time a user taps the screen (unless the pointer is disabled in the **Setup Menu**). Users cannot reposition a pointer on the touch screen; however, a pointer may be cleared or erased from the screen. Drawing takes place when users press a finger on the *Tracking Area* of the screen and draw. Menu selections are made by tapping the options in the menu that is displayed.

Calibrating the touch screen enhances the intuitive feel of drawing on the display. Users calibrate the touch screen upon initial installation and whenever a new touch screen or monitor is used. Calibration instructions are under "INSTALLATION".

INSTALLATION:

To install the PVI-40 with a separately purchased Elographics touch screen (refer to *Figure 1.3*):

1. Follow all monitor installation procedures accompanying the separately purchased touch screen.
2. Connect one of the RS-232 ports on the back of the PVI-40 to the Elographics RS-232 interface.

NOTE: If users change controllers they will need to power down, install the new controller, then power up.

It is suggested that the touch screen not be operated concurrently with a light pen on the same monitor.

3. Upon first power up, or whenever a new monitor is connected, be sure to **calibrate the touch screen with the PVI-40**.

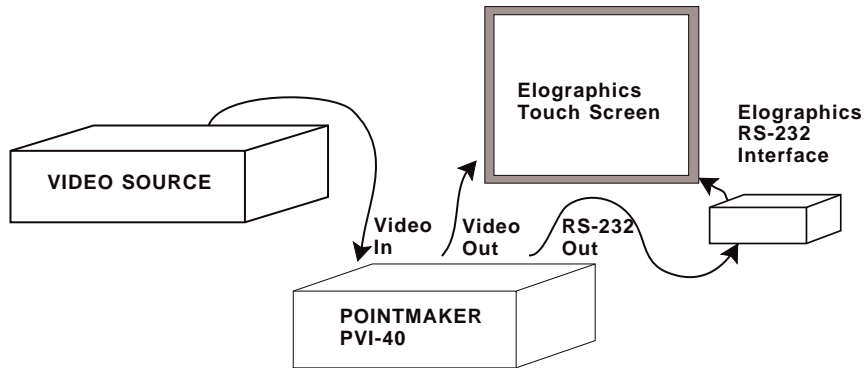


Figure 1.3
**PVI-40 Installation
 with Touch Screen**

- A. To calibrate, **power up the PVI-40 and wait for the copyright message to appear.**
- B. During the 8-second copyright message, **touch the screen anywhere.**
 The **Touch Screen Calibration Menu** will appear on-screen.
- C. **Follow instructions displayed in the menu.**

NOTE: Users may also calibrate from the **Setup Menu**. However, calibrating during start-up is the recommended method for touch screens.

4. If desired, **copy the touch screen labels on the following page and affix them to the corresponding corners of the touch screen.** This may be an aid to presenters unfamiliar with touch screen functions. Each label identifies the function of its assigned corner (the filled block in the corner of each square identifies which corner of the monitor it should be placed).

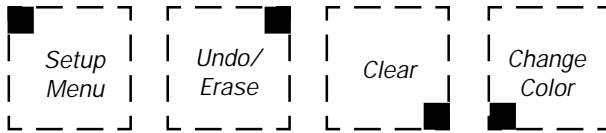


Figure 1.4
Touch Screen Labels

NOTE: Color stickers of these touch screen labels are available by calling Boeckeler Instruments at (800) 552-2262 or (520) 745-0001.

Pointmaker[®] PVI-40
Video Marker

User's Manual

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Section One: Getting Started

INTRODUCTION

The **Pointmaker**® **PVI-40**™ **video marker**, by Boeckeler Instruments, Inc., is an innovative video component which allows users to draw and direct arrows or other pointers over composite video images. The **PVI-40** is a visual aid for group discussion, allowing presenters to quickly and easily annotate areas of interest on monitors or displays used in boardrooms, classrooms, sports or news broadcasts, videoconferences, courtrooms, and more. Video systems utilizing a video recorder or video printer can record both the image and the **PVI-40** markers for future presentations.

Drawing lines and pointers are controlled by the user during a presentation through the use of one or both controllers: the digitizing tablet (**PVI-40D**) and the light pen (**PVI-40L**). The **PVI-40** is also compatible with a mouse pen, other mouse devices, and some remote pointing devices.

Several simple-to-use graphics, called **markers**, are available with the **PVI-40**. There are two types of markers with which to annotate a video image: **pointers** and **drawn lines**. Among the 12 pointers available, there is a selection of 8 **arrows**, each oriented at a different angle; 2 **dot pointers**, small and large; and 2 **cross hairs pointers**, small and large. Of course, there is an option to display no pointer at all. The second marking capability is drawing. Users can select to draw in 1 of 3 different **line thicknesses**, with or without **drop shadows**. Pointers and drawn lines may be used in combination to annotate the image.

For additional presentation impact, **different gray levels** (or shades) may be applied to each marker. For example, a white drawn circle can be displayed with black arrows and a gray cross hairs pointer.

If a video image is not desired, presenters may quickly call up a solid **background** on the screen and use it like a chalkboard on which to "draw out" a point.

As easily as the markers are created, so are they easily **erased**, either one at a time until the screen is **clear**, or all at once.

The **PVI-40** is compatible with most common video standards found in cameras, monitors, recorders, video presentation products, and many other types of video equipment. The **PVI-40** can be used with monochrome EIA RS-170 and color composite NTSC sources and displays. Export models are available for use with CCIR and PAL video standards.

Note: *On both monochrome and color systems, the **PVI-40** markers will be displayed in monochromatic shades between black and white.*

Components required to use the **PVI-40** are listed in *Figure 1.1* below.

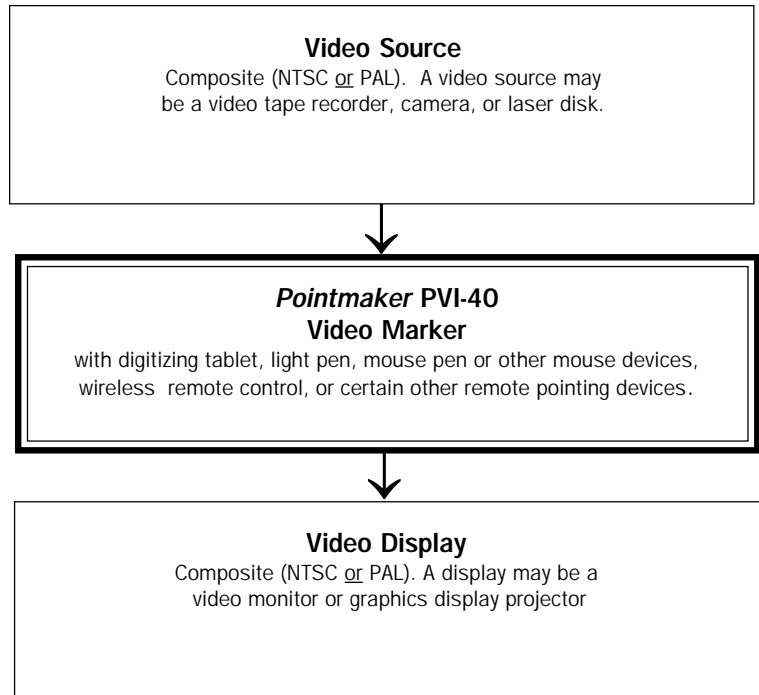


Figure 1.1
General System Configuration

FEATURES

VIDEO MARKER

- **Freehand drawing** mode allows drawing or writing. Three different line thicknesses: fine, medium, and bold, with or without a drop shadow.
- **Pointers** including arrows, dots, and cross hairs, which may be moved or anchored anywhere on the screen. Arrows may be preset to point in one of 8 different angles. Dots and cross hairs may be pre-selected in a small or large size.
- The ability to **position and anchor** a combination of several pointers and drawings on the screen at once.
- Options for **clearing lines and pointers** from an overlay all at once or one at a time, beginning with the most recently anchored marker.
- Ability to **attribute up to 3 different shades to a marker**. These 3 shades can be selected from a **Color Palette Menu** which offers 7 different shades -- black, white, and 5 shades of gray.
- A **drop shadow** effect may be selected to further optimize the display of drawn lines. The shade of the drop shadow may be assigned in a **Color Palette Menu** as black, white, or one of 5 shades of gray.
- If a **solid background** is desired rather than a live video image, a "chalkboard" option may be selected.
- **A Setup Menu** provides an easy means to make presentation style selections before the presentation.
- **Brightness adjustment**, selected from the **Setup Menu**, gives users

the opportunity to set the brightness of the **PVI-40** markers to coincide with the brightness level of the video signal.

- **On-screen Help** to assist presenters in quickly setting up their presentation.

COMPONENTS

DIGITIZING TABLET (PVI-40D)

The **PVI-40** digitizing tablet (refer to *Figure 1.2*) functions as a primary interface for the **Pointmaker PVI-40D**. In general, the tablet is used to draw, position pointers, or make menu selections by converting the position and movements of the stylus into digital information that is represented on the monitor or screen. Additionally, most setup choices can be made by pressing a tablet icon (rather than entering an on-screen setup menu).

The broad definition of the two areas (or zones) on the tablet, and the buttons on the stylus are listed below. Refer to this section, if needed, when general instructions later in the manual ask users to make setup selections, to position or anchor a pointer, to draw, or to move a cursor.

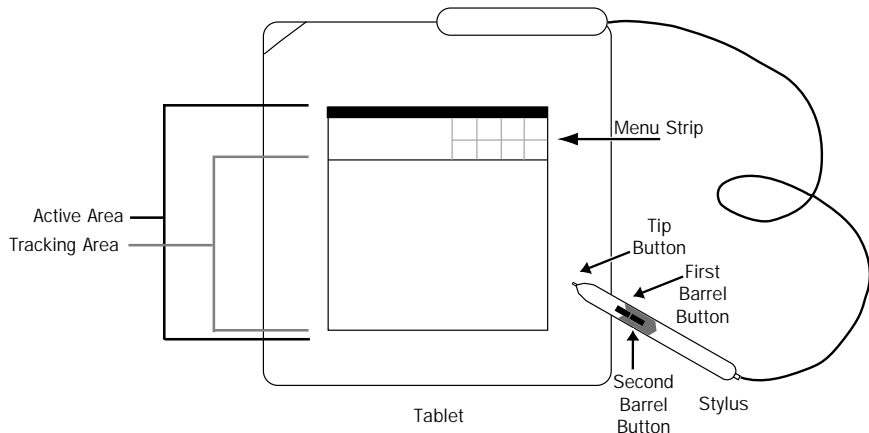


Figure 1.2
PVI-40D Digitizing Tablet

ACTIVE AREA	The maximum area on the PVI-40D digitizing tablet that responds to the stylus. This area measures 5" x 5" and includes the <i>Menu Strip</i> , as well as the <i>Tracking Area</i> .
TRACKING AREA	The region within the tablet's <i>Active Area</i> that responds to the stylus movements. The <i>Tracking Area</i> corresponds to the screen area on the monitor or display. PVI-40D users draw and point with the stylus in the <i>Tracking Area</i> .
MENU STRIP	The icons (or options) at the top of the <i>Active Area</i> which are pressed to select pointer type, background, line style, brightness, and marker colors. The <i>Menu Strip</i> is also used when operators wish to clear the screen of markers or undo (erase) markers one at a time.
TIP BUTTON	When pressed on a <i>Menu Strip</i> icon, the <i>Tip Button</i> activates that icon's function. When the <i>Tip Button</i> is pressed anywhere on the <i>Tracking Area</i> and dragged, drawing takes place. When the tip button is lightly dragged within the <i>Tracking Area</i> , the pointer (if displayed) will move correspondingly. The <i>Tip Button</i> is used in combination with the <i>First Barrel Button</i> to access the Setup Menu from which to make selections which are not available in the <i>Menu Strip</i> ; i.e., accessing help messages.
FIRST BARREL BUTTON	When <i>clicked</i> , this button anchors the active pointer, if a pointer is displayed. The <i>First Barrel Button</i> is also used in combination with the <i>Tip Button</i> to call up the Setup Menu from which to make selections which are not available in the <i>Menu Strip</i> ; i.e., accessing help messages or assigning a drop shadow.
SECOND BARREL BUTTON	Not used.

Marker and Cursor Movement

Unlike a mouse controller, a tablet allows users to make their drawings and place pointers with *absolute* positioning. This means that the position of the stylus on the tablet surface corresponds directly to the position of the pointer, drawn line, or cursor on the screen. If you place the stylus in the lower-left corner of the tablet, the active pointer moves to the lower-left corner of the screen. Absolute positioning may take a few moments to adjust to if presenters have never used a tablet.

LIGHT PEN (PVI-40L)

The **PVI-40** light pen (refer to Figure 1.3) functions as a primary interface for the **Pointmaker PVI-40L**. In general, the pen is used like a writing utensil when it is drawn against the screen to draw, position pointers, or make menu selections. The broad definitions of the two buttons on the light pen controller are listed below. Refer to this section, if needed, when general instructions later in the manual ask users to position or anchor a pointer, to draw, or to position a cursor.

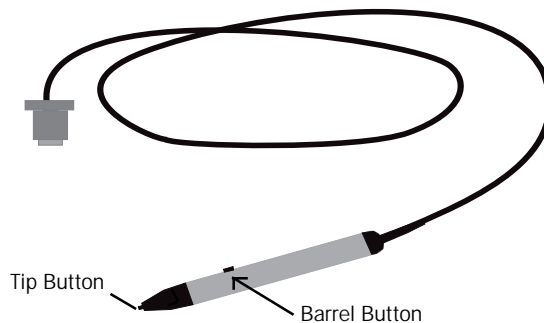


Figure 1.3
PVI-40L Light Pen

TIP BUTTON

The *Tip Button* positions active (positionable) pointers when lightly traced across the screen of the monitor. Pointers are anchored by pressing the *Tip Button* into the screen and releasing. Freehand drawing is accomplished when the *Tip Button* is pressed into the screen and "drawn" across the screen much like a writing utensil.

The *Tip Button* is used in combination with the *Barrel Button* to change the shade of a marker or to call up the **Setup Menu**.

BARREL BUTTON

When *clicked*, this button erases the most recently anchored marker. When *pressed*, this button clears the screen entirely of markers. The *Barrel Button* is also used in combination with the *Tip Button* to change the shade of a marker or to call up the **Setup Menu**.

Marker and Cursor Movement

When operating the **PVI-40L** with the light pen controller, the active pointer may be moved anywhere on the screen by moving the light pen across the screen as one would move a writing utensil. The pointer or drawing will follow this movement at a specified offset. For example, "dragging" the pen to the left on the screen will correspondingly move the marker to the left on the screen. If the tip button is pressed into the screen while drawing to the left, the line will be drawn to the left.

Calibration of the light pen sets the margin (or offset) between the point that the light pen touches the screen and the point that drawing takes place. A greater margin or offset allows presenters to draw without obscuring the view with a hand or finger. Choosing no offset will assist users in predicting where a drawing line will begin. Users calibrate the light pen each time a new monitor or display is used. Calibration instructions are covered in **Section Two: Using the Markers**; "Calibrating *PVI-40* Controllers."

OTHER DRAWING DEVICES (general)

Several other drawing devices are compatible with the **PVI-40 video marker**. These include Microsoft® mouse controllers, mouse pens (refer to Figure 1.4), and some wireless remote devices (refer to Figure 1.5). These devices may be used like a writing utensil to draw, position pointers, or move a cursor by "drawing" the device across a mouse pad or (in the case of remote controls) in midair when aimed at the display. The broad definitions of the two buttons on these types of controllers are listed below. Refer to this section, if needed, when general instructions later in the manual ask users to position or anchor a pointer, to draw, or to move a cursor.

LEFT BUTTON or FIRST BUTTON

When *clicked*, the *Left or First Button* anchors pointers on the screen at the point they were positioned or makes menu selections. Freehand drawing is accomplished when the *Left or First Button* is pressed down while continuing to write or draw with the device across a smooth surface or in midair (in the case of a remote control). The *Left or First Button* is used in combination with the *Right or Second Button* to change the shade of a marker or to access the **Setup Menu**.

RIGHT BUTTON or SECOND BUTTON

When *clicked*, this button erases the most recently anchored marker. When *pressed*, this button clears the screen entirely of markers.

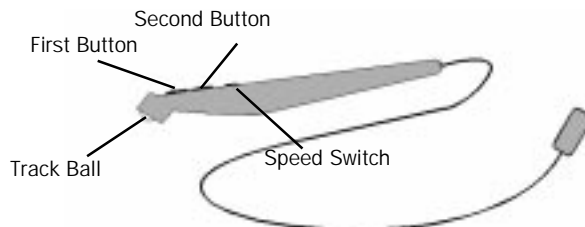


Figure 1.4
Mouse Pen Controller

The *Right or Second Button* is also used in combination with the *Left or First Button* to toggle through the color palette or to call up the **Setup Menu** from which to make a variety of selections including pointer type, line style, color palette, brightness, background, hardware setup, or help.

TRACK BALL

Moves the cursor or active pointer anywhere on the screen according to how the ball is rolled across a smooth surface (mouse device).

SPEED SWITCH

Switches the speed of the track ball from slow to fast (mouse pen).

Marker and Cursor Movement

When operating the **PVI-40** with the mouse or remote control, the active pointer or cursor may be moved anywhere on the screen by moving the mouse's *track ball* across a smooth surface, or by moving the remote control in midair. The active pointer or cursor will move respectively. For example, "dragging" the mouse to the left on the mouse pad or aiming the remote control to the left of the remote receiver will correspondingly move the pointer to the left on the screen. Directing the device to the right while drawing will draw a line to the right.

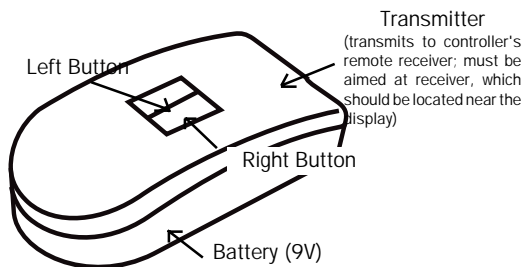


Figure 1.5
Wireless Remote Control

INSTALLATION

To install the PVI-40 with composite NTSC video sources and displays or composite PAL sources and displays:

1. Make all connections before applying power.
2. Video source connection (refer to *Figure 1.6*):
 - A. Using a BNC cable, connect the CAMERA connector on the back of the PVI-40 unit to the video output connector on the video source (e.g., VCR, camera, laser disk player).
3. Monitor/display connection (refer to *Figure 1.6*):
 - A. Using a second BNC cable, connect the MONITOR connector on the back of the PVI-40 unit to the video input connector on the video display (e.g., monitor, projector).

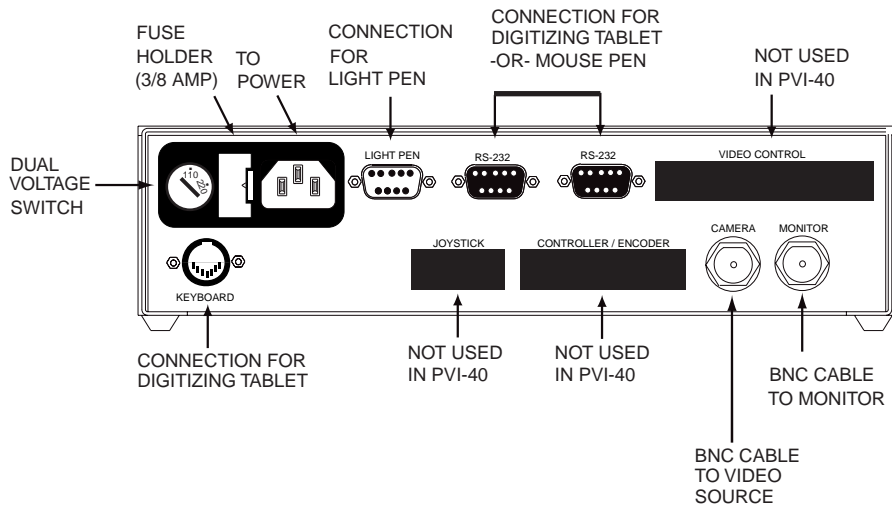


Figure 1.6
Back Panel of PVI-40 Base Unit

4. **Install the controller of choice.**

NOTE: Detailed installation instructions for each controller are featured at the end of this section.

5. Power supply:

- A. **Ensure that the DUAL VOLTAGE SWITCH on the back of the PVI-40 is in the proper position to coincide with the power source** (refer to *Figure 1.6*).
- B. **Plug the power cord into the back of the PVI-40 and then into any grounded outlet** (refer to *Figure 1.6*).
- C. **Plug the video source and display power cords into any grounded outlet.**
- D. For the wireless remote control, be sure to additionally **plug the remote receiver power cord into any grounded outlet.**
- E. **Turn on the video source and display, and then press the power button on the front panel of the PVI-40** (an indicator light will be displayed to signify that power is on).

NOTE: In order for the PVI-40 to properly sync with the video signal, the video source should be turned on first.

- F. For the wireless remote control, be sure to also **turn on the remote receiver** if a power switch is present (some versions of the remote receiver do not have power switches).

After a moment, the display will show a video image. A copyright message will briefly appear, followed by a screen displaying one positionable arrow. If this overlay is not properly displayed, recheck installation, or call Boeckeler Instruments for service at (800) 552-2262 or (520) 745-0001.

CONTROLLER INSTALLATION

To install the PVI-40D digitizing tablet:

1. Connect the stylus to the digitizing tablet (refer to *Figure 1.8*).
2. Using the RS-232 cable which is attached to the digitizing tablet, connect the female 9-pin connector on the cable to the male RS-232 port on the back of the PVI-40 (refer to *Figure 1.7*).
3. Connect the round male 5-pin connector to the keyboard port on the back of the PVI-40. A round female 5-pin connector will remain unconnected.

NOTE: If users change controllers they will need to power down, install the new controller, then power up.

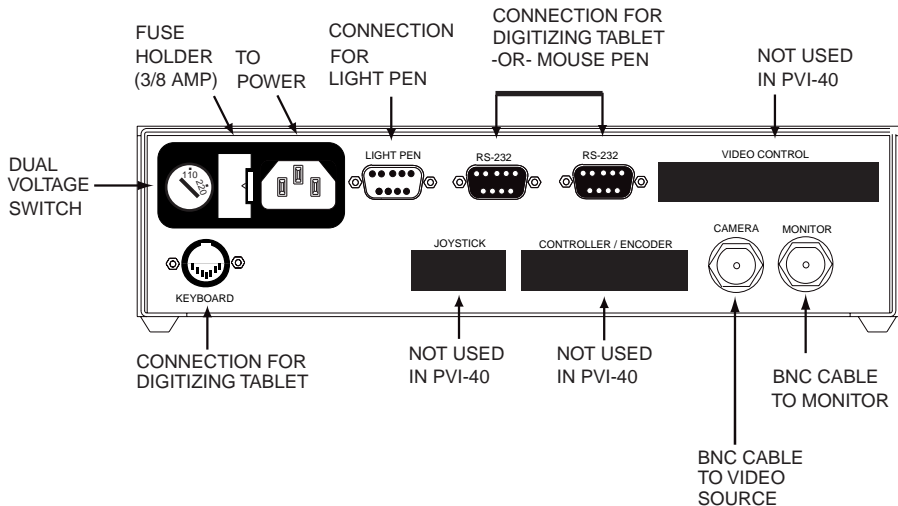


Figure 1.7
Back Panel, PVI-40 Controller
and Power Connections

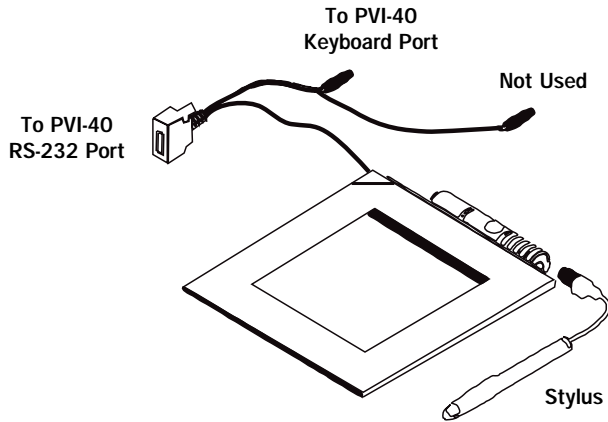


Figure 1.8
PVI-40D Digitizing Tablet, Installation

To install the PVI-40 DTX-DRV EXTENDED DIGITIZING TABLET with two external micro drivers (refer to Figure 1.9):

1. **Connect the stylus to the digitizing tablet.**
2. **Using the RS-232 cable provided with the digitizing tablet, connect the cable's female 9-pin connector to the male DB-9 connector on the DTX-DRV Extension Transmitter (male microdriver).**
3. **Using the same RS-232 cable, connect the female 5-pin mini-DIN connector to the digitizing tablet** (connector located on the upper-left of the tablet as you face tablet). In many cases, this connection will have been made at the factory.
4. **Connect the barrel connector on the short power cable** (which runs off the RS-232 cable) **to the barrel connector on the External Power Supply**. These connectors might also be referred to as keyboard (or power) connectors.
5. **Using an Unshielded Twisted Pair cable (UTP) with RJ-11 connectors, connect the DTX-DRV Extension Receiver (female microdriver)**

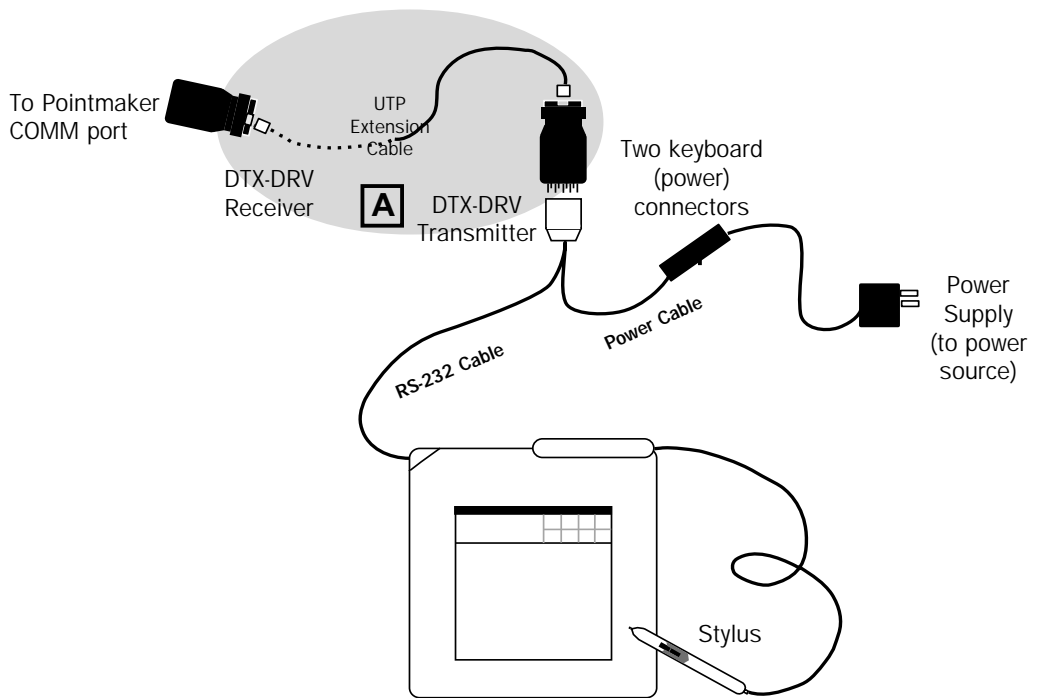


Figure 1.9
**Installed Components of the
 DTX-DRV Extension Tablet**

to the RS-232 port on the back of the PVI-40. The DTX-DRV Extension Receiver is differentiated from the transmitter by its female DB-9 connector.

NOTE: Step 5 can be skipped if users do not require extension cabling for the tablet, but only need an external power source (refer to shaded area A in the upper-left corner of Figure 1.9). If this step is skipped, the DB-9 connector running off the tablet's RS-232 cable would plug directly into the PVI-40 RS-232 port, and NOT to the DTX-DRV Extension Transmitter. In this case, the DTX-DRV Extension Transmitter would not be used.

6. **Connect the Power Supply into any grounded outlet.**

NOTE: The extended digitizing tablet can be installed and used concurrently with an optional light pen that utilizes the LIGHT PEN port on the back of the **PVI-40**.

Upon power up, the **PVI-40** will automatically detect the controller(s) installed. If users change controllers or add a controller, they will need to power down, install the new controller(s), then power up.

To install the PVI-40L light pen (refer to Figure 1.7):

1. **Using the 9-pin adapter provided, connect the light pen cable to the light pen port on the back of the PVI-40.**

NOTE: If users change controllers they will need to power down, install the new controller, then power up.

2. For more precise drawing on the monitor screen, **we suggest calibrating the light pen upon first installation, and then anytime a new monitor will be used with the light pen.** After powering up, refer to calibration instructions that begin on page 42.

To install the light pen with the optional light pen driver and extension cable (refer to Figure 1.10):

1. **Make all connections before applying power.**
2. Connect the LPX extension receiver box to the **PVI-40**:
 - A. Using the DB-9 cable provided, **connect the LPX extension receiver DB-9 connector to the LIGHT PEN port** on the back of the **PVI-40**.
3. Connect the extension receiver box to the power supply:
 - A. Using the power cord that is attached to the power supply, **connect the DC-9V connector on extension receiver box to the power supply.** *Do not connect to power outlet until the rest of the connections have been made.*

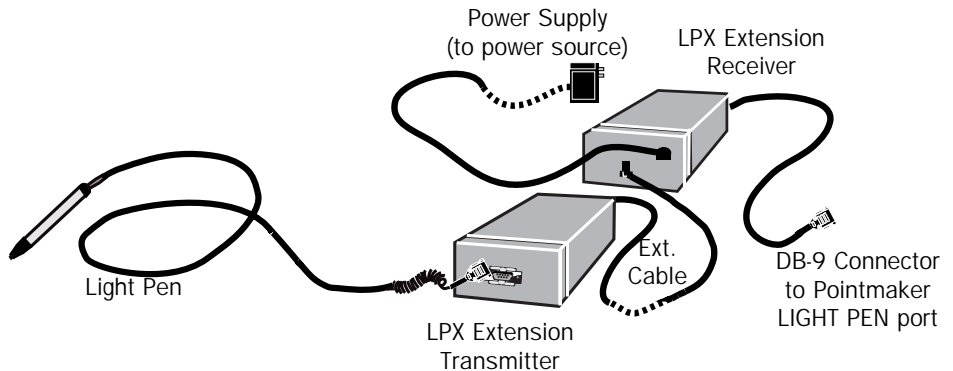


Figure 1.10
**Installed Components of the
 Optional LPX Extension for Light Pen**

4. Connect the extension cable to the LPX extension receiver box and LPX extension transmitter:
 - A. Using the beige LPX extension cable, **connect the RJ-45 connector on the LPX extension receiver to the RJ-45 connector on the LPX extension transmitter.** These RJ-45 connectors resemble phone jacks.
5. Connect the LPX transmitter to the light pen:
 - A. Using the gray light pen cable attached to light pen, **connect the light pen to the LPX transmitter DB-9 connector.**
6. **Connect the power supply to any grounded outlet.**

To install a separately purchased mouse pen or mouse device (refer to Figure 1.7):

1. **Using the 9-pin adapter provided, connect the mouse pen/device cable to the RS-232 port on the back of the PVI-40.**

NOTE: *If users change controllers they will need to power down, install the new controller, then power up.*

To install a separately purchased wireless remote control (refer to *Figure 1.7*):

1. **Using the 9-pin adapter provided, connect one end of the receiver cable to the RS-232 port on the back of the PVI-40.**
2. **Connect the other end of the receiver cable to the output connector on the remote receiver.**
3. **Place the receiver near the display** so that the user will be able to point and draw by aiming the remote control toward the display. The receiver must be at least 2" from the display. For best results place the receiver flat at least 6" above or below the video display.

NOTE: *If users change controllers, they will need to power down, install the new controller, then power up.*

Section Two: Using the Markers

OVERVIEW

There are three stages in developing a presentation using the **Pointmaker® PVI-40 video marker**. The first stage is the *setup* stage, which is accomplished by making menu selections before the presentation.

The second stage is the *marking* stage, in which presenters draw or place pointers over the video image during a presentation or during the recording of a presentation.

The third and final stage is *clearing* the marker(s) to ready the screen for a new overlay of markers, or to allow the presenter to pause and speak directly to an audience before proceeding to the next annotation.

Although *Help* can be accessed at any time during *Setup* or *Marking*, *Help* will be covered when discussing *Setup*.

The following procedures were written in order of these presentation stages: *Setup (including Help)*, *Marking*, and *Clearing Markers*.

SETUP

Entering the Setup Menu

To enter the *Setup Menu*:

1. Enter the Setup Menu.
 - A. Digitizing Tablet: **First press the *first barrel button* and then press the *tip button* so that both buttons are simultaneously pressed for about 5 seconds.**

The ***Setup Menu*** will appear on-screen (refer to *Figure 2.1*)

NOTE: Most options in the *Setup Menu* are more directly available by pressing the corresponding icon on the tablet



Figure 2.1
Setup Menu
POINTERS option selected

Menu Strip. Setup Menu options not available on the Menu Strip are accessing help messages and changing the color palette.

NOTE: *The tip button must be pressed soon after the first barrel button, or the PVI-40 may interpret the first barrel button press as a "clear" command, and markers may be erased from the screen.*

- B. Light Pen: **First press the *barrel button* and then press the *tip button* so that both buttons are simultaneously pressed for about 5 seconds.**

The **Setup Menu** will appear on screen (refer to *Figure 2.1*)

NOTE: *The tip button must be pressed soon after the barrel button, or the PVI-40 may interpret the second button press as a "clear" command, and markers may be erased from the screen.*

- C. Other Devices: **First press the *second or right button* and then press the *first or left button* so that both buttons are simultaneously pressed for about 5 seconds.**

The **Setup Menu** will appear on screen (refer to *Figure 2.1*)

NOTE: *The first or left button must be pressed soon after the second or right button, or the PVI-40 may interpret the second or right button press as a "clear" command, and markers may be erased from the screen.*

Selecting a Pointer Type

To select a pointer type:

1. In the **Setup Menu**, position the cursor over the **POINTERS** option (refer to *Figure 2.1*).

NOTE: *The box over which the cursor is positioned will be outlined in black, rather than in white.*

- A. Digitizing Tablet: **Digitizing Tablet users are not required to access the Setup Menu to select a pointer type. They may simply press the tablet icon depicting the type of pointer desired.**
- B. Light Pen: **Lightly drag the tip button across the screen until POINTERS is highlighted.**
- C. Other Devices: **Lightly drag the mouse's track ball across a pad or other smooth surface until POINTERS is highlighted -OR- Point the remote control at the display, and move the remote control in midair until POINTERS is highlighted.**

2. **Select the POINTERS option.**

- A. Light Pen: **Click the *tip button* once.**
- B. Other Devices: **Click the *first or left button* once.**

The POINTERS option will become highlighted, and the ***Pointer Selection Menu*** will appear on-screen alongside the ***Setup Menu*** (refer to *Figure 2.2*).

3. **Select the desired pointer** (arrow, dot, cross hairs, or no pointer) in the same way as the POINTERS option was selected.

NOTE: *The box over which the cursor is positioned will be outlined in black, rather than in white. The option previously selected will be highlighted. When the new option is selected, that option will become highlighted.*

4. **Exit the *Pointer Selection Menu*.**

- A. **Select any option in the *Setup Menu*.**

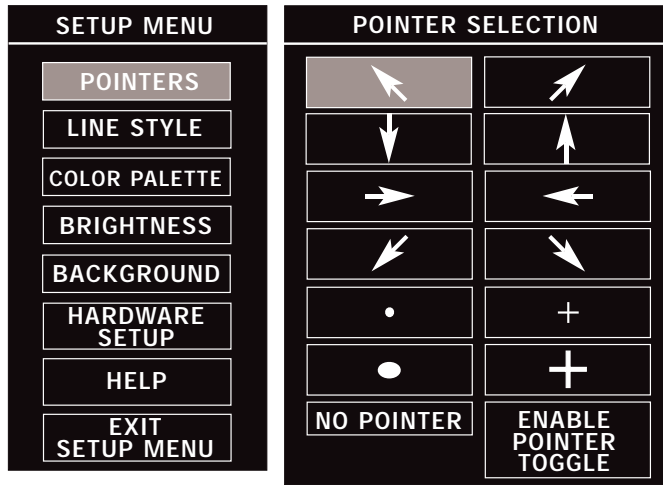


Figure 2.2
 Pointer Selection Menu
 an arrow option selected

Enabling the Pointer On/Off Toggle

The ENABLE POINTER TOGGLE option in the *Pointer Selection Menu* gives users the ability to click on or off the pointer during a presentation. Users might desire to activate this option if they will be drawing most of the time, rather than pointing.

To enable or disable the Pointer On/Off Toggle:

1. In the *Setup Menu*, position the cursor over the POINTERS option (refer to *Figure 2.1*).

NOTE: The box over which the cursor is positioned will be outlined in black, rather than in white.

- A. Digitizing Tablet: Digitizing Tablet users are not required to access the Setup Menu to enable or disable the Pointer On/Off Toggle. They may simply press the POINTER ON/OFF icon.

- B. Light Pen: **Lightly drag the tip button across the screen until POINTERS is highlighted.**
 - C. Other Devices: **Lightly drag the mouse's track ball across a pad or other smooth surface until POINTERS is highlighted -OR- Point the remote control at the display, and move the remote control in midair until POINTERS is highlighted.**
2. **Select the POINTERS option.**
- A. Light Pen: **Click the tip button once.**
 - B. Other Devices: **Click the first or left button once.**

The POINTERS option will become highlighted and the ***Pointer Selection Menu*** will appear on-screen alongside the ***Setup Menu*** (refer to *Figure 2.2*).

3. **Select the ENABLE POINTER TOGGLE option** in the same way as the POINTERS option was selected.

NOTE: *The box over which the cursor is positioned will be outlined in black, rather than in white. When activated, the ENABLE POINTER TOGGLE will become highlighted.*

4. **Exit the *Pointer Selection Menu*.**
- A. **Select any option in the *Setup Menu*.**

To toggle the pointer on or off during a presentation:

1. **Toggle the pointer on or off.**
- A. Digitizing Tablet: **Press the pen tip on the POINTER ON/OFF icon on the tablet Menu Strip.**

The pointer will disappear. To make the pointer reappear, users will repeat the same procedure.

- B. Light Pen: **First press the barrel button, then press the tip button** so that both buttons are pressed until the pointer disappears. Then **release both buttons**.

The pointer will disappear, provided that ENABLE POINTER TOGGLE was selected in the **Pointer Selection Menu**. To make the pointer reappear, users will repeat the same procedure.

***NOTE:** This button combination is also used to change marker shade, and to call up the **Setup Menu**. Shade change requires that the tip button be clicked, rather than pressed. The **Setup Menu** requires that the barrel button and tip button are pressed together for at least 5 seconds (a longer period of time than required to make the pointer disappear).*

- C. Other Devices: **First press the second or right button, then press the first or left button**, so that both buttons are pressed until the pointer disappears. Then **release both buttons**.

The pointer will disappear, provided that ENABLE POINTER TOGGLE was selected in the **Pointer Selection Menu**. To make the pointer reappear, users will repeat the same procedure.

***NOTE:** This button combination is also used to change marker shade and to call up the **Setup Menu**. Shade change requires that the first or left button be clicked, rather than pressed. The **Setup Menu** requires that the second or right button and first or left button are pressed together for at least 5 seconds (a longer period of time than required to make the pointer disappear).*

Selecting a Line Style

To select a drawing line style:

1. In the **Setup Menu**, position the cursor over the **LINE STYLE** option (refer to *Figure 2.3*).

NOTE: The box over which the cursor is positioned will be outlined in black, rather than in white.

- A. Digitizing Tablet: **Digitizing Tablet users are not required to access the Setup Menu to select a line style. They may simply press the tablet icon depicting the line style desired.**
- B. Light Pen: **Lightly drag the tip button across the screen until LINE STYLE is highlighted.**



Figure 2.3
Setup Menu
LINE STYLE option selected

- C. Other Devices: **Lightly drag the mouse's track ball across a pad or other smooth surface until LINE STYLE is highlighted -OR- Point the remote control at the display, and move the remote control in midair until LINE STYLE is highlighted.**
2. **Select the LINE STYLE option.**
 - A. Light Pen: **Click the *tip button* once.**
 - B. Other Devices: **Click the *first or left button* once.**

The LINE STYLE option will become highlighted, and the **Line Style Menu** will appear on-screen alongside the **Setup Menu** (refer to *Figure 2.4*).

3. **Select the desired *line thickness* or *drop shadow* effect** in the same way as the LINE STYLE option was selected.

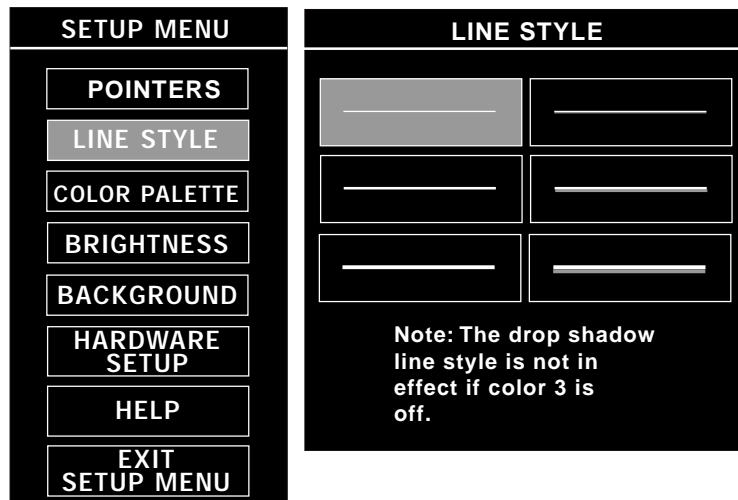


Figure 2.4
Line Style Menu
 fine line option selected

NOTE: The box over which the cursor is positioned will be outlined in black, rather than in white. The option box which is highlighted represents the last option that was selected. If this is the option desired, there is no need to position the cursor.

Drop shadows will be displayed in COLOR 3, selected in the **Color Palette Menu**.

4. Exit the **Line Style Menu**.
 - A. Select any option in the **Setup Menu**.

Customizing a Color Palette

To customize a Color Palette:

1. In the **Setup Menu**, position the cursor over the **COLOR PALETTE** option (refer to *Figure 2.5*).

NOTE: The box over which the cursor is positioned will be outlined in black, rather than in white.

- A. Digitizing Tablet: **Digitizing Tablet users are not required to access the Setup Menu to customize a color palette. Instead they may simply press the tablet icon depicting the marker shade desired.** Choices made on the digitizing tablet override any options selected in the **Color Palette Menu**.
- B. Light Pen: **Lightly drag the tip button across the screen until COLOR PALETTE is highlighted.**
- C. Other Devices: **Lightly drag the mouse's track ball across a pad or other smooth surface until COLOR PALETTE is highlighted -OR- Point the remote control at the display, and move the remote control in midair until COLOR PALETTE is highlighted.**

2. Select the **COLOR PALETTE** option.
 - A. Light Pen: **Click the tip button once.**
 - B. Other Devices: **Click the first or left button once.**

The **COLOR PALETTE** option will become highlighted, and the **Color Palette Menu** will appear on-screen alongside the **Setup Menu** (refer to *Figure 2.6*).

3. Select the **shade or shades** which the user would like available during presentation (1 to 3 colors), or select **OFF**.
 - A. In the **Color Palette Menu**, position the cursor over **COLOR 1**.

NOTE: The box over which the cursor is positioned will be outlined in black, rather than in white.

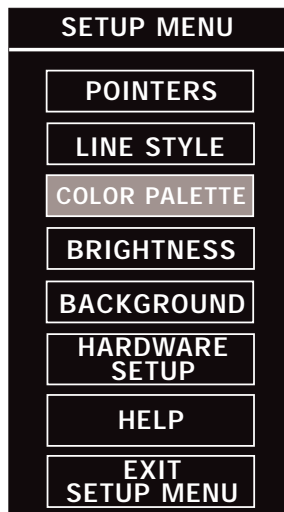


Figure 2.5
Setup Menu
COLOR PALETTE option selected

B. Select the shade desired (or select OFF).

- i. Light Pen: Click the *tip button* repeatedly until the desired option is displayed for COLOR 1.
- ii. Other Devices: Click the *first or left button* repeatedly until the desired option is displayed for COLOR 1.

4. Repeat the previous procedures to select options for COLOR 2 and COLOR 3.

NOTE: COLOR 3 is also the shade for the drop shadow and will be displayed when drop shadows have been selected in the **Line Style Menu**.

5. Select or disable the COLOR DISPLAY ENABLE option.

NOTE: If this option is disabled, it will be highlighted. If it is enabled, this option will be the same color as the other options in the Color Palette Menu.

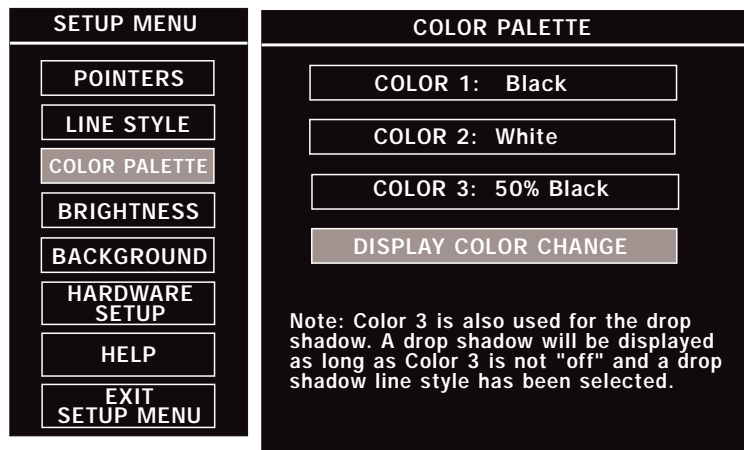


Figure 2.6
Color Palette Menu with Black, White
and 50% Black options selected

- A. Light Pen: **Click the *tip button* once.**
- B. Other Devices: **Click the *first or left button* once.**

NOTE: *If the pointer has been disengaged, selecting the DISPLAY COLOR CHANGE option will cause a small block of color to briefly appear in the lower right of the screen to help users identify the new marker shade. For broadcasters and certain other presenters, the color block appearing on screen may not be desirable. Therefore, it is advisable to disable the DISPLAY COLOR CHANGE option.*

NOTE: *Because there is no need for a color block display in the PVI-40D digitizing tablet, the DISPLAY COLOR CHANGE option is inactive.*

- 5. **Exit the *Color Palette Menu*.**
 - A. **Select any option in the *Setup Menu*.**

Selecting a Brightness Level

To select a brightness level for PVI-40 markers:

- 1. **In the *Setup Menu*, position the cursor over the BRIGHTNESS option (refer to *Figure 2.7*).**

NOTE: *The box over which the cursor is positioned will be outlined in black, rather than in white.*

- A. Digitizing Tablet: **Digitizing Tablet users do not need to access the Setup Menu to select a brightness level. They may simply press the tablet brightness icon at the level desired.**
- B. Light Pen: **Lightly drag the tip button across the screen until BRIGHTNESS is highlighted.**

- C. Other Devices: **Lightly drag the mouse's track ball across a pad or other smooth surface until BRIGHTNESS is highlighted -OR- Point the remote control at the display, and move the remote control in midair until BRIGHTNESS is highlighted.**
2. **Select the BRIGHTNESS option.**
 - A. Light Pen: **Click the *tip button* once.**
 - B. Other Devices: **Click the *first or left button* once.**

The BRIGHTNESS option will become highlighted, and the **Set Brightness Menu** will appear on-screen alongside the **Setup Menu** (refer to Figure 2.8).

3. **Select the *brightness level* which would best display the PVI-40 markers over the video image or chalkboard.**



Figure 2.7
**Setup Menu, BRIGHTNESS
option selected**

- A. In the *Set Brightness Menu*, position the highlighted indicator over the desired position on the scale.
 - i. Light Pen: **Position the pointer over the brightness indicator, then press the tip button while dragging the indicator** to the desired location on the scale.
 - ii. Other Devices: **Position the pointer over the brightness indicator, then press the first or left button while dragging** the indicator to the desired location on the scale.

NOTE: Moving the indicator to the left will decrease brightness. Moving the indicator to the right will increase brightness. If the brightness is set too high for the monitor, the markers will smear across the image.

4. **Exit the *Set Brightness Menu*.**

- A. **Select any option in the *Setup Menu*.**

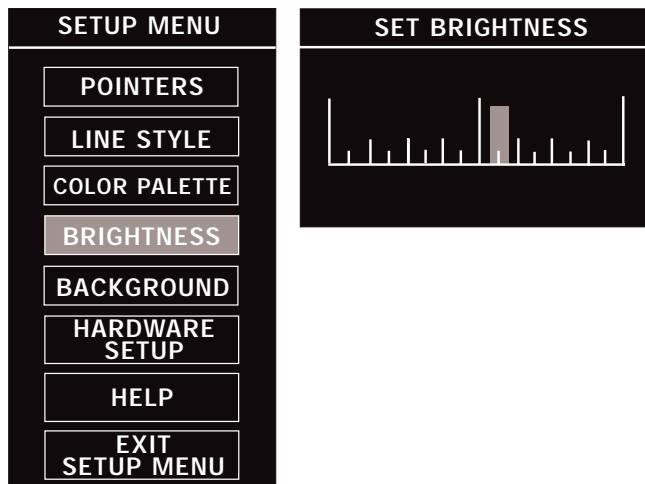


Figure 2.8
**Set Brightness Menu with a
brightness level selected**

Selecting a Marking Background

To select a solid or video background on which to mark:

1. In the *Setup Menu*, position the cursor over the **BACKGROUND** option (refer to *Figure 2.9*).

NOTE: The box over which the cursor is positioned will be outlined in black, rather than in white.

- A. Digitizing Tablet: **Digitizing Tablet** users do not need to access the *Setup Menu* to select a background. They may simply press the tablet **VIDEO** or **CHALKBOARD** icon.
- B. Light Pen: **Lightly drag the *tip button*** across the screen until **BACKGROUND** is highlighted.



Figure 2.9
Setup Menu, **BACKGROUND**
option selected

- C. Other Devices: **Lightly drag the mouse's track ball across a pad or other smooth surface until BACKGROUND is highlighted -OR- Point the remote control at the display, and move the remote control in midair until BACKGROUND is highlighted.**
2. **Select the BACKGROUND option.**
- A. Light Pen: **Click the tip button once.**
 - B. Other Devices: **Click the first or left button once.**
- NOTE:** The BACKGROUND option will become highlighted, and the **Background Menu** will appear on-screen alongside the **Setup Menu** (refer to Figure 2.10).*
3. **Select the desired background in the same way as the BACKGROUND option was selected.**

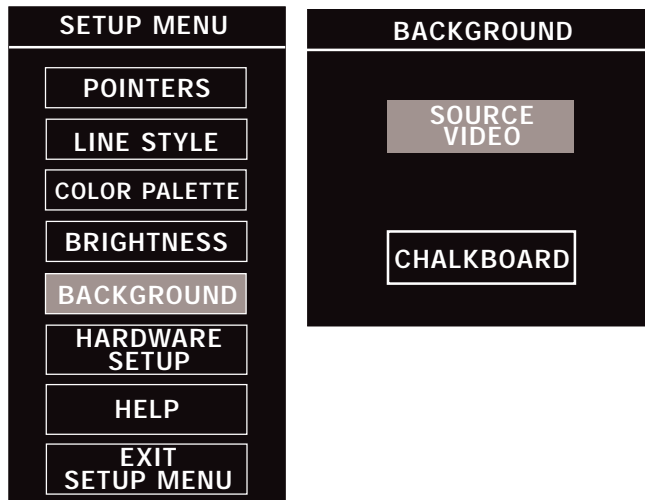


Figure 2.10
**Background Menu,
SOURCE VIDEO selected**

NOTE: The box over which the cursor is positioned will be outlined in black, rather than in white. The option previously selected will be highlighted. When the new option is selected, that option will become highlighted.

NOTE: SOURCE VIDEO allows users to mark directly over the video image. CHALKBOARD allows users to mark on a solid background, much as one would mark on a chalkboard.

4. Exit the *Background Menu*.
 - A. Select any option in the *Setup Menu*.

Calibrating PVI-40 Controllers

To calibrate the light pen or remote control:

1. In the *Setup Menu*, position the cursor over the **HARDWARE SETUP** option (refer to *Figure 2.11*).

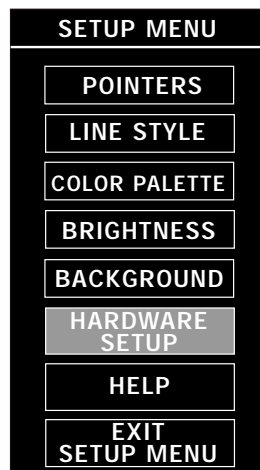


Figure 2.11
Setup Menu, **HARDWARE SETUP**
option selected

- A. Light Pen: **Lightly drag the *tip button* across the screen until HARDWARE SETUP is highlighted.**
- B. Other Devices: **Point the remote control at the display, and move the remote control in midair until HARDWARE SETUP is highlighted.**

***NOTE:** The box over which the cursor is positioned will be outlined in black, rather than in white.*

2. Select the HARDWARE SETUP option.

- A. Light Pen: **Click the *tip button* once.**
- B. Other Devices: **Click the *first or left button* once.**

***NOTE:** The HARDWARE SETUP option will become highlighted, and the **Hardware Setup Menu** will appear on-screen alongside the **Setup Menu** (refer to Figure 2.12).*

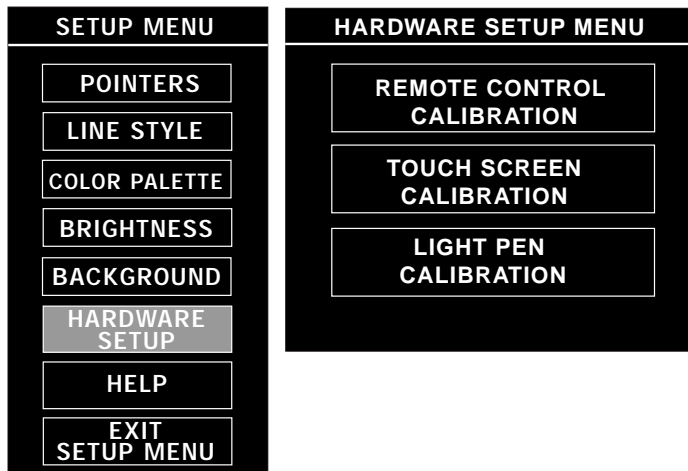


Figure 2.12
**Setup Menu with
Hardware Setup Menu**

3. **Select the desired controller option** (e.g., LIGHT PEN CALIBRATION) in the same way as the HARDWARE SETUP option was selected.

NOTE: Although there is an option for Touch Screen Calibration, the PVI-40 is not currently touch screen compatible. Call Boeckeler at (800) 552-2262 or (520) 745-0001 for additional information.

NOTE: The selected CALIBRATION option will be highlighted and that controller's **Calibration Menu** will appear on-screen (refer to Figure 2.13).

4. **Follow calibration instructions displayed** .

After users perform final calibration procedures, the **Calibration Menu** will automatically disappear and users will be returned to the **Setup Menu and Hardware Setup Menu**.

5. **Exit the Hardware Setup Menu.**

- A. **Select any option in the Setup Menu.**

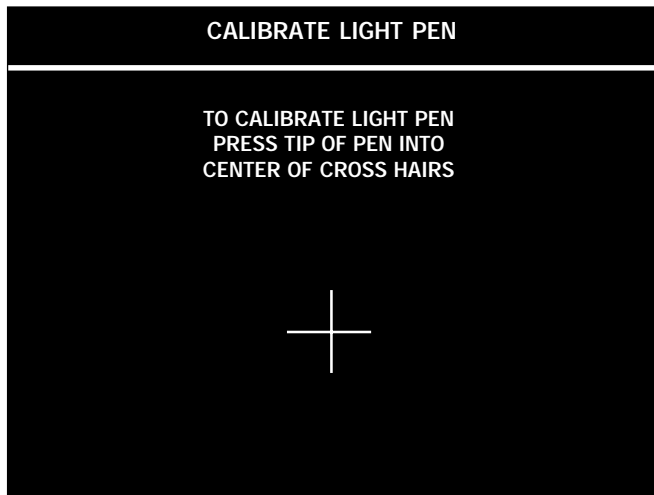


Figure 2.13
Calibrate Light Pen Menu

Using the Help Messages

The **PVI-40 Help Menu** may be accessed before or during a presentation. Both setup and marking procedures are available with on-screen help. As part of the setup procedure, it is wise to have the presenter familiarize himself or herself with this option, should quick tips be needed during a presentation. If presenters elect to use a hard copy version of help instead, a master for index card-sized "**Quick Notes**" is provided at the conclusion of this section.

To enter the Help Menu:

1. In the **Setup Menu**, position the cursor over the **HELP** option.
 - A. Digitizing Tablet: **Lightly drag the *tip button* across the Tracking Area of the tablet until HELP is highlighted.**
 - B. Light Pen: **Lightly drag the *tip button* across the screen until HELP is highlighted.**
 - C. Other Devices: **Lightly drag the mouse's track ball across a pad or other smooth surface until HELP is highlighted -OR- Point the remote control at the display, and move the remote control in midair until HELP is highlighted.**

***NOTE:** The box over which the cursor is positioned will be outlined in black, rather than in white.*

2. **Select the HELP option.**
 - A. Digitizing Tablet: **click the *tip button* once.**
 - B. Light Pen: **Click the *tip button* once.**
 - C. Other Device: **Click the *first or left button* once.**

The **HELP** option will become highlighted, and the **Help Menu** will appear on-screen alongside the **Setup Menu** (refer to *Figure 2.14*).

3. In the **Help Menu**, select the desired **controller option in the same way as the HELP option was selected**. Choosing the DIGITIZING TABLET option, for example, will display help messages that specifically pertain to digitizing tablet operating procedures.

The corresponding **Help Submenu** will appear on-screen next to the **Setup Menu** (refer to *Figure 2.15*).

NOTE: Although there is an option for Touch Screen Help, the PVI-40 is not currently touch screen compatible. Call Boeckeler at (800) 552-2262 or (520) 745-0001 for additional information.

NOTE: The GENERAL INFORMATION option in the **Help Menu** features topics that are not dependent upon actual operation, such as how to change from one controller to a different controller.

4. In the **Help Submenu** position the cursor over the desired help topic.

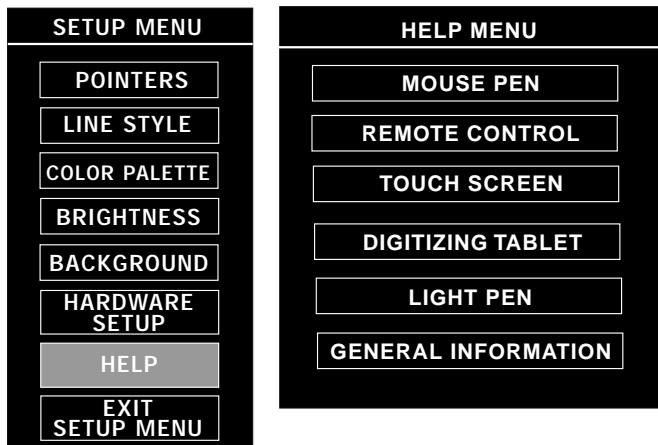


Figure 2.14
Setup Menu and Help Menu

NOTE: The box over which the cursor is positioned will be outlined in black, rather than in white.

5. **Select the desired help topic.**

The **Setup Menu** and **Help Submenu** will disappear, and the selected help message will appear on-screen.

To exit a help message or a help menu:

1. **To exit a help message follow the simple exit instructions displayed in each help message.**

Users will be returned to the **Help Submenu**.

2. **To back up one menu from Help Submenu (refer to Figure 2.15) select the PREVIOUS MENU option.**

3. **To exit all help menus select any option in the Setup Menu.**

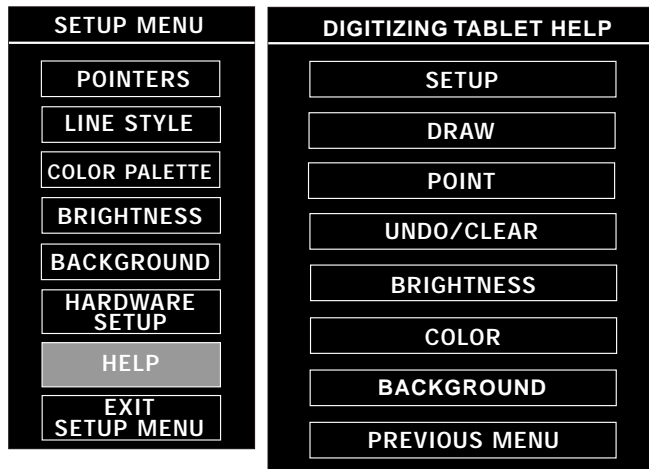


Figure 2.15
**Help Menu after HELP option
selected for Digitizing Tablet**

Exiting the Setup Menu

To exit the *Setup Menu*:

1. In the *Setup Menu*, position the cursor over the EXIT SETUP MENU option (refer to *Figure 2.16*).
 - A. Digitizing Tablet: Lightly drag the *tip button* across the Tracking Area of the tablet until EXIT SETUP MENU is highlighted.
 - B. Light Pen: Lightly drag the *tip button* across the screen until EXIT SETUP MENU is highlighted.
 - C. Other Devices: Lightly drag the mouse's track ball across a pad or other smooth surface until EXIT SETUP MENU is highlighted -OR- Point the remote control at the display, and move the remote control in midair until EXIT SETUP MENU is highlighted.



Figure 2.16
Setup Menu
EXIT option selected

NOTE: The box over which the cursor is positioned will be outlined in black, rather than in white.

2. **Select the EXIT SETUP MENU option.**
 - A. Digitizing Tablet: **Click the *tip button* once.**
 - B. Light Pen: **Click the *tip button* once.**
 - C. Other Devices: **Click the *first or left button* once.**

The **Setup Menu** will disappear, and users will be presented with a *marking overlay*. The overlay will include previously anchored markers (if any), the active pointer selected in the **Pointer Selection Menu** (if selected), and the background that was selected in the **Background Menu**. Users are now ready for *marking*.

MARKING

The **Pointmaker PVI-40 video marker** equips presenters with freehand drawing capability and a choice of 12 pointers with which to mark a video image. Pointers include eight arrows, each oriented in a different direction, a large and small dot pointer, and a large and small cross hairs pointer. Presenters may also choose to display no pointer, which is an option selected when drawing is the only feature desired.

Pointer options and drawing line styles are selected in the **Setup Menu**, usually before a presentation. However, markers may be changed anytime during a presentation by calling up the **Setup Menu** and selecting the POINTERS option (refer to *page 27*) or the LINE STYLE option (refer to *page 32*).

A pointer may be changed only while it is an *active pointer*. An active pointer is a positionable arrow, dot, or cross hairs pointer that may be moved anywhere on the screen. Presenters may choose to keep the pointer active in order to point at one detail of the video image at a time. Or, presenters may wish to anchor the pointer next to an image detail, then use a new active pointer to point out a second detail. Thus, two pointers will appear on-screen, one anchored, and one active. Presenters may anchor as many pointers on the screen as desired. Note that when a pointer is anchored, it cannot be moved again, although it can be erased or cleared from the screen.

Users position the active pointer anywhere on the screen before drawing. The drawing lines are automatically anchored on the screen, so users do not need to anchor drawing lines. While drawing lines are not positionable they can be erased or cleared from the screen.

A combination of pointers, pointer types, and drawing lines of various shades may be anchored on the screen at once. Unless the pointer is disabled, an active pointer or drawing cursor will always be present on-screen, ready for positioning, anchoring, or drawing. The following

procedures provide details on how to mark a video image using the **PVI-40**. Clearing and erasing procedures will be covered after the marking procedures.

Entering the Marking Mode

To enter the *Marking Mode*:

1. Turn on the PVI-40 -OR- If already on, exit all menus.

The *Marking Mode* is automatically entered when the **PVI-40** is powered up or when users exit the *Setup Menu*. In short, while powered up, the **PVI-40** is always in the *Marking Mode* until users call up the *Setup Menu*.

The **PVI-40** marker overlay, upon which markers are placed, is invisible. The screen will show the image from the video source, plus an active pointer (unless disabled), and any markers that may have been anchored before users called up the *Setup Menu*. When first powered up, no anchored markers will be displayed. Only a positionable pointer will appear.

Positioning a Pointer

To position an active pointer:

1. Position the pointer anywhere on the video image to make your point.
 - A. Digitizing Tablet: **lightly drag the *tip button* across the *Tracking Area of the tablet***, until the active pointer is at the desired location.
 - B. Light Pen: **Lightly drag the *tip button* across the screen**, until the active pointer is at the desired location.

- C. Other Devices: **Lightly drag the mouse's track ball across a pad or other smooth surface**, until the active pointer is at the desired location -OR- **Point the remote control at the display, and move the remote control in midair**, until the active pointer is at the desired location.

***NOTE:** Be sure the green light on the remote receiver is flickering or active. Press the left button once if the receiver does not respond.*

2. **Reposition the same active pointer anywhere on the video image to make your second point**, and continue as often as desired.

Anchoring a Pointer

To anchor a pointer:

1. Once a pointer type and pointer shade is selected and the active pointer has been positioned, **anchor the active pointer**.
 - A. Digitizing Tablet: **Click the first barrel button on the Stylus.**
 - B. Light Pen: **Click the tip button.**
 - C. Other Devices: **Click the first or left button briefly.**

The pointer will be anchored and a new active pointer will appear on screen, identical to the first.

2. **Position the new active pointer and anchor when desired.**

***NOTE:** Users may anchor as many pointers or drawing lines as desired. Also, each pointer may be changed to a different pointer type before anchoring, or the pointer may be changed to a different shade before anchoring. To change the shade of a pointer, refer to the procedures which follow.*

Turning Off/On the Pointer

To be able to turn the active pointer off or on during a presentation, users will need to have selected the ENABLE POINTER TOGGLE option while in the **Pointer Selection Menu** (refer to page 29).

To turn the pointer off or on during a presentation:

1. Turn the active pointer off or on.

- A. Digitizing Tablet: **Press the POINTER ON/OFF icon on the tablet Menu Strip.**

The pointer will not appear when the tip button is dragged across the **Tracking Area** of the tablet. To make the pointer reappear, users will repeat the same procedure.

NOTE: *The ENABLE POINTER TOGGLE option in the **Pointer Selection Menu** will be overridden by the tablet commands.*

- B. Light Pen: **Press the barrel button, then press the tip button** so that both buttons are pressed until the pointer disappears, then **release both buttons.**

The pointer will disappear, provided that ENABLE POINTER TOGGLE was selected in the **Pointer Selection Menu**. To make the pointer reappear, users will repeat the same procedure.

NOTE: *This button combination is also used to change pointer shade and to call up the **Setup Menu**. Shade change requires that the tip button be clicked, rather than pressed. The **Setup Menu** requires that the barrel button and tip button are pressed together for at least 5 seconds (a longer period of time than required to make the pointer disappear).*

- C. Other Devices: **Press the second or right button, then press the first or left button** so that both buttons are pressed until the pointer disappears. Then **release both buttons**.

The pointer will disappear, provided that ENABLE POINTER TOGGLE was selected in the **Pointer Selection Menu**. To make the pointer reappear, users will repeat the same procedure.

***NOTE:** This button combination is also used to change pointer shade and to call up the **Setup Menu**. Shade change requires that the first or left button be clicked, rather than pressed. The **Setup Menu** requires that the second or right button and first or left button are pressed together for at least 5 seconds (a longer period of time than required to make the pointer disappear).*

Drawing

To freehand draw:

1. Once the drawing line style and shade are selected or confirmed, **position the active pointer anywhere on the video image where the drawing is to begin**.
 - A. Digitizing Tablet: **Press the tip button into the Tracking Area of the tablet and draw** it across until the drawing line or line segment is complete.
 - B. Light Pen: **Press the tip button into the screen and draw** it across the image until the drawing line or segment is complete.
 - C. Other Devices: **Press the first or left button while drawing the track ball across the mouse pad or other smooth surface** until the drawing line or line segment is complete
-OR- **Press the left button while moving the remote control in midair** until the drawing line or line segment is complete.

2. **Reposition the active marker (if one is displayed) and, if desired, repeat the above procedures for another drawn line.**

***NOTE:** Users may draw as many lines or curves as desired. Also, each line may be changed to a different line type before drawing, or the pointer may be changed to a different shade before drawing. It is possible to have up to three (3) different shades of drawn lines on-screen at once. Drawn lines may be displayed on-screen along with a variety of anchored pointers, if desired.*

Changing the Shade of a Marker

To be able to select a new shade for markers during a presentation, users may first want to check that the desired shades have been activated in the **Color Palette Menu** (refer to *setup* procedures on page 34).

To select a new shade for a marker during a presentation:

1. **Select the desired shade.**
 - A. Digitizing Tablet: **Press the *tip button* on the desired shade icon located on the tablet *Menu Strip*.**

All anchored markers from this point on will appear in the newly selected shade. The ENABLE COLOR DISPLAY option in the **Color Palette Menu** has no effect when using the digitizing tablet. That is, if the pointer is disabled, a small block of color will not appear on-screen, as it would when using the other controllers.

***NOTE:** Color selections made on the tablet will override selections made in the **Color Palette Menu**.*

- B. Light Pen: **First press the *barrel button* and, while pressing, click the *tip button* until the desired shade is displayed.**

With each click of the *tip button*, the active pointer will change to one of the available shades previously selected in the **Color Palette Menu**. If the pointer has been disengaged, and the ENABLE COLOR DISPLAY option has been activated, a small block of color will briefly appear in the lower right of the screen to help users identify the new marker shade.

All anchored markers from this point on will appear in the newly selected shade.

NOTE: *Be careful to click the tip button rather than press it. Pressing the tip button could inadvertently toggle off/on the pointer or cause the **Setup Menu** to appear.*

- C. Other Devices: **Press the second or right button, and while pressing, click the first or left button until the desired shade is displayed.**

With each click of the *first or left button* the active pointer will change to one of the available shades previously selected in the **Color Palette Menu**. If the pointer has been disengaged, and the ENABLE COLOR DISPLAY option has been activated, a small block of color will briefly appear in the lower right of the screen to help users identify the new marker shade.

All anchored markers from this point on will appear in the newly selected shade.

NOTE: *Be careful to click the first or left button rather than press it. Pressing the first or left button could inadvertently toggle off/on the pointer or cause the **Setup Menu** to appear.*

CLEARING MARKERS

Once markers; i.e., drawing lines and pointers, have been anchored, users may want to clear the screen of all or some of the markers before proceeding to the next point of discussion.

Markers may be *erased* one at a time, beginning with the most recently anchored marker, or all markers can be *cleared* from the screen at once. The following are procedures for *erase* and *clear*.

Erasing a Marker

To erase markers one at a time (repeat procedure as often as desired):

1. Erase a marker.

- A. Digitizing Tablet: **Press the *tip button* on the UNDO icon located on the tablet *Menu Strip*.**

The most recently anchored marker will disappear. An active pointer will always remain on-screen unless the pointer was disabled by pressing the POINTER ON/OFF icon (refer to page 29).

- B. Light Pen: **Click the *barrel button* once.**

The most recently anchored marker will disappear. An active pointer will always remain on-screen unless the pointer was disabled during setup (refer to page 29).

- C. Other Devices: **Click the *second or right button* once.**

The most recently anchored marker will disappear. An active pointer will always remain on screen unless the pointer was disengaged during setup (refer to page 29).

Clearing all Markers

To clear the screen of all markers:

1. Clear all markers.

- A. Digitizing Tablet: **Press the *tip button* on the CLEAR icon located on the tablet *Menu Strip*.**

All markers will disappear. An active pointer will always remain on-screen unless the pointer was disabled by pressing the POINTER ON/OFF icon (refer to page 29).

- B. Light Pen: **Press the *barrel button* until all the markers disappear.**

All markers will disappear. An active pointer will always remain on-screen unless the pointer was disabled during setup (refer to page 29).

- C. Other Devices: **Press the *second or right button* until all the markers disappear.**

All markers will disappear. An active pointer will always remain on-screen unless the pointer was disabled during setup (refer to page 29).

QUICK NOTES

Because Boeckeler Instruments understands that presenters may need helpful operating tips in the form of pocket-sized notes, rather than in the form of on-screen help messages, we created some ***Pointmaker Quick Notes***. Users may copy the appropriate card, cut it along the dashed lines, then affix it to a 3 x 5 index card, so that the procedures may be conveniently on hand (or in pocket) during a presentation.

For the PVI-40 with Digitizing Tablet

Side 1 of 2

Pointmaker® PVI-40D by Boeckeler®

DRAW

Press *tip button* into *Tracking Area* of tablet and hold while drawing. If desired, select a new line style from *Menu Strip*.

POINT

To move active pointer, lightly drag tip across tablet *Tracking Area*. To anchor, click first barrel button on stylus. If desired, select a new pointer type from *Menu Strip*.

ERASE

Press *tip button* onto UNDO icon in *Menu Strip*. Most recently anchored pointer or drawn line will erase. Repeat if desired.

CLEAR

Press *tip button* onto CLEAR icon in *Menu Strip*.

POINTER ON/OFF

Press *tip button* onto POINTER ON/OFF icon in *Menu Strip*. Note that using the *POINTER ON/OFF tablet icon overrides the ENABLE POINTER TOGGLE setting made in the SETUP MENU*.

BRIGHTNESS

Press *tip button* on desired level on BRIGHTNESS SCALE icon in *Menu Strip*. Left decreases brightness, right increases brightness.

More on reverse side . . .

Side 2 of 2

Side 2

COLOR

Press *tip button* on desired color icon in *Menu Strip*. Using the *color icon overrides any COLOR PALETTE settings made in the SETUP MENU*. NOTE: Only *COLOR 3 will change with each new selection made on the tablet*. To change other colors, go to *SETUP MENU* then select *COLOR PALETTE MENU*.

BACKGROUND

Press *tip button* on VIDEO or CHALKBOARD icon in *Menu Strip*. CHALKBOARD displays a solid background on which to write. VIDEO displays the source video image on which users can write. To exit CHALKBOARD mode, press VIDEO.

SETUP MENU

Press *first barrel button* then press *tip button* so that both are pressed together for 5 seconds. *SETUP MENU* will appear. Make selections, then exit menu.

For the PVI-40 with Light Pen

Side 1 of 2

Pointmaker® PVI-40L by Boeckeler®

DRAW

Press *tip button* into screen and hold while drawing. If desired, select a new line style from SETUP MENU.

POINT

To move active pointer, lightly drag tip across screen. To anchor, click tip into screen. If desired, select a new pointer type from SETUP MENU.

ERASE

Click the *barrel button* once. Most recently anchored pointer or drawn line will erase. Repeat if desired.

CLEAR

Press *barrel button* until screen is clear of markers.

POINTER ON/OFF

Press the *barrel button*, then press the *tip button* so that both buttons are pressed until the pointer disappears. Release. Repeat procedure to make pointer reappear. *This function will operate only if the pointer toggle is enabled. To enable, go to SETUP MENU, select POINTERS option, then select ENABLE POINTER TOGGLE.*

More on reverse side . . .

Side 2 of 2

Side 2

COLOR

Press *barrel button* and, while pressing, click *tip button*. Only preset color palette is available. If palette is to be changed, go to SETUP MENU, then select COLOR PALETTE MENU.

BRIGHTNESS

Set brightness level of markers by going to SETUP MENU. Select BRIGHTNESS option. To move brightness level indicator, position cursor over indicator, press *tip button* and drag indicator to desired location. *Moving indicator to left decreases brightness. Moving indicator to right increases brightness.*

BACKGROUND

Choose BACKGROUND from SETUP MENU, then choose SOURCE VIDEO or solid-colored CHALKBOARD. To exit CHALKBOARD mode, go again to the SETUP MENU, choose BACKGROUND, then select VIDEO SOURCE option.

SETUP MENU

Press *barrel button* then press *tip button* so that both are pressed together for 5 seconds. SETUP MENU will appear. Make selections, then exit menu.

For the PVI-40 with Mouse Pen or Mouse Device

Side 1 of 2

Pointmaker® PVI-40 with Mouse Pen or Mouse Device

DRAW

Press *first or left button* while dragging the mouse's *track ball* across any smooth surface. If desired, select a new line style from SETUP MENU.

POINT

To move active pointer, drag track ball across any smooth surface. To anchor, click *first or left button* and quickly release. If desired, select a new pointer type from SETUP MENU.

ERASE

Click the *second or right button* once. Most recently anchored pointer or drawn line will erase. Repeat if desired.

CLEAR

Press *second or right button* until screen is clear of markers.

POINTER ON/OFF

Press the *second or right button*, and, while holding, press the *first or left button* and hold both buttons until the pointer disappears. Release. Repeat procedure to make pointer reappear. *This function will operate only if the pointer toggle is enabled. To enable, go to SETUP MENU, select POINTERS option, then select ENABLE POINTER TOGGLE.*

More on reverse side . . .

Side 2 of 2

Side 2

COLOR

Press *second or right button* and, while pressing, click *first or left button*. Only preset color palette is available. If palette is to be changed, go to SETUP MENU.

BRIGHTNESS

Set brightness level of markers by going to SETUP MENU. Select BRIGHTNESS option. To move brightness level indicator, position cursor over indicator, press *first or left button* and while pressing, drag to desired location. *Moving indicator to left decreases brightness. Moving indicator to right increases brightness.*

BACKGROUND

Choose BACKGROUND from SETUP MENU, then choose SOURCE VIDEO or solid-colored CHALKBOARD. To exit CHALKBOARD mode, go again to the SETUP MENU, choose BACKGROUND, then select VIDEO SOURCE option.

SETUP MENU

Press *second or right button* then press *first or left button* so that both are pressed together for 5 seconds. SETUP MENU will appear. Make selections, then exit menu.

For the PVI-40 with Wireless Remote Control

Side 1 of 2

Pointmaker® PVI-40 with Wireless Remote Control

DRAW

Press *left button* while moving remote control in midair, being careful to point at remote receiver. If desired, select a new line style from SETUP MENU.

POINT

To move active pointer, move remote in midair without pressing any buttons. Be sure to point at remote receiver. To anchor, click *left button* and quickly release. If desired, select a new pointer type from SETUP MENU.

CALIBRATE REMOTE by choosing SETUP MENU, then HARDWARE SETUP, then REMOTE CALIBRATION.

ERASE

Click the *right button* once. Most recently anchored pointer or drawn line will erase. Repeat if desired.

CLEAR

Press *right button* until screen is clear of markers.

SETUP MENU

Press *right button* then press *left button* so that both are pressed together for 5 seconds. SETUP MENU will appear. Make selections, then exit menu.

More on reverse side . . .

Side 2 of 2

Side 2

POINTER ON/OFF

Press the *right button*, and, while holding, press the *left button* and hold both buttons until the pointer disappears. Release. Repeat procedure to make pointer reappear. *This function will operate only if the pointer toggle is enabled. To enable, go to SETUP MENU, select POINTERS option, then select ENABLE POINTER TOGGLE.*

BACKGROUND

Choose BACKGROUND from SETUP MENU; then choose SOURCE VIDEO or CHALKBOARD. To exit CHALKBOARD mode, go again to SETUP MENU, choose BACKGROUND, then SOURCE VIDEO.

COLOR

Press *right button* and, while pressing, click *left button*. Only preset color palette is available. If palette is to be changed, go to SETUP MENU then COLOR PALETTE MENU.

BRIGHTNESS

Set brightness level of markers by going to SETUP MENU. Select BRIGHTNESS option. Position cursor over brightness level indicator. Press *left button* and while pressing, move indicator to desired location. *Moving indicator to left decreases brightness. Moving indicator to right increases brightness.*

Section Three:

Appendices

TROUBLESHOOTING GUIDE

Boeckeler's quality inspectors test each **Pointmaker** for software and hardware performance prior to shipment. Therefore, most problems which presenters encounter are related to installation. *Table 3.1* below describes common problems and their solutions. If, after referring to this table, a problem still exists, call Boeckeler Instruments, Inc., at (800) 552-2262 or (520) 745-0001 and ask for technical assistance. There are no user serviceable parts in the **Pointmaker**. Do not open the cabinet.

Table 3.1

Symptoms	Possible Solutions
The green indicator light on the front of the Pointmaker PVI-40 does not light up.	<ol style="list-style-type: none"> 1. Check that the PVI-40 is plugged into a live outlet. 2. On the back panel of the PVI-40, remove the plastic cover to the left of the power supply connector and check for a blown fuse. Replace the fuse only with a BUSS MDL 3/8 amp slow blow.
Monitor does not light up.	<ol style="list-style-type: none"> 1. Check that the monitor is plugged into a live outlet. 2. Check that the monitor is switched on. 3. Check that the monitor brightness and contrast controls are properly adjusted.
The PVI-40 markers appear to bloom.	<ol style="list-style-type: none"> 1. Adjust system parameters on the video output device, monitor, or camera (if in use) such as contrast, gain, brightness, color, light, and intensity. 2. Decrease brightness of PVI-40 markers or use a different marker shade.

(continued from page 67)

Symptoms	Possible Solutions
<p>Monitor lights up but does not display a picture.</p>	<ol style="list-style-type: none">1. Check that the video source and PVI-40 are each plugged into a live outlet.2. Check that the video source and PVI-40 are both switched on.3. Check that the proper cables are connected to the proper connectors on the video source, the PVI-40, and the monitor. Some sources and monitors have multiple output and input connectors. Consult your video manual for correct connection information.4. If the video source or monitor has a switch for 75 OHM or high Z, ensure this switch is in the 75 OHM position.5. On the back panel of the PVI-40, remove the plastic cover to the left of the power supply connector and check for a blown fuse. Replace the fuse only with a BUSS MDL 3/8 amp slow blow6. Bypass the PVI-40 by connecting the monitor directly to the video source. If the video image still does not appear, have the video source and monitor checked.
<p>Monitor automatically adjusts brightness so that video image is dull while markers are bright.</p>	<ol style="list-style-type: none">1. Monitor is automatically adjusting for the overall brightness level of the markers <i>and</i> the video image. On the PVI-40, enter SETUP MENU and select the BRIGHTNESS option. Tone down the brightness level of the markers. The monitor will adjust accordingly.

(continued from page 68)

Symptoms	Possible Solutions
Monitor displays a scrambled picture.	<ol style="list-style-type: none"><li data-bbox="581 334 1116 396">1. Check the horizontal hold control on the video monitor for proper adjustment.<li data-bbox="581 435 1157 529">2. Check that the Dual Voltage Switch (110V/ 220V) located on the back panel of the PVI-40 is properly set.<li data-bbox="581 568 1072 630">3. Monitor is not compatible with video source. Use compatible system.<li data-bbox="581 669 1150 730">4. Check to be sure that the video in and out connectors on the PVI-40 are secure.
Digitizing tablet, light pen, mouse device, or remote control will not operate properly.	<ol style="list-style-type: none"><li data-bbox="581 812 1170 971">1. Refer to specific section on controllers entitled <i>Controller Installation</i>, which begins on page 16. If remote control works only at short range, this means the 9V battery is low. Change battery.
Touch screen will not operate properly.	<ol style="list-style-type: none"><li data-bbox="581 1018 1163 1138">1. Currently, the PVI-40 is not touch screen compatible. Contact Boeckeler Instruments for additional information at (800) 552-2262 or (520) 745-0001.

GLOSSARY

ACTIVE POINTER

-- the arrow, cross hairs, or dot which is positionable, often used as a pointer, but also used to position the starting point of a freehand drawing. When the active pointer is *anchored*, another identical active pointer appears on-screen. One active pointer is always displayed while marking, unless the pointer has been disabled.

ANCHORED POINTER

-- the opposite of an *active pointer*. An anchored pointer has been placed in a fixed position on the **PVI-40** overlay and cannot be moved again. However, anchored pointers or drawn lines (which are always anchored) may be *erased* or *cleared*.

ARROW POINTERS

-- the 8 different arrows which may be selected and placed on a **PVI-40** overlay, in any number, and in combination with other *markers*.

BACKGROUND

--the area behind the **PVI-40** markers. Presenters may choose a source video background or a solid background.

BLOOM

-- markers or text which enlarge or blur on the monitor due to excessive brightness.

CLEAR

-- the button combination on the controller which allows presenters to clear the overlay of all markers at once. A single *active pointer* will remain on-screen unless the pointer has been disabled.

CLICK

-- the action of quickly depressing and releasing a button on the **PVI-40** controller, as opposed to a *press* of the button.

COLOR PALETTE

-- a user-defined group of shades (or gray levels) which may be attributed to each active pointer or drawn line before anchored. From 1 to 3 shades may be selected for this palette.

CONNECTOR

-- hardware installed on cable ends to provide cable attachment to an input or output device. Input and output device ports which mate with this hardware are also called connectors.

CONTROLLER

-- a device which controls the selection, positioning, anchoring, and clearing of markers on the **PVI-40** overlay. Controllers for the **PVI-40** include a light pen and digitizing tablet. Other compatible controllers include some wireless remote control devices, and certain mouse devices.

DRAW

-- the **PVI-40** feature which allows presenters to freehand draw or write over a video image.

DROP SHADOW

-- the **PVI-40** option which allows presenters to attribute a shadow to drawing lines for the purpose of creating a line that stands out from the video image. The drop shadow shade is defined by the user in the ***Color Palette Menu***.

EIA RS-170

-- the specifications describing monochrome electrical performance standards issued by the Electronic Industries Association (EIA). Also referred to as RS-170 (Recommended Standard). The EIA standard is used in North and South America, Japan, and most of Asia.

ERASE

-- the button action on the controller which allows presenters to erase anchored markers on an overlay one at a time, beginning with the most recently anchored marker.

MARKERS

-- pointers (arrows, cross hairs, dots) and drawn lines which can be placed and anchored on a **PVI-40** marker overlay.

MARKER OVERLAY

-- a combination of one or more markers (pointers and drawn lines) placed on the screen using the capabilities of the **PVI-40**. These markers overlay a chosen video image. While the markers are visible, the actual overlay is invisible, allowing users to mark directly on top of a video image (or solid background if selected in the **PVI-40 Setup Menu**).

NTSC

-- the commonly accepted term describing the composite color version of the EIA RS-170 video standard. The color version of EIA RS-170 is in process of standardization by the Electronics Industries Association (EIA). NTSC is used in North and South America, Japan, and most of Asia.

OVERLAY

-- see *Marker Overlay*.

PRESS

-- the action of depressing and not releasing a button on the **PVI-40** controller, as opposed to a *click* of the button. A press is discontinued after the desired effect takes place on the screen.

VIDEO SOURCE

-- a device from which the **PVI-40** receives a video image, incorporates the **PVI-40** graphic overlay capabilities, then outputs to the corresponding monitor. Examples of video sources include VHS recorder/players, cameras, standard television sets, slide to video converters, visual presenters, and more.

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