Thank you for purchasing this Panasonic Product.

- This manual is intended for corresponding the following projectors:
  PT-CW331R / PT-CW241R / PT-CX301R / PT-TW331R / PT-TX301R

- Before operating this product, please read these instructions carefully.
The illustrations and screenshots in this manual may be different from those on your computer. In addition, the specification of this software is subject to change without notice.

Since the icons in this manual are based on the examples of PT-CW331R series, when using PT-TW331R series, the icons may be different from those on your computer.

<table>
<thead>
<tr>
<th>Driver file name</th>
<th>PT-CW331R series</th>
<th>PT-TW331R series</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPDriver</td>
<td></td>
<td>SPDriver5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Driver icon</th>
<th>USB connected</th>
<th>USB disconnected</th>
</tr>
</thead>
<tbody>
<tr>
<td>PT-CW331R series</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PT-TW331R series</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Page references
• In these instructions, references to pages are indicated as: (page 00).

Term
• In these instructions, the "Interactive Pen" and the "Interactive Pointer" accessories are referred to as the "Pen" and "Pointer".
Introduction

These instructions are for "LightPen3" software of the Interactive function.

■ Features

This software enables you to write or draw on the projection screen under circumstances such as schools, educational events or meetings with the Interactive Pen or the Interactive Pointer.

Interactive supported projector

Interactive Pen or Interactive Pointer

USB cable

PC installed with this software

• Mouse function
  • You can use the Pen or the Pointer as a PC mouse on the projection screen.

• Pen function
  • You can use the Pen or the Pointer to draw directly on the projection screen and save it in the PC.

• Dual Pen function (Only for Windows LightPen3 software)
  • When 2 Pens or 2 Pointers are in use together, you can draw on the projection screens.

• PowerPoint® Tool bar function (For Windows only)
  • During the PowerPoint slide show mode, you can use the Pen or the Pointer to draw directly on the projection screen and save it in the PC.

■ The Contents of the CD-ROM

The following table contents are included in the "LightPen3" CD-ROM.

<table>
<thead>
<tr>
<th></th>
<th>SPDriver (SPDriver5)</th>
<th>LightPen3 Software</th>
<th>LightPen3_Lite software</th>
</tr>
</thead>
<tbody>
<tr>
<td>For Windows</td>
<td>○</td>
<td>○</td>
<td>○</td>
</tr>
<tr>
<td>For Mac OS</td>
<td>○</td>
<td>○</td>
<td>✗</td>
</tr>
<tr>
<td>For Linux</td>
<td>○</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

Note

• When using PT-TW331R series, "SPDriver" will show as "SPDriver5".
• When using some kinds of low performance computers, it is recommended to use LightPen3_Lite software. (☞ page 18)
• LightPen3 Software (Drawing application) dedicated for Linux is not included in the CD-ROM contents and the "Pen function" does not work. You can use the Pen or the Pointer as a PC mouse function on the projection screen.
For Windows

System requirements

In order for the SPDriver and the LightPen3 software to work properly, the computer system must meet the following requirements.

| OS                  | Microsoft Windows Vista 32 bit  
|                     | Windows 7 32/64 bit |
|                     | Windows 8.1 32/64 bit |
|                     | Windows 10 32/64 bit |
| CPU                 | Intel Core 2 Duo 2.0 GHz or more |
|                     | (dedicated GPU is recommended) |
| Memory              | 2 GB or more |
| Free space on the hard disk | 100 MB or more |

Note

- Please notice that it is not guaranteed of the proper operations for system requirements other than the above mentioned requirements or for the self-made computers.
- If the USB port monitor software is working, the LightPen3 software or the SPDriver may not work properly. In this case, please exit the monitor software before using the LightPen3 software or the SPDriver.
- It is recommended to set the output resolution from the computer to the same as the panel resolution of the projector.
- Download the latest versions of "LightPen3" software from the following URL.  
  http://panasonic.net/avc/projector/
- The LightPen3 software may not work properly for some computers.

Even all the requirements are meet, there is not guaranteed operations for all computers.

Note

- For Windows system, do not use the supplied CD-ROM. Connect the computer to the projector via a USB cable, installation screen of "SPDriver" will appear automatically and follow the installation instructions on the screen. Auto play screen display appears depending on the setting of the personal computer. In this case, please select "Execute the setup.exe".

Screen display example

Installation of the Driver and Software

Note

- When using some kinds of low performance computers, it is recommended to use LightPen3_Lite software. (page 18)

1) Insert the software recorded CD-ROM into the CD drive.
   - The application launcher will launch automatically when the supplied CD-ROM is inserted into the CD drive. If the application launcher does not launch, double-click "Launcher.exe" in the CD-ROM.
   - When the auto play screen is displayed, select the relevant option to run "Launcher.exe".

2) Click "Install SPDriver".
   - Setup image displays.
3) Follow the on-screen instructions to install.
   • SPDriver icon (red) will be created on the task bar when installation finished.

4) Click "Install LightPen3".
   • Setup image displays.

5) Follow the on-screen instructions to install.
   • Shortcut icon will be created on the desktop when installation finished.
For Windows (continued)

Interactive functions initial settings

First, carry out the calibration for the projector sensor to accurately recognize the position of the projected screen.

■ Start the Software

1) Connect the computer to the projector via a USB cable.
   • The SPDriver icon in the taskbar turns from red into green.

![Image of SPDriver icon turning green]

Note
• The execution confirmation screen of “SP8C2Hotfix.exe” may appear depending on the setting of the personal computer. In this case, please select “OK”.

2) Click "Start"→"All Programs"→"LightPen"→"LightPen3"→"LightPen3" from the desktop.

![Image of program selection]

Or double click the shortcut icon of "LightPen3" from the desktop.
• Tool bar appears on the right of the screen.
Select the operation mode of cursor

3) Click the SPDriver icon on the taskbar and select "Mouse" or "Touch" from the pop-up "Setting".

<table>
<thead>
<tr>
<th>Mode</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>Cursor acts as a computer mouse.</td>
</tr>
<tr>
<td>Touch</td>
<td>Mode for touch display, and available for dual touch.</td>
</tr>
</tbody>
</table>

Note

- Windows Vista supports only "Mouse" mode. Windows 7 supports "Touch" mode and "Mouse" mode. Windows 8.1 or later supports only "Touch" mode.

Perform the Calibration of the camera

4) Click the SPDriver icon on the taskbar and select "Automatic correction" from the pop-up menu.

- Display the auto calibration screen and perform the auto adjustment. During the adjustment, do not block the projection image with any object or figure.
• If auto calibration fails, a confirmation screen for manual calibration will appear and select "Confirm" or "Cancel" to continue.
• Select "Cancel" to perform the auto calibration again.
• Before performing the auto calibration again, please check the following situations.
  1. Turn off the lights to darken the surroundings and reduce the reflection of external light to the projection screen.
  2. Readjust the focus again.
• Select "Confirm" to display the manual calibration screen.
• Click the SPDriver icon on the taskbar and select the pop-up "Calibration" to display the manual calibration screen.

5) Press the target mark ① in the screen with the Pen.
• Each time you press the target mark, the moving order is ① → ② → ③ → ④.

6) Press the target mark② → ③ → ④.
• The "Please wait..." message appears, and after completing the process the message will disappear.

Attention
• When carrying out the "Automatic correction", make sure to project image onto a smooth screen.
• If the projector detects the resolution be modified, the message "Resolution changed, please modify" will display, please carry out the Calibration again.
• If the calibration screen is expanded and does not fit the projected image, click "Start" → “Control Panel” → “Appearance and Personalization” → “Display” and make the setting of the text size to 100 %. If the setting value is over 100 %, the calibration may be failed.

Note
• When the position of the screen and the projector is fixed, there is no need for calibration again next time if you use the same computer at the same resolution.
How to use the Interactive functions

### Tool bar functions

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Mouse icon]</td>
<td><strong>Mouse</strong></td>
<td>To perform as a PC mouse.</td>
<td>-</td>
</tr>
<tr>
<td>![Red pen icon]</td>
<td><strong>Red pen</strong></td>
<td>To draw as a red pen.</td>
<td>-</td>
</tr>
<tr>
<td>![Green pen icon]</td>
<td><strong>Green pen</strong></td>
<td>To draw as a green pen.</td>
<td>-</td>
</tr>
<tr>
<td>![Blue pen icon]</td>
<td><strong>Blue pen</strong></td>
<td>To draw as a blue pen.</td>
<td>-</td>
</tr>
<tr>
<td>![Marker pen icon]</td>
<td><strong>Marker pen</strong></td>
<td>To draw as a half-transparent yellow pen.</td>
<td>-</td>
</tr>
<tr>
<td>![Shape tool icon]</td>
<td><strong>Shape tool</strong></td>
<td>To draw a circle, a square, a triangle or a straight line.</td>
<td>11</td>
</tr>
<tr>
<td>![Line thickness and color change tool icon]</td>
<td><strong>Line thickness and color change tool</strong></td>
<td>To change the color and the thickness of the Pen.</td>
<td>11</td>
</tr>
<tr>
<td>![Eraser icon]</td>
<td><strong>Eraser</strong></td>
<td>To partially erase the pictures or lines.</td>
<td>-</td>
</tr>
<tr>
<td>![Erase all icon]</td>
<td><strong>Erase all</strong></td>
<td>To erase all the pictures and lines.</td>
<td>-</td>
</tr>
<tr>
<td>![Save icon]</td>
<td><strong>Save</strong></td>
<td>To save the displaying screen to the computer.</td>
<td>-</td>
</tr>
<tr>
<td>![Dual Pen icon]</td>
<td><strong>Dual Pen</strong></td>
<td>To draw a picture in the &quot;Full-screen mode&quot; or &quot;Divided-screen mode&quot; with the 2 Pens.</td>
<td>11</td>
</tr>
<tr>
<td>![Whiteboard tool icon]</td>
<td><strong>Whiteboard tool</strong></td>
<td>To change the background to the whiteboard mode.</td>
<td>13</td>
</tr>
<tr>
<td>![Previous page icon]</td>
<td><strong>Previous page</strong></td>
<td>To return to the previous page.</td>
<td>-</td>
</tr>
<tr>
<td>![Next page icon]</td>
<td><strong>Next page</strong></td>
<td>To go to the next page.</td>
<td>-</td>
</tr>
<tr>
<td>![Editing tool icon]</td>
<td><strong>Editing tool</strong></td>
<td>To edit the drawn pictures or lines.</td>
<td>14</td>
</tr>
<tr>
<td>![On-Screen Keyboard icon]</td>
<td><strong>On-Screen Keyboard</strong></td>
<td>To display the On-Screen Keyboard.</td>
<td>15</td>
</tr>
<tr>
<td>![Exit icon]</td>
<td><strong>Exit</strong></td>
<td>To exit LightPen3.</td>
<td>17</td>
</tr>
</tbody>
</table>
For Windows (continued)

■ For "Mouse mode" and "Pen mode"

Mouse mode

The "Mouse mode" is active immediately after Startup. Use a Pen or a Pointer to move the mouse cursor.

- When using the Pen, press the tip of the Pen to the screen as the use of a normal pen.
- When using the Pointer (Optional accessories), press and hold down the button during use. During mouse mode, press and hold the Pointer button or the tip of the Pen for about 2-3 seconds to do right-click.

Pen mode

Select the Pen icon (Red pen/Green pen/Blue pen/Marker pen) from the tool bar and draw a line with a Pen or a Pointer. You can set the thickness and the color of the line.

- When using the Pen, press the tip of the Pen to the screen to draw a line as the use of a normal pen.
- When using the Pointer, press and hold down the button to draw a line.

Note

- Press the icon on the taskbar to switch the "Mouse mode" or the "Pen mode".

■ Position changing and Displaying / Hiding of the tool bar

You can change the position of the tool bar, or switch the displaying / hiding of the tool bar.
• If you use the Pen or the Pointer to click a little space left to the projection screen edge, the tool bar will move to the left.
• If you use the Pen or the Pointer to click a little space right to the projection screen edge, the tool bar will move to the right.
• To switch the displaying or hiding of the tool bar, use the Pen or the Pointer to click a little space outside of the projection screen with the tool bar side.

■ Shape tool
Click the "Shape tool" icon to display the following menu and select the shape you want to draw.

■ Line thickness and color change tool
Click the "Line thickness and color change tool" icon to display the following menu and choose the thickness or color of the line.

■ Dual Pen tool
Click the "Dual Pen tool" icon to display the following menu and select the mode you want to draw.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full-screen mode</td>
<td>To draw on the entire screen with two same color Pens.</td>
</tr>
<tr>
<td></td>
<td>Divided-screen mode</td>
<td>To draw on the equally-divided screen with two same or different color Pens.</td>
</tr>
</tbody>
</table>
For Windows (continued)

Full-screen mode

Tool bar

Divided-screen mode

Tool bar

● Function of the tool bar for dual Pen

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="red_pen.png" alt="Red Pen" /></td>
<td>Red Pen</td>
<td>To draw with a red pen.</td>
</tr>
<tr>
<td><img src="green_pen.png" alt="Green Pen" /></td>
<td>Green Pen</td>
<td>To draw with a green pen.</td>
</tr>
<tr>
<td><img src="blue_pen.png" alt="Blue Pen" /></td>
<td>Blue Pen</td>
<td>To draw with a blue pen.</td>
</tr>
<tr>
<td><img src="white_pen.png" alt="White Pen" /></td>
<td>White Pen</td>
<td>To draw with a white pen.</td>
</tr>
<tr>
<td><img src="thin_circular_stroke.png" alt="Thin circular stroke" /></td>
<td>Thin circular stroke</td>
<td>To draw with a thin circular stroke.</td>
</tr>
<tr>
<td><img src="thick_circular_stroke.png" alt="Thick circular stroke" /></td>
<td>Thick circular stroke</td>
<td>To draw with a round thick stroke.</td>
</tr>
<tr>
<td><img src="square_stroke.png" alt="Square stroke" /></td>
<td>Square stroke</td>
<td>To draw with a square stroke.</td>
</tr>
<tr>
<td><img src="eraser.png" alt="Eraser" /></td>
<td>Eraser</td>
<td>To partially erase the pictures and lines.</td>
</tr>
<tr>
<td><img src="erase_all.png" alt="Erase all" /></td>
<td>Erase all</td>
<td>To erase all the pictures and lines.</td>
</tr>
<tr>
<td><img src="wallpaper_select_tool.png" alt="Wallpaper select tool" /></td>
<td>Wallpaper select tool</td>
<td>To change the background to any wallpaper.</td>
</tr>
<tr>
<td><img src="save.png" alt="Save" /></td>
<td>Save</td>
<td>To save the displaying screen to your computer.</td>
</tr>
<tr>
<td><img src="exit.png" alt="Exit" /></td>
<td>Exit</td>
<td>To exit &quot;Full-screen mode&quot; or &quot;Divided-screen mode&quot;.</td>
</tr>
</tbody>
</table>
Note
• You can draw with a combination of the color and thickness of the Pen. In the tool bar, the background of the color and thickness of the selected Pen displays bright.

Whiteboard tool
Select the "Whiteboard tool" icon to make the wallpaper of the PC screen white. The (previous page) and the (next page) icons are replaced by the (wallpaper selection) and the (white wallpaper) icons.

(1) Select the icon to open the following window where you can choose the wallpaper that you want to use.

(2) Select the icon to change the wallpaper to white.
(3) To exit the Whiteboard mode, select the icon.
For Windows (continued)

- **Editing tool**

Select the icon to display the following "Editing tool" bar and select the necessary functions of the editing work.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="img1.png" alt="icon" /></td>
<td>Object selecting, moving, scaling</td>
<td>To select, to move, to scale the object that you draw.</td>
</tr>
<tr>
<td><img src="img2.png" alt="icon" /></td>
<td>Object rotating</td>
<td>To rotate the object that you draw.</td>
</tr>
<tr>
<td><img src="img3.png" alt="icon" /></td>
<td>Print</td>
<td>To print the screen you drew.</td>
</tr>
<tr>
<td><img src="img4.png" alt="icon" /></td>
<td>Undo</td>
<td>To return to the last action.</td>
</tr>
<tr>
<td><img src="img5.png" alt="icon" /></td>
<td>Undo canceling</td>
<td>To cancel the returning of the last action.</td>
</tr>
<tr>
<td><img src="img6.png" alt="icon" /></td>
<td>Spotlight</td>
<td>To display the part you want to emphasize.</td>
</tr>
<tr>
<td><img src="img7.png" alt="icon" /></td>
<td>Curtain</td>
<td>To cover the part you want to hide.</td>
</tr>
<tr>
<td><img src="img8.png" alt="icon" /></td>
<td>Vertical and horizontal shifting</td>
<td>To array the tool bar vertically or horizontally.</td>
</tr>
<tr>
<td><img src="img9.png" alt="icon" /></td>
<td>Left and right shifting</td>
<td>To move the tool bar left or right.</td>
</tr>
</tbody>
</table>

**Note**

- Select the drawn object first and start to rotate with the "Object rotation" function. If you do not select the object, a message "Select the picture first" will display.

- **Spotlight mode**

Select the icon to display the below spotlight image.

When the cursor becomes a cross, you can change the position of the spotlight and drag.
When the cursor becomes a hand, you can change the size of the spotlight and drag.
When you finish viewing the spotlight, press the exit button on the top left to exit.
Curtain mode

Select the icon to change the entire screen to black.

Place the cursor on the up, down, left or right button and the cursor will change to an arrow, drag the arrows to adjust the black curtain size.
When the cursor become a hand, you can drag it to move the black curtain.
When you finish viewing the curtain, press the button in the center to exit.

On-screen keyboard

Select the icon to display the below On-Screen Keyboard. You can write text to a document via the "Mouse mode".

Note

- When using the On-screen keyboard in Windows 7, please make sure to set the security level of User Accounts to "Never notify". For changing the security level, click "Start" -> "Control Panel" -> "User Accounts" -> "User Account Control Settings".
- For Windows Vista, this function cannot be used.

How to use the PowerPoint® Tool

1) Click the mouse icon in the taskbar and set the "PowerPoint® Tool setting" to [On].

2) Start projection of the PowerPoint file with the "Slide Show Mode".
   - The PowerPoint® Tool appears on the right side of the screen and you can draw during the slide.
For Windows (continued)

Functions of the PowerPoint® Tool bar

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Tool bar minimize</td>
<td>To switch displaying / hiding of the other icons.</td>
</tr>
<tr>
<td></td>
<td>Tool bar position change</td>
<td>To move the tool bar to the left or right.</td>
</tr>
<tr>
<td></td>
<td>Mouse</td>
<td>To perform the mouse mode.</td>
</tr>
<tr>
<td></td>
<td>Mouse right button</td>
<td>To perform as the right button of the mouse.</td>
</tr>
<tr>
<td></td>
<td>Red Pen</td>
<td>To draw with a red pen.</td>
</tr>
<tr>
<td></td>
<td>Eraser</td>
<td>To partially erase the pictures or lines.</td>
</tr>
<tr>
<td></td>
<td>Erase all</td>
<td>To erase all the pictures or lines.</td>
</tr>
<tr>
<td></td>
<td>Previous page</td>
<td>To return to the previous page.</td>
</tr>
<tr>
<td></td>
<td>Next page</td>
<td>To go to the next page.</td>
</tr>
<tr>
<td></td>
<td>Page selecting</td>
<td>To select the page you want to project from the list of slide show page.</td>
</tr>
<tr>
<td></td>
<td>Exit</td>
<td>To exit the slide show mode.</td>
</tr>
</tbody>
</table>

Note

- When you exit "Slide show mode", the PowerPoint® Tool will automatically disappear.
- The LightPen3 PowerPoint® Tool will work when the PowerPoint 2003, the PowerPoint 2007 or the PowerPoint 2010 is installed in your computer.
To exit the Software

■ If you want to exit the LightPen3 from the tool bar
   Select the icon (exit icon) from the tool bar.

■ If you want to exit the LightPen3 from the taskbar
   Click the icon (Mouse icon) from the taskbar and select .

About SPDriver

It is no need to exit the SPDriver under normal use.

■ To exit SPDriver
   Click the icon (SPDriver icon) from the taskbar and select .

■ To restart SPDriver
   Select "Start" → "All Programs" → "LightPen" → "SPDriver" → "SPDriver" on the desktop.

To uninstall the Software and Driver

1) Select "Start" → "All Programs" → "LightPen" → "LightPen3" → "Uninstall LightPen3" on the desktop.

![Uninstall LightPen3](image)

2) Follow the uninstallation steps on the screen.

3) Select "Start" → "All Programs" → "LightPen" → "SPDriver" → "Uninstall SPDriver" on the desktop.

4) Follow the uninstallation steps on the screen.
About LightPen3_Lite

If the interactive function does not work smoothly when using LightPen3 software, please use the LightPen3_Lite. However, there is a limit to some features to the LightPen3_Lite software and please note the following table.

<table>
<thead>
<tr>
<th>Function Name</th>
<th>LightPen3</th>
<th>LightPen3_Lite</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mouse</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Red pen</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Green pen</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Blue pen</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Marker pen</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Shape tool</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Line thickness and color change tool</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Eraser</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Erase all</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Save</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Dual Pen</td>
<td>●</td>
<td>X</td>
</tr>
<tr>
<td>Whiteboard tool</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Previous page</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Next page</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Editing tool</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Object selecting, moving, scaling</td>
<td>●</td>
<td>X</td>
</tr>
<tr>
<td>Object rotating</td>
<td>●</td>
<td>X</td>
</tr>
<tr>
<td>Print</td>
<td>●</td>
<td>○</td>
</tr>
<tr>
<td>Undo</td>
<td>●</td>
<td>○ (Only once)</td>
</tr>
<tr>
<td>Undo canceling</td>
<td>●</td>
<td>X</td>
</tr>
<tr>
<td>Spotlight</td>
<td>●</td>
<td>X</td>
</tr>
<tr>
<td>Curtain</td>
<td>●</td>
<td>X</td>
</tr>
<tr>
<td>Vertical and horizontal shifting</td>
<td>●</td>
<td>X</td>
</tr>
<tr>
<td>Left and right shifting</td>
<td>●</td>
<td>X</td>
</tr>
<tr>
<td>On-Screen Keyboard</td>
<td>○ *1</td>
<td>○ *1</td>
</tr>
<tr>
<td>PowerPoint® tool</td>
<td>●</td>
<td>○</td>
</tr>
</tbody>
</table>

*1: Excluding Windows Vista

LightPen3_Lite System requirements

In order for the LightPen3_Lite software to work properly, the computer system must meet the following requirements.

| OS                           | Microsoft Windows Vista 32 bit  
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Windows 7 32/64 bit</td>
</tr>
<tr>
<td></td>
<td>Windows 8 32/64 bit</td>
</tr>
<tr>
<td>CPU</td>
<td>Intel Pentium-M 1.5 GHz or more</td>
</tr>
<tr>
<td></td>
<td>(dedicated GPU is recommended)</td>
</tr>
<tr>
<td>Memory</td>
<td>2 GB or more</td>
</tr>
<tr>
<td>Free space on the hard disk</td>
<td>100 MB or more</td>
</tr>
</tbody>
</table>
For Windows (continued)

Note
• Please notice that it is not guaranteed of the proper operations for system requirements other than the above mentioned requirements or for the self-made computers.

Even all the requirements are meet, there is not guaranteed operations for all computers.

LightPen3_Lite software installation

1) Insert the software recorded CD-ROM into the CD drive.
   • Application Launcher will start automatically, press the "Close" button to close the window.
   • If the auto play screen appears, please select "Open folder to view files".
2) Double-click the "Setup_Lite.exe" within the "WIN" folder.
   • Setup image displays.

3) Follow the on-screen instructions to install.
   • Shortcut icon will be created on the desktop when installation finished.

Note
• Download the latest versions of "LightPen3_Lite" software from the following URL.
  http://panasonic.net/avc/projector/
• The LightPen3_Lite software may not work properly for some computers.

LightPen3_Lite Interactive functions initial settings

First, carry out the calibration for the projector sensor to accurately recognize the position of the projected screen.

Start the Software

1) Connect the computer to the projector via a USB cable.
   • The SPDriver icon in the taskbar turns from red into green.
For Windows (continued)

2) Click "Start"→"All Programs"→"LightPen3_Lite"→"LightPen3_Lite" from the desktop.

Or double click the shortcut icon of "LightPen3_Lite" from the desktop.

• Tool bar appears on the right of the screen.

■ Perform the Calibration of the camera

For the method of performing the Calibration of the camera, please see LightPen3 software. (pages 7-8)
## Tool bar functions

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Mouse icon" /></td>
<td>Mouse</td>
<td>To perform as a PC mouse.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Red pen icon" /></td>
<td>Red pen</td>
<td>To draw as a red pen.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Green pen icon" /></td>
<td>Green pen</td>
<td>To draw as a green pen.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Blue pen icon" /></td>
<td>Blue pen</td>
<td>To draw as a blue pen.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Marker pen icon" /></td>
<td>Marker pen</td>
<td>To draw as a half-transparent yellow pen.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Shape tool icon" /></td>
<td>Shape tool</td>
<td>To draw a circle, a square, a triangle or a straight line.</td>
<td>23</td>
</tr>
<tr>
<td><img src="image" alt="Line color change tool icon" /></td>
<td>Line color change tool</td>
<td>To change the color of the Pen.</td>
<td>23</td>
</tr>
<tr>
<td><img src="image" alt="Line thickness change tool icon" /></td>
<td>Line thickness change tool</td>
<td>To change the thickness of the Pen.</td>
<td>23</td>
</tr>
<tr>
<td><img src="image" alt="Eraser icon" /></td>
<td>Eraser</td>
<td>To partially erase the pictures or lines.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Erase all icon" /></td>
<td>Erase all</td>
<td>To erase all the pictures and lines.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Save icon" /></td>
<td>Save</td>
<td>To save the displaying screen to the computer.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Whiteboard tool icon" /></td>
<td>Whiteboard tool</td>
<td>To change the background to the whiteboard mode.</td>
<td>24</td>
</tr>
<tr>
<td><img src="image" alt="Previous page icon" /></td>
<td>Previous page</td>
<td>To return to the previous page.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Next page icon" /></td>
<td>Next page</td>
<td>To go to the next page.</td>
<td>-</td>
</tr>
<tr>
<td><img src="image" alt="Editing tool icon" /></td>
<td>Editing tool</td>
<td>To edit the drawn pictures or lines.</td>
<td>24</td>
</tr>
<tr>
<td><img src="image" alt="On-Screen Keyboard icon" /></td>
<td>On-Screen Keyboard</td>
<td>To display the On-Screen Keyboard.</td>
<td>25</td>
</tr>
<tr>
<td><img src="image" alt="Exit icon" /></td>
<td>Exit</td>
<td>To exit LightPen3_Lite.</td>
<td>25</td>
</tr>
</tbody>
</table>
For "Mouse mode" and "Pen mode"

Mouse mode
The "Mouse mode" is active immediately after Startup. Use a Pen or a Pointer to move the mouse cursor.
• When using the Pen, press the tip of the Pen to the screen as the use of a normal pen.
• When using the Pointer (Optional accessories), press and hold down the button during use. During mouse mode, press and hold the Pointer button or the tip of the Pen for about 2-3 seconds to do right-click.

Pen mode
Select the Pen icon (Red pen/Green pen/Blue pen/Marker pen) from the tool bar and draw a line with a Pen or a Pointer. You can set the thickness and the color of the line.
• When using the Pen, press the tip of the Pen to the screen to draw a line as the use of a normal pen.
• When using the Pointer, press and hold down the button to draw a line.

Note
• Press the icon on the taskbar to switch the "Mouse mode" or the "Pen mode".

"Mouse mode" and "Pen mode" Switching

If you use the Pen or the Pointer to click a little space above or below to the projection screen edge, you can easily switch the "Mouse mode" and the "Pen mode" (Red pen / Green pen / Blue pen / Marker pen).
• The Pen color was the last selected color when using "Pen mode".

## Position changing and Displaying / Hiding of the tool bar

You can change the position of the tool bar, or switch the displaying / hiding of the tool bar.

- If you use the Pen or the Pointer to click a little space left to the projection screen edge, the tool bar will move to the left.
- If you use the Pen or the Pointer to click a little space right to the projection screen edge, the tool bar will move to the right.
- To switch the displaying or hiding of the tool bar, use the Pen or the Pointer to click a little space outside of the projection screen with the tool bar side.

### Shape tool

Click the "Shape tool" icon 🌈 to display the following menu and select the shape you want to draw.

### Line color change tool

Click the "Line color change tool" icon 🌈 to display the following "Color setting" menu and choose the color of the line.

### Line thickness change tool

Click the "Line thickness change tool" icon 🌈 to display the following "Line thickness change tool" submenu and choose the thickness of the line.
For Windows (continued)

■ Whiteboard tool

Select the "Whiteboard tool" icon to make the wallpaper of the PC screen white. The (previous page) and the (next page) icons are replaced by the (wallpaper selection) and the (white wallpaper) icons.

(1) Select the icon to open the following window where you can choose the wallpaper that you want to use.

(2) Select the icon to change the wallpaper to white.
(3) To exit the Whiteboard mode, select the icon.

■ Editing tool

Select the icon to display the following "Editing tool" bar and select the necessary functions of the editing work.

- Functions of Editing bar

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🔄</td>
<td>Undo</td>
<td>To return to the last action.</td>
</tr>
<tr>
<td>📢</td>
<td>Print</td>
<td>To print the screen you drew.</td>
</tr>
</tbody>
</table>
■ On-screen keyboard

Select the icon to display the below On-Screen Keyboard. You can write text to a document via the "Mouse mode".

![On-Screen Keyboard](image)

Note

- For Windows Vista, this function cannot be used.

How to use the LightPen3_Lite PowerPoint® tool

For PowerPoint® tool function, please refer to LightPen3 software. (page 16)

To exit the LightPen3_Lite software

- If you want to exit the LightPen3_Lite from the tool bar
  Select the icon (exit icon) from the tool bar.

- If you want to exit the LightPen3_Lite from the taskbar
  Click the icon (Mouse icon) from the taskbar and select Exit.

To uninstall the LightPen3_Lite software

1) Select "Start" → "All Programs" → "Uninstall LightPen3_Lite" on the desktop.

![Uninstall LightPen3_Lite](image)

2) Follow the uninstallation steps on the screen.
For Mac OS

System requirements

In order for the SPDriver and the LightPen3 software to work properly, the computer system must meet the following requirements.

<table>
<thead>
<tr>
<th>OS</th>
<th>Mac OS X v10.9 ~ v10.11</th>
</tr>
</thead>
<tbody>
<tr>
<td>CPU</td>
<td>Intel processor</td>
</tr>
<tr>
<td>Memory</td>
<td>2 GB or more</td>
</tr>
<tr>
<td>Free space on the hard disk</td>
<td>100 MB or more</td>
</tr>
</tbody>
</table>

Note

• Please notice that it is not guaranteed of the proper operations for system requirements other than the above mentioned requirements or for the self-made computers.
• The LightPen3 software may not work properly depending on the Mac OS version.

Even all the requirements are meet, there is not guaranteed operations for all computers.

Installation of the Driver and Software

1) Insert the software recorded CD-ROM into the CD drive.
2) Open the "MAC" folder, copy the "SP Driver.app" and "LightPen3.app" onto your desktop.
   • The "SP Driver.app" and "LightPen3.app" icons appear on the desktop as below pictures shown.

3) Take the CD-ROM out from the CD drive.
4) Double click "SP Driver.app".
   • The SPDriver icon (red) appears in the menu bar.

Attention

• Please do not start the software directly from the CD-ROM.

Note

• Download the latest versions of "LightPen3" software from the following URL.
  http://panasonic.net/avc/projector/

Interactive function initial settings

First, carry out the calibration for the projector sensor to accurately recognize the position of the projected screen.

Start the Software

1) Connect the computer and the projector via a USB cable.
   • The SPDriver icon in the menu bar turns from red into green.
2) Double click the "LightPen3.app" on the desktop.
   • Tool bar appears at the right of the screen.

   ![Tool bar with SPDriver icon and Mouse icon]

   Tool bar

■ Perform the Calibration of the camera

3) Click the SPDriver icon on the menu bar.

4) Select the pop-up "Calibration".
   • Manual calibration screen displays.

   ![Calibration screen with target marks]

5) Press the target mark 1 in the screen with the Pen.
   • Each time you press the target mark, the moving order is 1 → 2 → 3 → 4.

6) Press the target mark 2 → 3 → 4.
   • The "Please wait..." message appears, and after completing the process the message will disappear.

   ![Diagram of calibration process]

Note
   • When the position of the screen and the projector is fixed, there is no need for calibration again next time if you use the same computer at the same resolution.
For Mac OS (continued)

How to use the Interactive function

■ Tool bar functions

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>![Mouse icon]</td>
<td><strong>Mouse</strong></td>
<td>To perform as a PC mouse.</td>
<td>-</td>
</tr>
<tr>
<td>![Red pen icon]</td>
<td><strong>Red pen</strong></td>
<td>To draw as a red pen.</td>
<td>-</td>
</tr>
<tr>
<td>![Green pen icon]</td>
<td><strong>Green pen</strong></td>
<td>To draw as a green pen.</td>
<td>-</td>
</tr>
<tr>
<td>![Blue pen icon]</td>
<td><strong>Blue pen</strong></td>
<td>To draw as a blue pen.</td>
<td>-</td>
</tr>
<tr>
<td>![Marker pen icon]</td>
<td><strong>Marker pen</strong></td>
<td>To draw as a half-transparent yellow pen.</td>
<td>-</td>
</tr>
<tr>
<td>![Shape tool icon]</td>
<td><strong>Shape tool</strong></td>
<td>To draw a circle, a square, a triangle or a straight line.</td>
<td>30</td>
</tr>
<tr>
<td>![Line thickness and color change tool icon]</td>
<td><strong>Line thickness and color change tool</strong></td>
<td>To change the color and the thickness of the Pen.</td>
<td>30</td>
</tr>
<tr>
<td>![Eraser icon]</td>
<td><strong>Eraser</strong></td>
<td>To partially erase the pictures or lines.</td>
<td>-</td>
</tr>
<tr>
<td>![Erase all icon]</td>
<td><strong>Erase all</strong></td>
<td>To erase all the pictures or lines.</td>
<td>-</td>
</tr>
<tr>
<td>![Save icon]</td>
<td><strong>Save</strong></td>
<td>To save the displaying screen to the computer.</td>
<td>-</td>
</tr>
<tr>
<td>![Whiteboard tool icon]</td>
<td><strong>Whiteboard tool</strong></td>
<td>To change the background to the whiteboard mode.</td>
<td>31</td>
</tr>
<tr>
<td>![Previous page icon]</td>
<td><strong>Previous page</strong></td>
<td>To return to the previous page.</td>
<td>-</td>
</tr>
<tr>
<td>![Next page icon]</td>
<td><strong>Next page</strong></td>
<td>To go to the next page.</td>
<td>-</td>
</tr>
<tr>
<td>![Editing tool icon]</td>
<td><strong>Editing tool</strong></td>
<td>To edit the drawn pictures or lines.</td>
<td>32</td>
</tr>
<tr>
<td>![On-Screen Keyboard icon]</td>
<td><strong>On-Screen Keyboard</strong></td>
<td>To display the On-Screen Keyboard.</td>
<td>32</td>
</tr>
<tr>
<td>![Exit icon]</td>
<td><strong>Exit</strong></td>
<td>To exit LightPen3.</td>
<td>32</td>
</tr>
</tbody>
</table>
For "Mouse mode" and "Pen mode"

- **Mouse mode**
  The "Mouse mode" is active immediately after Startup. Use a Pen or a Pointer to move the mouse cursor.
  - When using the Pen, press the tip of the Pen to the screen as the use of a normal pen.
  - When using the Pointer (Optional accessories), press and hold down the button during use. During mouse mode, press and hold the Pointer button or the tip of the Pen for about 2-3 seconds to do right-click.

- **Pen mode**
  Select the Pen icon (Red pen/Green pen/Blue pen/Marker pen) from the tool bar and draw a line with a Pen or a Pointer. You can set the thickness and the color of the line.
  - When using the Pen, press the tip of the Pen to the screen to draw a line as the use of a normal pen.
  - When using the Pointer, press and hold down the button to draw a line.

  **Note**
  - Press the icon on the menu bar to switch the "Mouse mode" or the "Pen mode".

- **Quick switch of the "Mouse mode" or the "Pen mode"**

You can switch the "Mouse mode" or the "Pen mode" (Red pen/Green pen/Blue pen/Marker pen) function by simply using the Pen or the Pointer to click a little space up above or below the projection screen edge.
For Mac OS (continued)

• The Pen color is the last selected color when using "Pen mode”.

■ Position changing and Displaying / Hiding of the tool bar

You can change the position of the tool bar or switch to display or hide of the tool bar.
• If you use the Pen or the Pointer to click a little space left to the projection screen edge, the tool bar will move to the left. To move the tool bar to the right, use the Pen or the Pointer to click a little space right to the projection screen edge.
• To switch the displaying or hiding of the tool bar, use the Pen or the Pointer to click a little space outside of the projection screen with the tool bar side.

■ Shape tool

Click the "Shape tool" icon 🎨 to display the following menu and select the shape you want to draw.

■ Line thickness and color change tool

Click the "Line thickness and color change tool" icon 02 to display the following menu and choose the thickness or color of the line.

You can select rich color palette from the following picture in the Mac OS system.
• Set the switching of the 5 types of color palette button.
**Whiteboard tool**

Select the "Whiteboard tool" icon to make the wallpaper of the PC screen white. The (previous page) and the (next page) icons are replaced by the (wallpaper selection) and the (white wallpaper) icons.

1. Select the icon to open the following window where you can choose the wallpaper that you want to use.

2. Select the icon to change the wallpaper to white.
3. To exit the Whiteboard mode, select the icon.
Editing tool

Select the icon to display the following "Editing tool" bar and select the necessary functions of the editing work.

<table>
<thead>
<tr>
<th>Icon</th>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="object.png" alt="Icon" /></td>
<td>Object selecting, moving, scaling, rotating</td>
<td>To select, to move, to scale or to rotate the object that you draw.</td>
</tr>
<tr>
<td><img src="print.png" alt="Icon" /></td>
<td>Print</td>
<td>To print the screen that you drew.</td>
</tr>
<tr>
<td><img src="undo.png" alt="Icon" /></td>
<td>Undo</td>
<td>To return to the last action.</td>
</tr>
<tr>
<td><img src="undo.png" alt="Icon" /></td>
<td>Undo canceling</td>
<td>To cancel the returning of the last action.</td>
</tr>
</tbody>
</table>

On-screen keyboard

Select icon to display the below on-screen keyboard. You can write text to a document via the "Mouse mode".

To exit the Software

If you want to exit the LightPen3 from the tool bar

1) Select the icon (exit icon) from the tool bar.
2) The confirmation screen displays and press "OK" to select.

If you want to exit the LightPen3 from the menu bar

1) Click the icon (Mouse icon) from the task bar and select Exit.
2) The confirmation screen displays and press "OK" to select.
About SP Driver

It is no need to exit the SP Driver under normal use.

■ To exit SP Driver
   Click the icon (SPDriver icon) from the menu bar and select Exit.

■ To restart SP Driver
   Double-click the "SP Driver.app" on the desktop.

To uninstall the Software and Driver

1) Drag or drop the "SP Driver.app" and the "LightPen3.app" from the desktop to the recycle bin.
2) Select the "Empty trash" for the "Finder" menu.
Troubleshooting

"Can't find SP device." message displays.

In this case, please check the followings.
(1) Confirm that the USB cable is connected securely and that the USB port is functioning properly.
   • If the following warning appears, connect the projector and the computer using the supplied USB cable, and
     then restart the program.

If the SPDriver icon appears in red as figures (A)/(C), the USB function is not working. In this case, confirm
that the USB cable is connected securely and that the USB port is functioning properly. The USB function
performs normally when the icon becomes green as figures (B)/(D).

(A) (B) (C) (D)

Attention:
Some antivirus softwares may disable the USB ports. Set such software to support the USB ports.

(2) Use the supplied USB cable together with the projector. If a longer USB cable is needed, contact your dealer
    for details.
(3) Confirm the USB port is functioning normally. Consult a qualified technician when it does not work.

Note:
When using a notebook computer, reduced battery capacity can result in USB ports not working. If this should
occur, use AC power. Moreover, some notebook computers are unable to supply the standard current level of
500 mA from USB ports. In addition, some USB converters will not work properly. In such cases, use the sup-
plied USB cable.

When the computer is restarted from standby mode, LightPen3 does not work.

When a computer is put into standby mode, its USB ports might be shut down. Quit the LightPen3 program once
and then restart it.

The tip of the Pointer and the mouse cursor position are not the same.

This may be caused by one of the followings.
(1) Calibration was not conducted accurately.
(2) After calibration, the projector or screen was moved.
(3) The computer resolution was changed.
Recalibrate in any of these cases.

The mouse cursor jumps around regardless of the movement of the Pointer tip.

This may be caused by one of the followings.
(1) There might be interference from a strong light nearby. Block nearby light from reaching the screen.
(2) Since the use of remote control and infrared instruments can cause malfunction, do not use the remote con-
    trol or infrared instruments when using the interactive functions within the projection range.
Troubleshooting (continued)

Under manual calibration, you can not proceed to next step even by clicking the cross mark.

(1) Check the followings.
- Is the Pen or Pointer have enough battery charge?
- Is the tip of the Pointer or Pen in shadow on the screen? If the sensor cannot detect the LED in the tip of the Pointer or Pen, it will not function.

| Do not put the Pen tip in shadow. | The recommended angle is 25°. |

(2) The surrounding light might be too bright. Move light sources further away from the projector and screen. It often happens in the following cases.
- Sunlight is entering through a window near the screen
- There is a light source near the sensor or screen

(3) When using Windows Vista or Windows 7, the + mark at the bottom left of the screen might be hidden by the start icon. In this case, place the tip where you expect it to be and press the button.

"The ambient light is too bright to run the light pen system properly." message displays.

The surrounding light is too strong. Therefore, try to move the light source or change the location of the screen or turn off the light, also try to make use of the curtain.

The SPDriver icon does not change from red to green when using a USB cable to connect the computer to the projector.

(1) It maybe due to the poor connection. Please unplug the USB cable and do the connection again.
(2) It maybe due to the abnormal operation of the SPDriver. Please restart the computer.

LightPen3 software does not move smoothly.

When using some kinds of low performance computers, the interactive function may not work smoothly when using LightPen3 software. In this case, please use the LightPen3_Lite software. (☞ page 18)

The SPDriver icon does not appear.

If the SPDriver6 icon (❑) is present on the taskbar of your computer, the SPDriver icon does not appear. Click the SPDriver6 icon and select “Exit”, then use the SPDriver.
Troubleshooting (continued)

Notes for using PT-CW331R series and PT-TW331R series projector together with one computer

<table>
<thead>
<tr>
<th>WINDBOX</th>
<th>Notes for using PT-CW331R series and PT-TW331R series projector together with one computer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Connect the USB cable to your computer and the projector you would like to use.</td>
</tr>
<tr>
<td>2</td>
<td>Setup screen of SPDriver will display.</td>
</tr>
<tr>
<td></td>
<td>* 1 Auto play screen display appears depending on the setting of the computer. In this case, please select &quot;Execute the setup.exe&quot; to display the setup screen.</td>
</tr>
<tr>
<td></td>
<td>* 2 Depending on the environment of your computer, it may take 1-2 minutes to appear the screen.</td>
</tr>
<tr>
<td>3</td>
<td>Click &quot;Next&quot; to display a confirmation dialog for installing destination location.</td>
</tr>
<tr>
<td>4</td>
<td>Click &quot;Next&quot; to display a confirmation dialog for overwriting the driver and then select &quot;Yes&quot;.</td>
</tr>
<tr>
<td>5</td>
<td>Click &quot;Finish&quot;.</td>
</tr>
<tr>
<td>6</td>
<td>Make sure that the icon on the task bar is green.</td>
</tr>
<tr>
<td></td>
<td>* 3 Depending on the environment of your computer, it may take 1-2 minutes for the icon to become green.</td>
</tr>
<tr>
<td></td>
<td>For the above, you can use the interactive features.</td>
</tr>
</tbody>
</table>

- Step ① ～ ⑥ are required every time you need to change the projector.

MAC OS

1. Prepare SP Driver of the projector you would like to use.
   - Obtain from CD-ROM
     "SP Driver" in the MAC folder.
   - Download from WEB
     "SP Driver XXXXX.dmg" (XXXXX indicated the version) will be a "SP Driver" where you mount in the disk image.
   ② When you copy it to the hard disk of the computer, change "SP Driver" to any file name you would like to.
     (For example) "SP Driver" --> "SP Driver for CW series"
   ③ Double-click the name-changed SP Driver file for the projector you would like to use.
   ④ Connect the USB cable to your computer and the projector you would like to use.
   ⑤ Make sure that the icon on the menu bar is green.
   * ④ Depending on the environment of your computer, it may take 1-2 minutes for the icon to become green.
   ⑥ For the above, you can use the interactive features.

- Step ② ～ ⑥ are required every time you need to change the projector.

LINUX

1. Start the computer with the administrator privileges.
2. Connect the USB cable to your computer and the projector you would like to use.
3. Copy the "Linux.tar" in the LNX folder of the CD-ROM to the hard disk.
4. In this case, change "Linux.tar" to any file name you would like.
   (For example) "Linux.tar" --> "Linux for CW series.tar"
5. Unzip the name-changed "Linux.tar" file to the projector you would like to use.
6. Double-click "1-setup" in the Linux folder.
7. Make sure that the icon on the menu bar is green.
   * ⑤ Depending on the environment of your computer, it may take 1-2 minutes for the icon to become green.
8. For the above, you can use the interactive features.

- Step ② ～ ⑦ are required every time you need to change the projector.
Suffix (For Linux)

Install the Linux dedicated SPDriver in the Linux system computer. The Drawing application dedicated for Linux is not included in the CD-ROM contents and the "Pen function" does not work. You can use the Pen or the Pointer as a PC mouse function on the projection screen.

**System requirements**

The computer must meet the following requirements in order to install the SPDriver.

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Requirement Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OS</strong></td>
<td>Linux OS Ubuntu v10.04, Debian v5.0, Suse v11</td>
</tr>
<tr>
<td><strong>CPU</strong></td>
<td>Intel Core 2 Duo 2.0 GHz or more (dedicated GPU is recommended)</td>
</tr>
<tr>
<td><strong>Memory</strong></td>
<td>2 GB or more</td>
</tr>
<tr>
<td><strong>Free space on the hard disk</strong></td>
<td>100 MB or more</td>
</tr>
</tbody>
</table>

**Note**

- Please notice that it is not guaranteed of the proper operations for system requirements other than the above mentioned requirements or for the self-made computers.

**Even all the requirements are meet, there is not guaranteed operations for all computers.**

**How to install the Driver**

1) Before installation, use a USB cable to connect the projector to the PC, and Start the computer with administrator privileges.

2) Insert the software recorded CD-ROM into the CD drive.

3) Open the "LNX" folder and copy the "Linux.tar" on to the desktop.

4) Take the CD-ROM out from the CD drive.

5) Double click the "Linux.tar" → "Linux" → "1-setup".
   - spdriver icon and "Installed successfully" messages display on the desktop.
Interactive functions initial settings

First, carry out the calibration for the projector sensor to accurately recognize the position of the projected screen.

Perform the Calibration of the camera

1) Connect the computer to the projector via a USB cable.
   • The SPDriver icon in the taskbar turns from red into green.
2) Click the SPDriver icon in the taskbar.

3) Choose the pop-up "Calibration"
   • The manual calibration screen displays.

4) Press the target mark 1 in the screen with the Pen.
   • Each time you press the target mark, the moving order is 1 → 2 → 3 → 4.
5) Press the target mark 2 → 3 → 4.
   • The "Please wait..." message appears, and after completing the process the message will disappear.

Note
• When the position of the screen and the projector is fixed, there is no need for calibration again next time if you use the same computer at the same resolution.

To uninstall the Driver

1) Double click the "spdriver_UNINSTALL" on the desktop.

   • "Uninstalled successfully" message will display when uninstallation finishes.
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