

IK-US10

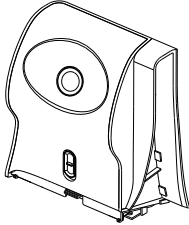
INTERACTIVE FUNCTION MANUAL

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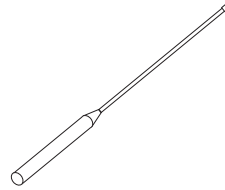
Contents of the Package

Please make sure that following items are included in the box. If any items are missing, contact your dealer.

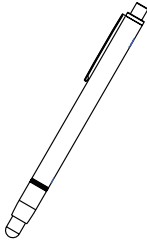
1. Interactive Kit (IR camera unit)



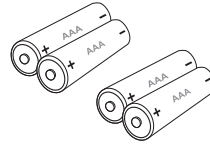
2. Pointer



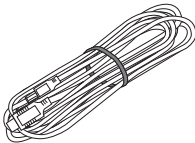
3. Light Pen



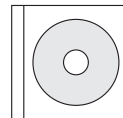
4. Batteries (AAA)



5. USB Cable

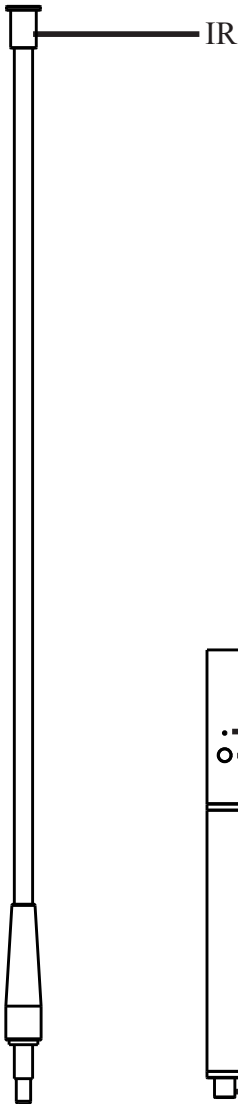


6. Owner's Manual (CD)



Accessories Introduction

Function Key on the "Pointer Body"



Before using the Pointer.

Screw the Rod part into the pointer body firmly please.

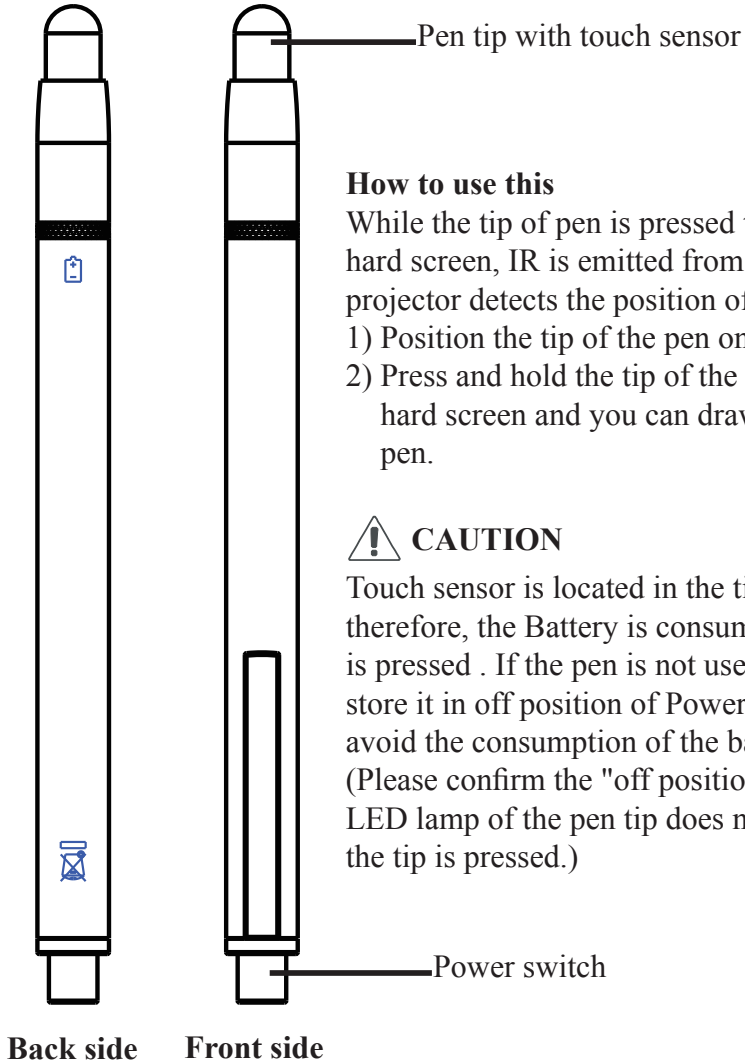
How to use this

While pressing the button IR is emitted from the tip of the rod and the CMOS sensor in the projector detects the position of it. While the signal is emitted, the LED Lamp also lights green.

- 1) Position the tip of pointer on the screen.
- 2) Push the button to click the target as a mouse or push and hold the button to draw a line as a pen.

Accessories Introduction

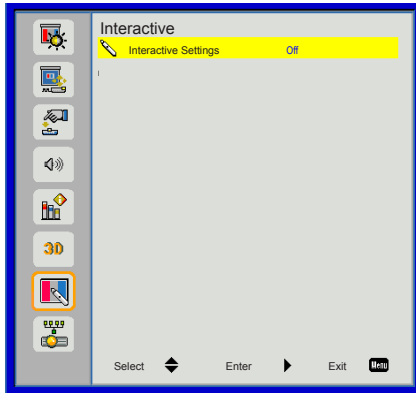
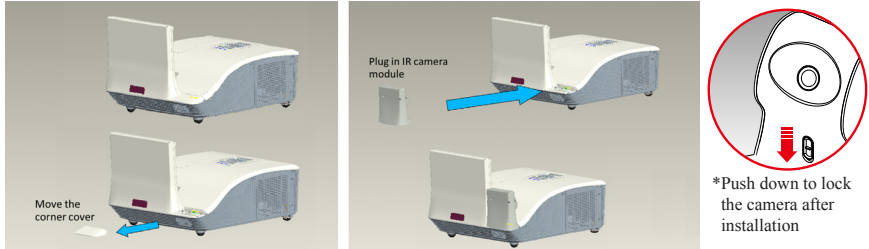
Function Key on the "Light Pen"



Interactive Kit Settings

Interactive kit Settings

The IR camera Interactive function needs an external IR camera. Please refer to below figure and plug in IR camera to projector before projector was installed.



Use this feature to select the Interactive Pen function.

- ▶ Choose “Off” to disable the Interactive Pen function.
- ▶ Choose “IR Camera” to enable the Interactive Pen function.

You need to unplug the Mini USB cable that connects NB/desktop with the projector before using the Interactive function. After you complete the Interactive Settings in OSD, use Mini USB cable to connect NB/desktop with the projector.



- The Interactive function is available when displaying graphic source from HDMI/VGA input. Other sources are not supported.
- If “3D” or “Dynamic Black” function is enabling, “Interactive” feature is disabling.

Operation Guide for Windows OS

Interactive function is provided by "LightPen-Dual" software.

System Requirements

To ensure the interactive function work properly, please check your computer system to see if it meets the following conditions.

LightPen-Dual

System Requirements	
OS Required	Microsoft Windows XP(SP2)(32bit) / Vista (32bit)/Windows 7 (32bit/64bit) or above
Processor Type	Intel® Core™2 Duo 2.0GHz or above (dedicated GPU is recommended)
RAM	2GB above
Min. Free disk space	100 MB

Operation Guide for Windows OS

2. Software Installation

2.1 Driver Installation

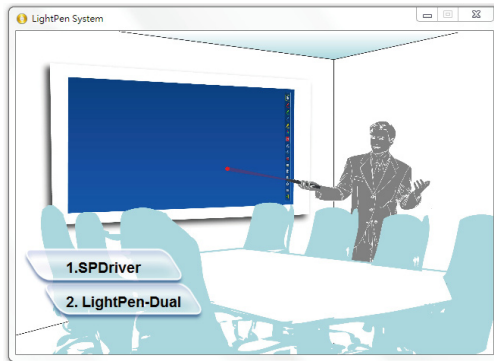
*When you connect supplied USB cable between projector and your PC, the folder of SPDriver will pop-up. Please double click the "win.exe" and completed the installation process from step 4.

Step 1. Insert the "Owner's Manual" CD-ROM into the CD drive.

Step 2. Open the "LightPen Software for Windows" folder in the CD-ROM.

Step 3. Double click the " Setup.exe" by mouse.

And then the window will appear as below.

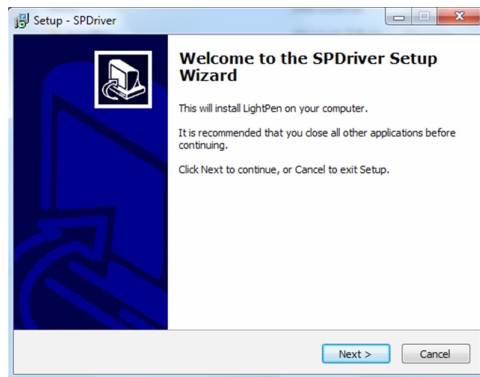


Step 4.

(1) Click " SPDriver" by mouse.

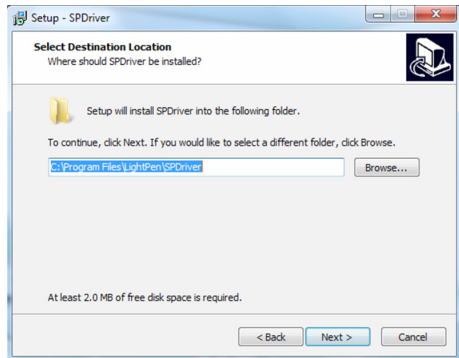
And then "Setup Wizard" window will appear as below.

Click "Next" to install.

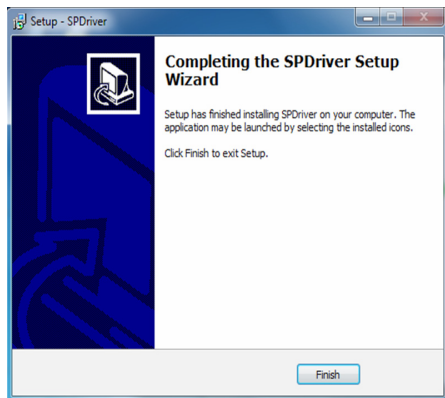
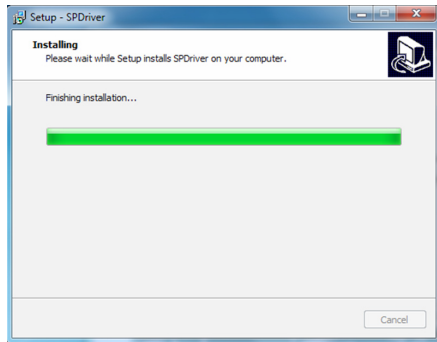


Operation Guide for Windows OS

- (2) You can choose to install folder depend on your requirements, or use the default folder. Then click "Next" to continue.



- (3) Please wait for a while for the installation. Installation is finished.



Operation Guide for Windows OS

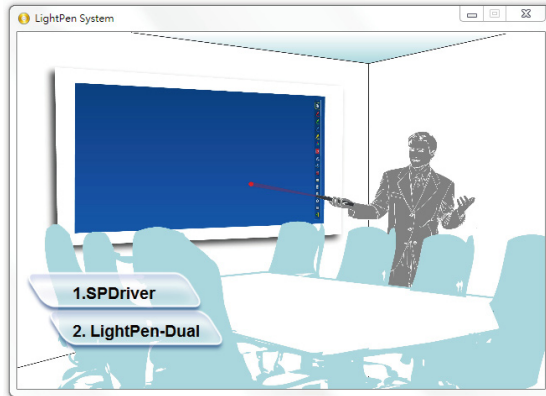
2.2 LightPen Software Installation

Step 1. Insert the "Owner's Manual" CD-ROM into the CD drive.

Step 2. Open the "LightPen Software for Windows" folder in the CD-ROM.

Step 3. Double click " Setup.exe" by mouse.

And then the window will appear as below.

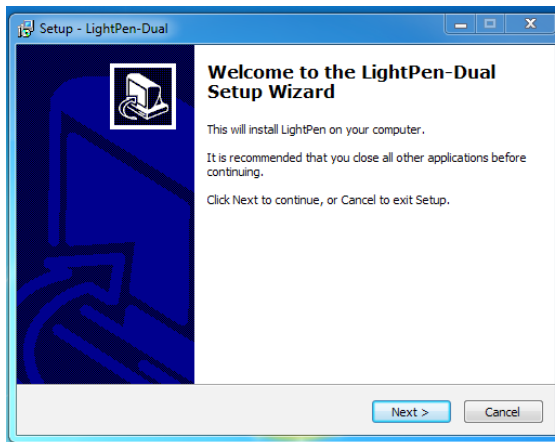


Step 4.

(1) click " LightPen-Dual" by mouse.

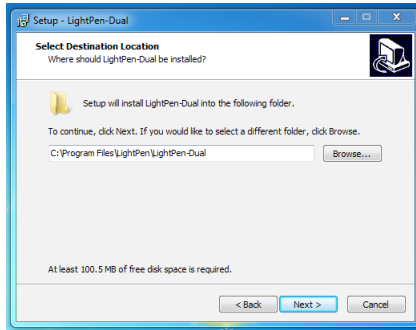
And then "Setup Wizard" window will appear as below.

Click "Next" to install.

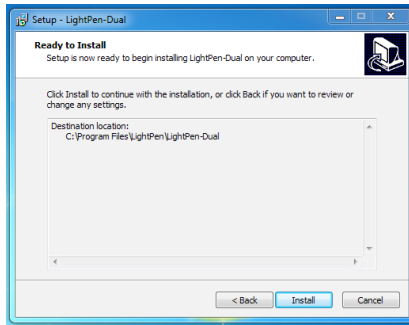


Operation Guide for Windows OS

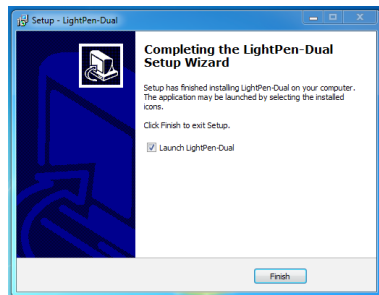
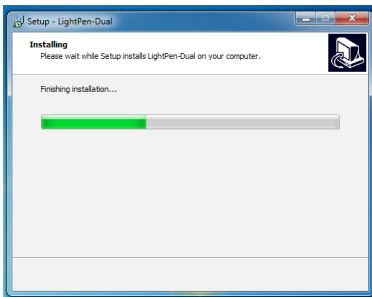
- (2) You can choose to install folder depend on your requirements, or use the default folder. Then click "Next" to continue.



- (3) Confirm the information listed and select "Install".



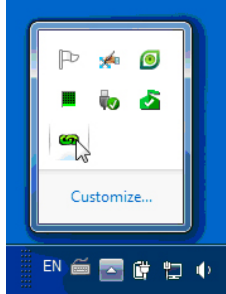
- (4) Please wait for a while for the installation. Installation is finished.



Operation Guide for Windows OS

3. Initial Setup for Interactive Function


3.1 After SPDriver finished, from "Start Menu/LightPen/SPDriver/SPDriver" to execute it. Connect supplied USB cable between projector and your PC which show below icon.

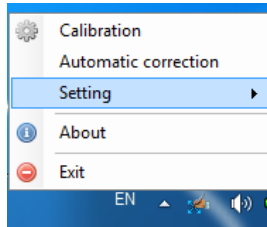


(Windows 7/VISTA)



(Win XP)

3.2 Click the mouse left key on the  icon in the task bar to show the menu.

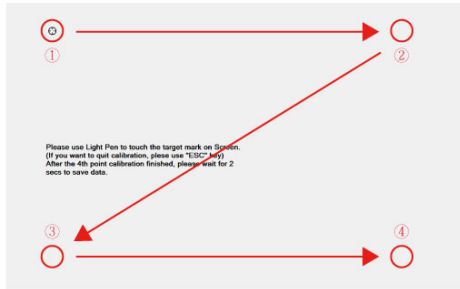


- * The default Mouse Mode is available for Win XP and Win Vista only.
- * The Microsoft Windows 7 OS support multi-point touch control. When using your projector with a PC running Microsoft Windows 7 OS, you may select to use the default Mouse mode or the Multi-point Touch Control mode.

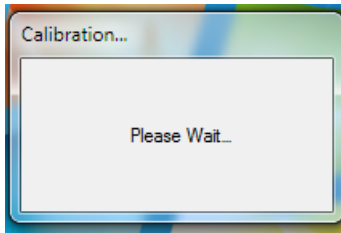
Operation Guide for Windows OS

3.3 Calibration:

3.3.1 Select the "Calibration" to enter the calibration process. Use your pen or pointer to touch the circle shown on the screen. Then another circle appear, repeat this process until the 4th circle is finished.



3.3.2 After calibration by 4 points on the screen, PC system will save data, as shown as below, please wait.



3.3.3 After you have finished calibration, you can use either pen or pointer as a mouse on the projection board or wall.

3.4 Auto Calibration:

- 3.4.1 Select "Auto Calibration" to calibrate the interactive function. The warning message will popup as Fig.1. DO NOT block the image (as Fig.2) shown on the screen while auto calibration is running.

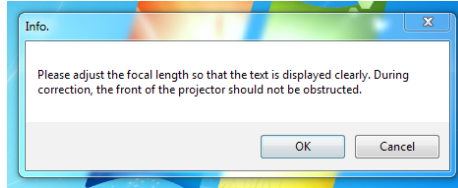


Fig.1

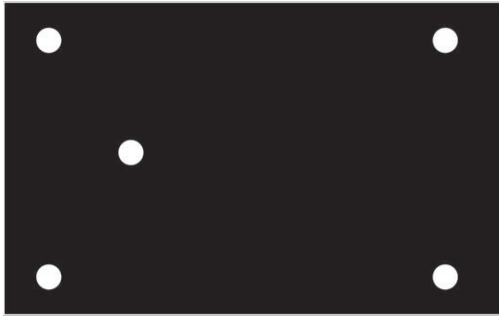


Fig.2

- 3.4.2 After you have finished the calibration, you can use either pen or pointer as a mouse on the projection board or wall.
- 3.4.3 If the "auto calibrating failed" message prompts as shown in Fig.3, please take the steps below for troubleshooting, then do auto calibration again.

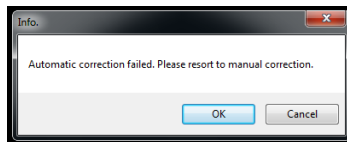


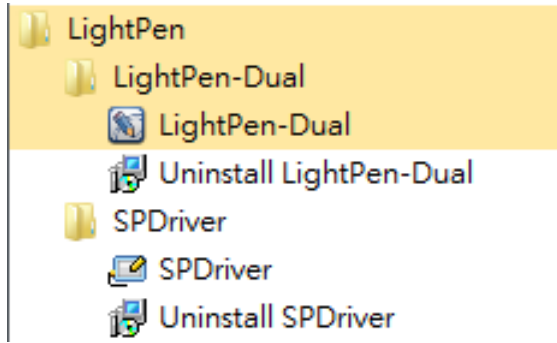
Fig.3

1. Turn lights off or reduce the ambient light to calibration screen
2. Do not walk in front of or shake lens during calibrating
3. Adjust focus to sharpen the images

Operation Guide for Windows OS

3.5 How to execute driver again

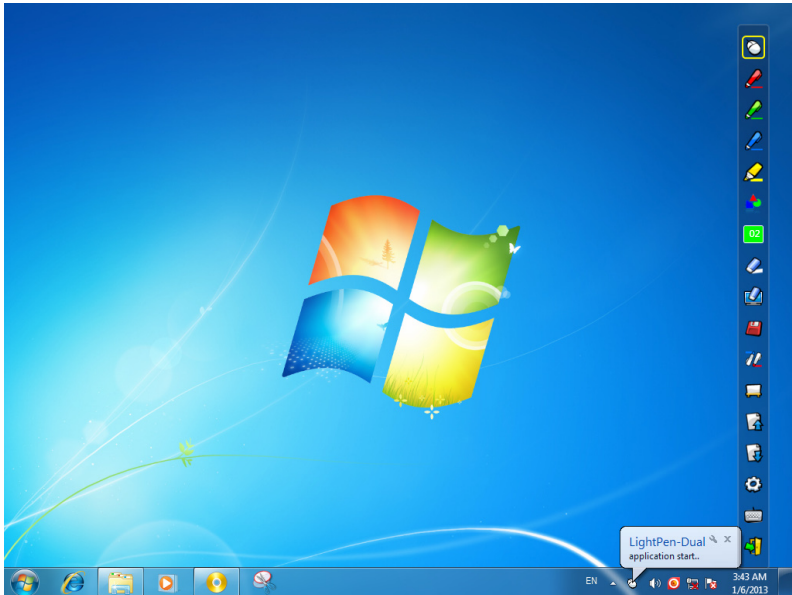
Execute the driver from "Start Menu / LightPen / SPDriver/ SPDriver".



4. How To Use Interactive Function in LightPen-Dual


















4.1 LightPen-Dual Function

When you complete the installation of LightPen-Dual and from "Start Menu/ LightPen/LightPen-Dual" to start it, you see the tool bar in the right side as shown below.




Operation Guide for Windows OS

4.2 Function of each icon in the Tool bar

Icon		Description
	Mouse	Change function to Computer Mouse.
	Red pen	Change function to red pen.
	Green pen	Change function to green pen.
	Blue pen	Change function to blue pen.
	Marker pen	Change function to marker pen.
	Drawing tool	Draw a circle, a square, a triangle or a straight line.
	Fineness and color of pen	Select the fineness and color of pen.
	Eraser	Erase drawing.
	Clean all	Erase drawing on the screen all at once.
	Save file	Save the current page into file in computer.
	Dual Pen	Support two pens writing at the same time
	White Board	Change function to white board.
	Page up	Go to last page.
	Page down	Go to next page.
	Edit tool	Edit drawing.
	Keyboard	On screen keyboard.
	Exit	Exit the application.


4.3 Advanced function in Tool bar



(1) Drawing Tool

Select , then Drawing Tool function menu will be shown on the screen as below. Please select the icon you want to use.



(2) Dual Pen

Select , then Dual Pen Mode setting menu will be shown on the screen as below. Please choose the screen mode to use.

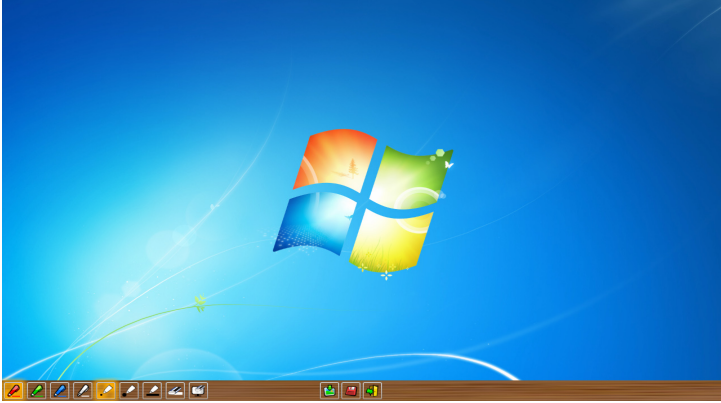
Icon	Description
	Use two pens at the same time on full screen by same setting
	Use two pens at the same time on two split screen by different setting



Operation Guide for Windows OS

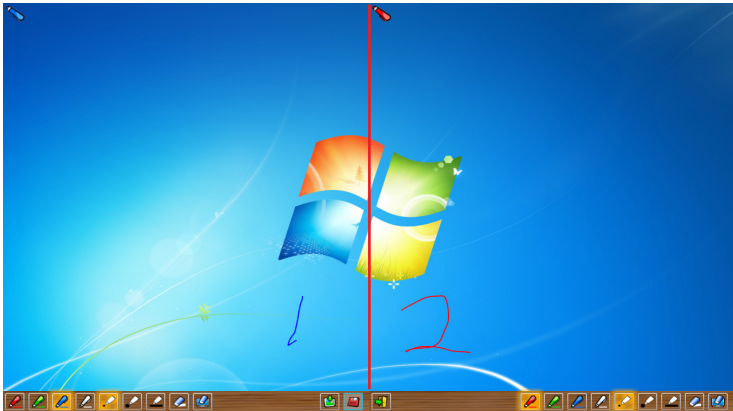
(2.1) <Full Screen Mode>

Use two pens at the same time on full screen by the same tool setting.















<Split Screen Mode>

Use two pens at the same time on two split screen with different tool setting.








Operation Guide for Windows OS


(2.2) The description of two pens function

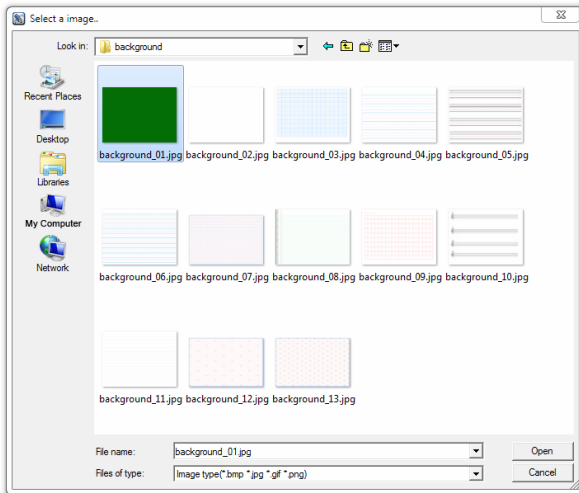
Icon		Description
	Red pen	Change function to red pen.
	Green pen	Change function to green pen.
	Blue pen	Change function to blue pen.
	White pen	Change function to white pen.
	Thin round pen	Draw with a thin round script.
	Thick round pen	Draw with a thick round script.
	Thick angle pen	Draw with an angle script.
	Eraser	Erase drawing.
	Clean all	Erase drawing on the screen all at once.
	Insert Image	Insert an image as the background.
	Save file	Save the current page into file in computer.
	Exit	Exit the application.


Operation Guide for Windows OS

(3) Whiteboard Mode

Select  screen will change to white color background. Original Page up  and Page down  function icon on Toolbar also change to  import background icon and  import whiteboard icon.

- i. Select , you can see the below interface. You can select any picture you want to be used on background.













- ii. Select , background will turn to White board mode.

If you want to exit White board mode, just click  again.

Operation Guide for Windows OS

(4) Edit Tool

Select , edit tool bar is shown as blow. Please select the function you want to use.

Icon	Description
	Select drawing line as an object. An object can enlarge, decrease, or move.
	Rotate the drawing object you choice.
	Print the current page you are seeing.
	Undo the last operation.
	Redo the last operation.
	Spotlight function.
	Curtain function.
	change the vertical toolbar to a horizontal toolbar.
	switch the toolbar position to the right/left side.

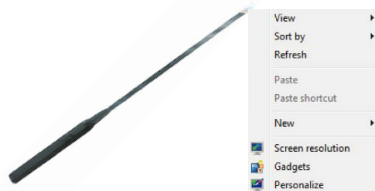


4.4 Mouse Mode

Mouse pointer can be replaced by the Pointer or LightPen.

The left click or double click can be done by pressing the button when using Pointer or the tip of the Light Pen on the screen.

If mouse pointer stays at the same position for 2-3 seconds, then it can be automatically changed to mouse right key function.



Operation Guide for Windows OS

4.5 Switch to Mouse or Pen mode

Mouse mode or Pen mode can be changed by clicking the tip of the Pointer or the Pen on the top or bottom edge slightly outside of the projected image.

In case of the Mouse mode,  icon is shown in the task bar.

In case of the Red Pen mode,  icon is shown in the task bar.



Menu icon with yellow square mark is shown in the tool bar therefore, it is convenience to confirm the present situation.

Operation Guide for Windows OS

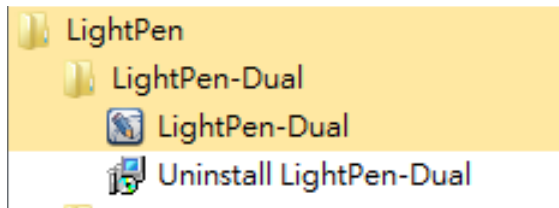
4.6 Change Toolbar Location

There is a quick way to change the position of the tool bar or hide/show it. Place the tip of "Pointer" or "Light Pen" on the left or right edge slightly outside the projected image, then press the button of the pointer or the tip of the pen to the screen.



4.7 How to execute LightPen-Dual software again

Execute the driver from "Start Menu / LightPen / LightPen-Dual / LightPen-Dual".

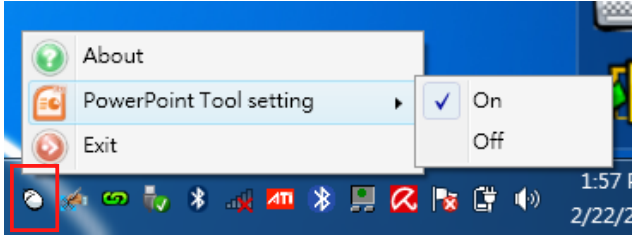


Operation Guide for Windows OS

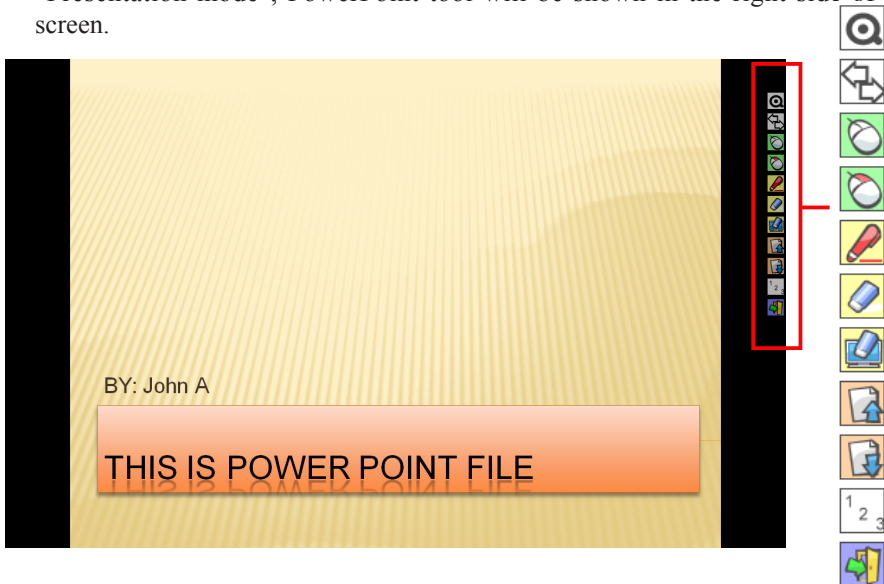
5. PowerPoint Tool

This function can be executed by LightPen-Dual.

The PowerPoint Tool does not support Microsoft Office PowerPoint 2002.














If you click mouse icon on the task bar and select "PowerPoint Tool setting" as "ON", when you use PowerPoint and show your PowerPoint file as "Presentation mode", PowerPoint tool will be shown in the right side of screen.



When you exit "Presentation mode", PowerPoint tool will be closed automatically.

Operation Guide for Windows OS

5.1 Function of each icon in PowerPoint Tool bar

Icon	Description
	Make toolbar as a small icon.
	Change PowerPoint Toolbar to another side.
	Change function to Computer Mouse.
	Change function to Computer Mouse Right Key.
	Change function to red pen.
	Erase drawing.
	Erase drawing on the screen all at once.
	Go to last page.
	Go to next page.
	Select page.
	Exit Presentation Mode.

Operation Guide for Mac

Interactive function is provided by "LightPen3" software

1. System Requirements

To ensure the interactive function work properly, please check your computer system to see if it meets the following conditions.

LightPen3

System Requirements	
OS Required	Mac OS X v10.5 above
Processor Type	Intel processeor
RAM	512 MB above
Min. Free disk space	100 MB

2. Software Installation

2.1 Driver Installation

*When you connect supplied USB cable between projector and your PC, the folder of SPDriver will pop-up. Please completed the installation process from step 3.

Step 1. Insert the "Owner's Manual" CD-ROM into the CD drive.

Step 2. Open the "LightPen Software for Mac" folder in the CD-ROM and copy "mac.zip" to the disk.

Step 3. Double click and move SPDriver ICON to computer and execute it.

2.2 LightPen Installation

Step 1. Insert the "Owner's Manual" CD-ROM into the CD drive.

Step 2. Open the "LightPen Software for Mac" folder in the CD-ROM and copy "LightPen3.zip" to the disk.

Step 3. Double click and move LightPen3 ICON to computer screen and execute it.

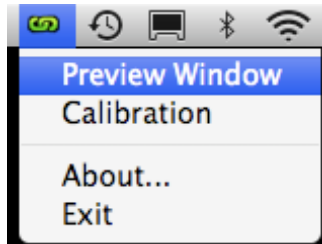
Operation Guide for Mac

3. Initial Setup for Interactive Function

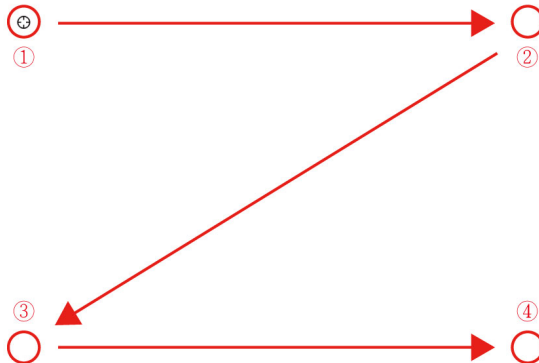
3.1 Connect supplied USB cable between projector and your PC which show below icon.



3.2 Click the mouse left key on the  icon in the task bar to show the menu.



3.3 Select the "Calibration" to enter the calibration process. Use your pen or pointer to touch the circle shown on the screen. Then another circle appear, repeat this process until the 4th circle is finished.



3.4 After you have finished calibration, you can use either pen or pointer as a mouse on the projection board or wall.

Operation Guide for Mac

4. How To Use Interactive Function in LightPen3

















4.1 LightPen-Dual Function

When you complete the installation of LightPen3 and start it, you see the tool bar in the right side as shown below.




Operation Guide for Mac

4.2 Function of each icon in the Tool bar


Icon		Description
	Mouse	Change function to Computer Mouse.
	Red pen	Change function to red pen.
	Green pen	Change function to green pen.
	Blue pen	Change function to blue pen.
	Marker pen	Change function to marker pen.
	Drawing tool	Draw a circle, a square, a triangle or a straight line.
	Fineness and color of pen	Select the fineness and color of pen.
	Eraser	Erase drawing.
	Clean all	Erase drawing on the screen all at once.
	Save file	Save the current page into file in computer.
	White Board	Change function to white board.
	Page up	Go to last page.
	Page down	Go to next page.
	Edit tool	Edit drawing.
	Keyboard	On screen keyboard.
	Exit	Exit the application.






Operation Guide for Mac

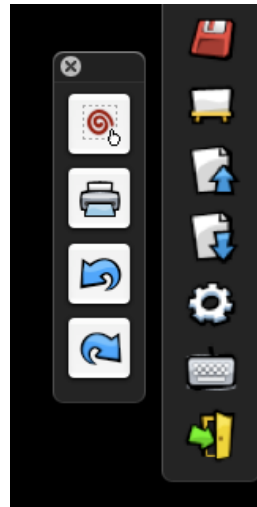
ii. Select  , background will turn to White board mode.

If you want to exit White board mode, just click  again.

(3) Edit Tool

Select  , edit tool bar is shown as blow. Please select the function you want to use.

Icon	Description
	Select drawing line as an object. An object can enlarge, decrease, rotate, delete or move .
	Rotate the drawing object you choice.
	Print the current page you are seeing.
	Undo the last operation.
	Redo the last operation.



Operation Guide for Mac

4.4 Switch to Mouse or Pen mode

Mouse mode or Pen mode can be changed by clicking the tip of the Pointer or the Pen on the top or bottom edge slightly outside of the projected image.

In case of the Mouse mode,  icon is shown in the task bar.

In case of the Red Pen mode,  icon is shown in the task bar.



Menu icon with yellow square mark is shown in the tool bar therefore, it is convenience to confirm the present situation.

Operation Guide for Mac

4.5 Change Toolbar Location

There is a quick way to change the position of the tool bar or hide/show it. Place the tip of "Pointer" or "Light Pen" on the left or right edge slightly outside the projected image, then press the button of the pointer or the tip of the pen to the screen.



Operation Guide for Linux

Interactive function is provided by "SPDriver".

1. System Requirements

To ensure the interactive function work properly, please check your computer system to see if it meets the following conditions.

Driver

System Requirements	
OS Required	Linux OS Ubuntu 10.04, Debian 5.05, Suse 11.3
Processor Type	Intel Pentium-4 2.0GHz or above (dedicated GPU is recommended)
RAM	512 MB above
Min. Free disk space	100 MB

2. Driver Installation

<Installation from USB device>

When you connect supplied USB cable between projector and your PC, the folder of SPDriver will pop-up. Please completed the installation process from step 3.

*Please login as root user before installation.

<Installation from CD-ROM>

Step 1. Insert the "Owner's Manual" CD-ROM into the CD drive.

Step 2. Open "SPDriver for Linux" folder.

Step 3. Choose 1-setup and continue the installation process.

Step 4. Installation is complete.

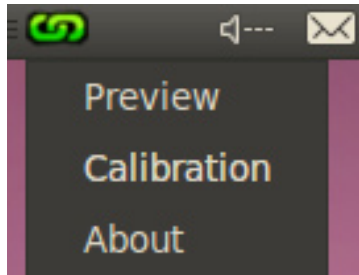
Operation Guide for Linux

3. Initial Setup for Interactive Function

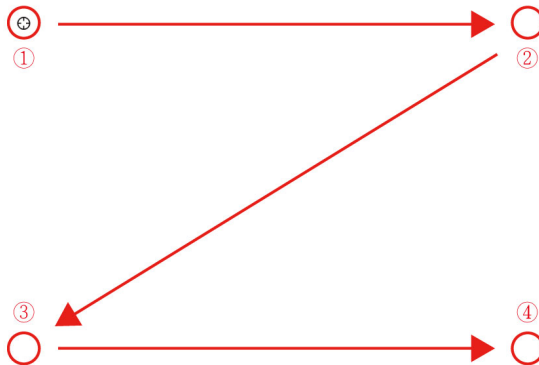
3.1 Connect supplied USB cable between projector and your PC which show below icon.



3.2 Click the mouse left key on the  icon in the task bar to show the menu.



3.3 Select the "Calibration" to enter the calibration process. Use your pen or pointer to touch the circle shown on the screen. Then another circle appear, repeat this process until the 4th circle is finished.



3.4 After you have finished calibration, you can use either pen or pointer as a mouse on the projection board or wall.

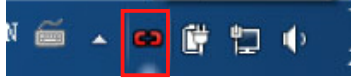
Troubleshooting

Q1: Why does the message “No LightPen found” appear?

A: It may be caused by following:

- (1) Your computer and projector are not properly connected. Please make sure the USB cable is properly inserted in both your computer and projector.

(1-1) Insert the USB cable again if you see the screen as shown below.



- (1-2) If the SPDriver Icon as shown as the following image (A), it indicates that USB cable is not connected or the USB port is out of order. If icon is shown as (B), it means you can use LightPen program.

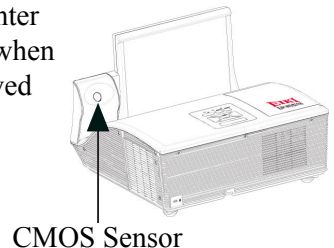


- (2) Please use the USB cable included with your projector. If a USB extension is needed, please contact your dealer.
- (3) The USB port of your computer is not working. Please contact your IT staff.

Q2: How come the round calibration target does not execute properly?

A: (1) Please check whether the pointer or light pen is working:

- (1-1) Please make sure the pointer or light pen has a battery of adequate power and has been turned on.
- (1-2) When using the pointer or light pen, please avoid writing in shadow area (see figure below) and maintain a 25 degree angle against the projection screen. The pointer or light pen is available for use only when signals transmitted by it can be received by the sensors.

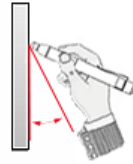


Troubleshooting

Avoid writing in shadowy areas.



Keep the light pen and project screen at an angle of 25 degree or more against each other



- (2) The ambient lighting may be too bright to work properly. Please keep the projection screen and sensors from direct ambient lights.

Strong ambient light is usually caused by the following:

- (2-1) Sunlight through the windows near the screen.
- (2-2) Light source working close to the sensor or the screen.

Please quit the SPDriver and execute again, if you see the window shown as Q5. Please take the light out until you can't see any light in Window.

Q3: How come the cursor is not located where the light pen is pointed to?

A: It may be caused by the following:

- (1) Poor system calibration. Try to point to the "center" of circle target when you run calibration.(See Page 11~12 or Page 26, Page 34)
- (2) The project location, projection size, or projection distance may be changed.
- (3) The projection resolution may have been changed.

Please calibrate again to solve this problem.

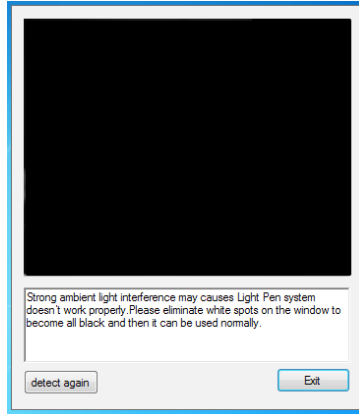
Q4: How come the cursor jumps around?

A: The ambient lighting may be too bright to work properly. Please keep the projection screen and sensors from ambient light interference, especially direct sun light.(Please refer to Q2.)

Troubleshooting

Q5: Why does the message "Strong lighting in the environment may cause light pen to stop functioning normally." appear?

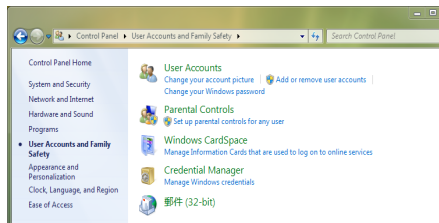
A: Too strong an ambient lighting may interfere with the functions of sensors contained in your projector. Please keep the sensors of your projector away from direct ambient lights.



Q6: How come the SPDriver have no response of virtual keyboard function when the setting of SPDriver as <Mouse mode> on Windows Vista\Windows 7 operating system ?

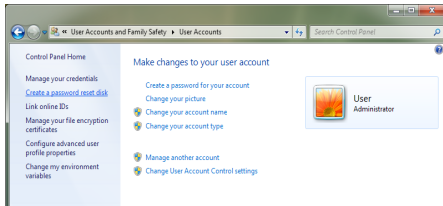
A: Ther virtual keyboard function of SPDriver may be restricted by the default setting of the <User Account Control, UAC> on the Windows operating system. User can modify the setting by following steps.

1. Choose the setting page from <Srtart menu / Control Panel / User Accounts>.

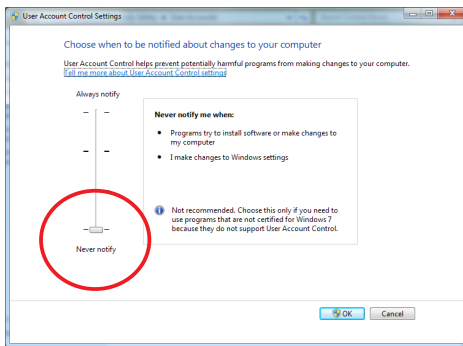


Troubleshooting

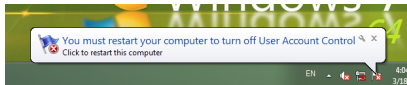
2. Select <Change User Account Control settings>.



3. Change the level of User Account Control as "Never notify", then click "OK" to confirm.



4. Restart the computer to complete the process.



Note: Since SP driver is resident in the PC, the driver displayed is an invalid one when connects to the SP module again.

Specifications

Senson size	1/4"
IR band	940nm
Detect frame rate	60 fps
Resolution	<ul style="list-style-type: none">• 2560 x 1920 (Interpolated)• 640 x 480 (Native)
Input port	Mini USB type
Calibration	<ul style="list-style-type: none">• 4 points manual calibration on Windows / Mac / Linux OS• Auto calibration on Windows OS
Driver install	Driver included; Auto run on Windows OS
Throw ratio	0.35
Multi-touch	2 touch points (Windows 7 and Windows 8 compliant)
Dual-pen mode	On Windows OS
Projection image size	70" ~100"
power consumption	200mA
Built-in memory	8MB
Standard package contents	<ul style="list-style-type: none">• Interactive Kit (IR Camera Unit) x 1• Light Pen x1• Pointer x 1• USB cable (A - Mini B type) x 1• Battery x 4• Owner's Manual (CD) x 1

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