RF-SP6W Module

User Manual

EVEREST Display Inc.
Model Name: RF-SP6W Module
Model Number: RF-SP6W-01
Trade Name: EVEREST
FCC ID: ZYJ-RF23010321

SP6W-ANTENNA Specification

Antenna Name:SP6W-ANTENNA

Antenna Number:ANT-EC01

Version 0.1

規格表		
Item	Transmitter	Transceiver
Working Voltage	1.9 ~ 3.5V	1.9 ~ 3.5V
Working Current	at 0dBm 11.1mA	at 1Mbps 12.9mA
Frequency ranage of operation	2402 ~ 2478 MHz	2402 ~ 2478 MHz
Channel number	77	77
Type of Modulation	GFSK	GFSK
RF Output Power	0dBm	
Input Impedance	15ohm + j88ohm	
Input Voltage	Max. 3.6V	
Sensitivity		at 1Mbps -85dBm
Output Impedance		15ohm + j88ohm
Size		6*1.5*0.7cm
Weight		6.0g
THD	(0.1% BER) 1Mbps -85dBm	
Distance	Max. 10M	
Antenna Type	External Cable Antenna	
Operation system	Windows 98/Se/Me/2000/XP/ Mac OS/ Linux/ Windows Vista	
FCC ID	ZYJ-RF23010321	ZYJ-RF23100030

This device is to be used only for mobile and fixed applications.

The antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20cm from all persons and must not be collocated or operating in conjunction with any other antenna or transmitter.

OEM integrators must be provided with antenna installation instructions.

OEM integrators and end-users must be provided with transmitter operation conditions for satisfying RF exposure compliance.

This grant is valid only when the device is sold to OEM integrators and the OEM integrators are instructed to ensure that the end-user has no manual instruction to remove or install the device.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Section 15.21 Information to user.

The users manual or instruction manual for an intentional or unintentional radiator shall caution the user that changes or modifications not expressly

approved by the party responsible for compliance could void the user's authority to operate the equipment.


FC Everest RF-SP6W-01

FCC ID:ZYJ-RF23010321

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Contents of the Accessory Bag

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

1. Accessory Bag
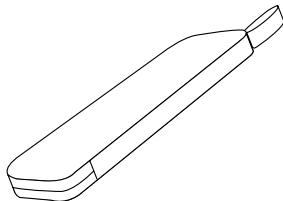
2. Pointer
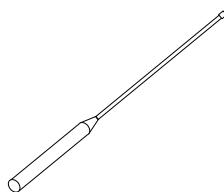
3. Light Pen

4. Batteries (AAA)
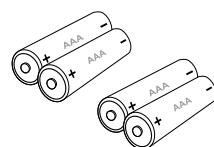
5. USB Dongle
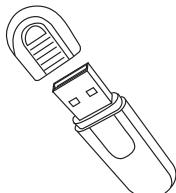
Function Key on the "Pointer Body"

IR
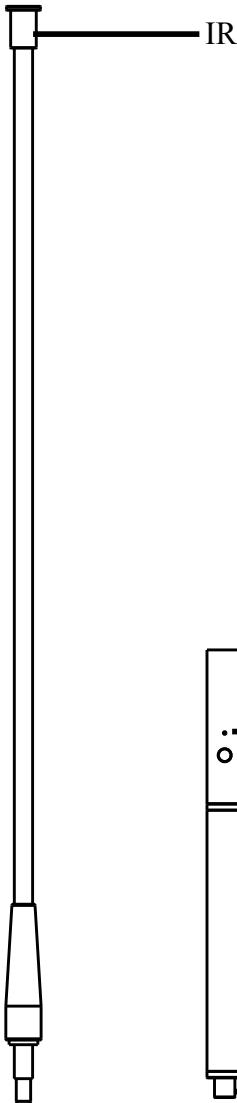
Before using the Pointer.
Screw the Rod part into the pointer body firmly please.

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.

LED Lamp
Button: Mouse Left Key

Power switch
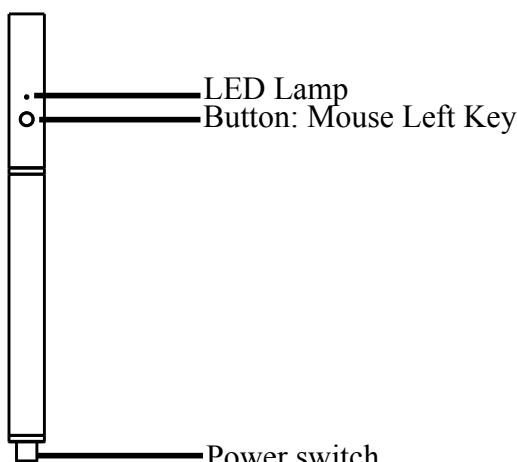
Function Key on the "Light Pen"

Pen tip with touch sensor
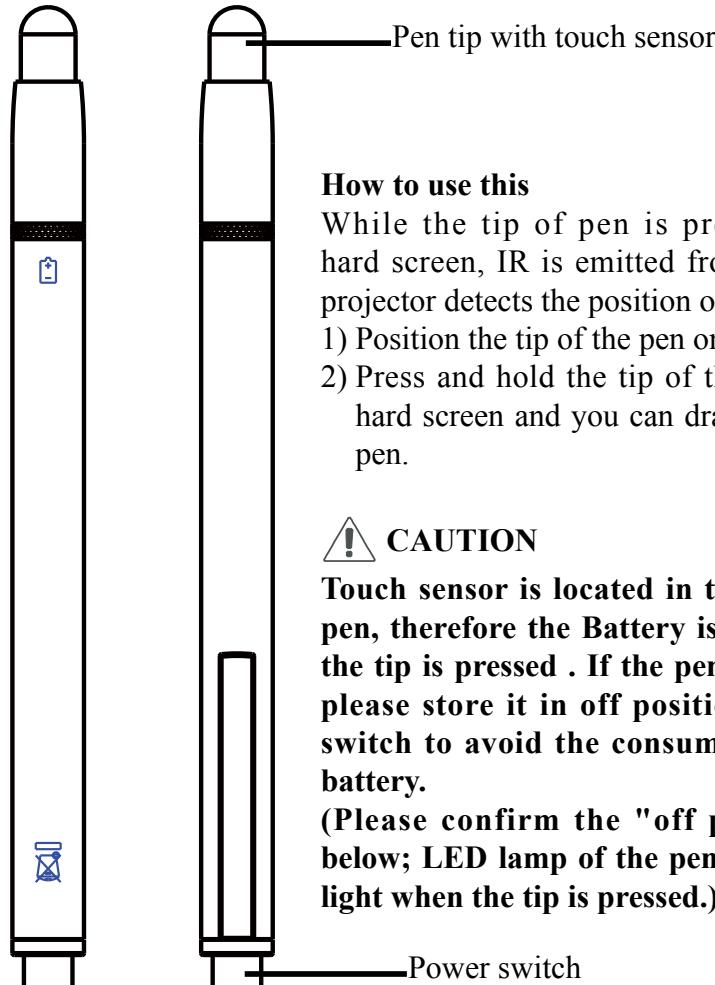
How to use this

While the tip of pen is pressed to the hard screen, IR is emitted from it and the projector detects the position of it.

1) Position the tip of the pen on the screen.
2) Press and hold the tip of the pen to the hard screen and you can draw a line as a pen.

⚠ **CAUTION**

Touch sensor is located in the tip of the pen, therefore the Battery is consumes if the tip is pressed . If the pen is not used, please store it in off position of Power switch to avoid the consumption of the battery.

(Please confirm the "off position" as below; LED lamp of the pen tip does not light when the tip is pressed.)

Power switch

Back side   **Front side**

Interactive function is provided by "LightPen3" software.

If "LightPen3" can not run smoothly in your computer, please use "LightPen3_Lite".

Please note there is a limit in the function of "LightPen3_Lite" and see the Comparison Table of "LightPen3" and "LightPen3_Lite" on page 2.

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	Microsoft Windows XP(SP2)(32bit) / Vista (32bit)/Windows 7 (32bit/64bit)
Processor Type	Intel Pentium-4 2.0GHz or above (dedicated GPU is recommended)
RAM	512 MB above
Min. Free disk space	100 MB

LightPen3_Lite

System Requirements	
OS Required	Microsoft Windows XP(SP2)(32bit) / Vista (32bit) /Windows 7 (32bit/64bit)
Processor Type	Intel Pentium-M 1.5GHz or above
RAM	512 MB above
Min. Free disk space	100 MB

Comparison Table of LightPen3 and LightPen3_Lite

		Interactive software	LP3	LP3_Lite
Function List of Intaractive Software	1	Red pen	o	o
	2	Green pen	o	o
	3	Blue pen	o	o
	4	Marker pen	o	o
	5	Drawing tools	o	o
	6	Eraser	o	o
	7	Clear all	o	o
	8	Save screen	o	o
	9	White board	o	o
	10	Page-up	o	o
	11	Page-down	o	o
	12	Print out	o	o
	13	Redraw	o	x
	14	Redo	o	x
	15	Undo	o	one step
	16	Select object	o	x
	17	Rotate object	o	x
	18	Scale object	o	x
	19	Move object	o	x
	20	On Screen Key Board	o(exc/v)	o(exc/v)
	21	Writing on flash or movie	o	x
	22	Anti-alias	o	o
	23	Smooth	o	o
	24	Spotlight	o	x
	25	Curtain	o	x

Note: o :Include this function x :Not include this function o(exc/v) :Except Vista

2. Driver Installation

2.1 Connect the USB Dongle ：

1. Find out the USB port of computer.。
2. Insert the USB Dongle to computer.

3. Software Installation
3.1Driver 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.Click " SPDriver" by mouse.
And then "Setup Wizard" window will appear as below.
Click "Next" to install.
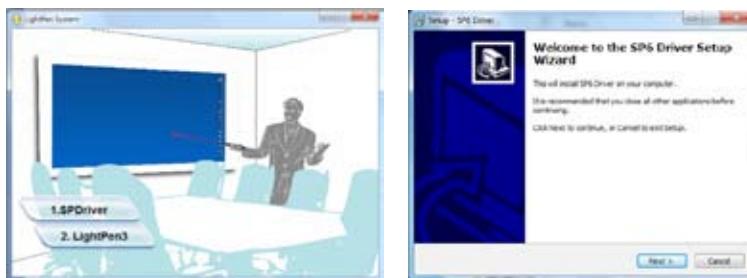
Please click "Next" to continue.

Step 4. You can choose to install folder depend on your requirements, or use the default folder. Then click "Next" to continue.
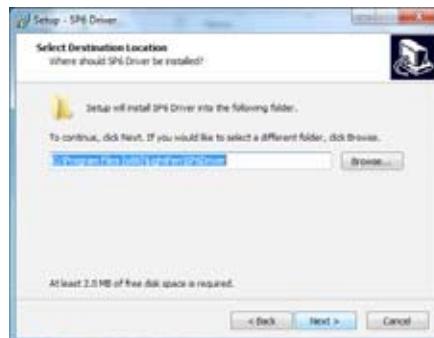
Step 5. At the end the following notice about the Windows installation process should be displayed.
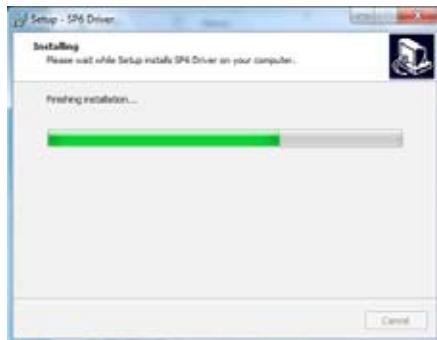
Step 6. Installation is finished. Click "Finish"to exit setup.

3. Software Installation

3.2 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.(1) Double click " Setup.exe" by mouse.

And then the window will appear as below.

(2)Click " LightPen3" by mouse.

And then "Setup Wizard" window will appear as below. Click "Next" to install.

(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".
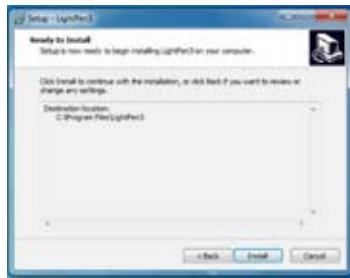
(4) Please wait for a while for the installation
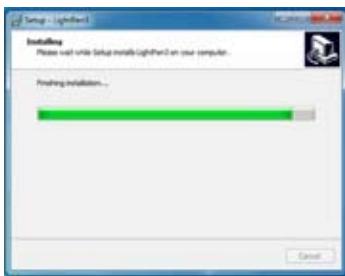
(5) Installation is finished. Click "Finish" to exit setup.
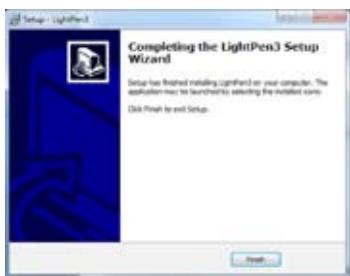
4. Initial Setup for Interactive Function

4.1 Insert the USB Dongle into computer of USB port.

(WIN7/VISTA)
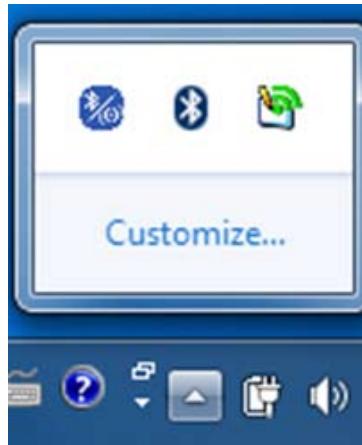
(Win XP)

4.2 Click the mouse left key on the 🗔 icon in the task bar to show the menu.
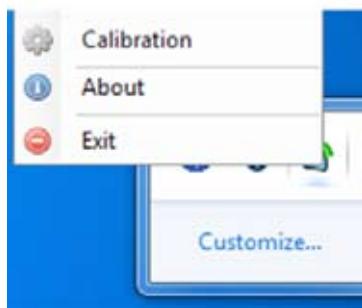
4.3 Select the "Calibration" to enter the calibration process. Use your pen or pointer to touch the circle shown on the screen. Then another circle appear, repeat this process until the 4th circle is fininshed.
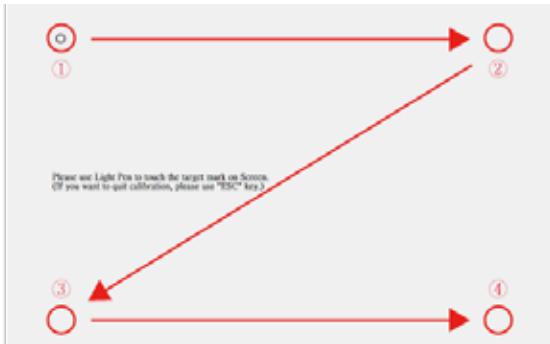
4.4 After calibration by 4 points on the screen, PC system will save data, as shown as below, please wait.
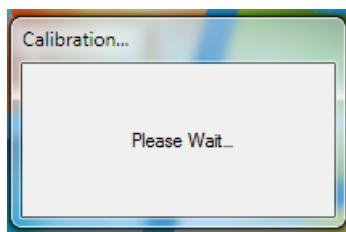
4.5 After you have finished calibration, you can use either pen or pointer as a mouse on the projection board or wall.

5. How To Use Interactive Function in LightPen3

5.1 LightPen3 Function

When you complete the installation of LightPen3 and to start it, you see the tool bar in the right side as shown below.
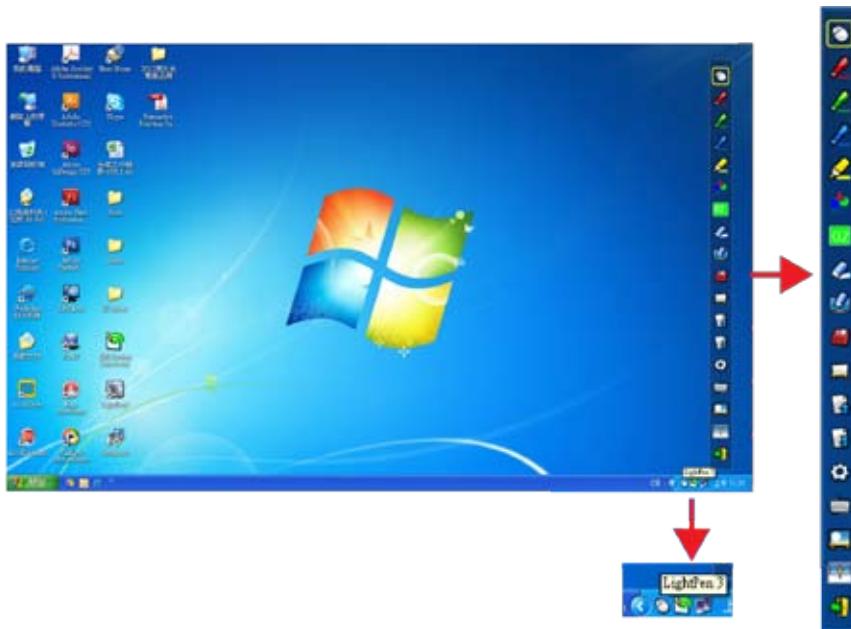
5.2 Function of each icon in the Tool bar

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 drawning.
	Clean all	Erase drawning 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.
	Spotlight	Spotlight function
	Curtain	Curtain function
	Exit	Exit the application.

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5.3 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.
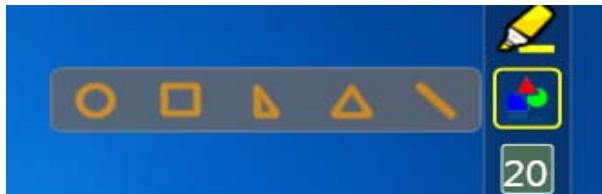
(2) 🖵 Whiteboard Mode

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.

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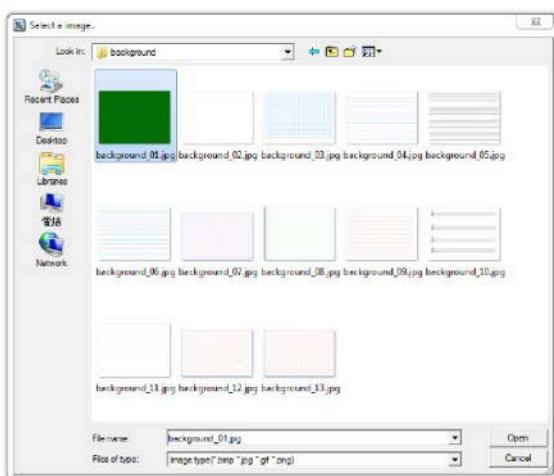
ii. Select ![icon] , background will turn to White board mode.

If you want to exit White board mode, just click ![icon] again.

(3). ![icon] Edit Tool

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

Icon	Description
![icon]	Select drawing line as an object. An object can enlarge, decrease, or move .
![icon]	Rotate the drawing object you choice.
![icon]	Print the current page you are seeing.
![icon]	Undo the last operation.
![icon]	Redo the last operation.
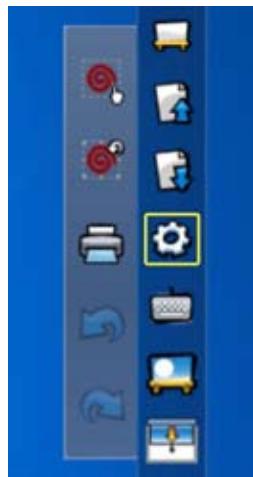
5.4 Mouse Mode

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.

View	▶
Sort by	▶
Refresh	
Paste	
Paste shortcut	
New	▶
Screen resolution	
Gadgets	
Personalize	
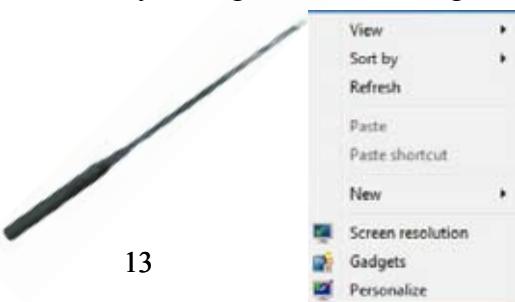
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5.5 Switch to Mouse or Pen mode

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.

5.6 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.

5.7 How to execute driver again

If you exit SP6Driver and you want to execute it again, you can start the driver from "Start Menu / LightPen / SP6Driver / SP6 Driver.exe".
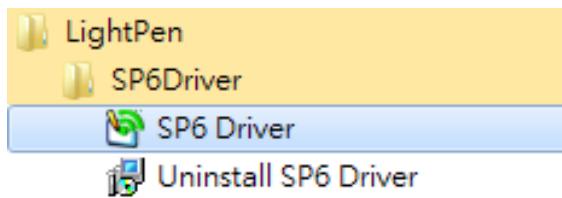
1. Q: Why does it show "No LightPen found"?

  A: Reasons for this might be:

  (1) Check the icon in the notify system tray to make sure if SP6 Driver have been installed.

    (1-1) If screen is shown as following images, it means you should connect the USB dongle to computer, then execute driver again, as figure (A).

(A)

    (1-2) In case of Windows OS, if the following image (B) pop up, it indicates that USB dongle is not connected to computer or the USB port is out of order. If icon is shown as (C), it means you can use LightPen program.

(B)

(C)

  (2) USB port on computer malfunctions. Please check if the USB port is functioning or not. If not, please consult with IT engineer.

2. Q: Why I cannot execute calibration on the circle targe mark?

  A: (1) Please check if "Pointer" or "Light Pen" works:

    (1-1) Please check if "Pointer" or "Pen" battery is low or battery cap is loose.

    (1-2) When using "Pointer" or "LightPen", be sure to locate the tip of the "Pointer" or "LightPen" in the site of the CMOS sensor in front of the projector. If the sensor cannot see it, the Interactive system does not work.
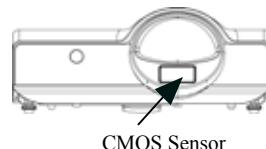

CMOS Sensor

The writing should be avoided in the shadows.

Using Light pen to maintain 25° or above with projection screen.
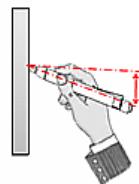
(2) The ambient light may be too strong. Take the light out of the site of the CMOS sensor.

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 Question5. Please take the light out until you can't see any light in Window.

3. Q: Why the cursor is not at the position that "Pointer" or "LightPen" pointed to?

A: Possible reasons for this are:

(1) The system is not calibrated well. Try to point to the "center" of circle target when you run calibration.(See Page 5~6 or 16~17)

(2) The position of the projector, screen or projection size has been changed.

(3) The image resolution has been changed.

Running the calibration procedure again will solve the problem.

4. Q: Why is the cursor jumping?

A: This may be caused by strong ambient light interference. Try to avoid strong ambient light interference, especially strong sun light directly projected on the screen. (Please refer to the Question 2-2.)

5. Q: the SP6 equipment are installed properly, why the cursor move to the identical position or area? it cannot use the LightPen / Pointer?

A: Try to avoid strong ambient light interference, especially strong sun light directly projected on the screen. It may be caused by strong ambient light interference.