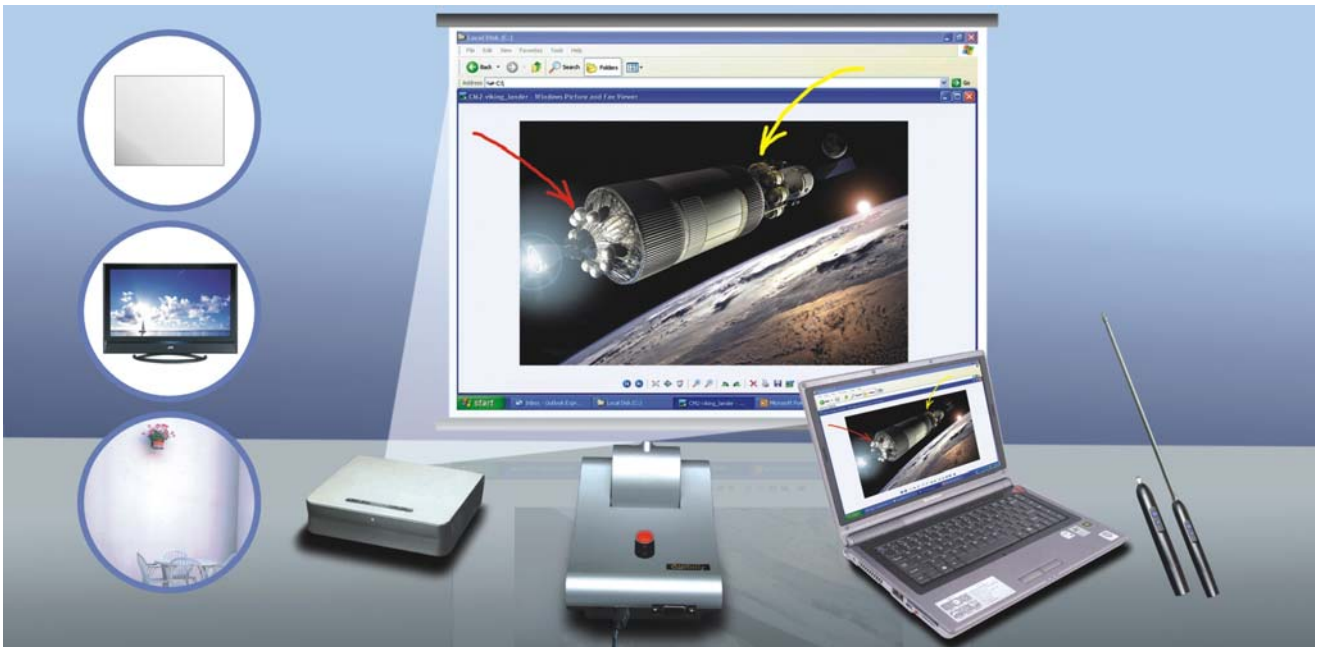


# User Guide

**Powerful Interactive  
Presentations  
Anywhere Anytime**



**No device/cable attached to projection screen !**

**Transform any flat surface into a touch screen instantly !**

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## Introduction

### **The ultimate plug and play portable interactive whiteboard solution**

The ONfinity CM2 MAX is a fully featured interactive whiteboard system that transforms any standard whiteboard, flat surface (such as a wall) or projection screen into an interactive whiteboard.

It requires NO signal receiver or device to be attached onto the projection screen surface making it fully portable between classrooms.

### **Transform your office/ classroom wall into a huge touch screen**

Integrated optical position detection technology supports interactively on both hard and soft projection surface of any size up to an amazing 150"! No battery is required for the USB signal receiver and the unit can be mounted to the ceiling if a permanent solution is required.

Working with the extendable pointer E-Pen or stylus E-Pen, you and your students can explore internet websites, use digital e-Content, build interactive flipcharts and create more opportunities for discussions and interaction in the classroom.

### **Powerful, high definition and superior stability**

The ONfinity CM2 MAX is designed to deliver superb agility and reliability in interactive writing on all types of projection screen. It is also packed with new features such as superior resistance to ambient lighting, sophisticated new styling, and newly updated software and tools. With the signal receiver installed and first positioning calibration implemented, no further calibration is required even when connected to another PC.

The supplied FreeClass software features quick notebook mode, movable toolbar, interactive screen keyboard, spotlight, screen shade and annotation functions.

### Product Specifications

Signal Receiver	
Optical Detection Technology	Infrared
Active Area (max projection size)	150 inch diagonal
Horizontal Reception Angle	38 +/- 2 degrees
Adjustable Vertical Reception Angle	0-30 degrees
Position Calibration	Optical Indication Positioning
Active Distance (from projection screen)	1.5 – 5 m
Connectivity Interface	USB2.0 (3m) & RS-232 (optional, for distance up to 40 m)
Resolution	Within 1 pixel jitter at centre for display resolution of 1024X768
Power Consumption	Less than 800mW
Weight	210 g
Dimension	150 x 105 x 32 (mm)
Pointer E-Pen	
Light Emitted	Infrared
Control Buttons	2 buttons
Power Requirement	3V lithium battery CR123A x 1
Pen Body Dimension	14.8 cm (length); 19.5 mm (diameter)
Pen Body Weight	70 g (Include battery)
Pointer Extendable Length	36 cm, extendable up to 65 cm
Pointer Weight	50 g
Stylus E-Pen (Optional)	
Light Emitted	Infrared
Pen Tip Trigger Switch	Pressure Sensing
Control Buttons	2 buttons
Power Requirement	3V lithium battery CR123A x 1
Pen Body Dimension	15.7 cm (length); 19.5 mm (diameter)
Weight	75 g (Include battery)

### Product Specifications

System Requirements	
OS Required	Microsoft Windows 2000/XP/Vista/Linux
Processor Type	Intel Pentium or above
RAM Size	128 MB (256 MB recommended) or above
Min. Hard Drive Space	30 MB
Recommended Signal Reception Range	
<i>Projection Size</i>	<i>Distance between Receiver and Projection Surface</i>
70"	2.5~3.0 m
100"	3.0~3.5 m
120"	3.5~4.0m
150"	4.0~4.5m
Package Contents	
<b>ONfinity CM2 MAX</b>	Signal Receiver X 1
	Pointer E-Pen X 1
	3m USB cable X1
	Driver CD X 1
	Instruction Manual
	3V lithium battery CR123A x 1 (for E-Pen use)
	RS-232 to USB Cable X 1 (optional)
	Extended RS-232 Serial Cable (20m) X 1 (optional)
	Stylus E-Pen X 1 (optional)
	Ceiling Mount Bracket X 1 (optional)

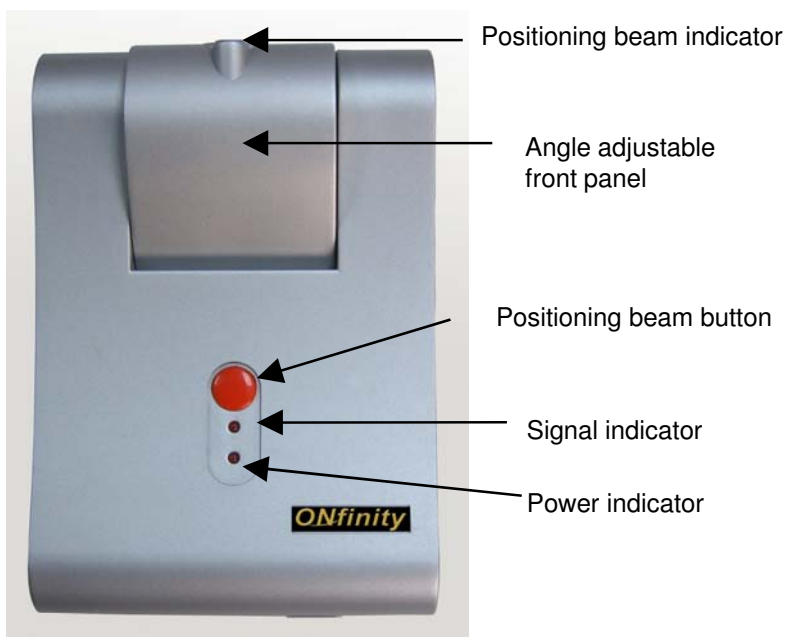
### Key Features:

- Ultra portable and simple setup.
- Superior resistance to ambient lighting.
- High resolution - smooth drawing within 1 pixels' jitter at 1024X768.
- Quick response time – ideal for quick drawing and writing.
- Dual connection interfaces provided: USB and COM ports. (COM port supports long-distance cable installation up to 40m).
- Lower power consumption, prolong notebook PC battery life.
- No device/ cable attached to whiteboard/ projection surface.
- Supports interactivity on both hard and soft screen of any size up to 150".
- Extendable **Pointer E-Pen** and **Stylus E-Pen** (optional) provide an intuitive and powerful "touch screen" and annotating interface.
- Streamlined design - easy to mount on both desktop and ceiling.
- Automatic real-time whiteboard recording.
- Supports soft-pen effect writing, spotlight and screen shade features.

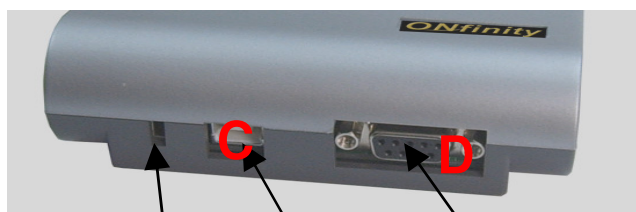
## Assembling the System Parts



E-Pen assembly



Connect **A** to **C** , Connect **B** to PC



Security lock hole    USB port    RS232 port

Optional RS232 port:

If you want to have long cable installation , you are suggested to connect RS232 extend cable and USB converter to RS232 port.



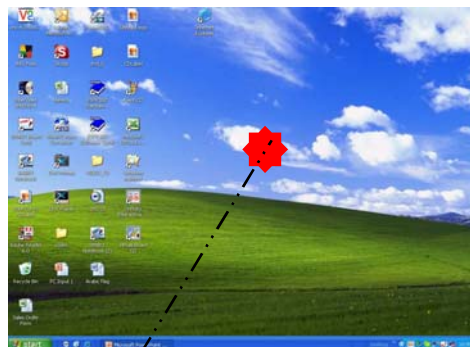
To extend cable, connect the 20m RS232 cable to **D** and then plug into **E**

Connect **F** to PC

### Installation of Signal Receiver

Position the signal receiver in front of the projection screen / surface at a distance of approximately 1.2 to 1.5 times of the width of the projection size (as a general rule, place the signal receiver next to and slightly ahead of the projector).

Press the red button on top of the receiver; a positioning beam will then be projected from the front panel of the receiver. Direct the laser beam to point at the centre of the projection screen (as shown in picture). Release button to switch off laser beam.



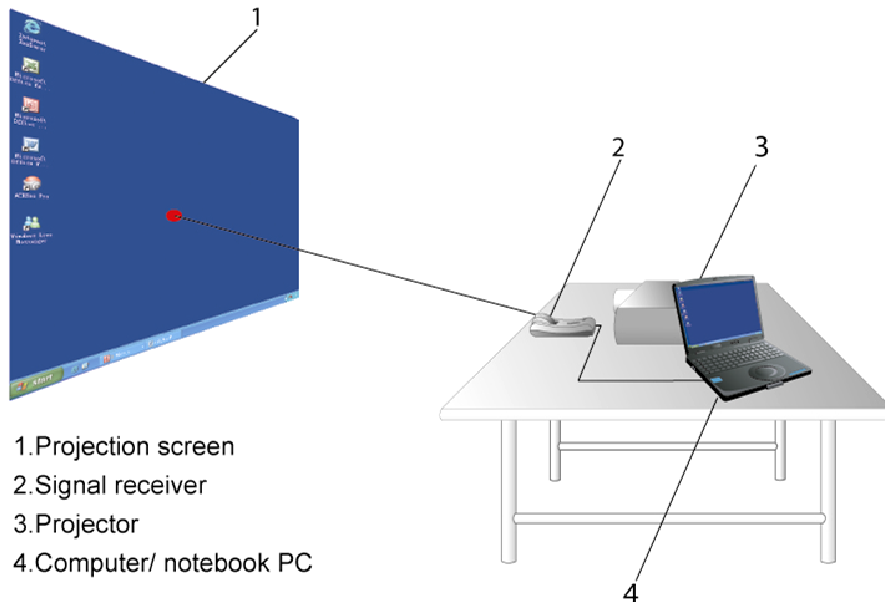
Remarks: to achieve the best interactivity performance, avoid blocking the signal path when using the system.

Recommended Signal Reception Range	
Projection Size	Distance between Receiver and Projection Surface
70"	2.5~3.0 m
100"	3.0~3.5 m
120"	3.5~4.0m
150"	4.0~4.5 m



## Desktop Installation

Place the signal receiver on desk top at a distance of approximately 1.5 times of the width of the projection size, or next to the projector. Adjust position of receiver and angle of receiver's reception panel to direct positioning beam onto the centre of the projection screen. Switch off positioning beam after installation position is confirmed.

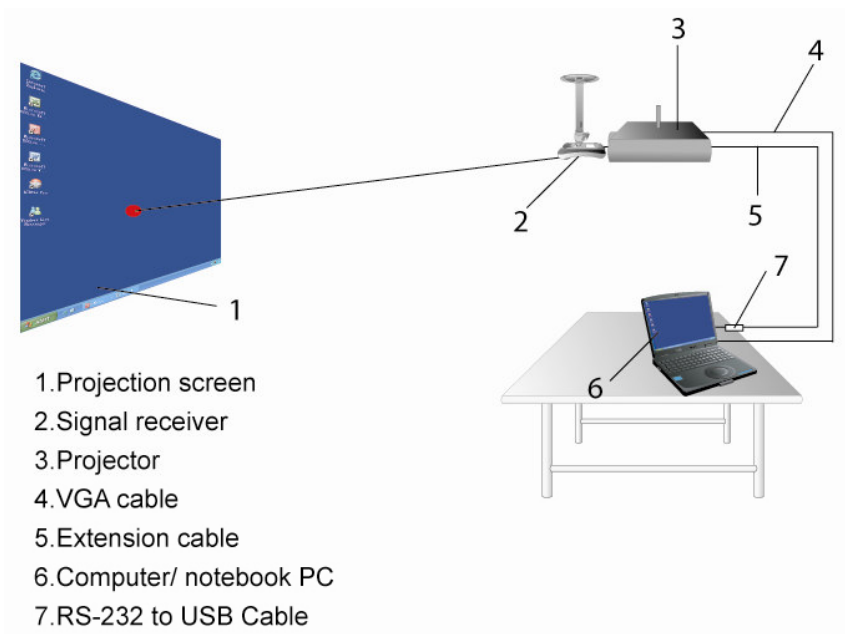


Equipment installation illustration

(Remarks: Signal receiver installation position illustration is for reference only.)

### Ceiling Mount Installation

Install signal receiver to the ceiling with a mount bracket. Adjust position of receiver and angle of receiver's reception panel to direct positioning beam onto the centre of the projection screen. Switch off positioning beam after installation position is confirmed.



Equipment installation illustration

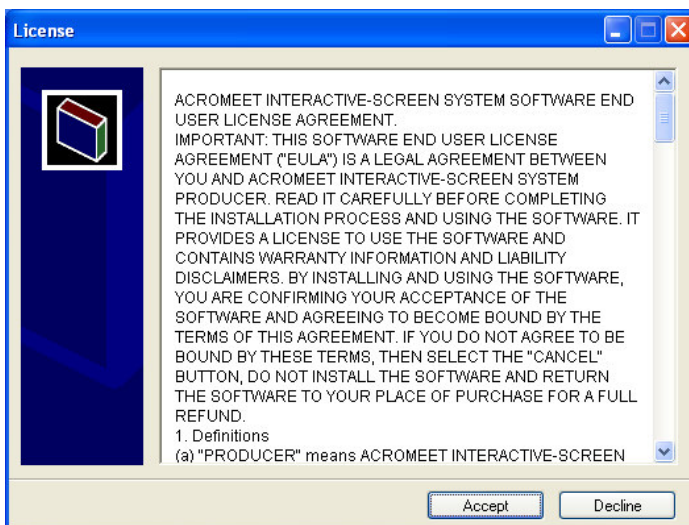
Signal receiver installation position illustration



## Installation of ONfinity Interactive Whiteboard System Software

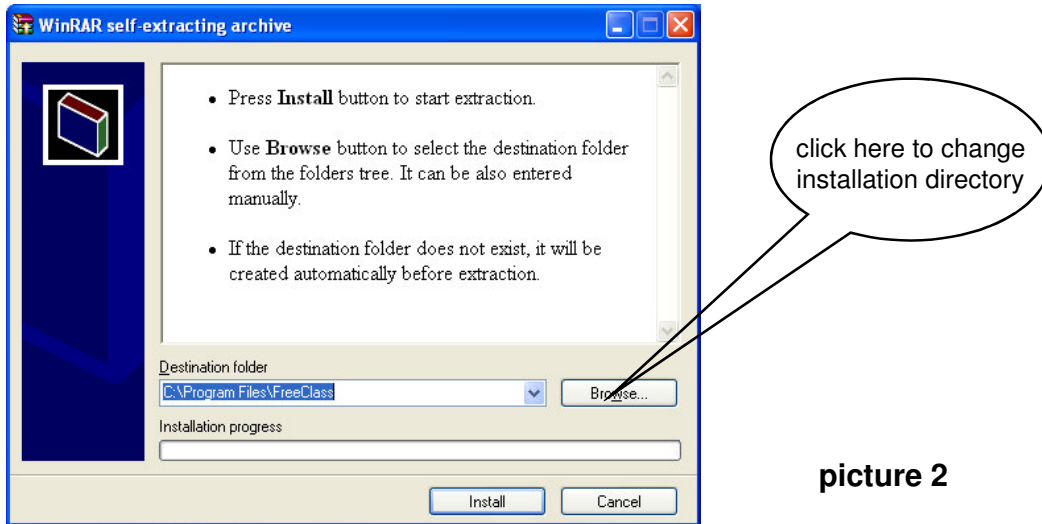
### 1. Installation of Application Programs

Insert program CD into computer's CD drive. The following window will appear automatically (picture 1 – 2). If this doesn't happen, double click at "setup" file from the CD drive directory for manual installation.



picture 1

Then click 'Accept' when the above window appear to accept on the license agreement.



picture 2

(Remarks: procedure depicted above are based on the format of Windows XP)

Click 'Install' to complete on the installation of the application program procedure.

The ONfinity Interactive Whiteboard System Software has now been successfully installed and the FreeClass program can also be activated. During activation of the program, the computer will generate a reminder tone of 4 consecutive beeps. The user is reminded not to execute any operations on the computer screen before the completion of reminder tone.

For first time usage after new installation, positioning calibration is necessary after program activation. Details refer to "Positioning Calibration".

## 2. Driver installation

There are two drivers need to be install, i.e. “USB <-> Serial” and the “USB” driver. Therefore the below “Found New Hardware Wizard” procedure may need to be complete twice.

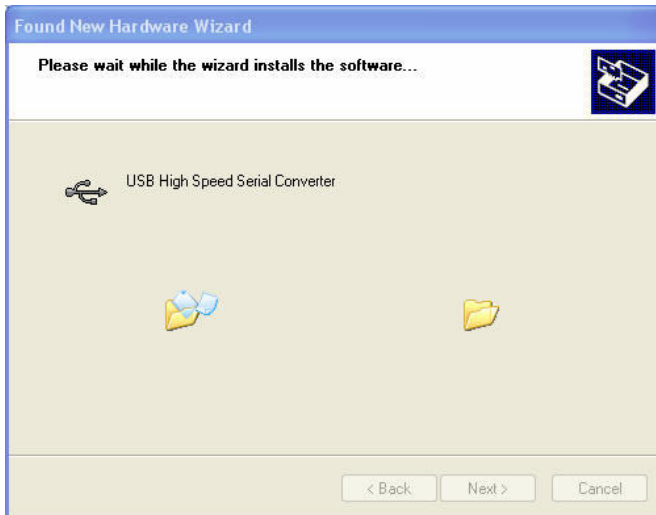
Connect signal receiver to computer by a USB converter or USB cable. The following window will appear automatically (picture 1 – 4).



picture 1



picture 2



picture 3



picture 4

(Remarks: procedure depicted above are based on the format of Windows XP)

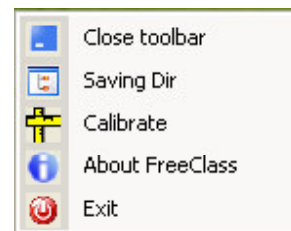
Upon completion of the above procedure once, reminder of the "New Hardware Found Wizard" will still appear on computer screen. To complete driver installation, repeat the above procedure (picture 1 – 4) once again. Now two drivers installation will be completed.

## Positioning Calibration

1. Positioning calibration is necessary for the first time usage of ONfinity CM2 MAX or when positioning is not accurate in subsequent usage. Check the reception range of signal receiver before executing positioning calibration.



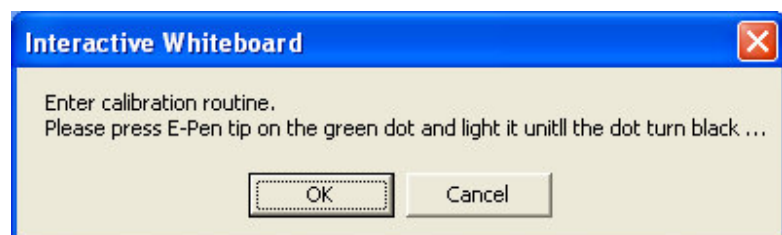
2. Click or right click at the program tray menu in the system tray toolbar to enter manual positioning calibration routine.



3. Click at "OK" in the pop up window.



4. Click at "OK" in the second pop up window.



5. After the “OK” button has been clicked at, a green dot appears on the top left corner of the screen. This indicates the start of the positioning calibration routine.



6. Position the ONfinity E-Pen's pen tip at the centre of the green dot and press the left key for about 0.5 to 1 second until the dot turns black. This indicates calibration of this reference point is complete.



7. Then repeat the same procedure to complete the total 9 (or 16 according to the system setting) calibration points.

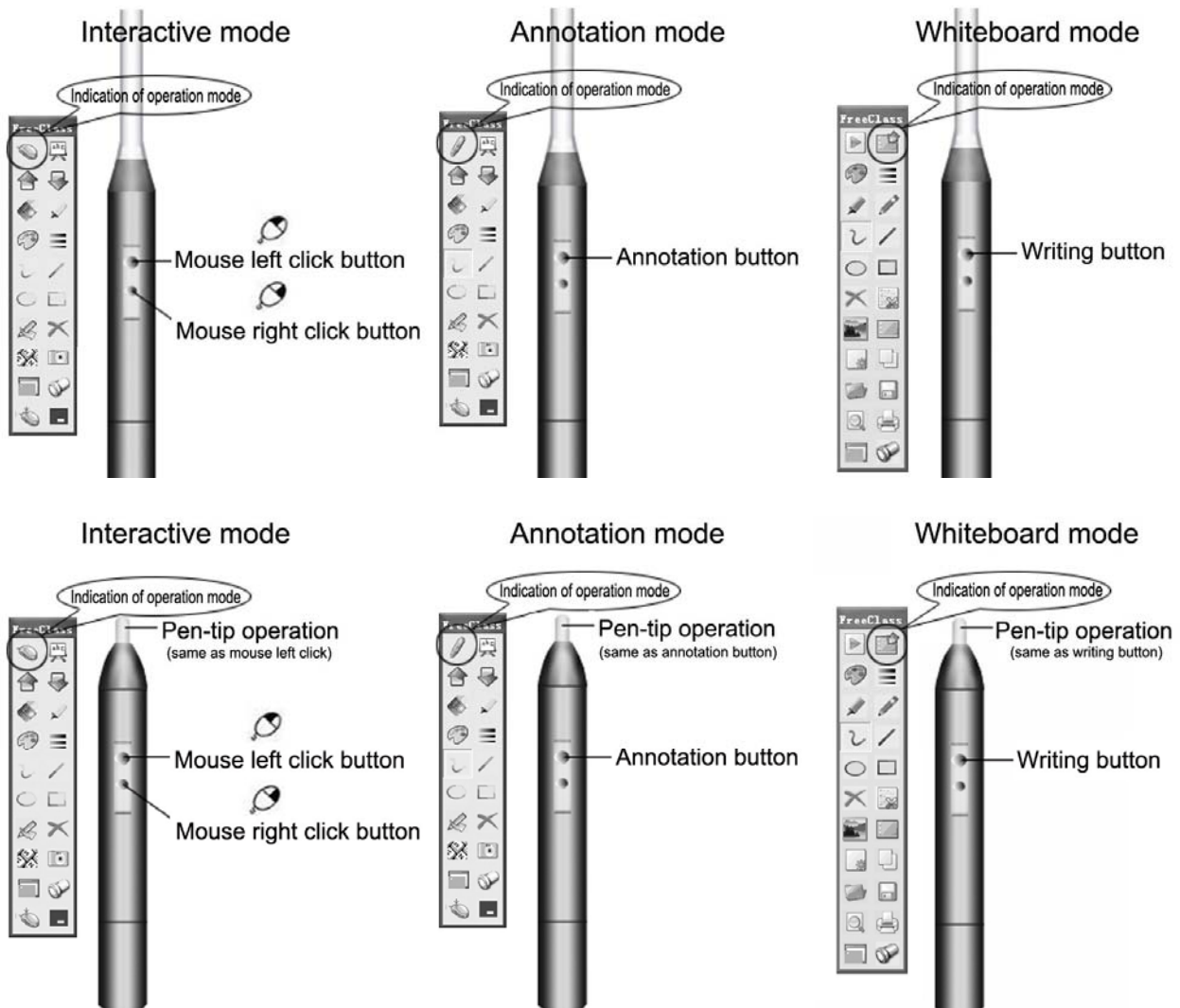


8. When all the green dots have turned black, a prompt tone indicates completion of the calibration routine. Now the ONfinity CM2 MAX System is ready to use.







### Operation of ONfinity E-PEN



The ONfinity E-Pen consists of a larger button designed for operational function (normally it functions as the left click button of a mouse). Function is to be executed via pressing the operational button. The stylus E-Pen's tip is pressure triggered and functions in the same way as the operational button. Once triggered, operations can be implemented via stylus E-Pen's pen tip, requiring no further pressing on the operational button. It is recommended to hold the stylus E-Pen at a certain angle to the projection surface when writing.



## ONfinity FreeClass Software Program

The ONfinity FreeClass program brings superb interactivity to the ONfinity Interactive Whiteboard System by performing various versatile functions under the Interactive mode "  ", Annotation mode "  ", and Whiteboard mode "  ".

The FreeClass program starts in Interactive mode upon activation. Under this mode, the E-Pen functions exactly as a mouse on the projection screen with functions like double click, single click, drag and drop. To operate right click function with operational (left) button, click at Right button simulation "  " icon on the toolbar menu first.

To switch from Interactive mode to Annotation mode, click at the "  " at the top left corner of the toolbar menu with E-Pen, then the icon will change to "  " to indicate Annotation mode. Under the Annotation mode, FreeClass offers a broad range of powerful writing and annotating tools like drawing, highlighting, lines, and shapes such as rectangles and circles. This allows the user to highlight key points, record, and write with great ease at any time. The user can also scroll through pages while writing with the page scroll functions. All writings, annotations and drawings generated on the screen can be saved in image format for record.

The Whiteboard mode offers the same powerful writing tools like drawing, highlighting, lines, and shapes such as rectangles and circles, etc. Moreover, the Whiteboard mode integrates real time recording function. All contents generated on the Whiteboard mode are recorded simultaneously for replay anytime.

All three working modes provide various accessory tools such as screen shade, spotlight etc., to enable the user conveniently highlight key points, making the presentation much more compelling.

## ONfinity FreeClass Program Function Keys

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Interactive mode: E-Pen functions exactly as a mouse. Click on this icon to enter Annotation mode.



Annotation mode: E-Pen can be used to write, draw and annotate anywhere on the projection screen. Click on this icon to enter Interactive mode.



Whiteboard mode: click on this icon to enter Whiteboard mode. The projection screen instantly transforms into an interactive whiteboard page.



Page up: go to previous page in an opened document file. It is applicable under Interactive mode and Annotation mode.



Page down: go to next page in an opened document file.



Rubber: erase writing and annotation contents. Erased contents are irreversible.



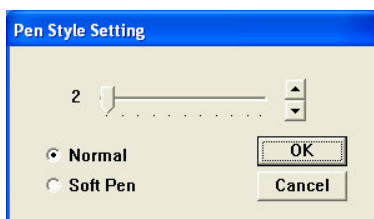
Fluorescent colour pen: write and annotate with highlight pen effect.



Choose pen colour: select pen colour for annotation and writing.



Choose pen width: select line width for annotation and writing. Normal pen and soft-pen selection is available in the pop up window.



Draw free lines: write and annotate anywhere on the projection screen.



Draw straight lines.



Draw rectangles.



Draw circles.



Redraw the desktop annotation: recover current page annotations which have previously disappeared due to screen refresh, ...etc.



Clear the desktop annotation: clear all desktop annotation and writing contents. Contents cannot be recovered after screen is cleared.



Virtual onscreen keyboard.



Save screen: capture the desktop current screen and save to an image file.



Screen spotlight: emphasize page content with spotlight effect – colour and transparency outside the spotlight zone are customizable.



Screen shade: use to cover up the projection screen, the shade area and direction is free to change anytime.



Right button simulation: the operational button of the E-Pen is defaulted as mouse left click button under interactive mode. Use E-Pen to click at the “Right button simulation” to switch the operational button to right click instead. E-Pen automatically returns to default mode after the right click action and the “Right button simulation” icon will pop up again.



Minimize the toolbar.



Indication of writing mode.



Indication of eraser mode.



Background: insert any picture as whiteboard background.



Desktop background: use the current desktop background as whiteboard background when entering Whiteboard mode.



New page: open a new page on whiteboard.



Copy: copy writing contents from previous page to current page.



Open: open previously saved “fbd” format whiteboard document.



Print preview.



Print.



Open, close the whiteboard Browse menu.



Jump to the first page.



Jump to the last page.



Jump to the end of this page.



Replay from current page to end page.



Replay current page.



Whiteboard page scroll up.




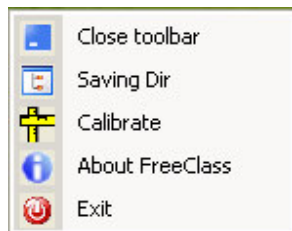
Whiteboard page scroll down.



Stop replaying.

## System Tray Menu

After running FreeClass program, a icon  can be found on the system tray toolbar, click or right click at the icon, a menu will pop up as below:



Minimize the toolbar.



Saving directory setting: select file saving path and desktop image format.



System Calibration: refer to Positioning Calibration.





About: FreeClass info, connection status and system hardware's serial numbers HSN.



Exit



## Screen Shade

Screen shade use to cover up the projection screen, the shade area and direction is free to change anytime. Use the E-Pen to drag at vertical or horizontal direction, and the direction icon will be highlight as  or  .

One direction moving is allowed at the same time. Multiple screen shade can be opened and used at the same time.

## Screen Spotlight

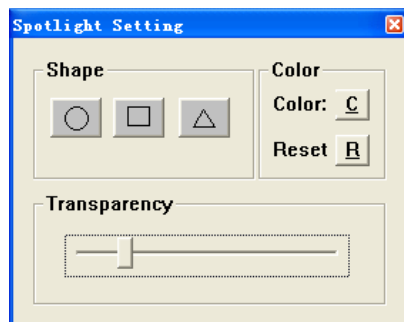
Screen spotlight: emphasize page content with spotlight effect – colour and transparence outside the spotlight zone are customizable.





Close spotlight.





Spotlight setting. Click at the icon and the menu pop up as below:



Click at Shape    to select spotlight shade.

Click at Colour  to change spotlight background colour  Reset spotlight background colour.

Drag at Transparency  to change the spotlight background transparency.

When using spotlight, drag at  to move the spotlight. Drag at  to change the size of the spotlight.

## APPENDIX

### 1. Frequently asked questions and corresponding answers

Q: Why does the “hardware device not found” notice appear?

A: The reason for “hardware device not found” while the FreeClass program is being activated may be one of the following:

1. Connection cable is not connected properly.

Inspect the connection cable to make sure it is connected properly. Since the signal receiver is connected to the PC via a USB cable, when the PC is power on, its power indication light should be on as well. If not, check if the connection port between the equipment is proper and the connection cable is plugged in completely.

2. Some anti-virus software or programs may block the use of USB or serial port.

Make sure no such software or program is activated. If yes, close all such programs and restart the FreeClass program.

3. Defect on PC's USB port.

Check if the PC's USB port and the setting are functioning properly. Call a qualified engineer to repair in case of USB defect.

4. No USB driver has been installed.

After the installation of the USB driver on the PC, a new usable port can be found in “Control Panel – System – Device Manager – Port”. Otherwise, it is “driver not installed” or “not installed properly”. Alternatively, check “Control Panel – Device Manager – USB Controller”, if an unknown USB device found states that no driver has been installed or not installed properly, reinstall the USB driver.

5. PC's operating system recognizes the signal receiver as another device and activates the relevant program. This causes a serial port being occupied. Check if any unknown serial device has appeared in the Device Manager. For example if an abnormal serial device appears in “Control Panel - System – Device Manager – Mouse and other pointer device”, just prohibit the use of that device and restart the program again.

6. When the notebook PC's power runs out, the USB port may stop functioning, causing the USB device not be detected or utilized properly. In this case, the notebook PC should be connected to a power point. The USB port on some notebook PCs may not supply the standard 500mA current or incompatible with the USB device. Under such unusual circumstances, please consult with PC engineer.

Remarks: the simple way to check device connection is to click at “About” on the tray menu. A hardware's serial numbers HSN is listed in the menu window. The hardware may not be connected properly if it is not listed.

Q: Why no green dot appears on the PC screen after the positioning calibration routine has been activated?

A: This may be due to a number of reasons:

The PC screen is being refreshed continuously. Close all programs that involve screen refresh, eg. Flash animations, etc.

The green dot will not appear when the signal receiver device is not detected by the PC. Check the device connection and restart the program.

Q: Why the green dot does not turn black in the process of positioning calibration?

A: First check if the indication light on the signal receiver is flashing continuously, if yes, that means the signal receiver is disturbing by lighting source. Try to fix it. Alternatively, it may be due to improper installation position of the signal receiver. As a result, the particular green dot cannot be detected by the signal receiver. Follow the User Guide to reinstall the signal receiver accurately.

Q: Why does the green dot turn black automatically?

A: This is due to ambient lighting disturbance. Adjust the position of the signal receiver or remove the lighting source.

Q: Why the E-Pen does not respond when operation?

A: 1. The signal path from the signal receiver is blocked by the user. Avoid blocking the signal path when working on the projection screen.

2. The E-Pen runs out of battery.

3. Disturbance by strong ambient lighting.

4. Device not connected properly.

Q: Why annotation lines appear jagged in real-time writing?

A: 1. The E-Pen is being used at a distance too far from the projection surface.

2. The E-Pen runs out of battery.

Q: How to judge if there is ambient lighting disturbance?

A: There is a red indication light on the top of the signal receiver. This indication light will be on stably when there is no optical signal communicated from the E-Pen. When the receiver detects such optical signals, it will flash. If there is no optical signal is being transmitted from the E-Pen and the indication light keeps flashing, that means, there is ambient lighting disturbance. In the case of positioning calibration failure, cursor fluctuating or unpredictable lines appearing, check the indication light on the signal receiver first. Nevertheless, it is also possibly due to defective device. One simple way to find out the cause: cover the front panel of the signal receiver with hand. Then the indication light should stop flashing. This indicates the device is functioning properly. The signal reception failure is due to ambient disturbance. Otherwise, the device may be defective. Seek help with product distributor or reseller.

Q: Why the E-pen does not function after the PC enters standby or sleep mode?

A: When the PC enters standby or sleep mode, the signal communication between the PC and the signal receiver is terminated. Quit the program and restart the program again to resume normal functionality.

Q: Why is the position of the mouse cursor not accurate?

A: This can be due to the following:

Positioning calibration is not accurate.

The position of the signal receiver or the projector has been changed.

The screen display resolution has been changed.

All these situations would require subsequent positioning calibration.

Q: Why does the cursor fluctuate so much?

A: In the case of the cursor fluctuating severely up and down or the mouse cannot be operated properly, check to see if there is strong ambient lighting (probably sunlight).

Q: Why the E-Pen does not function, or function intermittently?

A: Batteries need to be changed.

Check that the extension pointer is connected to the handle tightly.

Q: How to remove ambient lighting disturbance?

A: There is one key rule to deal with ambient lighting disturbance: avoid strong light directly on the projection screen or the signal receiver. The followings are the most common disturbance situations:

Disturbance from sunlight. This can be a major disturbance as sunlight can pour in from all directions. It is relatively easy to solve by drawing the curtains in the room. But one must be aware that the disturbance of sunlight is not necessary correlated to the brightness of the room. For example, when the drawn curtain leaves a slit which lets in a shaft of very bright sunlight. This can cause very strong lighting disturbance.

Other sources of light can also cause disturbance to the signal receiver. For example, lighting close to the projection screen or the signal receiver, and the existence of reflecting materials close to projection screen.

## 2. Operation of the ONfinity E-Pen

1. The Stylus E-Pen functions in the same manner as the Pointer E-Pen via its operational buttons, but can also be operated via its pen tip.

2. The Stylus E-Pen is pressure triggered and functions as mouse left click when pressed.

3. Hold the Stylus E-Pen at an angle of 30 - 45° to the projection surface to implement annotation.

4. The pen tip of the Stylus E-Pen is very delicate. Do not over press the pen tip when writing to avoid damage to the E-Pen or the projection surface.

5. In the case the Stylus E-Pen lights up continuously while writing, slightly tap the pen tip with hand to return to its normal position.

## 3. Important Notice

1. The ONfinity E-Pen functions via optical signals. It is important to make sure there is no strong light (eg. sunlight) on the projection screen and the reception panel of the signal receiver when utilizing the system.

2. Signal communication can be abnormal when the USB cable is too long and over the communication standard. Use an USB with power source or an USB adapter with power source and connect to an extension USB cable instead.