uBoard Installation Guide (V4.1)

2011. 5

PenAndFree Co.,Ltd

Information to user :

This equipment has been tested and found to comply with limits for a class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment can generates, uses, and radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause unacceptable interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures.

· Reorient or relocate the receiving antenna.

· Increase the separation between the equipment and receiver.

· Connect the equipment into an outlet on a circuit different from that to which the receiver is

  connected.

· Consult the dealer or an experienced Radio/TV technician for help.

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.

Caution

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Contents

[1] Overview of uBoard

uBoard is an innovative portable interactive whiteboard system which provides full features of tablet functions and excellent performance as well as maximum user convenience. Thanks to uBoard's differentiated features, user can enjoy powerful digital interactive functions at the most cost-effective way.

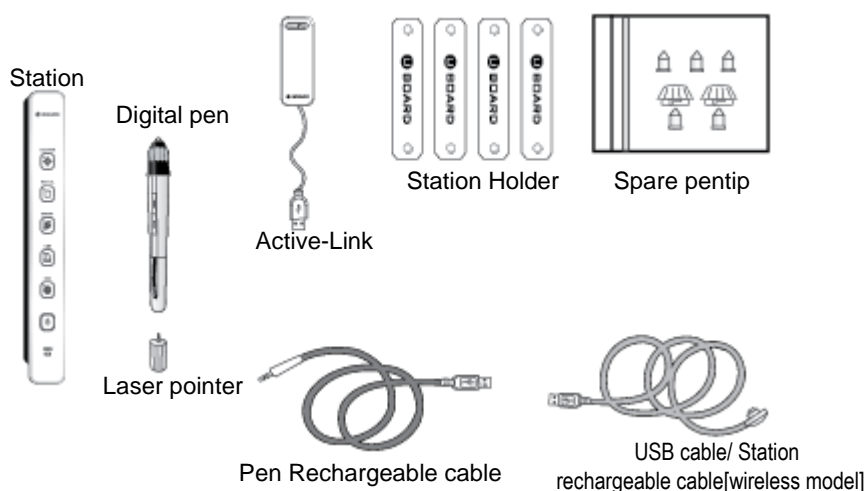The uBoard's unique advantages are as follows;

- Automatic pop-up virtual keyboard or character recognition input panel at every input field without using vendor supplied software.

- Support handwritten character recognition engine by Microsoft (some languages are not supported by MS engine).

- Use digital ink supported by Microsoft without using vendor-supplied software.

- Save MS office document including annotation with same input file format.

- Support virtual pressure features on the digital pen.

- Easy mode switch between pen and eraser with one touch button click.

- Support up to practically 120 inches working space.

- Smooth pen touch and excellent inking speed by dedicated ASIC chipset.

- Lithium polymer rechargeable battery for the digital pen and the station (for wireless model).

- Available Bluetooth wireless model.

- Fully support mouse and pen functions on Mac OS.

[2] Installation

1. Preparation

1.1. Verify Components before Installation.

Before hardware installation, firstly, check whether all components listed below are included in the package. If you find a part to be missed, please contact the store you purchased the product.
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Station
Digital pen
Active-Link
Station Holder
Spare pentip
Laser pointer
Pen Rechargeable cable
USB cable/ Station rechargeable cable[wireless model]
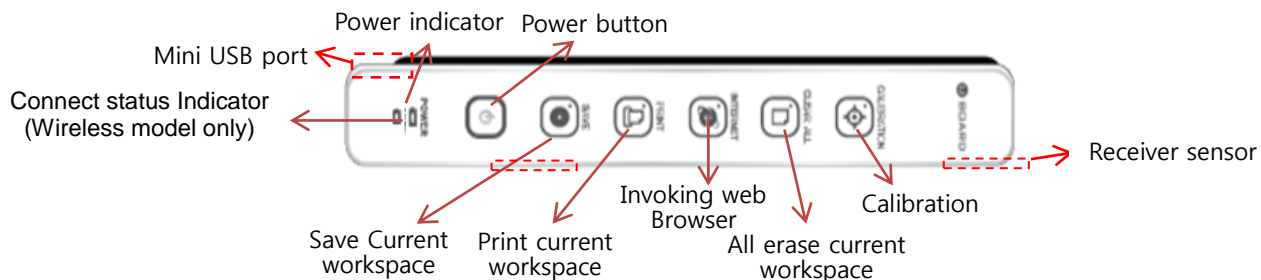
1.2. Understanding uBoard station operation.

When to use uBoard well in real environment, understanding the function of uBoard system is highly required. uBoard mainly consists of the station, the digital pen and the Active-link. Among them, this section describes main function of uBoard station. uBoard station consists of function keys on the front of it, power button, led status indicator, mini USB port and two receivers.
The wireless model has same shape but it has an additional LED indicator to show the connection status on it.

The power for uBoard station is supplied by USB cable which is connected to the computer. But wireless model includes Lithium polymer rechargeable battery inside the station which can be charged by USB cable. Its full charging time requires about 2 hours and can last above 8 hours in continuous operating time. As the power saving algorithm is applied to uBoard wireless mode, it automatically shuts off the power after 20 minutes idle time. But pressing the power button wakes all activities and automatically resumes everything quickly.

The function of front touch panel is as follows.

Power indicator Power button
Mini USB port
Connect status Indicator
(Wireless model only)
Save Current workspace
Print current workspace
Invoking web Browser
All erase current workspace
Calibration
Receiver sensor

Note:

- Do not block receiver holes located on the right side of the station.
- All function keys on the uBoard station except 'Calibrate' can be workable in only annotation SW mode (later, you will see the name of annotation SW is MINT Interactive.) (see 1.3.2)

[For wireless model]

When the battery recharging level is below 20%, 'connect status indicator' lamp starts to blink fast. Then please charge the station by connecting the station and the computer with USB cable or USB charger immediately.

However, when the 'connect status indicator' lamp blinks slowly, it means uBoard station is trying to establish pairing between the station and the active-link on the computer.

1.3. Understanding the digital pen operation.

1.3.1 General description.

The digital pen is transmitting signal to the station for tracing pen position on the workspace. As transmitting signal requires external power, uBoard digital pen adopts rechargeable battery for it. Rechargeable battery provides great benefits to avoid environment contamination as well as maximizes user convenience. And you can use the laser pointer which can be attached to the digital pen for efficient presentation. As the laser pointer shares the power of the digital pen, do not use it excessively to save the power.

Laser pointer
Laser pointer button
Upper button
Lower button
Pentip
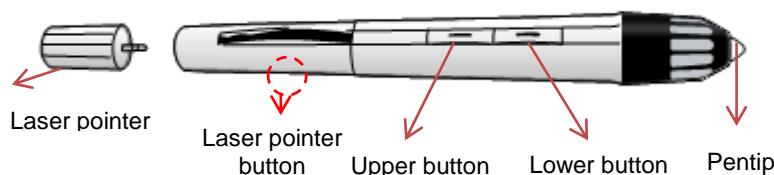
① Recharging time & continuous operating time: It takes about 1.5 hour for full recharge and lasts 18 hours with continuous operating time.

② Automatic power save function: When the pen has been idle for 10 seconds since last click, it automatically enters the sleep mode to save battery power. The digital pen can be waked up by pressing any button or clicking the pen tip.

③ Low battery indicator: when the red light turns on, please recharge the digital pen.

1.3.2 Operating mode for the digital pen.

The digital pen supports two operating modes. One is for annotation mode with 'MINT interactive' annotation SW and another is for window mode.
In window mode, the digital pen works like general mouse.

In each mode, buttons on the digital pen execute different functions as follows;

① Annotation mode.

- Lower button : mouse right click
- Upper button : mode switch from pen to eraser or vice versa

Note:

Please keep in mind that function keys on the station except 'calibrate' can be workable in only annotation mode.

② Window mode.

- Lower button : mouse right click
- Upper button : exit current window (press it for a couple of second to be exited)

1.3.3 The way to recharge digital pen

To charge the digital pen safely, please use recharging cable enclosed in the package. Before connecting ear-phone jack styled connector to the digital pen, please make a sure to remove the laser pointer from the digital pen.
Then connect the recharging connector of the cable to the recharging hole located at the end of pen body and plug USB knob of the other side of the cable to the computer as depicted below.

1.3.4 How to check the pen status.

In order to check whether the digital pen is working properly, press pen tip or pen button. Then you can hear low beep sound generated by the pen when it works properly. The digital pen adopted auto power saving algorithm. So it will automatically enter to the hibernation mode to save power when the pen is idle for 10 seconds. In order to wake the pen in the hibernation mode, please touch the pentip or click any button on it. Then the pen will be awakened immediately.
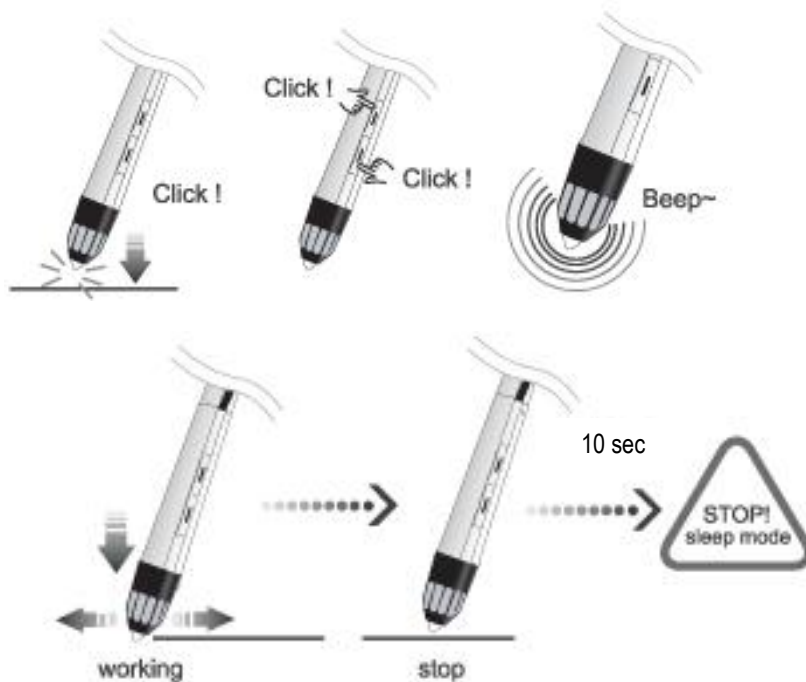
1.3.5 Pen tip change

When pen tip is worn-out, it can be replaced with new one. Please refer to the following steps to replace it properly.

① To remove: Turn the pen-tip to right or left direction by 90 degrees with pulling it out carefully.

② To insert: Insert the pen-tip into pen cage and turn it to right or left direction by 90 degrees to lock it.

> **Notice:**
>
> - Do not expose to heat(130◦F), imapct, chops or etc
> - Careful of inhaled or bited case by children or pets
> - Prohibit inserting metals to the charging hole or sink in water.

1.4. Check Environment.

Please avoid the following environment when to use uBoard system.

① Avoid using uBoard in the environment that air is blown directly to uBoard station from air conditioner or heater.

② Avoid using uBoard at the place using vacuum cleaner or some other machines causing metallic sound. It may sometimes cause malfunction temporary.

③ uBoard is also using Infrared rays internally for reference signal. Therefore, it may be sometimes affected by IR emitted from other devices. Thus, disabling IR function on other infrared devices around uBoard is highly recommended

④ [For wired model] Recommend to use USB repeater in case that USB extension cable is longer than 10m.

⑤ [For wireless model] In order to use Bluetooth wireless in a safe way, please use it within 10m distance between the uBoard station and the computer.

2. Install uBoard Station.

Before using uBoard system, uBoard station needs to be mounted properly on the surface. Therefore, please read this section carefully and follow each step stated below.

① Connect the Beam projector and the computer with RGB cable after turning on the computer and the beam projector.

② Set the computer to the duplicate window mode to display the window on both the computer screen and the projected screen thru the projector.
(In general, F4 key functions the window mode change. If it doesn't work properly, please refer to the computer manual.)
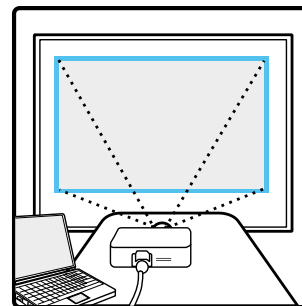
③ Adjust the projected screen size and align the focus .

④ Connect the micro USB connector of USB cable to the micro USB port of the uBoard Station.

[For wireless model, skip this step.]
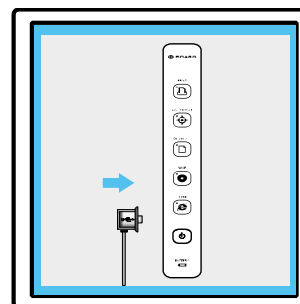
⑤ Place the station holder to the backside of the station. As the magnet is included in the station, the holder can be easily attached to the station.
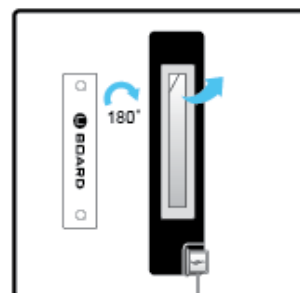
⑥ Peel masking tape off from the station holder.

⑦ Place the station on the left side from the projected screen. When placing the station, please keep it centered vertically in parallel to the whiteboard frame.

Note :
When to place the station on the left side, maintain minimum 3 cm space between the station and the projected screen. But when to place it on the upper side, keep 5 cm distance at least between them.
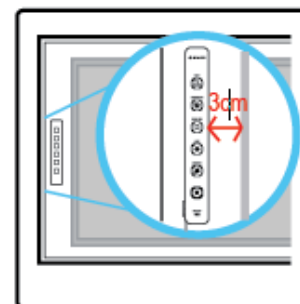
⑧ Press the station against the surface to adhere the station holder on the whiteboard or wall. When you remove the station from it, you can see only the station holder adhered to the surface.

(From next time, you can simply mount the station on the station holder after step ①~④)

⑨ Connect the Active-link to the computer and USB cable to the Active-link in order.

[For wireless model]   Connect only the Active-link to the computer.

Note:

- Do not connect the USB cable to the Active-link or to the USB port in the computer directly because the wireless model doesn't require USB cable for communicating between the station and the computer.

- After SW installation to the computer, when to connect the USB cable to the computer directly without using the Active-link, the wireless model will communicate by using USB cable connection. Therefore, the Active-link always needs to be connected to the computer for wireless communication.
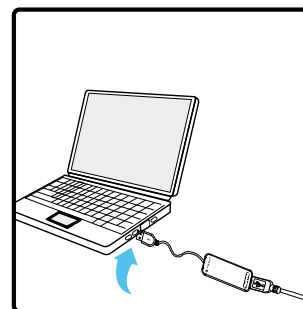
⑩ Press the power button on the Station. Then blue light is turned on.

[For wireless model]   Wireless model is using Bluetooth communication technology. As uBoard wireless model adopted pre-pairing technology, it never requires user intervention even in the case the pairing was broken because it automatically recovers the broken pairing.
When pairing is done successfully between the station and active-link, the blue light on the station will be turned on permanently from blinking status.
During annotation, when inking is not displayed, check the blue light status. If it blinks, uBoard is under re-pairing process as the pairing was broken with some reason.
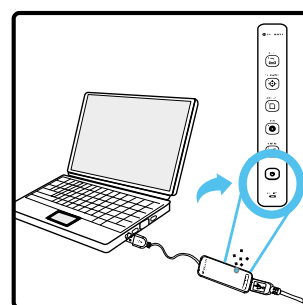
3. Install Software for MS Windows

After HW installation, the calibration and annotation software need to be installed for using uBoard properly. This chapter describes the installation procedures for them.

3.1 Preparation

If you found uBoard SW was already installed on the computer, please remove it in advance before new installation. The current SW can be uninstalled by using click 'Start' in window > 'All Programs' > 'PNF' > 'MINT' > 'MINT uninstall'.
uBoard requires the pre-requisite SW before uBoard SW installation depending on the type of Windows OS. Hence, uBoard checks the Windows type automatically and installs them in advance.

The pre-requisite SWs for Windows XP, Window Vista Home Basic Edition and Windows7 Starter edition are as follows;

- Microsoft .NET framework V2.0
- Microsoft Tablet SDK V1.7
- Windows XP Tablet PC Edition 2005 Recognizer Pack.

Those pre-requisite SWs are included in the installation kit but the handwriting recognizer should be downloaded individually from Microsoft web site due to MS license policy.

After installing pre-requisite SWs, the installation procedure starts to install common SWs which will be applied to all Microsoft windows OS.

- Common SWs for every Microsoft widow OS:
  - MINT Control   ; Calibration and environment setup software
  - MINT Interactive   ; Annotation software
  - MNT Image Printer   ; Documents converting SW to import them to MINT Interactive workspace.
  - Ink Tool   ; This tool is only available for XP, Vista Home Basic edition.

3.2 Install the pre-requisite SWs

As mentioned above, this section is necessary for only Windows XP and Vista Home Basic. If you are working on Vista Professional or Win 7, skip this section.
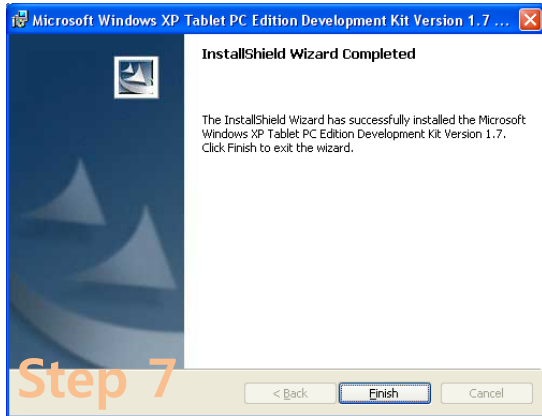
Its installation procedure is as follows;

① At first, it starts to install Microsoft .NET Framework 2.0 like below.

Step 1

Step 2

Step 3

Step 4

Step 5
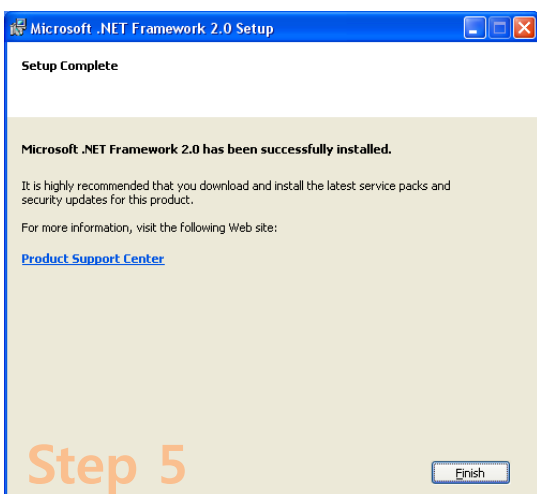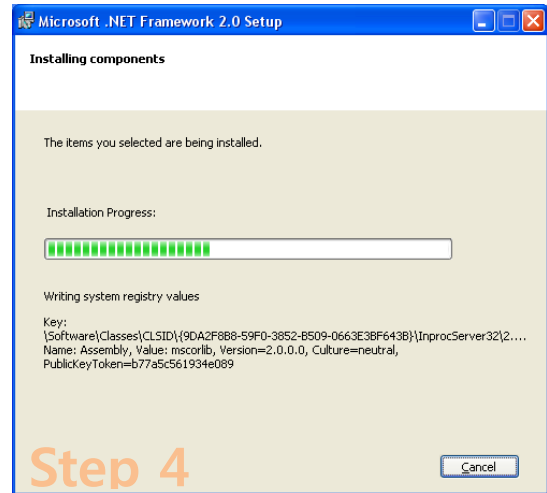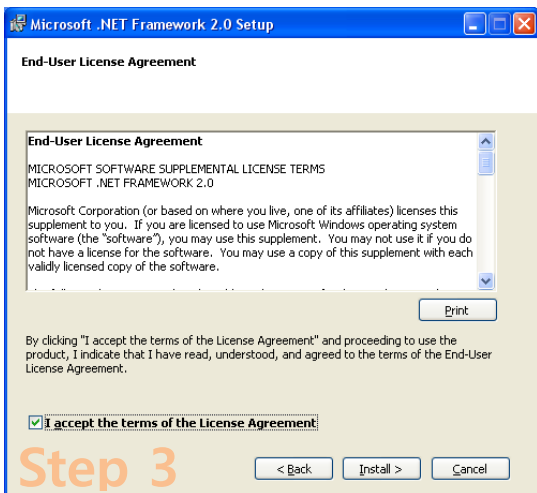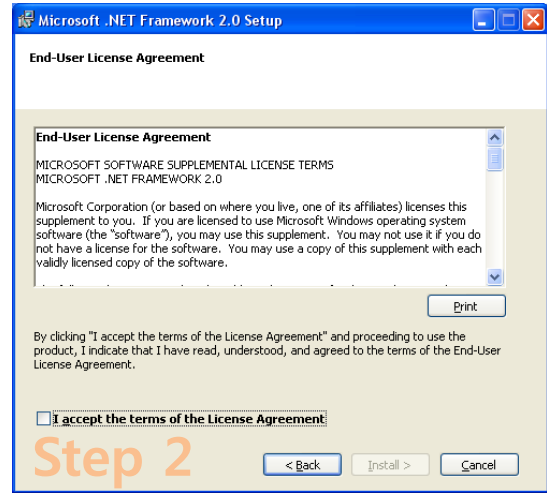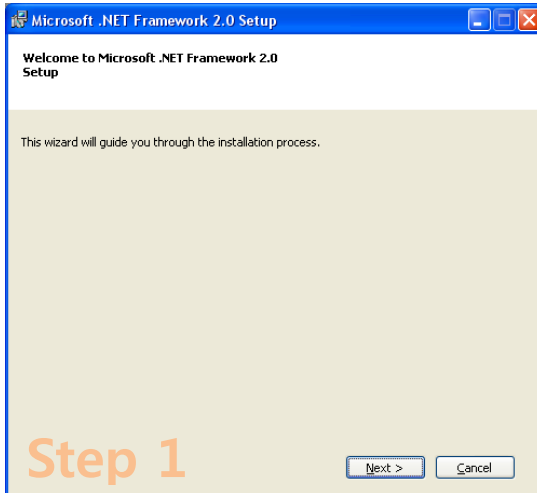
② After installing Microsoft .NET framework, it will start to install Microsoft Windows XP Tablet PC Edition Development Kit Version 1.7 as follows;

Step 1

Step 2

Step 3


Step 4

Step 5

Step 6

Step 7
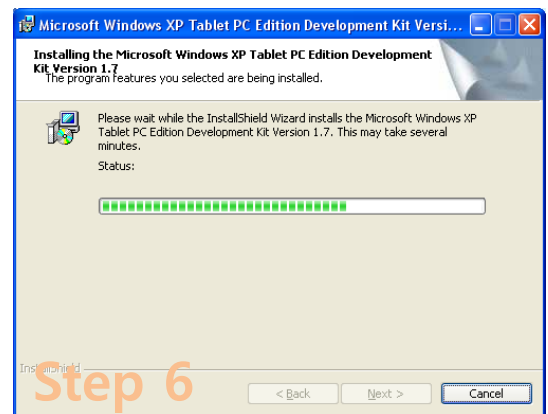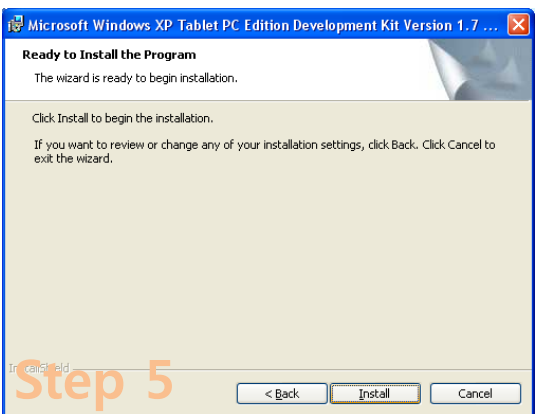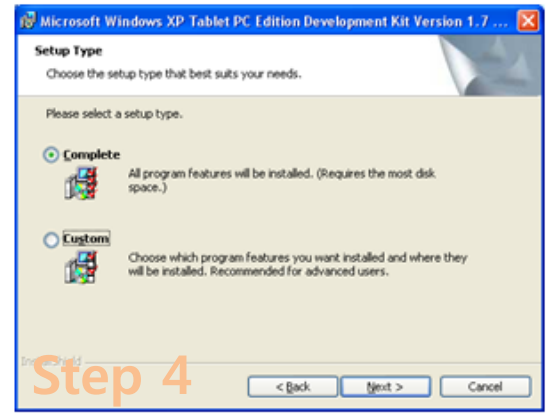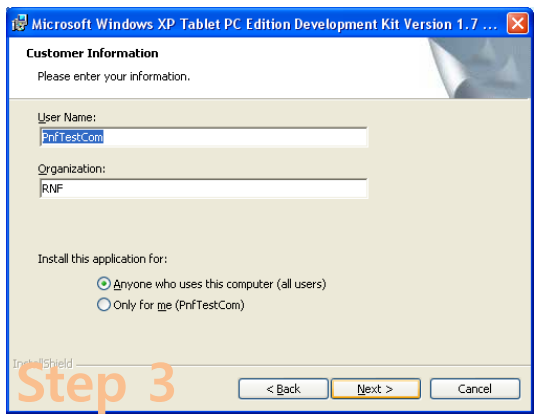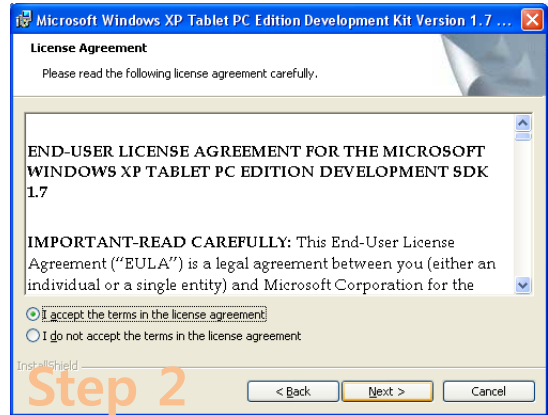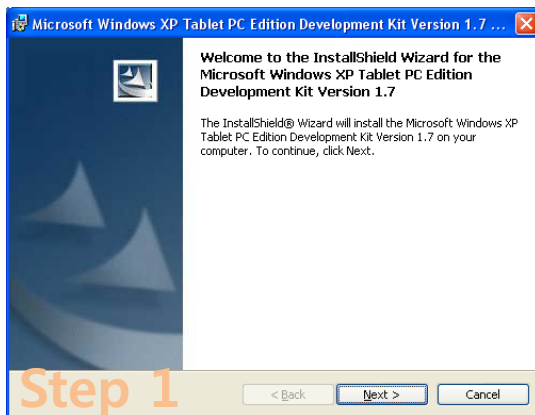
3.3 Install uBoard driver (MINT Control) and the annotation SW (MINT Interactive)

All uBoard software and online manuals are included in the Active-link. Therefore, connecting the Active-link to the computer is the starting point of SW installation [refer to the step ⑨ of section 2]

① When the Active-link is connected, the system automatically displays the uBoard startup window by the auto start procedure.

   But depending on the windows setting, the auto start procedure sometimes cannot be executed properly. Then find the CD driver labeled 'PNF' in the computer and click the device. In this case, come computer executes "auto run" and invoke "uBoard Startup window" automatically. But in some other cases, it may list files on the CD device. If so, click "POPStarter.exe" to run uBoard Startup window" manually.
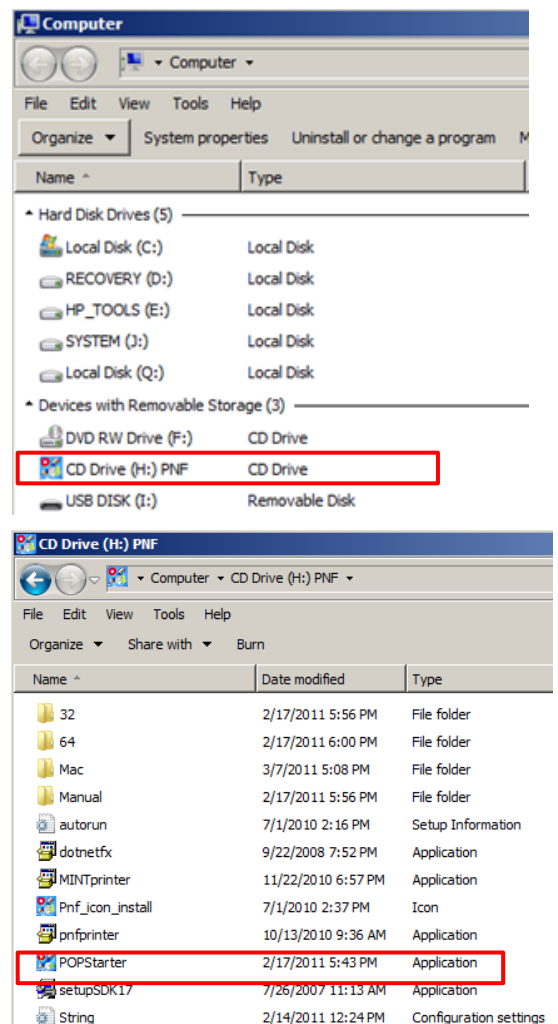
② The uBoard startup window has 'Launch' and 'Install' options.
The uBoard automatically finds window default language and then sets it as uBoard default language. But you can change your preferred language in the language field of uBoard startup window, if necessary.

The function of each option is;

a. 'Launch' mode: It invokes uBoard calibration (from MINT Control) and annotation software (named MINT Interactive) from the Active-link device directly without installing them to the computer. It is very useful for multiple users to share uBoard because every user doesn't need to install all software on his/her computer.

When 'Launch' mode is selected,

• The installation procedure automatically installs 'MINT Image printer' which is necessary for converting documents during importing it to the current workspace or uBoard printing function.
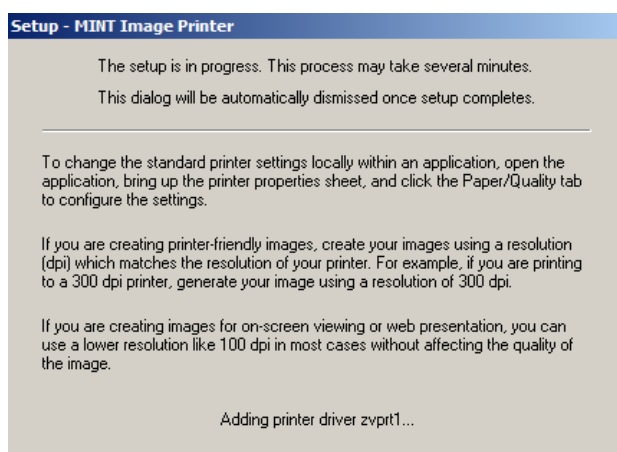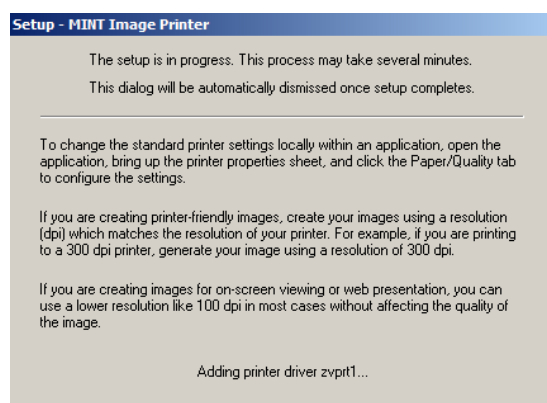
b. After installing the MINT Image printer, it automatically invokes MINT Interactive from the Active-link connected to the computer directly. Then you can see the white background window with MINT Toolbar on it.
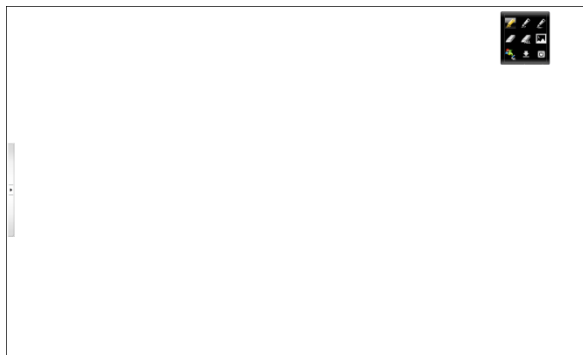
c. 'Install' mode.

- It starts to install all software to the computer from the Active-link. This mode is useful for the user who wants to use uBoard on his/her owned computer.

- [Wireless model], if you want to use USB cable communication as well as Bluetooth wireless communication, select 'Install' option because this feature requires SW installation to the computer directly.

- This step automatically installs the virtual printer driver called 'MINT Image Printer' which is necessary for converting documents during importing it to the current workspace or uBoard printing function.

- When uBoard SW installation finished successfully, it returns to the window system.

- Its installation procedure is as follows;

  o At first, it starts to install the MINT Image Printer.

  o After installing the MINT virtual printer, it will install the MINT Control which has calibration and uBoard parameter setup functions and MINT Interactive which is uBoard annotation SW, respectively.
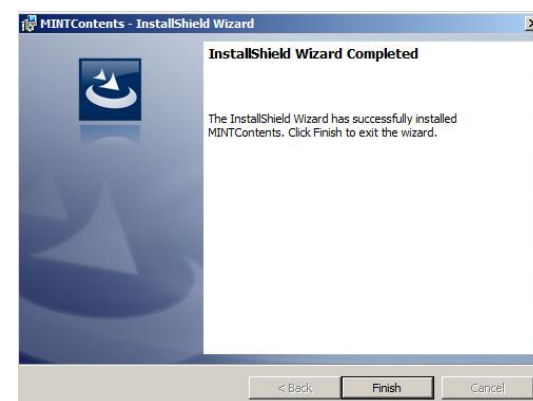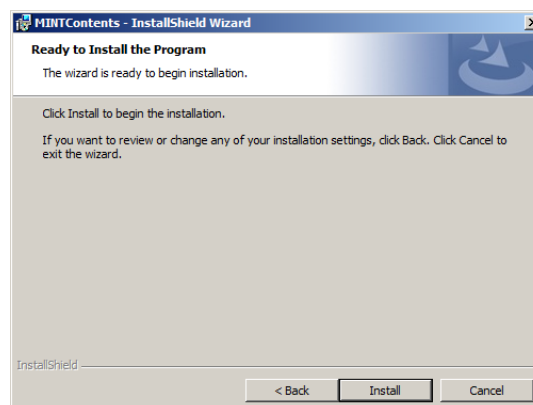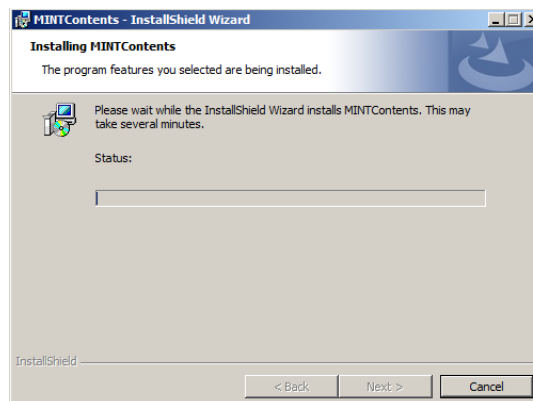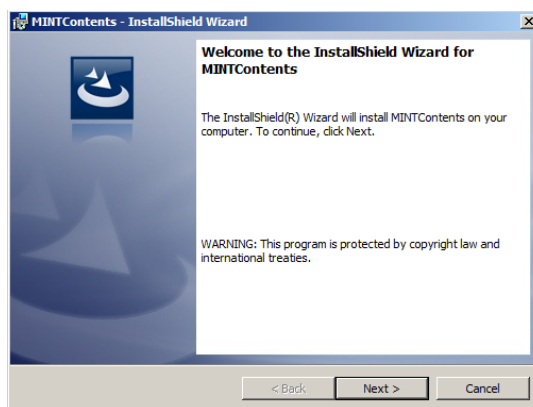
③ Check the power button is on from the uBoard station which is mounted on the whiteboard or wall surface. If power is still not on, press the power button on the uBoard station.

If the blue led light on the station is not on, please check the USB cable is properly connected to the station and the computer.

[wireless model] wait till both "blinking blue light" on the station and the active-link are permanently on. It means Bluetooth connection is successfully established.

uBoard wireless model is using the Bluetooth technology and therefore it doesn't require USB cable connection between the station and the computer. But the Active-link should be always connected to the computer because uBoard tries auto-pairing between uBoard station and the Active-link. Auto-pairing technology enables Bluetooth to be auto-connected like RF wireless without requiring user intervention in the case even the pairing was broken.

[wireless model] If the user wants to use USB cable communication between the station and the computer, connect USB cable to the computer directly without using the Active link as the wireless communication has higher priority than USB cable communication when the Active-link is connected to the computer.
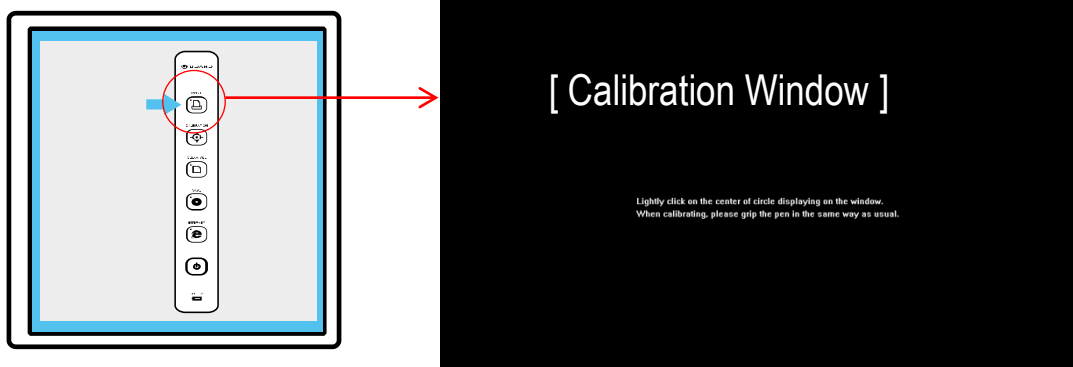
Note :

When uBoard is not configured by the computer, uBoard will not work properly. So when the connection is failed, check whether it is properly configured by Windows OS. [refer to 3.4 Option for uBoard setup]

④ Press 'Calibration' button on the station.

When you press 'calibrate' button, uBoard displays calibration as depicted below. Then touch the center of the circle with the digital pen. As uBoard uses 9 points calibration to recognize the screen size, it requires repeating this step 9 times as guided by the system.
After calibration is done successfully, uBoard returns its control to the MINT Interactive if 'Launch' is selected in step ②. But when SW installed to the computer by selecting 'Install' option, it returns to the window mode after successful calibration. In this case, click 'MINT Interactive' on the desktop windows to launch annotation SW.

[Calibration Window]

Lightly click on the center of circle displaying on the window.
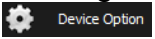When calibrating, please grip the pen in the same way as usual.

Note :

- As Window cursor position can be more or less swerved by titling angle of pen, keep the pen tilting angle at calibration time same as you griped pen in actual writing mode.

- After successful calibration, it doesn't require repeating it because calibration data is saved to uBoard. But when cursor drift happens, execute calibrate again to keep it accurate.

- However, please keep in mind that calibration is always required if the projected screen size or the beam projector position changed,

④-1   When uBoard station is placed on the left side of the projected screen, please skip this step. Otherwise, the station position needs to be recognized by the uBoard SW before calibration with following steps.
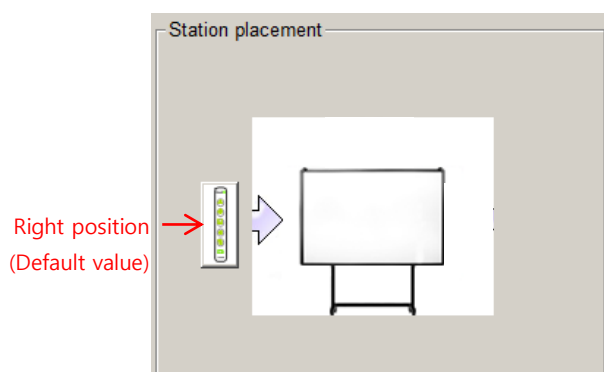
a. When 'Launch' mode is selected in step②.

uBoard invokes MINT Interactive window at default. Before pushing 'Calibration' button, uBoard station placement should be defined with following steps.

i.   click 'menu ⊞ icon on the MINT Interactive toolbar as depicted on the right side.
ii.   click 'Device Option ⚙ Device Option '.
iii. click 'Option' tab on the uBoard window.

[MINT Interactive toolbar]

Right position
(Default value)

b. When 'Install' mode is selected in step ②.

When SW installation is done successfully, uBoard returns its control to window mode. Like 'Launch' mode, the station position also should be set properly by using the following steps.

> i.   click 'MINT Control' on the desktop window.
> ii.   execute step from [④-1 a.iii] thru [④-1 a.iv]

⑤ From now on, you are ready to use uBoard

uBoard provides 2 options for annotation as follows;

a. To annotate on MS applications supporting digital ink (MS office application, MS Journal Note and others) – For these applications, you can easily annotate by using ink function supported by Microsoft without using specific annotation software called MINT Interactive.

b. To annotate on other application which does not support digital ink feature such as home developed application and/or web application – As uBoard can't use ink feature from these applications, MINT Interactive is always necessary to annotate on it.

For more detailed information on how to annotate on the workspace, please refer to the Annotation SW User's guide.

3.4   Option for uBoard setup.

MINT Control provides many functions to setup uBoard system. This section describes MINT control functions and how to change its parameters. All functions can be managed after MINT Control is executed from the desktop window.

① Information TAB

In this TAB, you can choose your preferred language or update MINT software directly from our website (www.penandfree.com). For keeping the up-to-dated MINT software, click [Update] button.

When 'autocheck for update' check box is enabled,   uBoard checks new software whenever
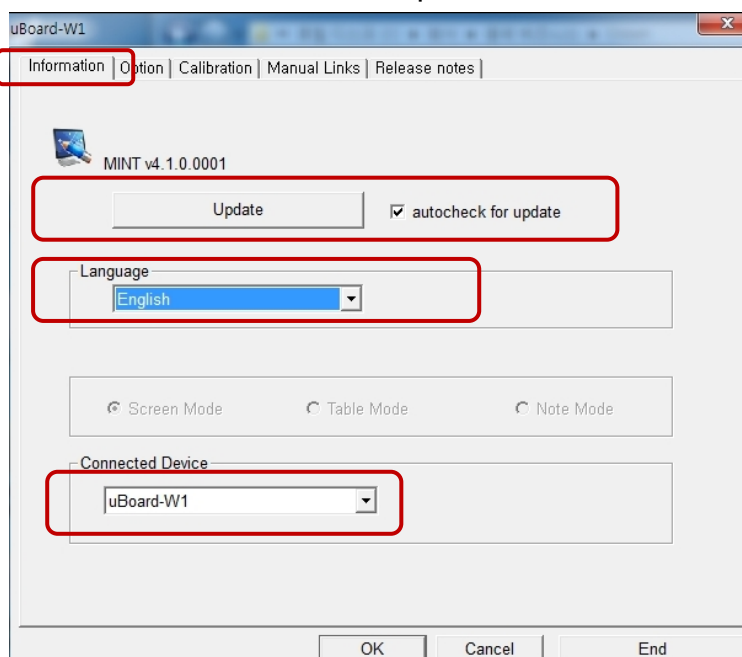
the system boots and automatically updates uBoard

software on the computer if it finds higher version from penandfree web site

You can also check uBoard connection status at 'connected device window' field as MINT Control automatically displays currently configured device here.

Note:

When uBoard is not recognized properly, following actions can be helpful to solve the problem.

- Check Power is on from the uBoard station.
- Try to connect uBoard USB cable or the Active-link to other USB port on your computer or
- If you are using the USB Hub, try direct connection to USB port on your PC or
- exit MINT Control program and restart it again or
- Reboot the computer again and reconnect the uBoard USB cable or the Active-link to the computer.

② Option TAB

You can use various options for your preference during MINT interactive session in the Option tab.

- Pen Touch: It defines the level of brush pen flexibility.

- Brush Factor: It defines weight for the gap between high pressure and low pressure. As the slide bar is moved to the right side, the brush effect becomes stronger. This feature is only applicable to the brush pen.

- Brush Shape: Brush shape can be decided by this parameter. In felt pen option, faster pen speed generates higher weight of line thickness.   But in Brush pen option, it becomes controversial,
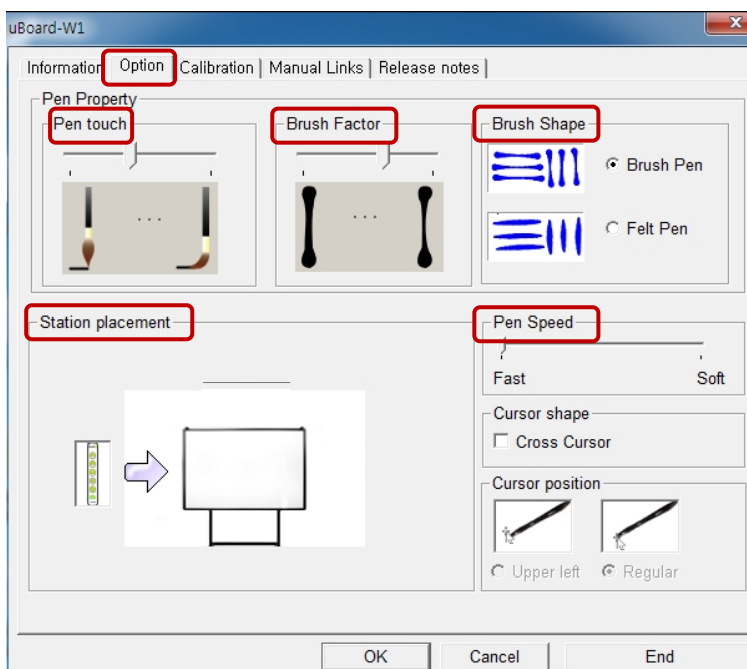
- Pen Speed: It is used for adjusting pen speed. As the bar goes to the left side, pen speed is getting faster but writing quality is getting worse and vice versa.

- Station placement: It defined the physical placement of uBoard station in SW context.
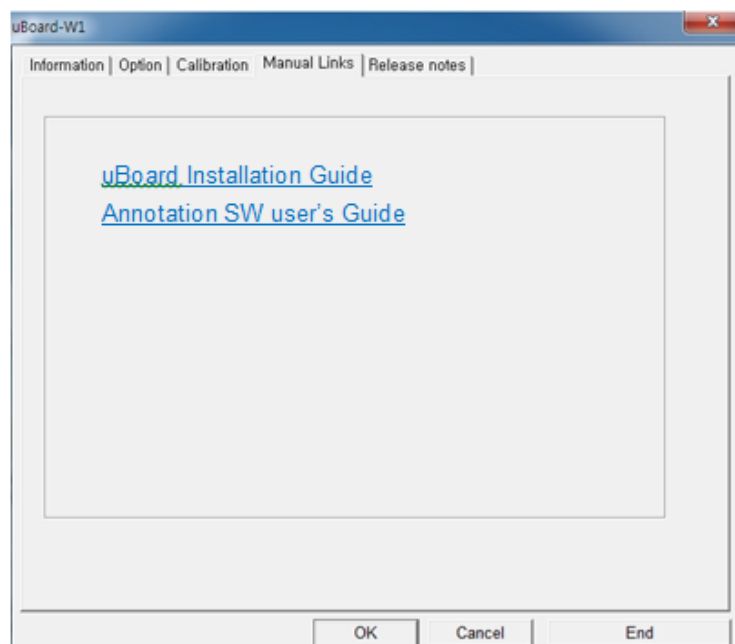
- Cursor position: Not applicable to uBoard.

③ Calibration Tab.

There are two ways to execute calibration. One is for pressing 'Calibrate' button on the uBoard station and another is for clicking 'Screen Calibration' button on the Calibration tab from MINT Control.
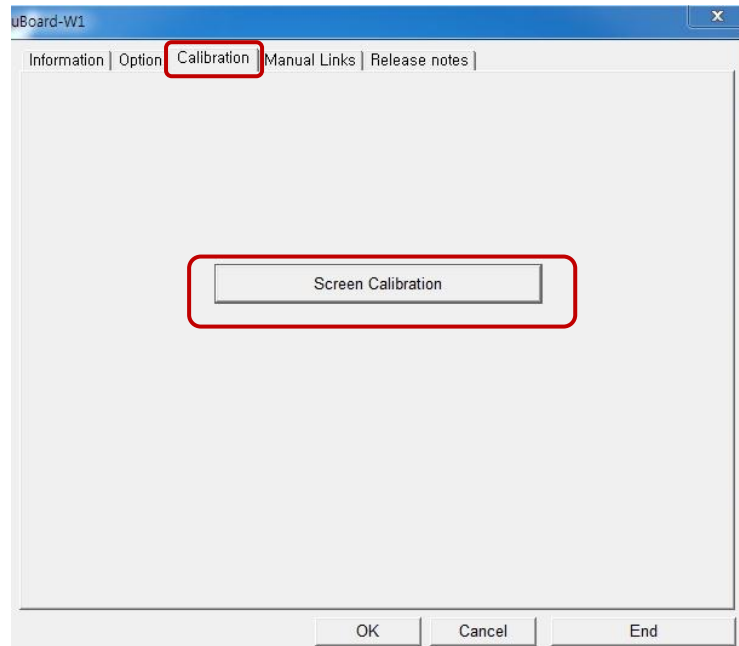
④ Manual Links Tab

In this tab, you can refer to uBoard manuals with PDF format.

⑤   Release notes Tab

PenAndFree will release patch module or upgraded SW version periodically. With regard to new released software, all information can be found in this tab.
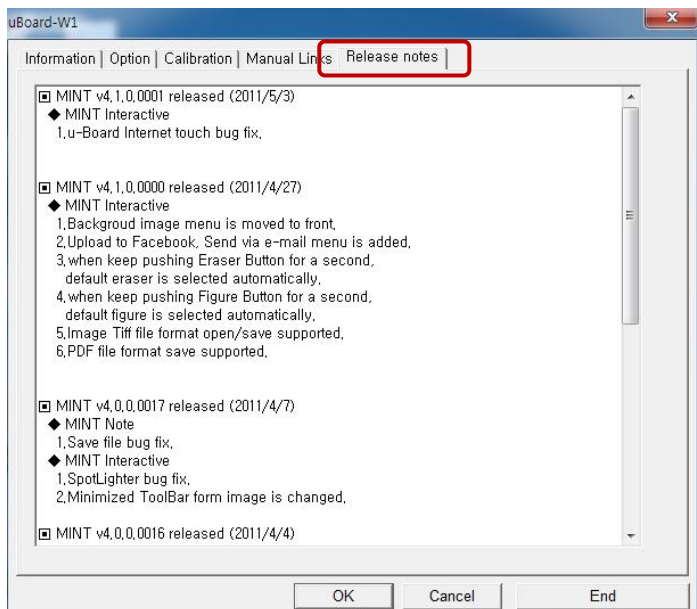
4. Install Software for Mac OS.

This section describes the installation procedures on Mac OS.

4.1 Preparation

① uBoard SW can run on Mac OS 10.5.x or above edition. So please check Mac OS version in advance.

② Reboot the computer.

③ Connect the Active-link to the computer.

④ Check the power of uBoard station is on. If not so, press the power button on uBoard station.

4.2 Install uBoard driver (MINT Control) and the annotation SW (MINT interactive)

When the Active-link is recognized by the computer successfully, it automatically creates two icons names 'MINT' and 'USB DISK' on the window desktop.

① Click 'MINT' icon on the desktop.
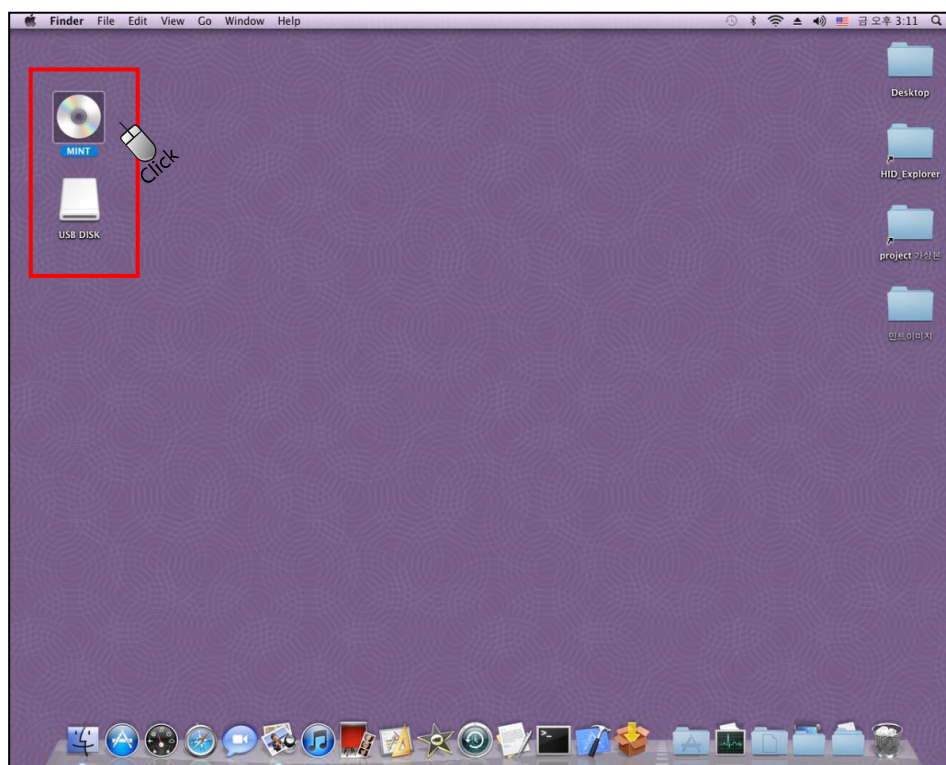
② System lists current folders and files placed in 'MINT' folder and then click 'Mac' folder as showed below.
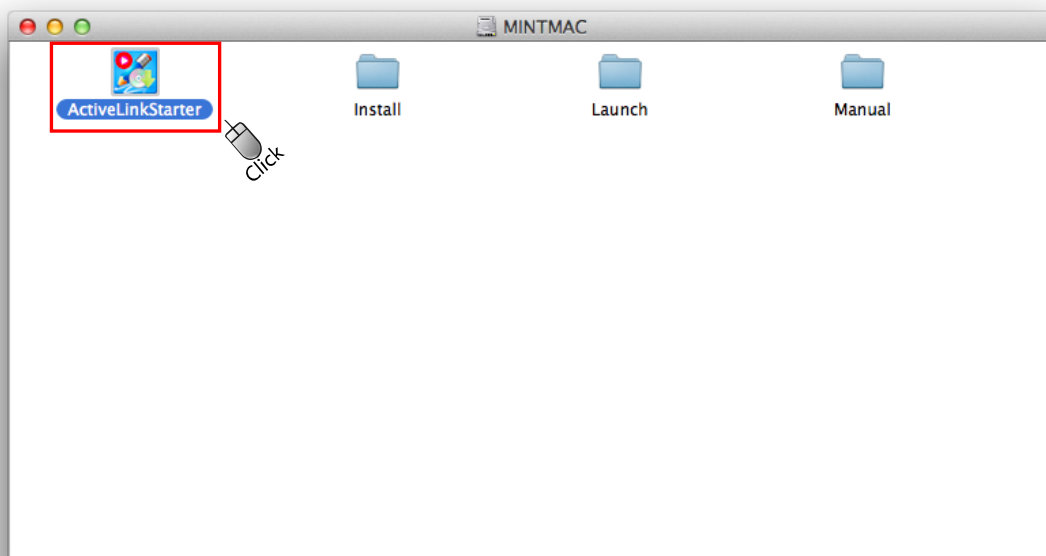
③ You can see the 2 type of option in the screen as below

Launch : Do not need install the program. Executed and use annotation (MINT Interactive)
Install : install the software in your PC.

④ uBoard installation procedure displays two windows in order as showed below. Click 'continue' there.
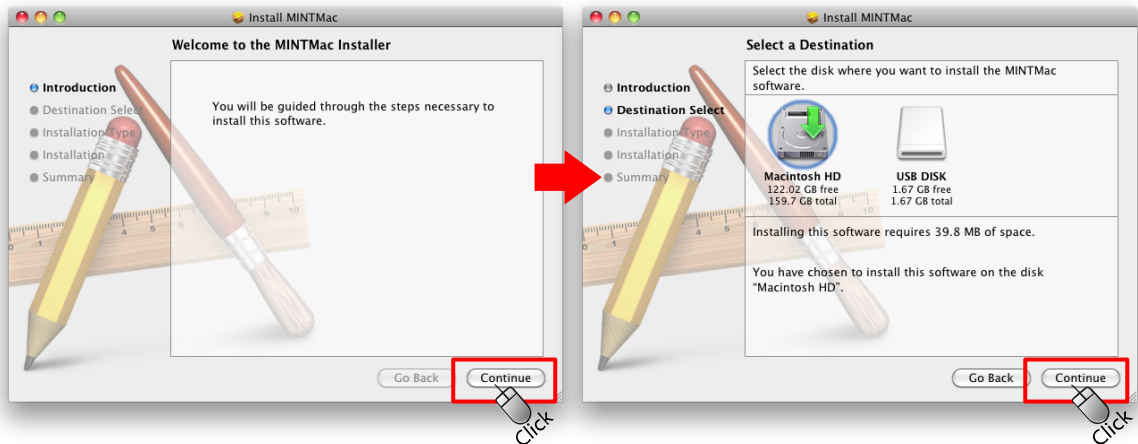
⑤ At this step, you can change the folder to be installed SW if the device doesn't have enough space for uBoard SWs installation on the default device. If so, click 'change install location'. Otherwise, click 'Install'.
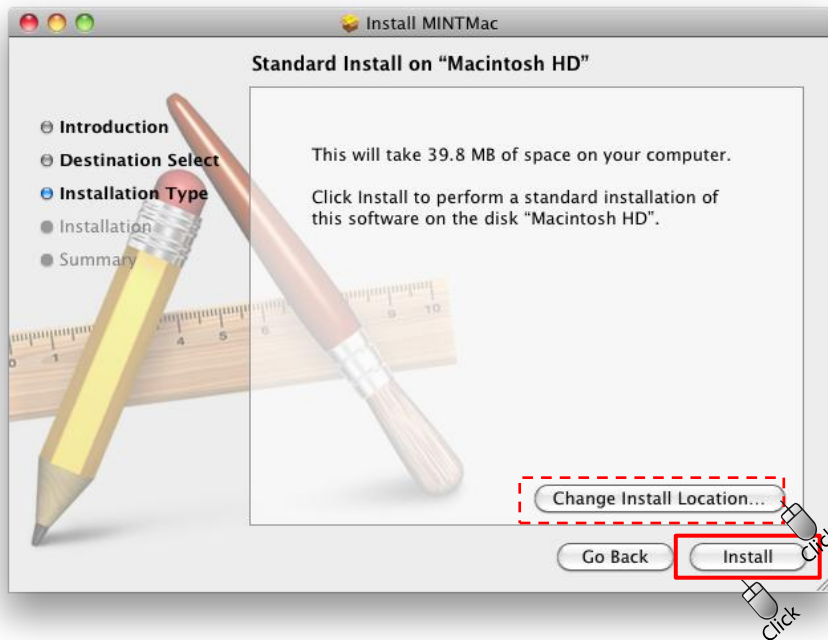
⑥ From this step, the installation procedure doesn't require additional input anymore and keeps installing continuously with displaying the progress bar as showed below.
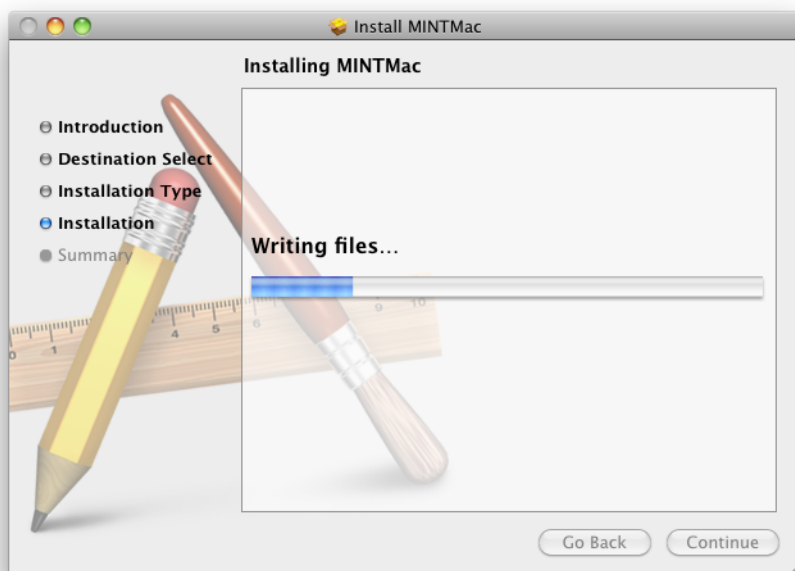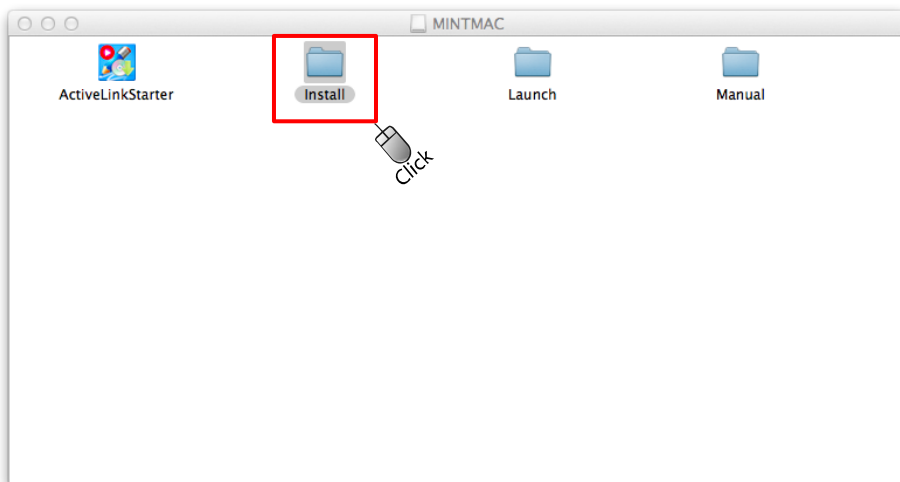

⑦ When all necessary files are installed to the target folder successfully, the installation procedure displays the following window.
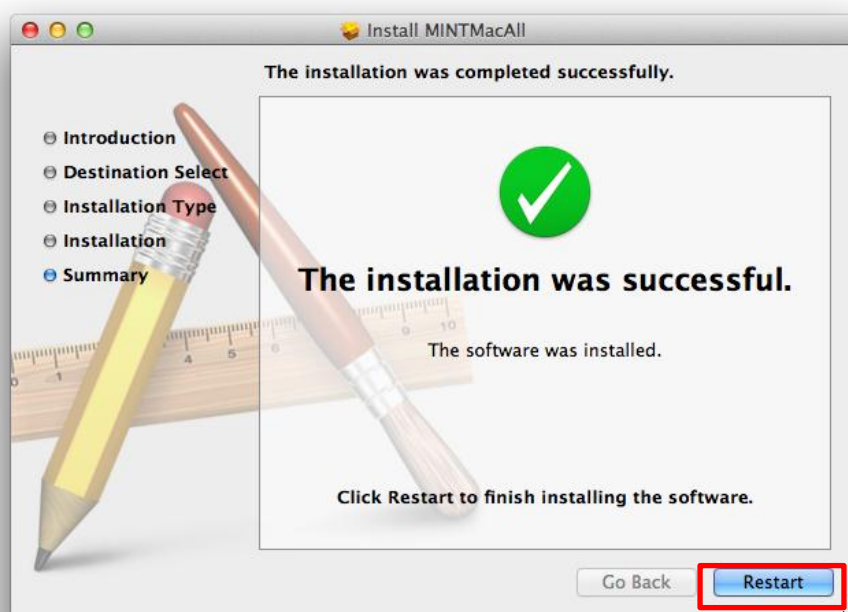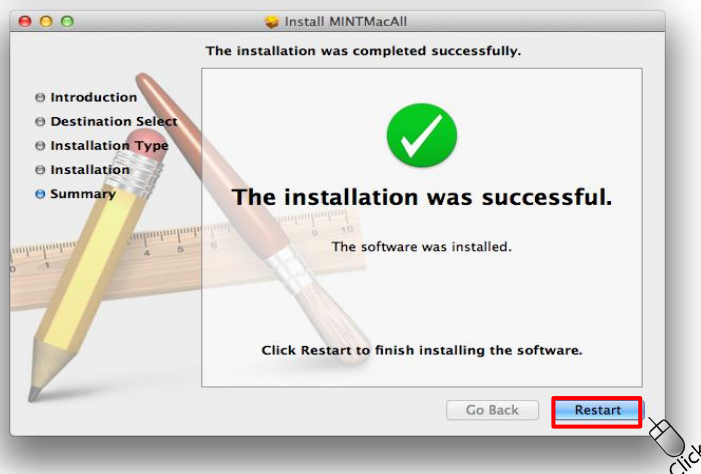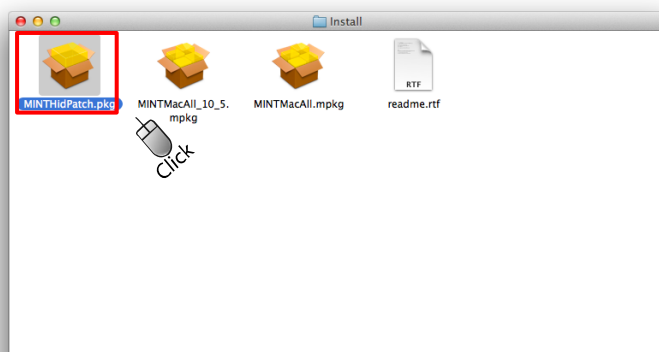
Notice : if you have error message as "AMXCodelessKext.kext" please refer to below.

1. Select the Install folder

2. Please install the file as MINTHidPatch.pkg.
   The Install step is same as above.
   After completed install, please press the return button.

① When the shell file is executed successfully, 'MINT Control' and 'MINT Interactive' will be appeared in the PenAndFree of Applications folder as follows.

② Also, if you see the icon as below, this is completed the install.

4.4 Option for uBoard Setup

After finishing SW installation, Calibration step is required to define working space before using uBoard. This step is not necessary repetitively whenever to use uBoard after the 1st calibration. But when the position of the beam projector or the projected screen size is changed, calibration is always required. We recommend the user to execute this calibration periodically to make it accurate

When cursor position needs to be realigned to keep accurate, this step is also necessary.

4.4.1 Preparation.

Check whether uBoard is configured properly on your computer. The way to check its availability is as follows.

- Execute 'MINT Control'

- Find 'Information' Tab.

- Find 'connected device' on it.
 When the device name is displayed, it means the device is configured properly.

Note:

When uBoard is not recognized properly, following actions can be helpful to solve the problem.

- Check Power is on from the uBoard station.
- Try to connect uBoard USB cable or the Active-link to other USB port on your computer or
- If you are using the USB Hub, try direct connection to USB port on your PC or
- exit MINT Control program and restart it again or
- Reboot the computer again and reconnect the uBoard USB cable or the Active-link to the computer.

4.4.2   Screen Calibration.

① Execute 'MINT Control' in the PenAndFree of Applications folder. Then the calibration menu will be displayed as follows. There, find the calibration tab and click 'Screen Calibration' button.
But the easiest way is pressing 'Calibrate' button on the uBoard station
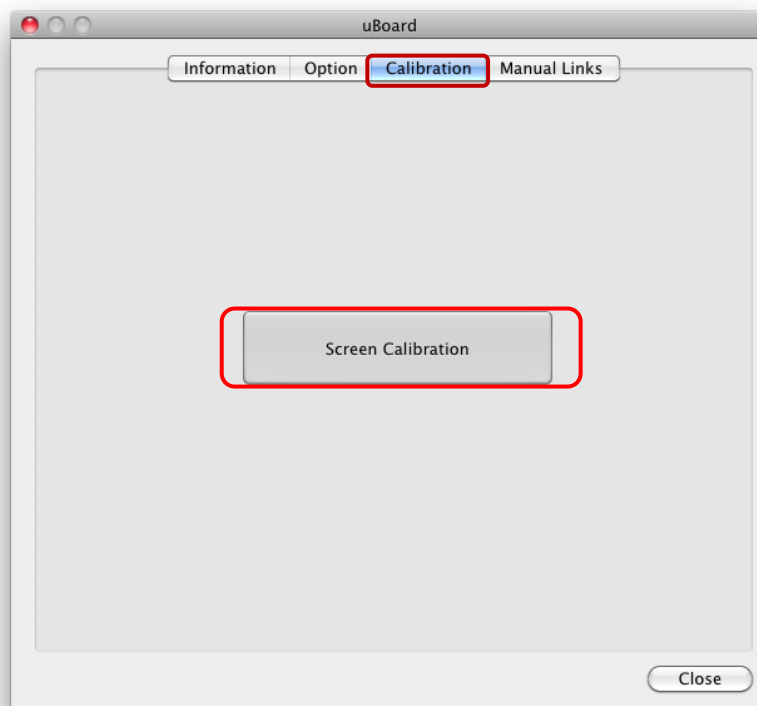
② MINT Control displays calibration window to get the value for screen size.
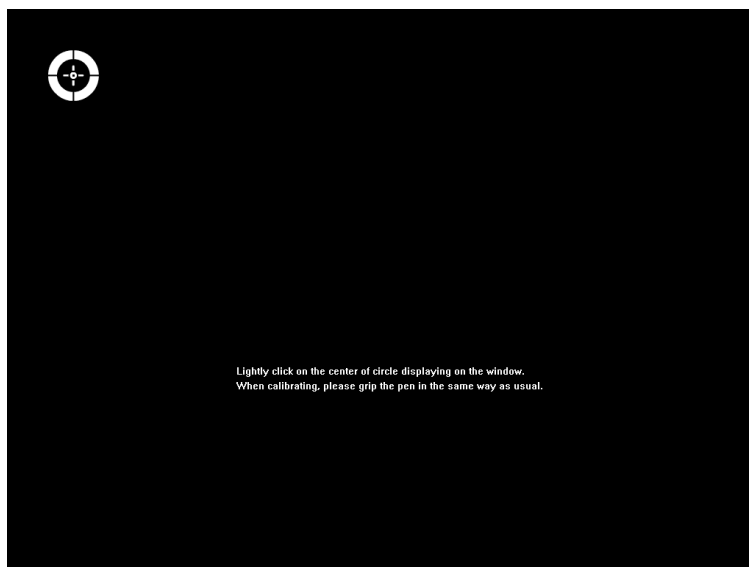
Click the center point of circle with the digital pen and repeat this step as guided by system. You need this step repetitively 9 times at different position.

Note:

As Window cursor position can be more or less swerved by titling angle of pen, keep the pen tilting angle at calibration time same as you griped pen in actual writing mode.

4.4.3   Options for uBoard setup

④ Information TAB

In this TAB, you can choose your preferred language or update MINT software directly from our website (www.penandfree.com). For keeping the up-to-dated MINT software, click [Update] button periodically.

You can also check uBoard connection status at 'connected device window' field as MINT Control automatically displays currently configured device.
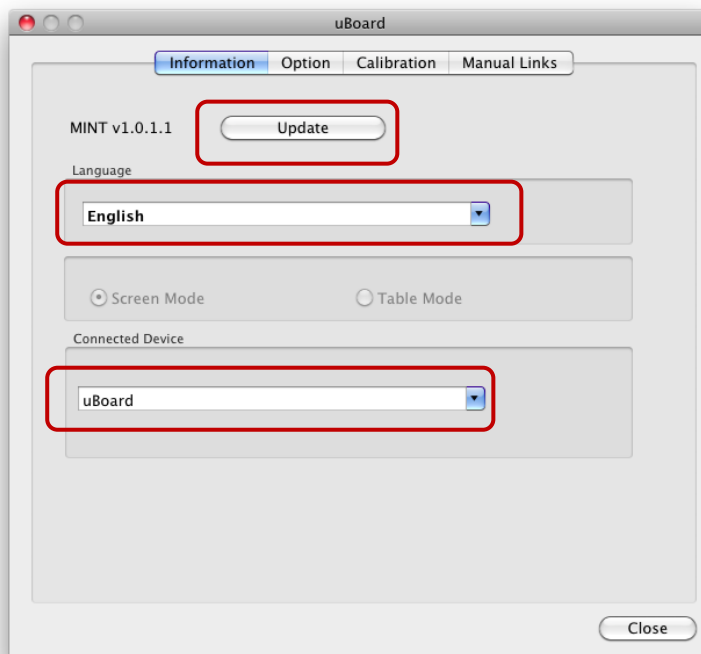
⑤ Option TAB

You can use various options for your preference during MINT interactive session in this the Option tab.

- Station placement: Click the position of uBoard station (Left).

- Pen Speed: adjusting pen speed. As the bar goes on left side, pen speed is getting faster but writing quality is getting worse and vice versa.

- Cursor position: Not applicable to uBoard.
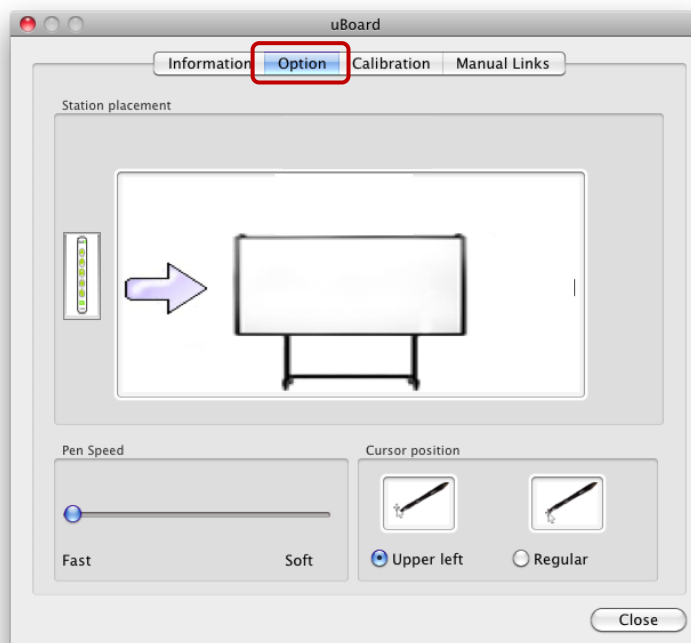
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