

# Multifunction Analyzer

## Installation manual

E090946-09

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# 1 Installation of Multifunction Analyzer

## 1.1 Operation environment

Multifunction Analyzer works with the Windows 10 / 8.1/ 7 OS, supporting USB.

The necessary operation environment is as following.

- System requirements<sup>\*1</sup>  
Windows 10 / 8.1/ 7  
1 gigahertz (GHz) or faster 32-bit (x86) or 64-bit (x64) processor  
1 gigabytes (GB) or more RAM (32-bit) or 2 gigabytes (GB) or more RAM (64-bit)  
1 gigabytes (GB) or more available hard or solid state disk space  
The USB<sup>\*2</sup> port is installed.  
Microsoft Excel<sup>\*3</sup> is installed.

For Windows 10 / 8.1, please use the following Multifunction Analyzer version or later.

(It is recommended to install the latest version. The operation cannot be guaranteed if you use a version not applicable below.)

OS	Multifunction Analyzer Version
Windows10	Ver 1.9 or later
Windows 8.1	Ver 1.9 or later

\*1: Even if your system meets the system requirements, displaying a dialog or items on windows might be slow because it depends on the number of signals or sampling data.

\*2: We cannot warrant and support the Multifunction Analyzer behavior, if you connect it to other than USB 2.0/1.1.

\*3: Microsoft Excel 2003 or greater.

**The application may be unstable even if your environment meets the operation environment. It depends on connections, your PC settings or your installed software. Like waveform observations stop etc., if your USB connection is unstable, it may be able to stabilize when you use a USB hub or LAN connections.**

## 1.2 The outline of install procedure

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The following setup is necessary for using Multifunction Analyzer.

1. Install Operation of Multifunction Analyzer.
2. Setup USB driver.  
At the first time Multifunction Analyzer and USB cable connect PC, it means start installing USB driver.
3. Setup LAN.(IP address. If you'd like to use.)  
If you setup LAN, you need to connect the Multifunction Analyzer to your PC. If you setup LAN manually, you need to decide IP address and net mask which is set to the Multifunction Analyzer before you setup.  
If you'd like to know details of IP address, please ask your network administrator.

The installer will install the Multifunction Analyzer application and the help.

**It must execute install under Administrator.**

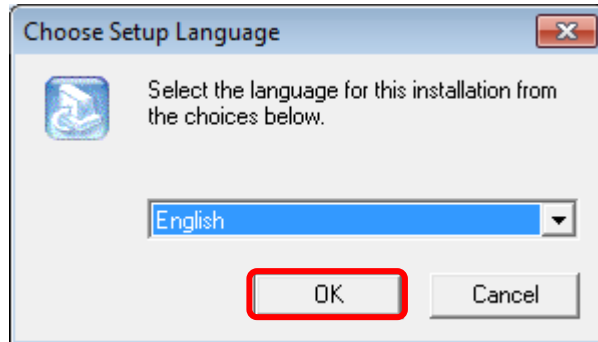
## 1.3 Install Multifunction Analyzer

**It must execute install under Administrator.**

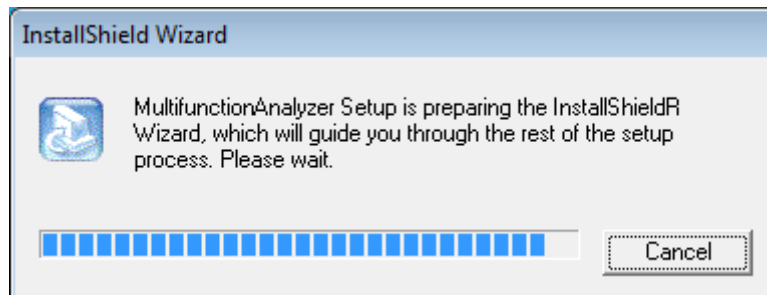
1. You can get the installer from our website the below. Please download "MultifunctionAnalyzer.exe" file according to the website.

URL: [http://www.ss-technologies.co.jp/en/support/mfa\\_dl](http://www.ss-technologies.co.jp/en/support/mfa_dl)

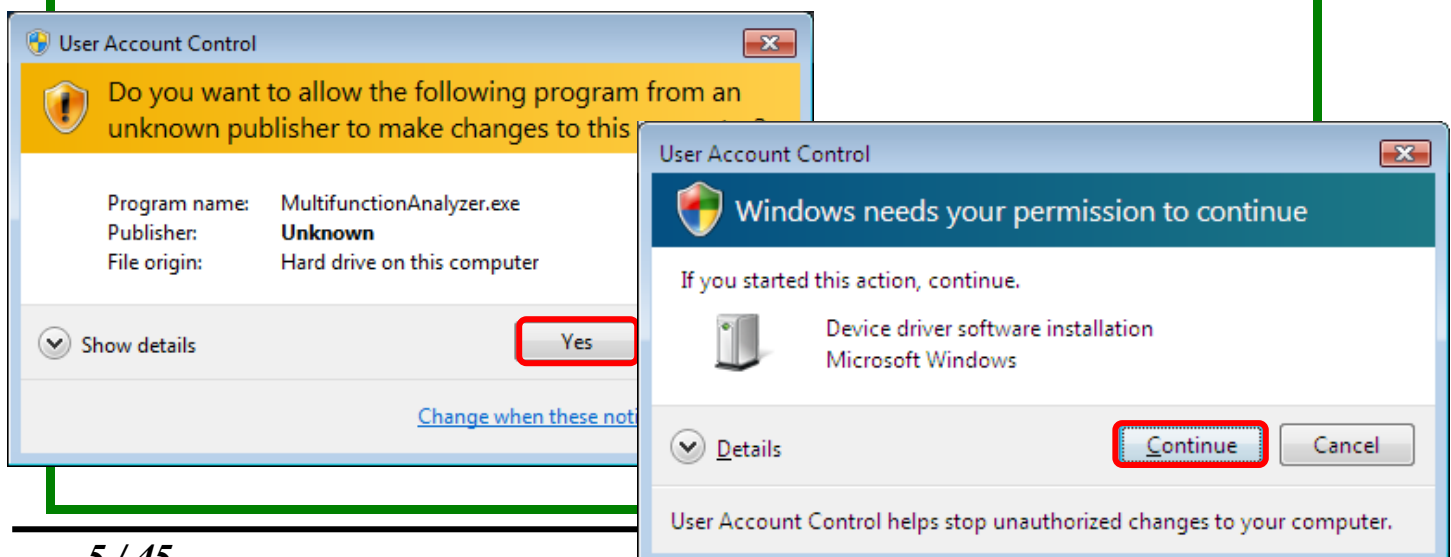
2. Double click "MultifunctionAnalyzer.exe" which you downloaded. The dialog for language selection will be open.



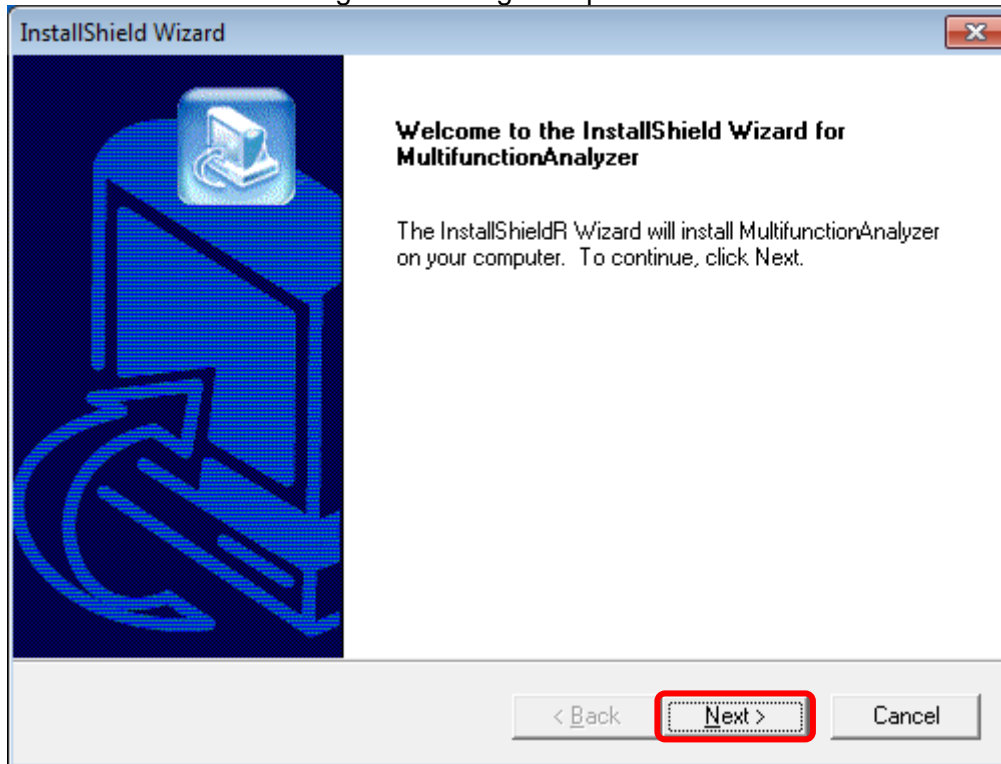
Please select a language, then click **OK**. If you select "Japanese", the following messages will be shown in Japanese. Then, the dialog for setup as following will open.



**Open [Control user account] and [Security warning] dialog based on system security: click [Yes], [Continue] or [Allow] for continuing installing**

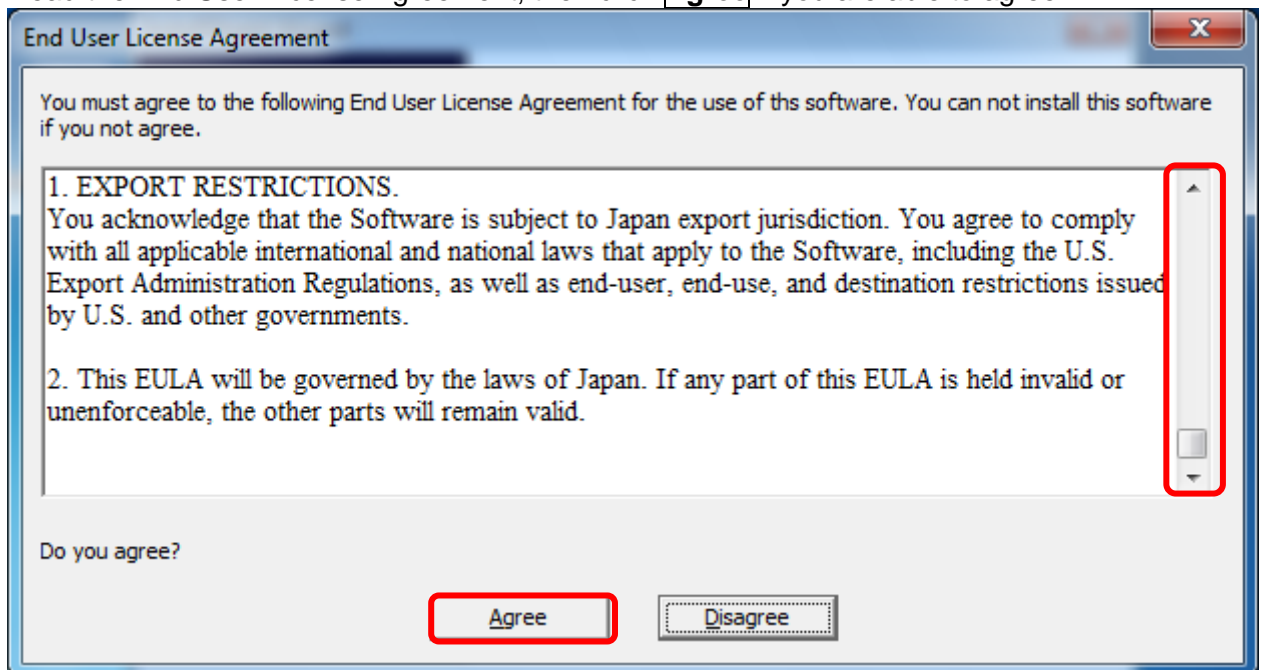


3. InstallShield Wizard dialog as following will open.



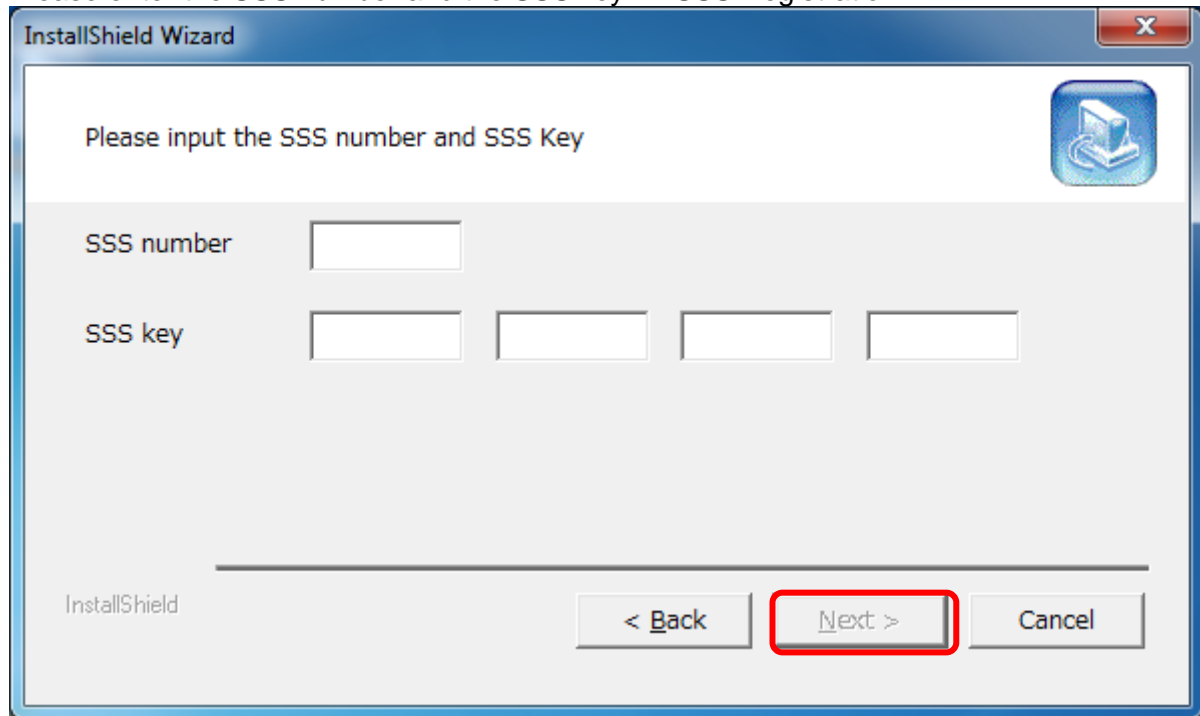
Click **Next**.

4. Agree with the End User License Agreement.  
Read the End User License Agreement, then click **Agree** if you are able to agree.



**Agree** button will be enabled, if you scroll to the bottom.

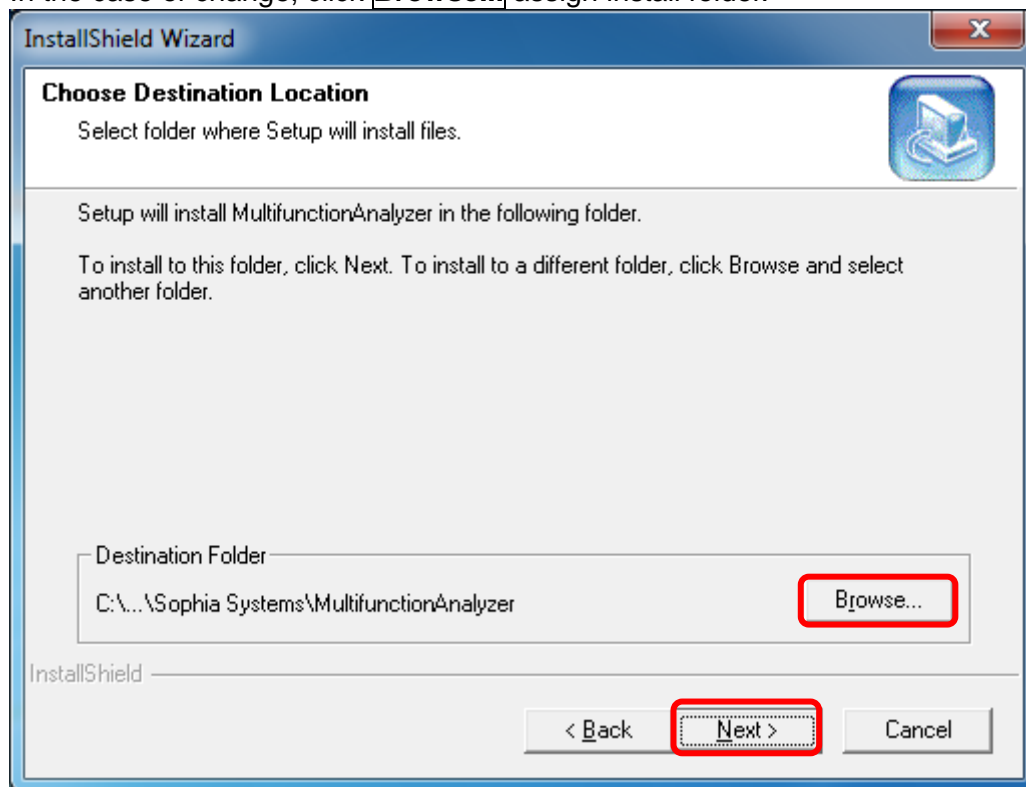
5. Input the SSS number and SSS key.  
Please enter the SSS number and the SSS key in "SSS Registration".



Click **Next**.

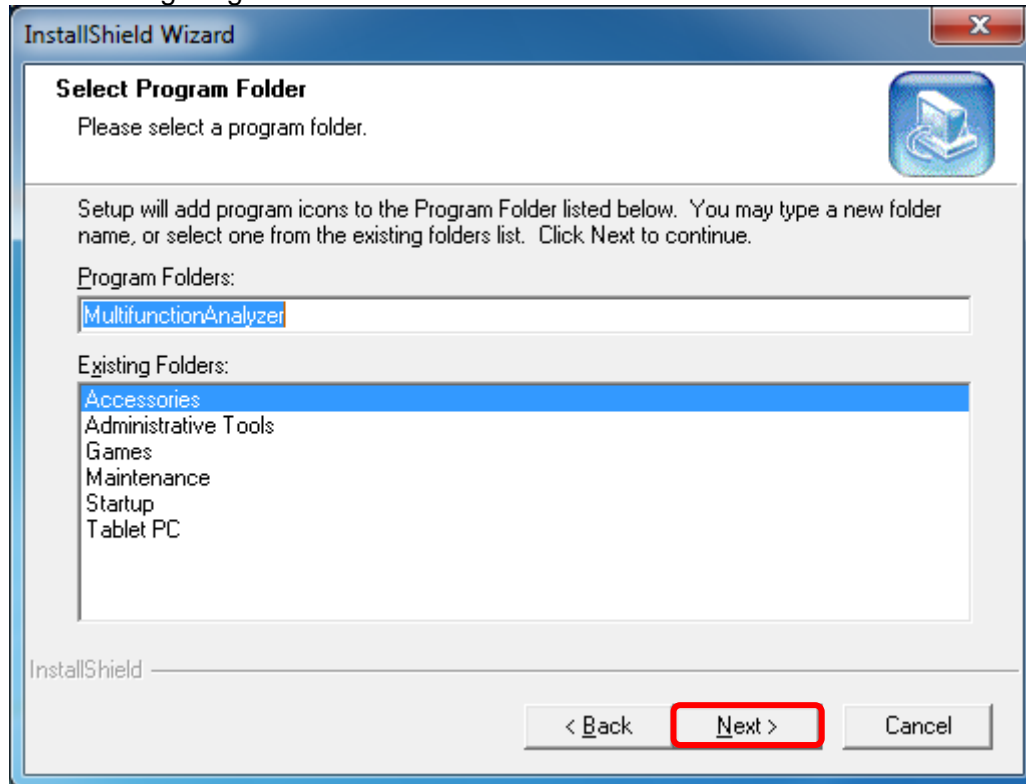
The case in the SSS number and the SSS key is ignored.

6. Assign folder for install.  
In the case of change, click **Browse...** assign install folder.



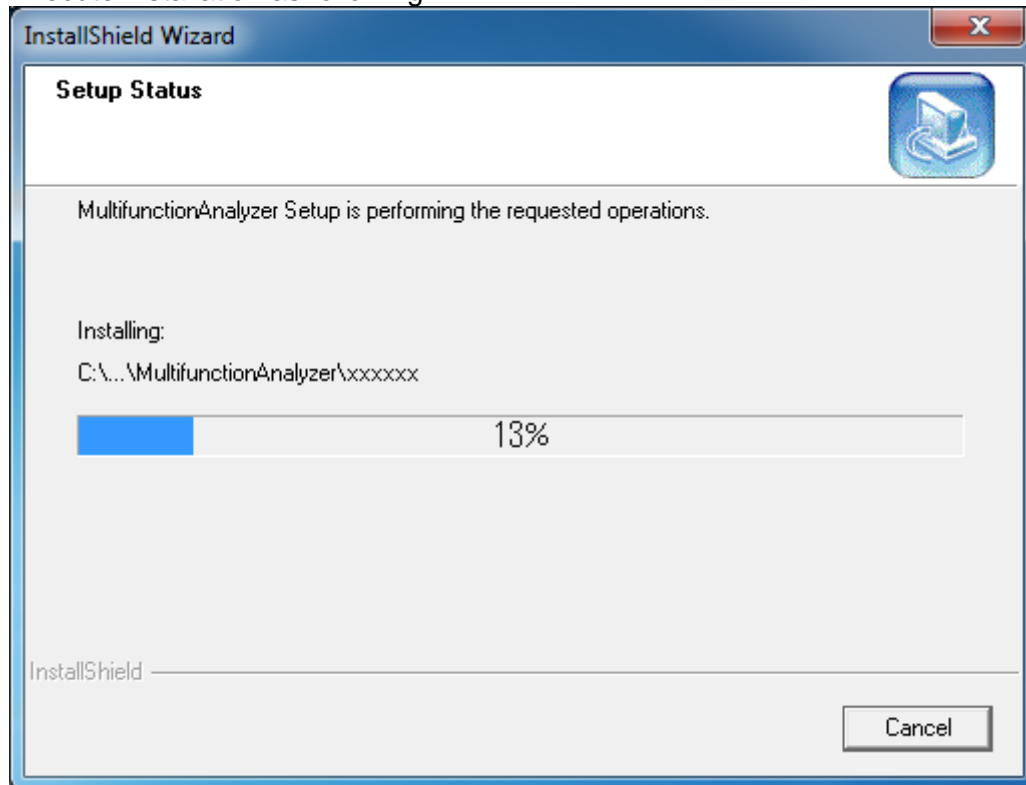
Please click **Next** if it is well.

7. Please assign register folder for start menu.



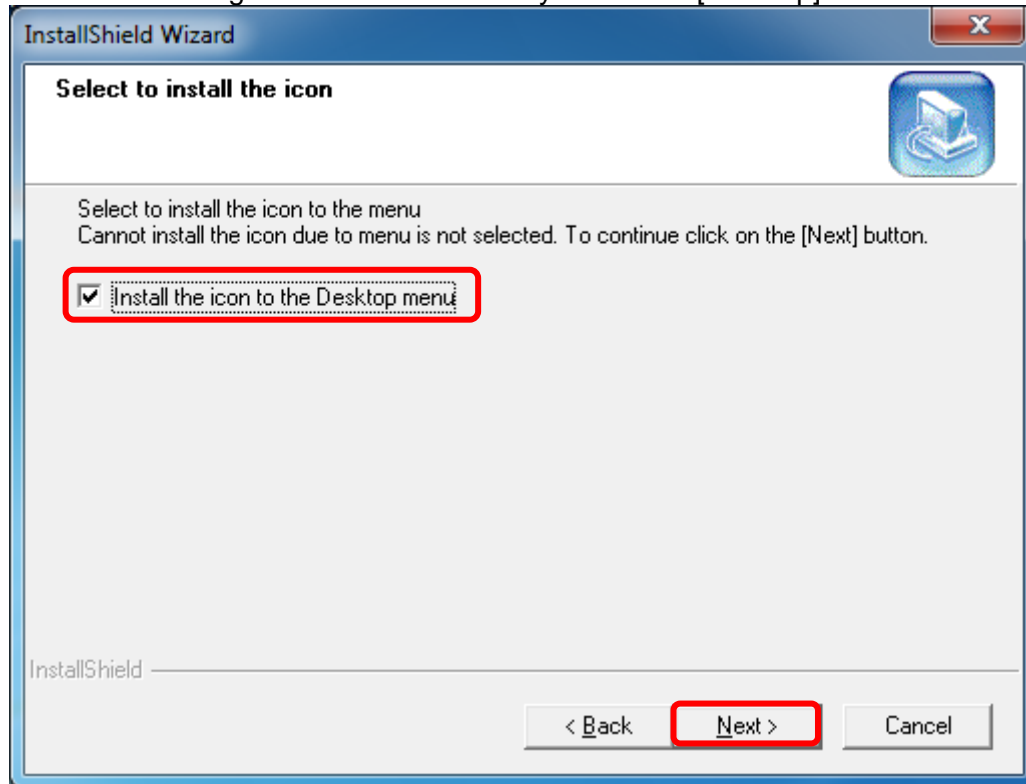
Please click **Next** if it is well.

8. Execute installation as following.





9. Please decide register Multifunction Analyzer icon to [Desktop].

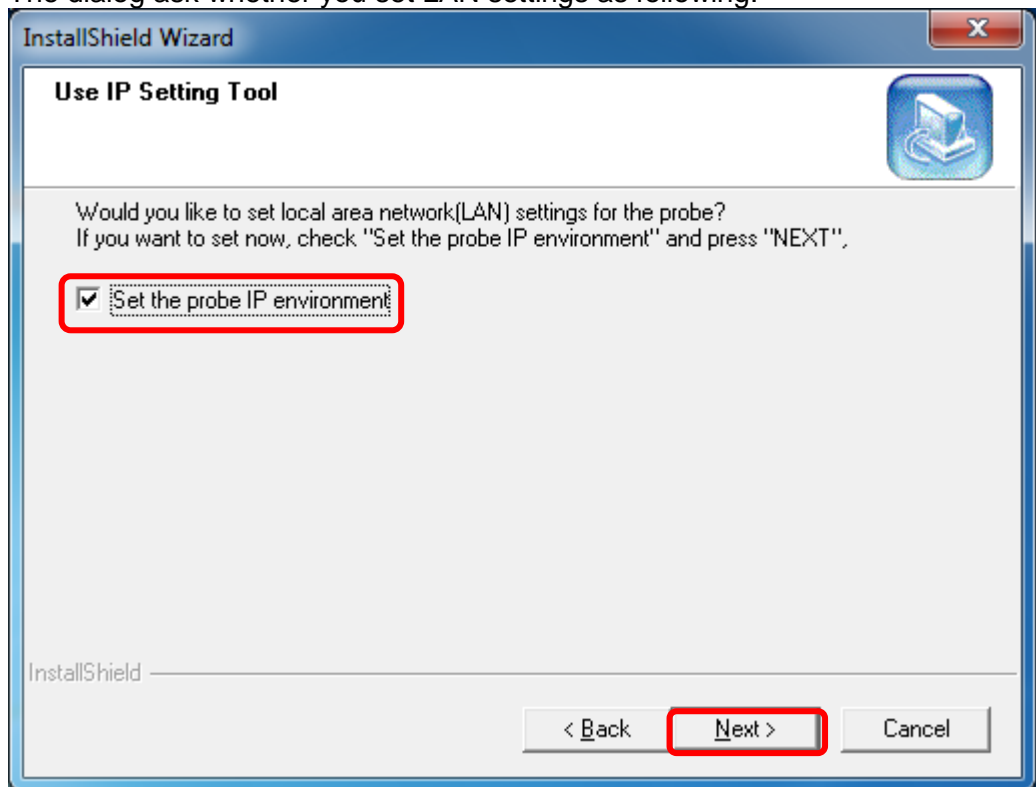


Please click **Next**. If it is well.

Copy Multifunction Analyzer file, record necessary data to the windows registry.  
User does not have to care the contents recorded to registry.

10. Use IP Setting Toll.

The dialog ask whether you set LAN settings as following.



If you connect the Multifunction Analyzer to your PC with LAN without DHCP server, you have to set IP address and net mask manually.

If you set the IP address and the net mask from a DHCP server, you don't have to set the probe IP environment. So, you make the "Set probe IP environment" checkbox cleared, then click **Next**.

If you set the IP address and the net mask manually, the value of the IP address and the net mask is needed.

Please ask your network administrator the details.

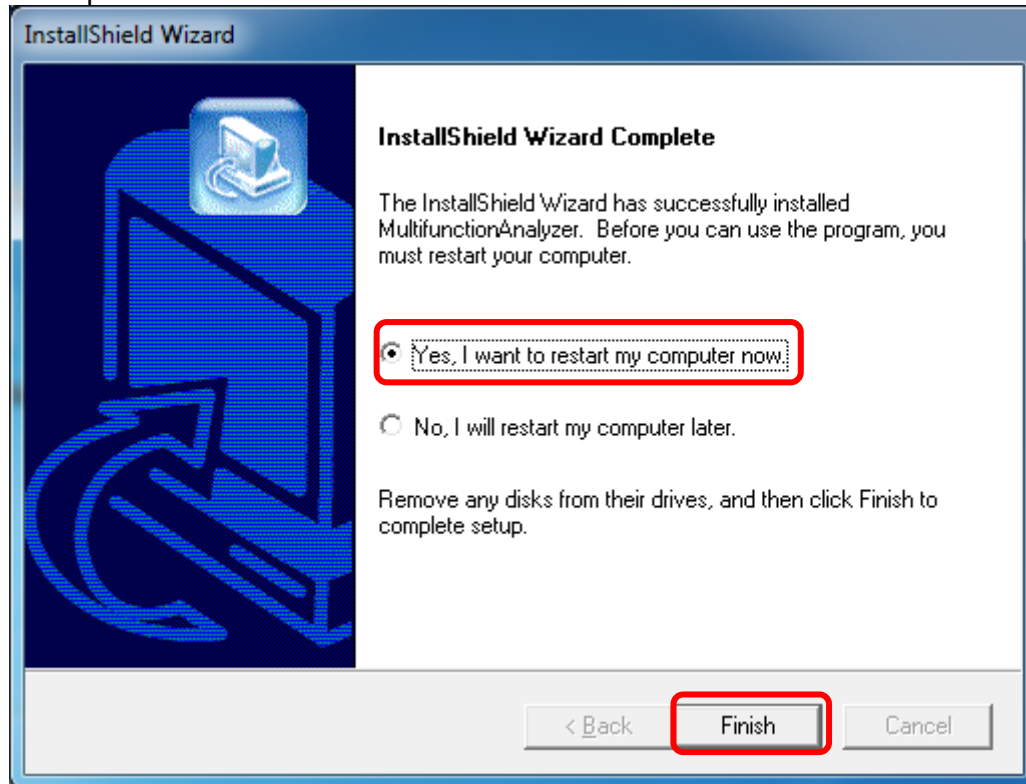
Now, if you set the IP address and the net mask manually, you keep the checkbox marked or make the checkbox marked, then click **Next**.

You can set IP environment later, if you set IP environment here, make the "Set probe IP environment" checkbox cleared, then please click **Next**.

<b>Set later</b>	<b>Please refer <a href="#">3 Setup LAN (IP Setting Tool)</a>.</b>
<b>Not set</b>	<b>Jump to 11.</b>

**You can set IP environment later. Please refer [3 Setup LAN \(IP Setting Tool\)](#).**

11. Complete install. Reboot PC when finish install.



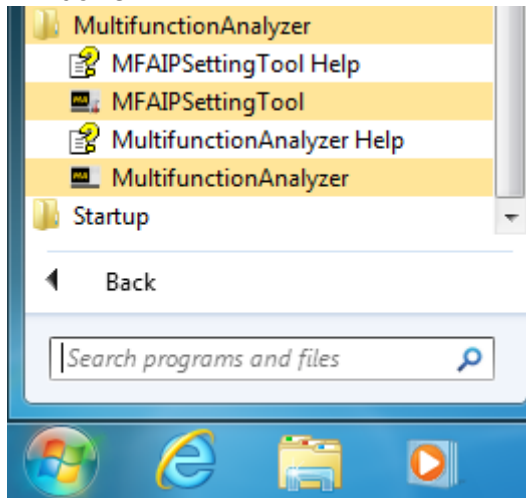
Click **Finish**.

**[Completed dialog] maybe not be displayed by OS.**

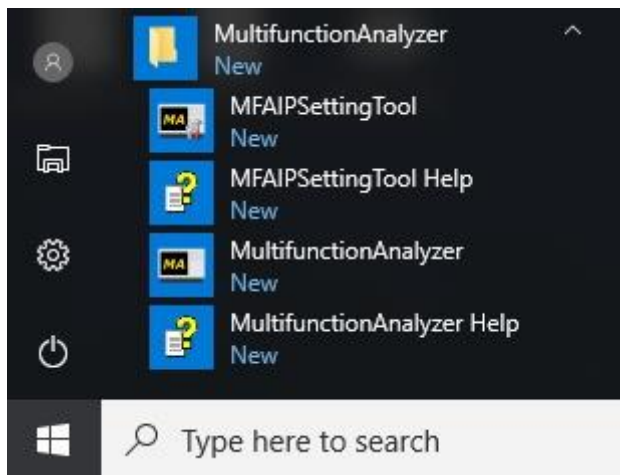
Install Multifunction Analyzer is finished by above procedure.

12. Multifunction Analyzer will be added to start menu as following shows.

Windows 7:



Windows 10:



The order in the start menu might be changed.

## 2 Install USB Driver

Sophia Systems use USB as interface for Multifunction Analyzer.

Driver is structure by following file.

- SsUsb.sys (The 64-bit driver is SsUsb\_x64.sys.)
- SSIEUSB.INF

This file is saved in “driver” folder under folder installed Multifunction Analyzer.

### About connect USB with PC and Multifunction Analyzer

Please use attached USB cable to connect with PC and Multifunction Analyzer directly.

We cannot guarantee operation when course USB hub.

On Multifunction Analyzer Ver. 1.8 or newer, Multifunction Analyzer firmware is updated. After updating, Multifunction Analyzer is recognized as Human Interface Devices.

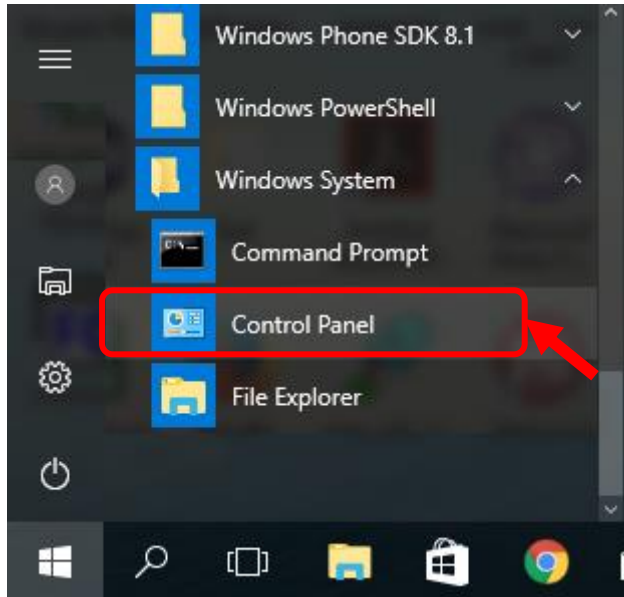
The OS Standard drivers is used. And, In Device Manager, Multifunction Analyzer displays “HID-compliant device” and “USB Input Device” in “Human Interface Devices” tree.

Contact Sophia Systems for additional support of USB driver for OS.

## 2.1 Install steps of Windows 10

1. Please connect the PC with the USB driver with the USB cable. (Connect the AC adapter and turn on the power to the main unit.)
2. Open Control Panel.

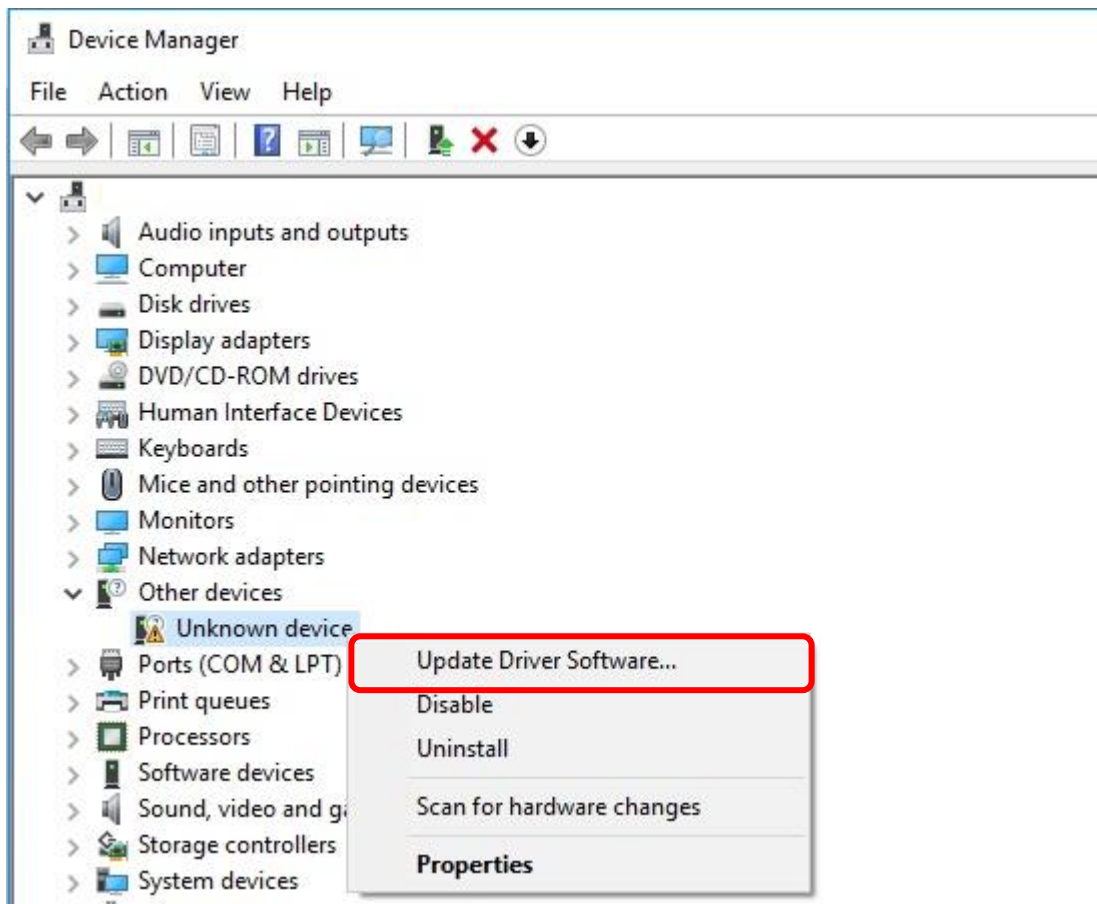
Click [Start] → [Windows System] → Click [Control Panel]



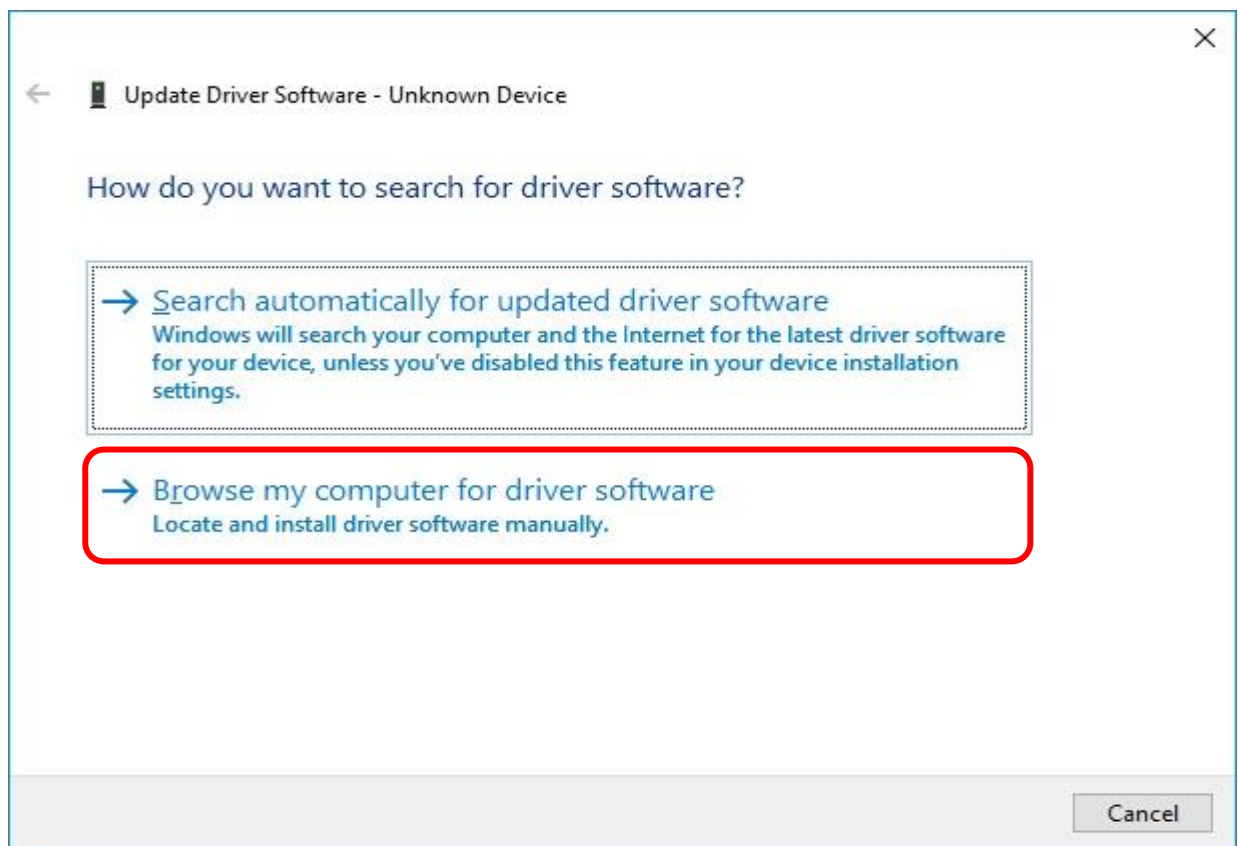
3. [Control Panel] will open.  
Click [Device Manager].



4. Open [Device manager].  
**Right click** [Unknown device] of [Other devices] select [Update Driver Software].



5. [Update Driver Software - Unknown Device] window will open.



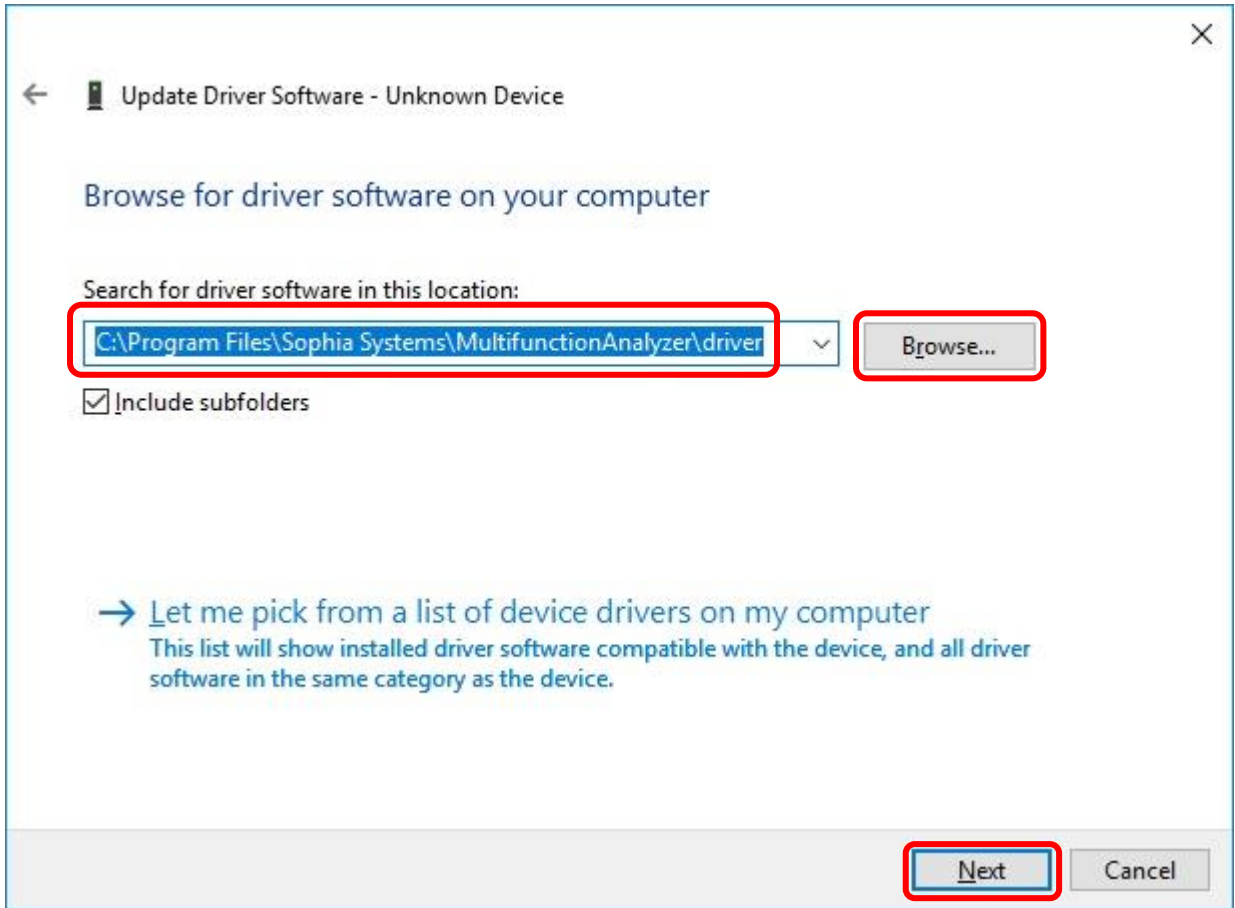
Click **Browse my computer for driver software**.

6. Assign folder name has the driver.

USB driver is **SSIEUSB.INF**.

The USB driver software is located in \ MultifunctionAnalyzer \ driver which installed the Multifunction Analyzer.

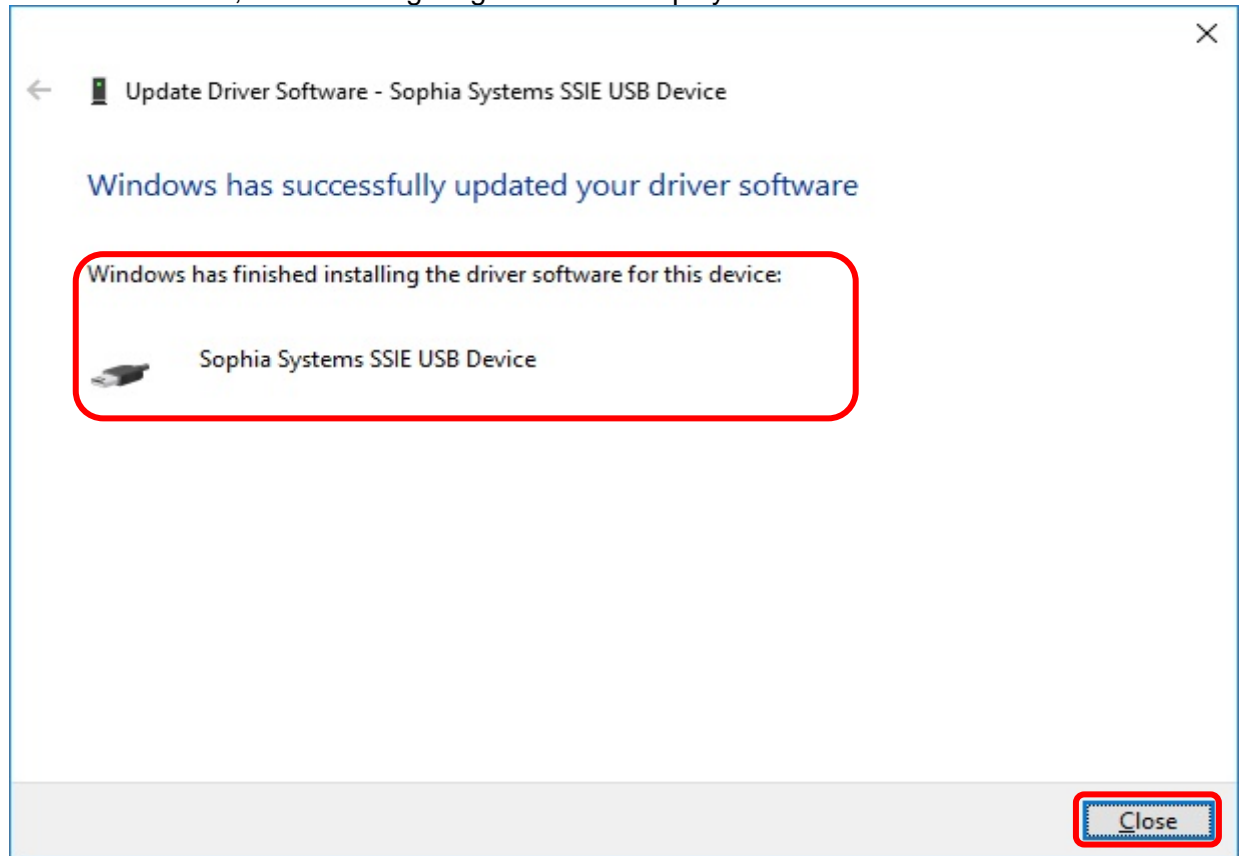
Specify the folder by **Browse** button.



Click **Next** button the assign research point.



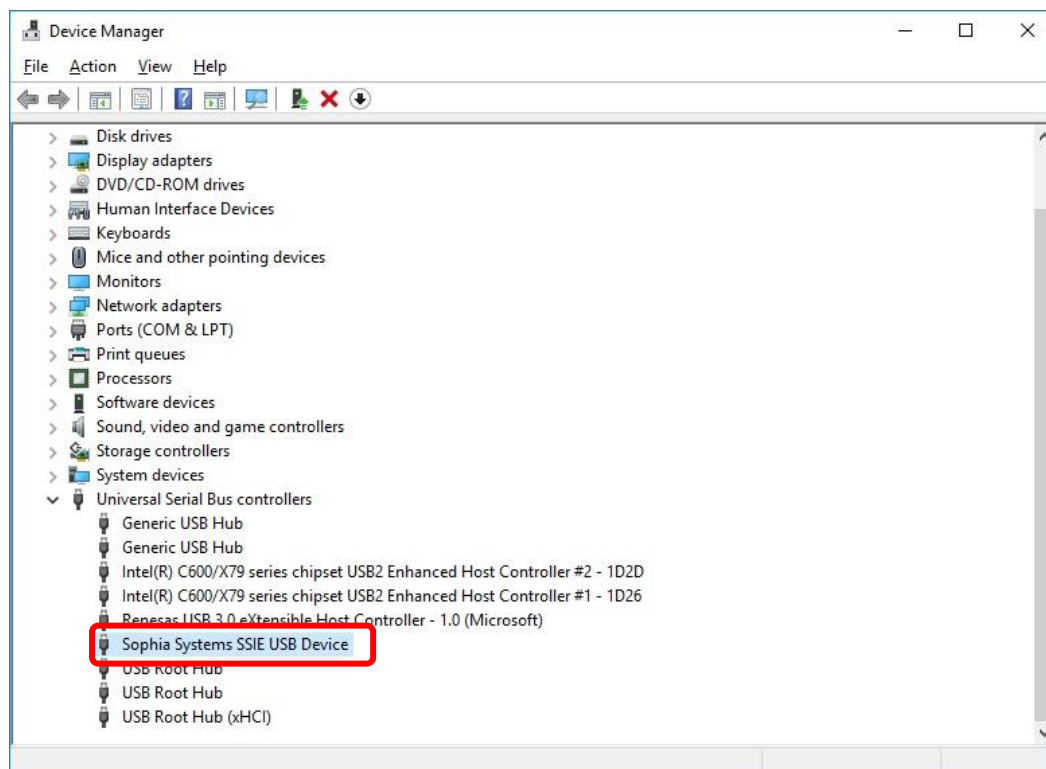
7. After install driver, The following diagram will be displayed.



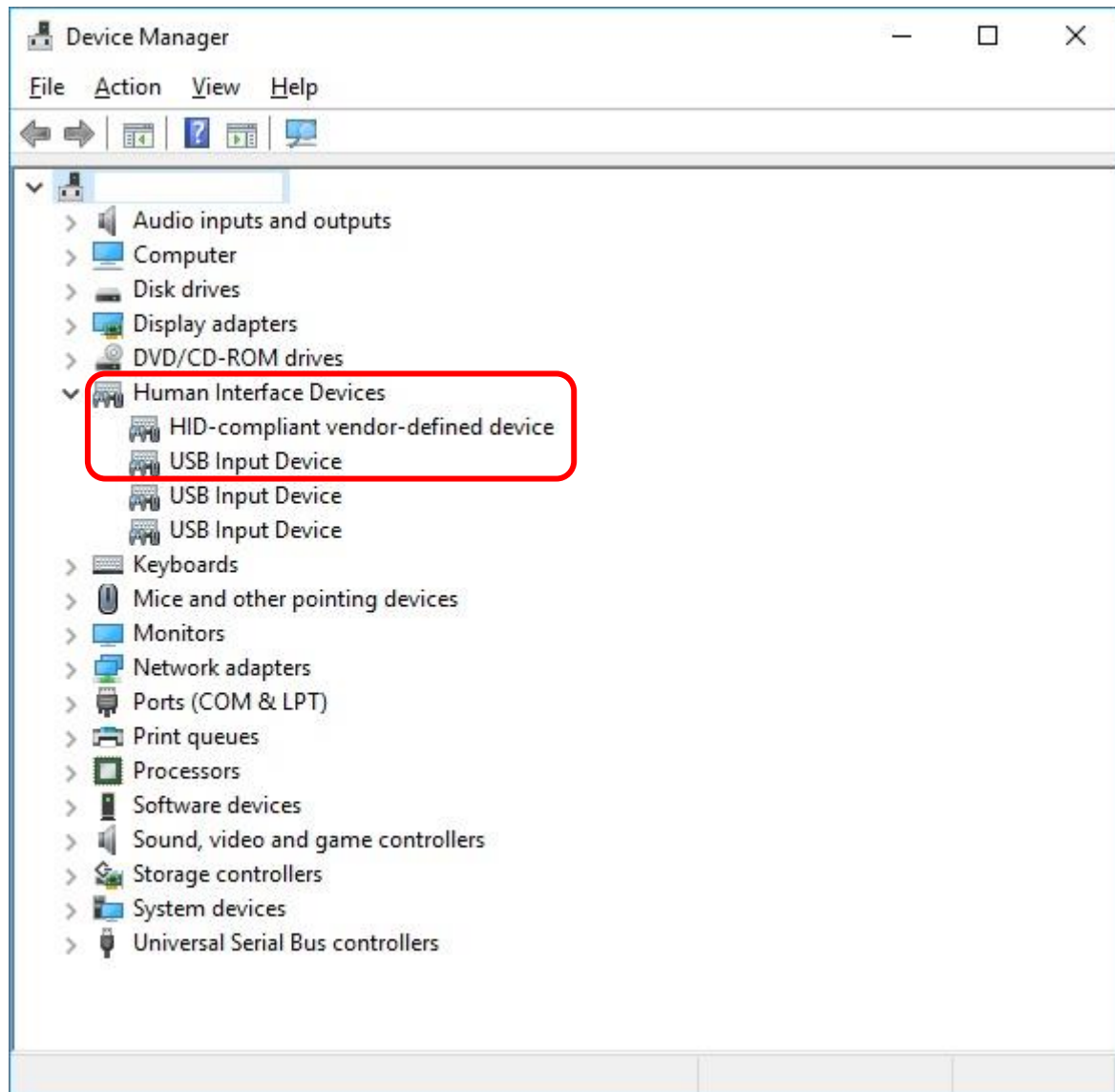
Click **Close**.

8. Open Device Manager Dialog.

Confirm message as "**Sophia Systems SSIE USB Driver**" is added or not.



If you installed Multifunction Analyzer Version 1.9 or later, When updating the firmware  
HID compliant vendor definition device is displayed in [Human Interface Devices].

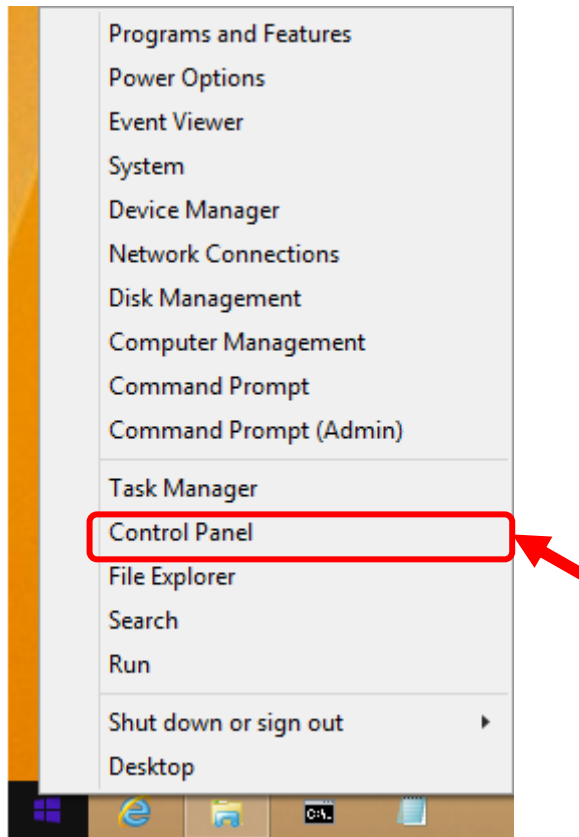


[END]

## 2.2 Install steps of Windows 8.1

1. Please connect the PC with the USB driver with the USB cable. (Connect the AC adapter and turn on the power to the main unit.)
2. Open Control Panel.

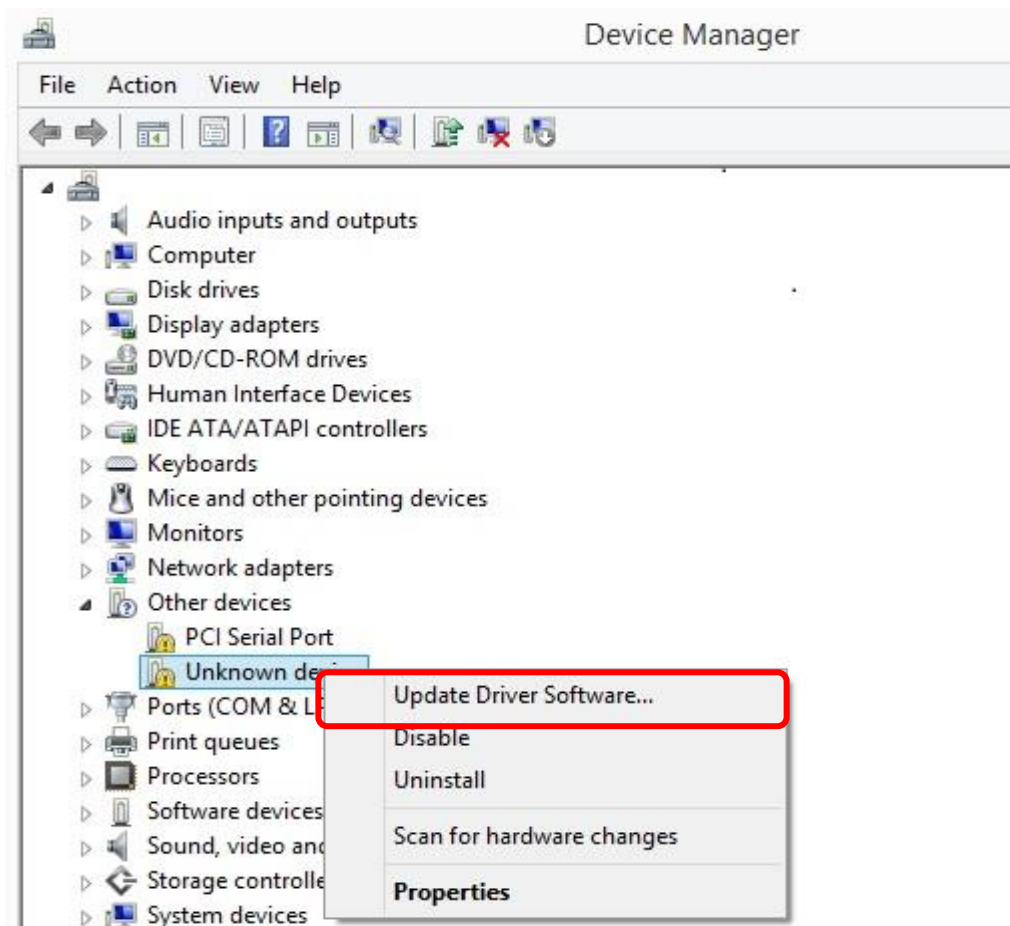
**Right-click [Start] → Left-click [Control Panel]**



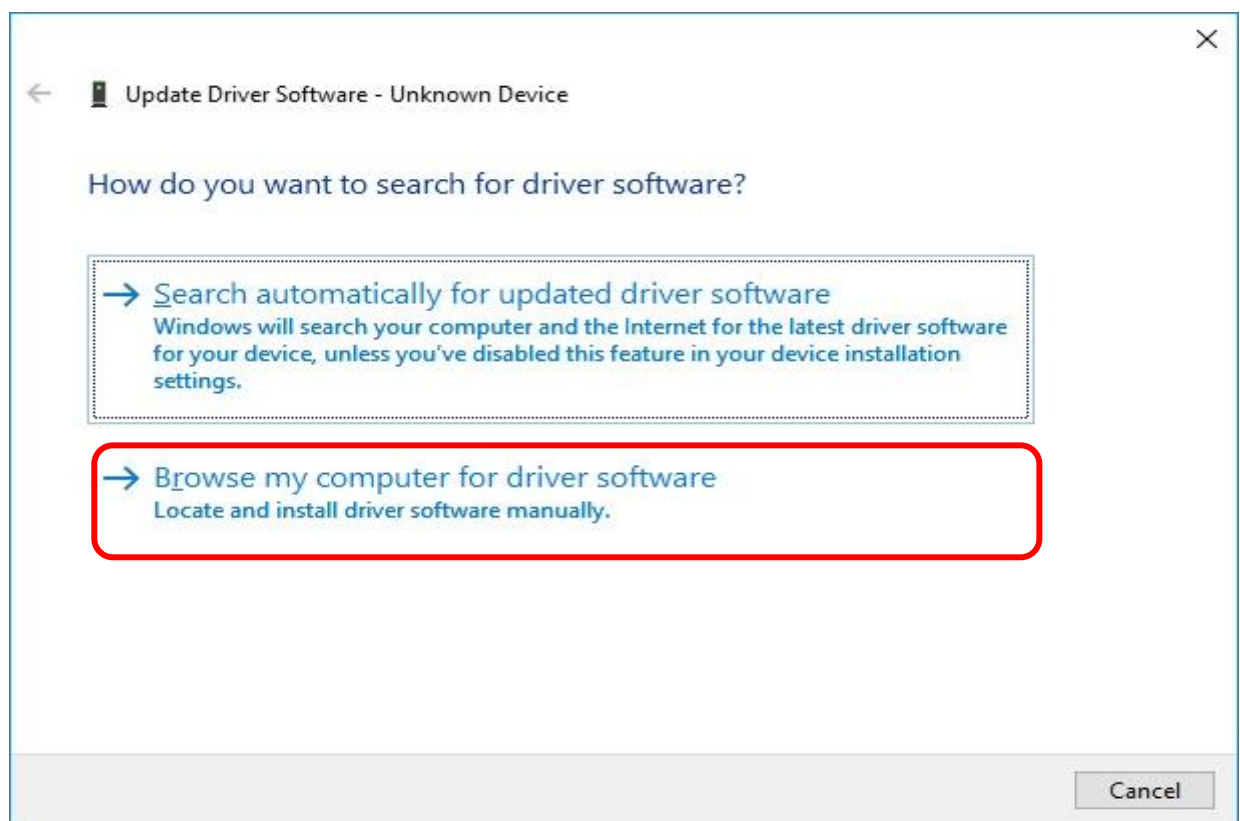
3. [Control Panel] will open.  
Click [Device Manager].



4. Open [Device manager].  
**Right click** [Unknown device] of [Other devices] select [Update Driver Software].



5. [Update Driver Software - Unknown Device] window will open.

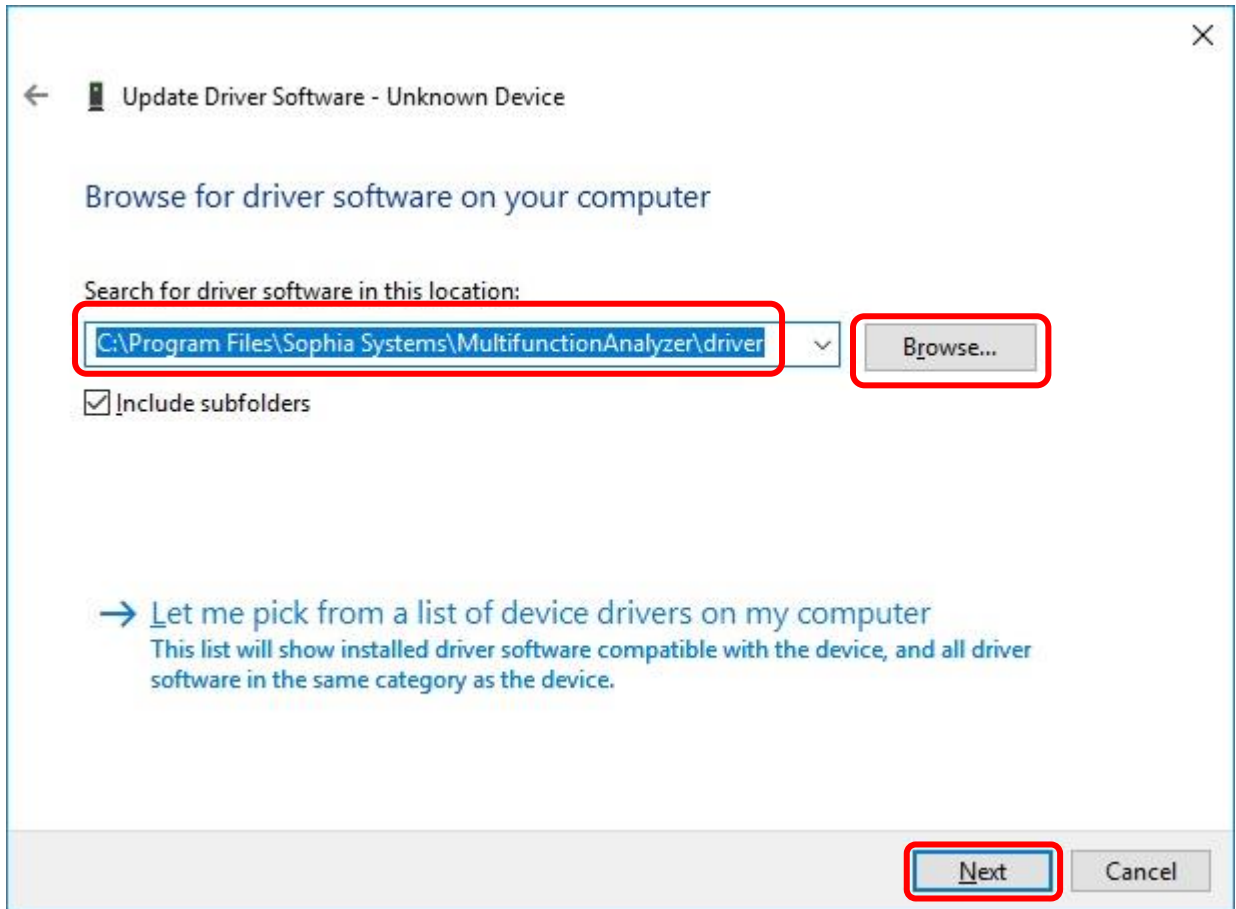


Click **Browse my computer for driver software**.

6. Assign folder name has the driver.  
USB driver is **SSIEUSB.INF**.

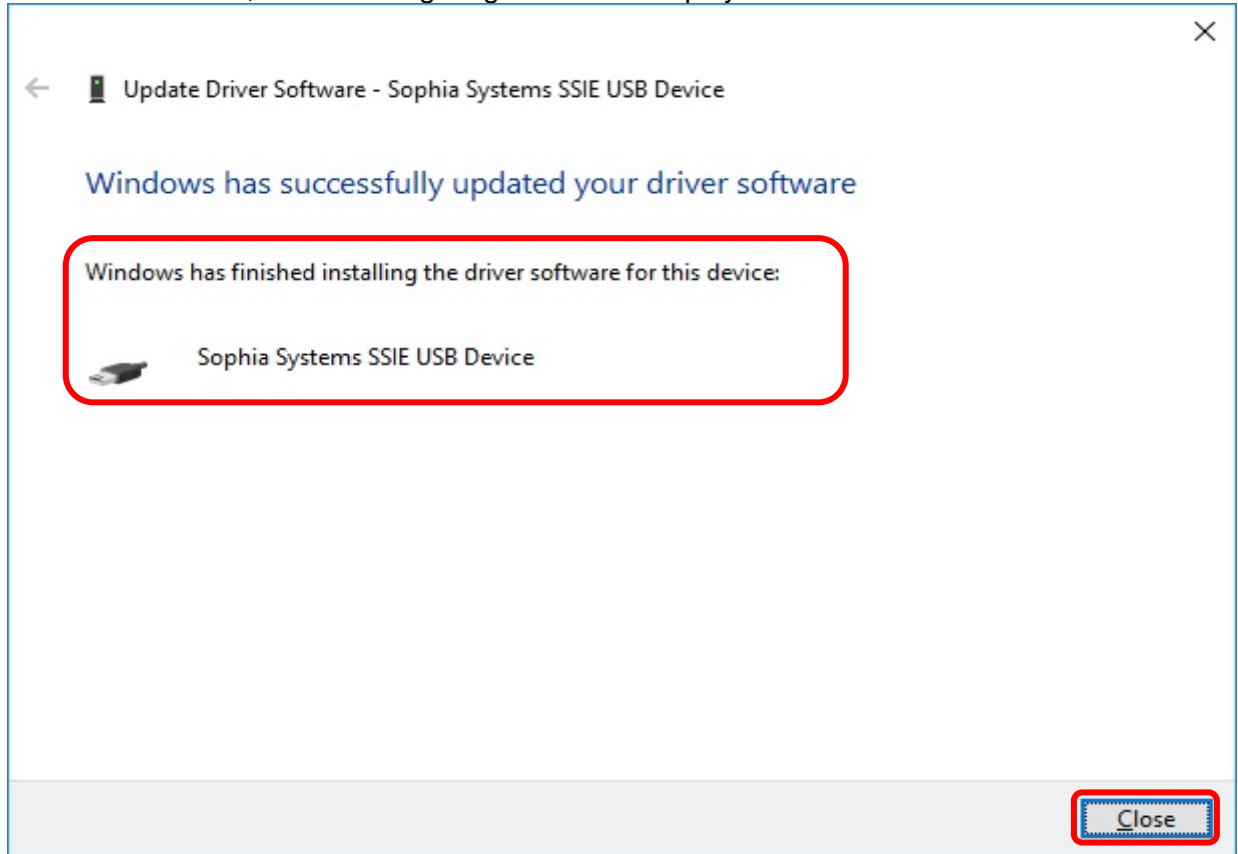
The USB driver software is located in \ MultifunctionAnalyzer \ driver which installed the Multifunction Analyzer.

Specify the folder by **Browse** button.



Click **Next** button the assign research point.

7. After install driver, The following diagram will be displayed.



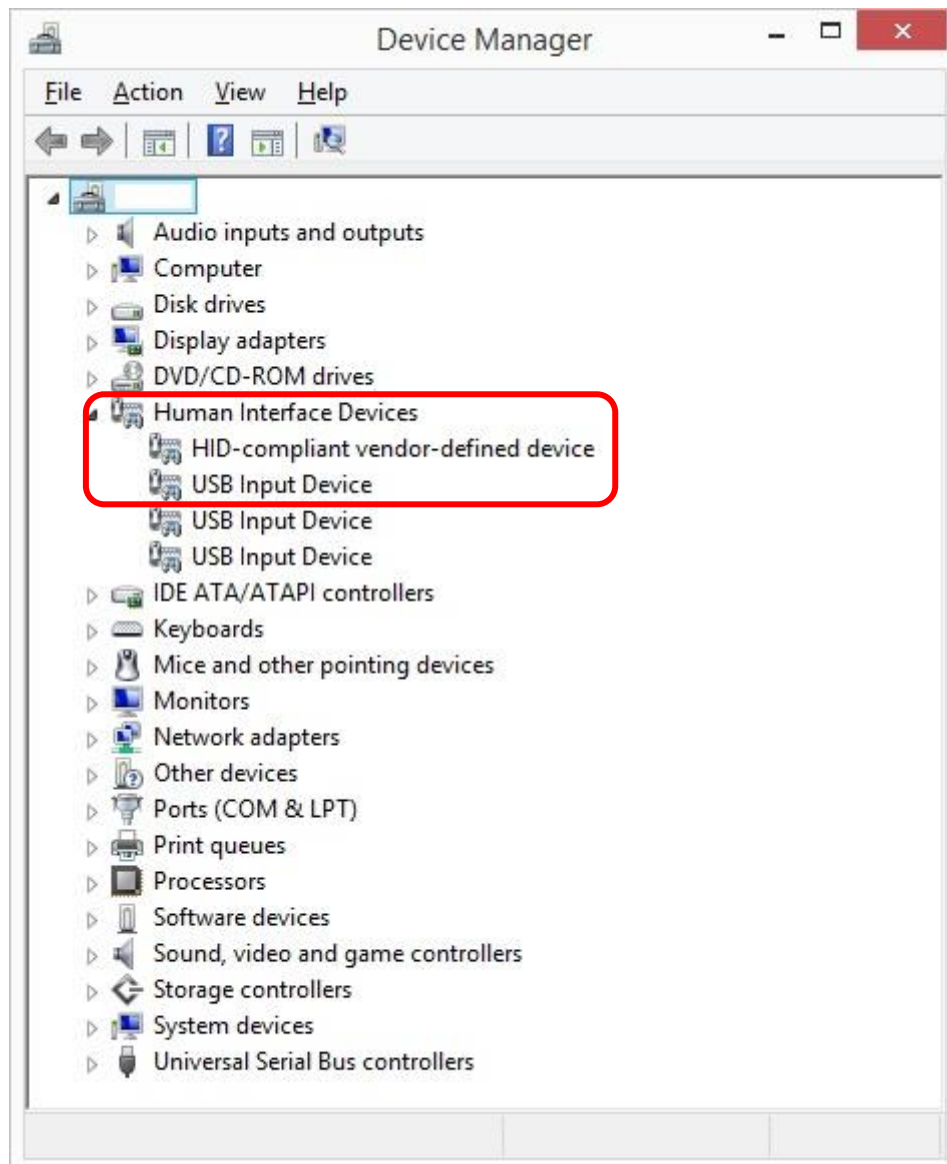
Click **Close**.

8. Open Device Manager Dialog.

Confirm message as "**Sophia Systems SSIE USB Driver**" is added or not.



If you installed Multifunction Analyzer Version 1.9 or later, When updating the firmware  
HID compliant vendor definition device is displayed in [Human Interface Devices].



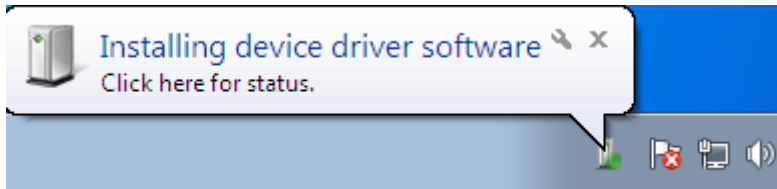
[END]



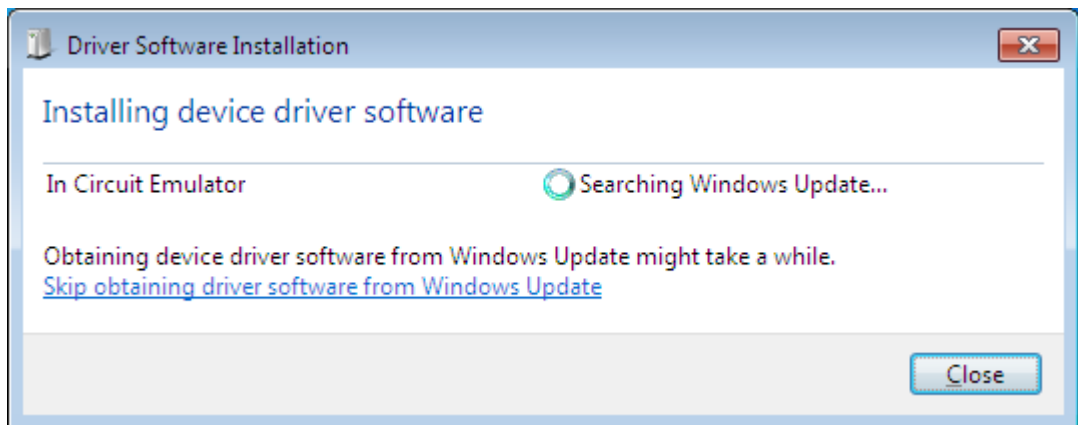
## 2.3 Install steps of Windows 7

1. Connect USB to PC and Multifunction Analyzer powered by AC adapter without driver, new driver will be found. However, it is **unable to successful installed** as below dialog.

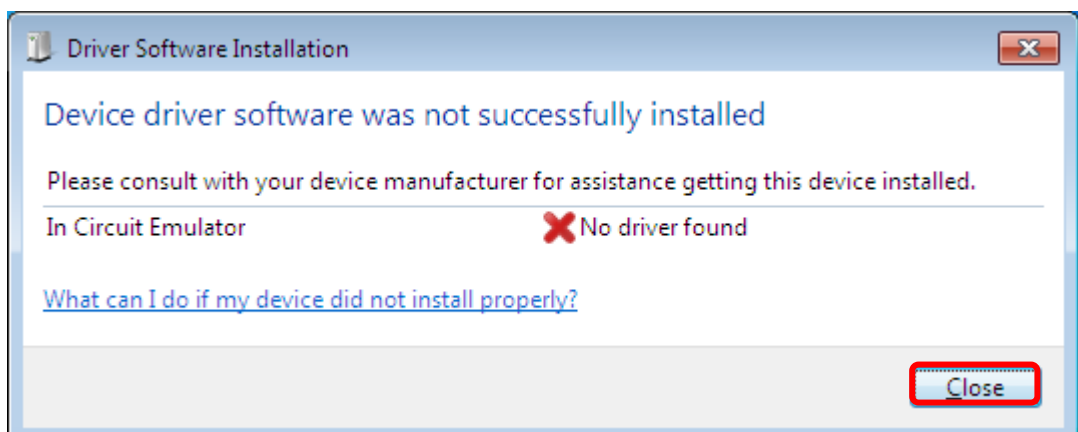
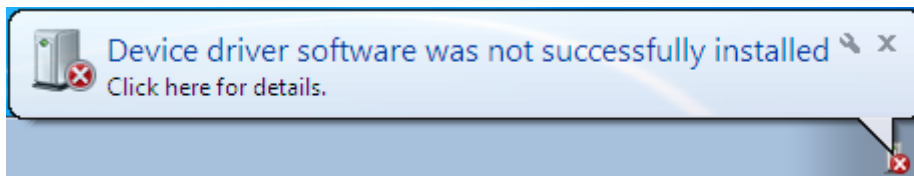
Start install device driver.



Click the above tub, the below dialog will be opened.



2. [Device driver software was not successfully installed] will be indicated.



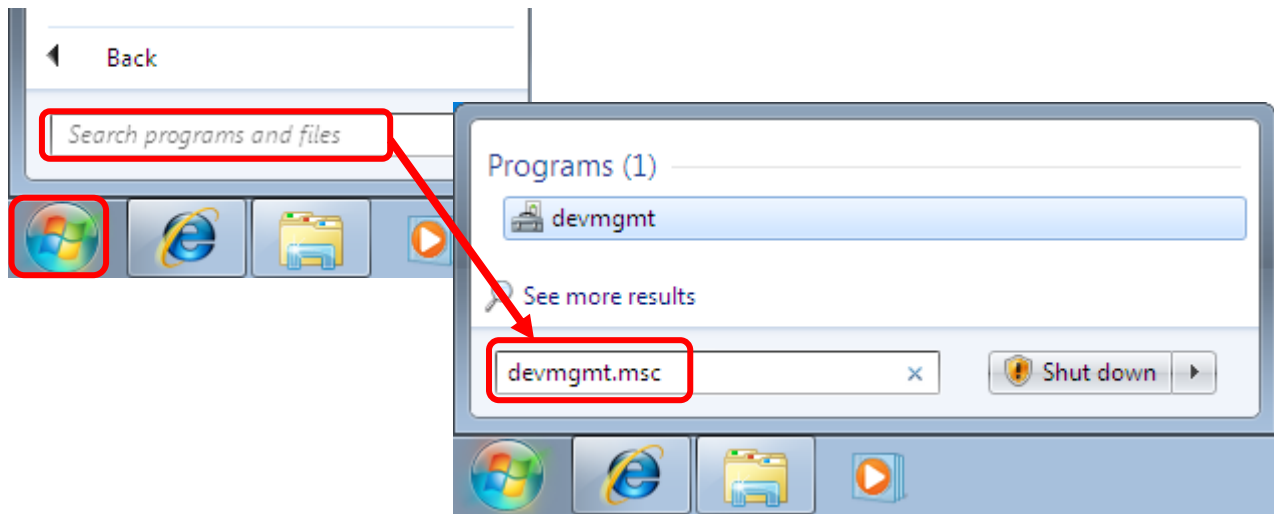
Click **Close**.



3. Start device manager.(devmgmt.msc)

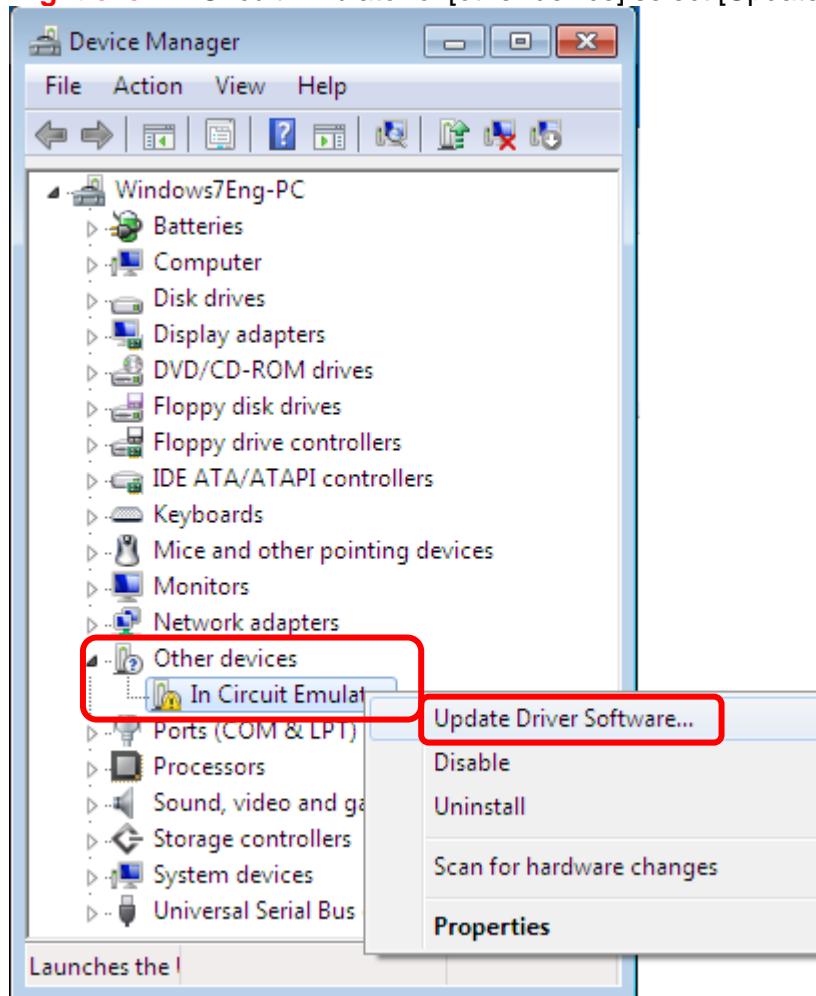
**Click [Start].**

**Input devmgmt.msc to [Search programs and files], <return>.**

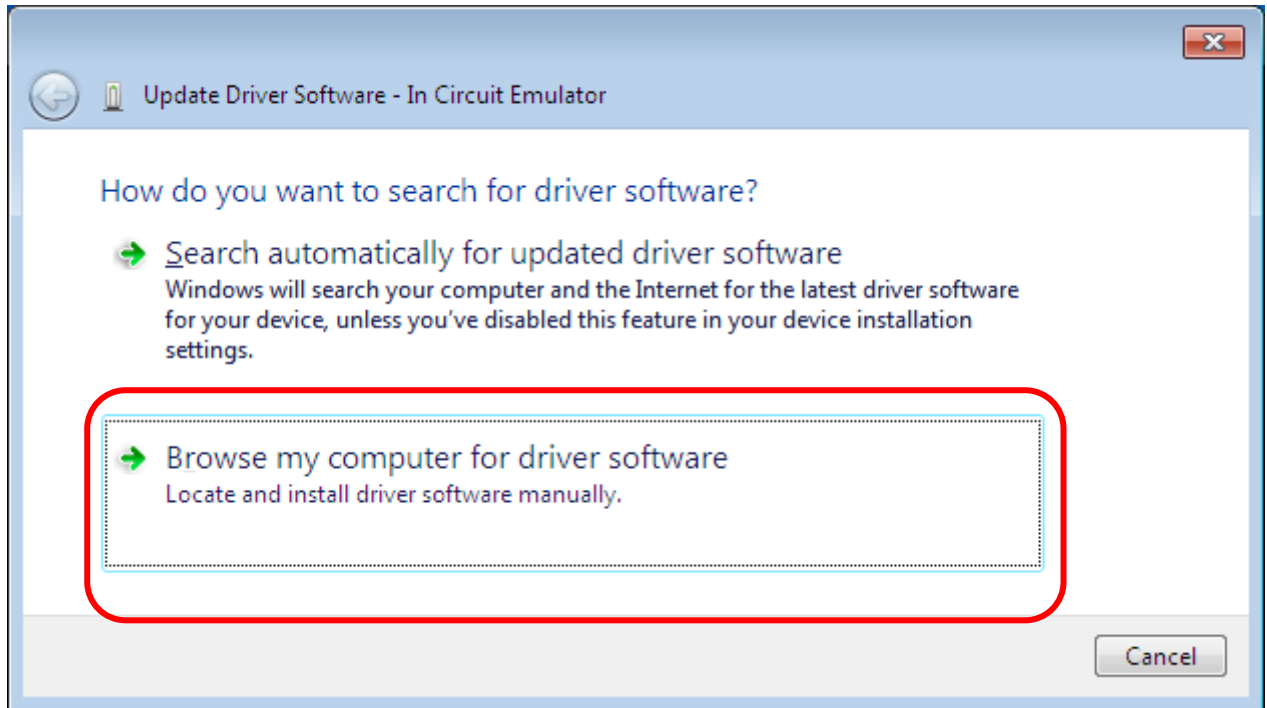


4. Open [Device manager].

**Right click** In Circuit Emulator of [other device] select [Update driver software].

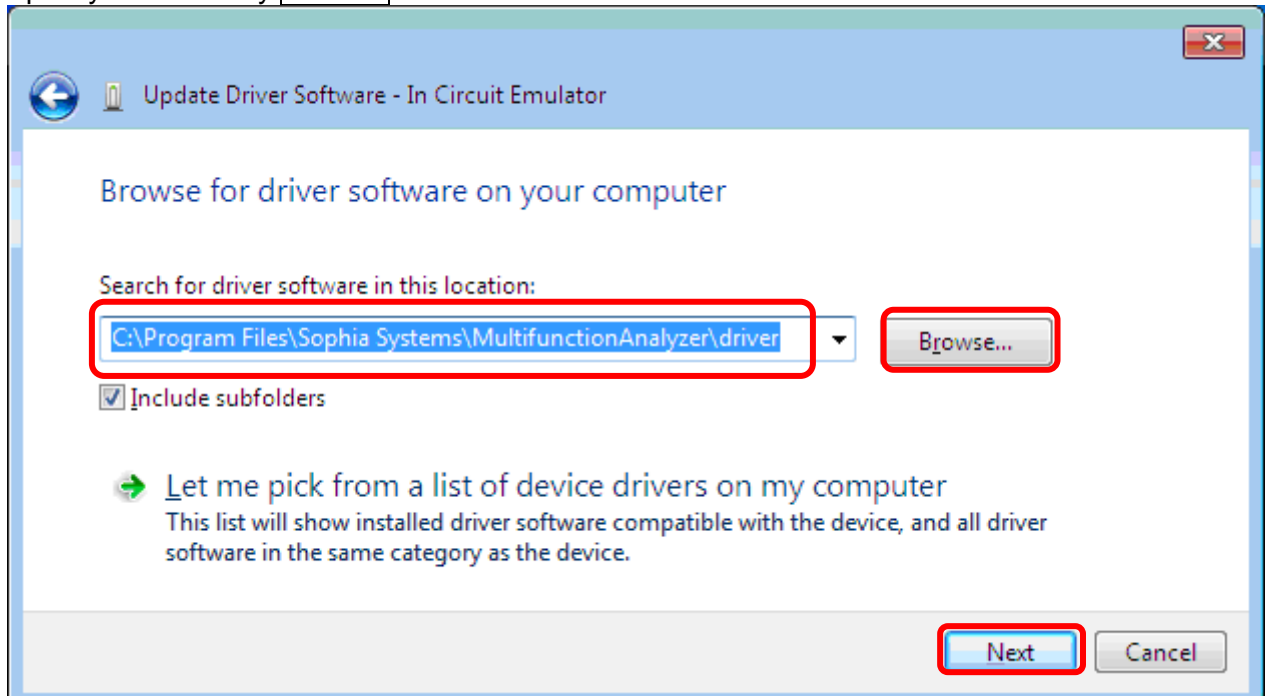


5.



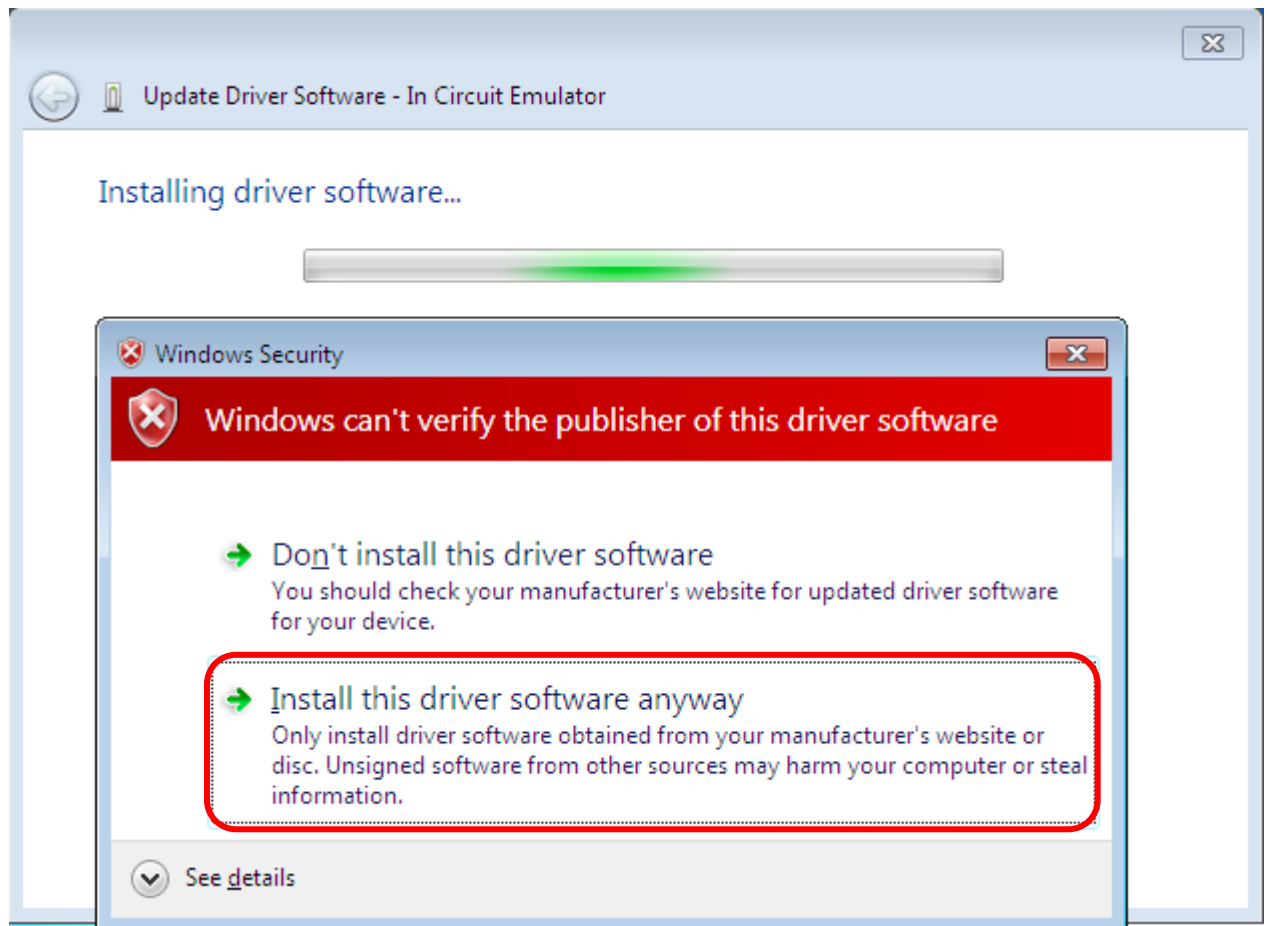
Click **Browse my computer for driver software**.

6. Assign folder name has drive.  
There is USB driver in the folder "driver" in which Multifunction Analyzer was installed.  
Specify the folder by **Browse** button.



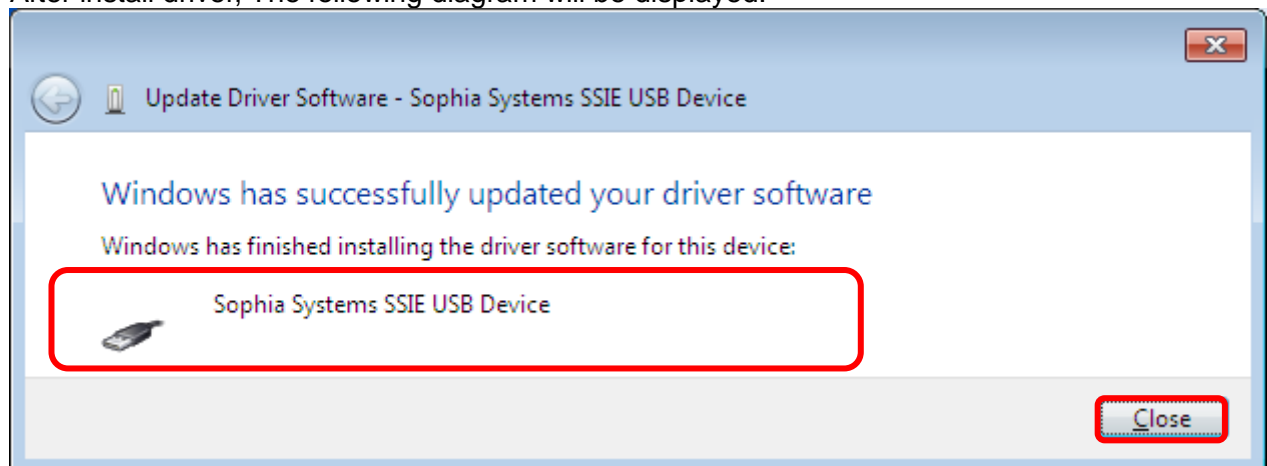
Click **Next** button assign research point as following.

7.



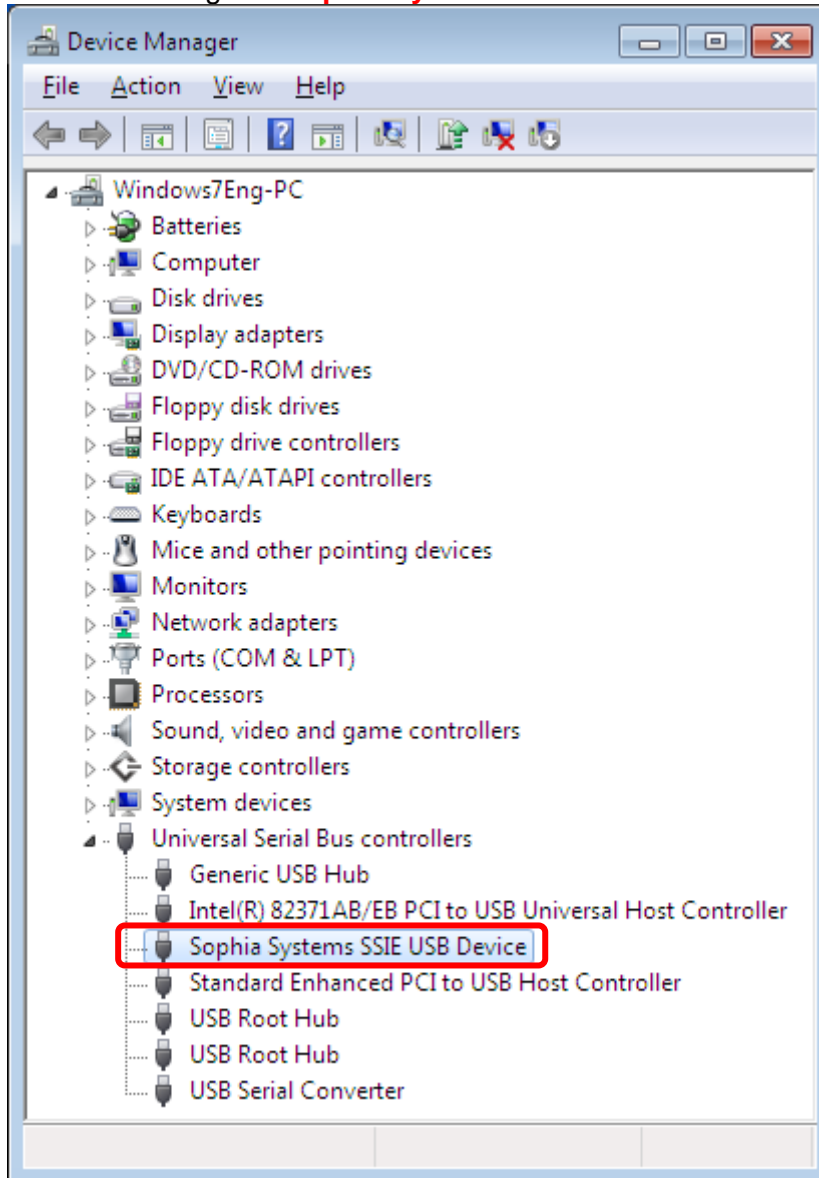
Click **Install this driver software anyway**.

8. After install driver, The following diagram will be displayed.



Click **Close**.

9. Confirm USB driver.  
Open Device Manager window.  
Confirm message as **Sophia System SSIE USB Device** is added or not.



If you installed Multifunction Analyzer Version 1.8 or later, When updating the firmware  
HID compliant vendor definition device is displayed in [Human Interface Devices].

[END]

## 3 Setup LAN (IP Setting Tool)

If you use the Multifunction Analyzer with LAN, you need to set IP address and net mask to the Multifunction Analyzer.

### 3.1 Preparation

1. Turn on the Multifunction Analyzer, after you connect it to PC with USB.

If you connect the Multifunction Analyzer to PC with USB for first time, you need to install USB driver for the Multifunction Analyzer.

Please refer "[2 Install USB driver](#)" in this document.

2. If you set the Multifunction Analyzer IP address manually, please decide the value below.
  - IP address
  - sub net mask

**Please ask your network administrator for details.**

You will set IP address and sub net mask to Multifunction Analyzer via USB.

## 3.2 Start IP Setting Tool and Steps

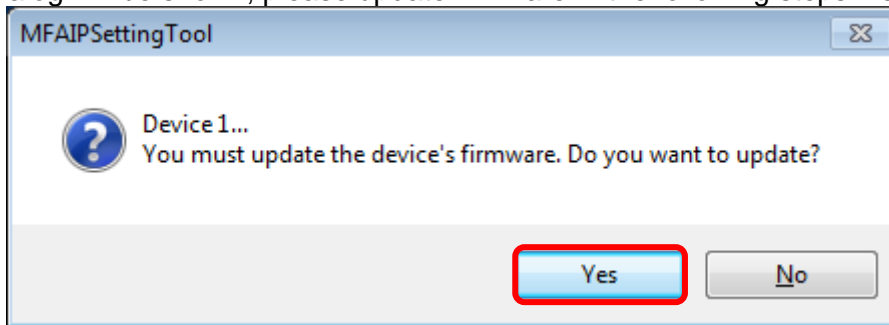
Start IP Setting Tools.

[All Programs] >> [MultifunctionAnalyzer] >> [MFAIPSettingTool]

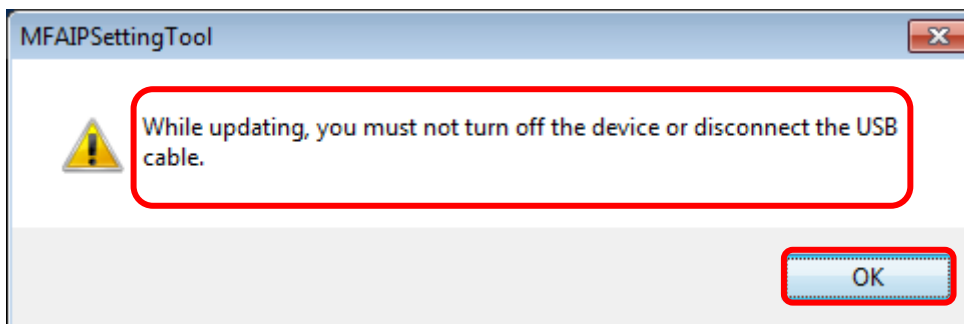
or

[Start] >> [Programs] >> [MultifunctionAnalyzer] >> [MFAIPSettingTool]

When you start IP Setting Tool, the dialog as following might be shown.  
If the dialog will be shown, please update firmware in the following steps first.

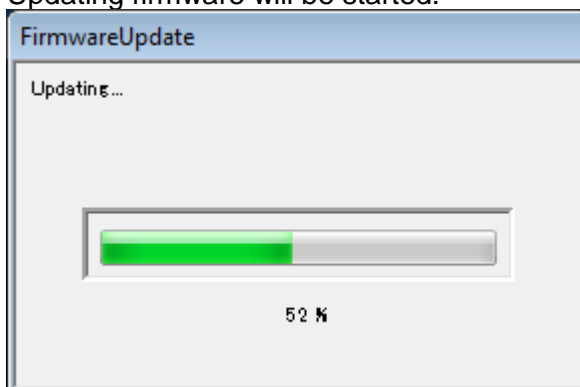


Please select **Yes**.



Follow the dialog instructions to click **OK**.

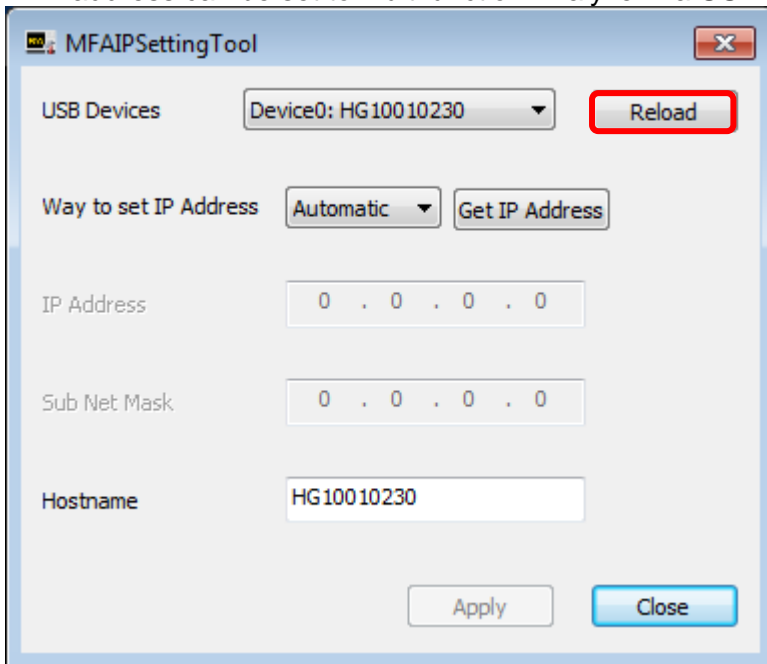
Updating firmware will be started.



When updating firmware is finished, IP Setting Tool will be started automatically.

The “MFAIPSettingTool” dialog as following will be opened.

IP address can be set to Multifunction Analyzer via USB.



If “USB Devices” is empty, select **Reload**.

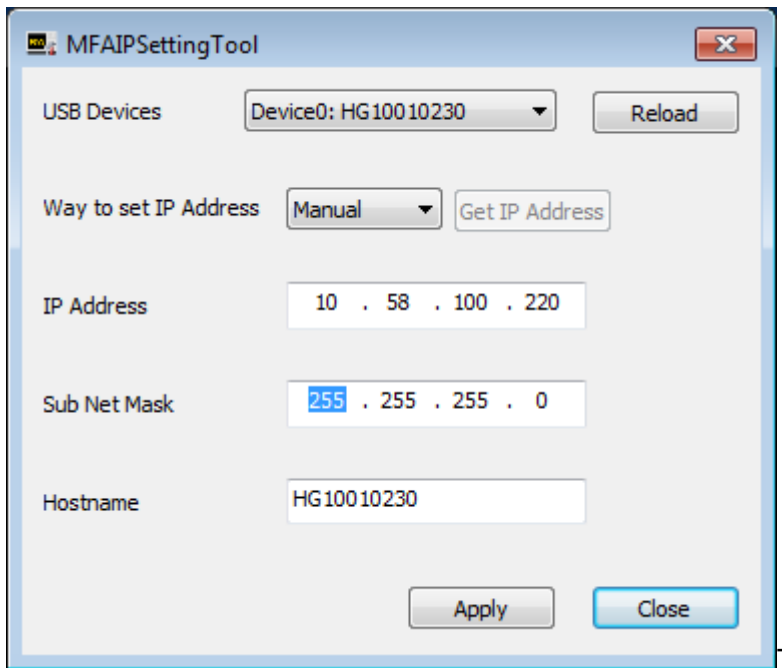
### 3. 2. 1 Specify “Way to set IP Address”

Specify how to set IP address.

<b>Manual</b>	Set IP address and sub net mask you want to use.
<b>Automatic</b>	Get IP address and subnet mask from DHCP server automatically.

3.2.2 In the case of specifying “Manual” in “Way to set IP Address”

Please enter IP address and sub net mask you decided.



The screenshot shows a window titled "MFAIPSettingTool" with a standard Windows-style title bar (minimize, maximize, close buttons). The window contains several input fields and buttons:

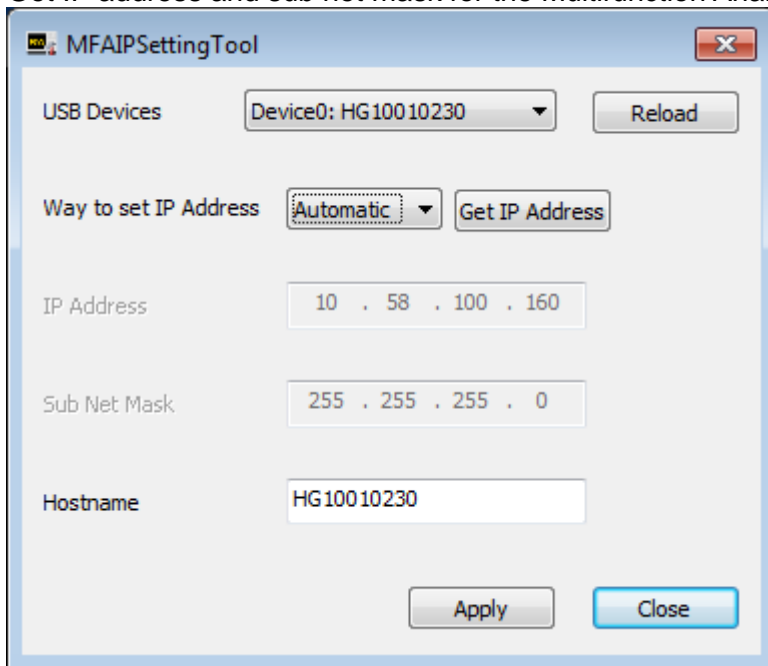
- USB Devices:** A dropdown menu showing "Device0: HG10010230" and a "Reload" button to its right.
- Way to set IP Address:** A dropdown menu showing "Manual" and a "Get IP Address" button to its right.
- IP Address:** A text input field containing "10 . 58 . 100 . 220".
- Sub Net Mask:** A text input field containing "255 . 255 . 255 . 0".
- Hostname:** A text input field containing "HG10010230".
- Buttons:** "Apply" and "Close" buttons are located at the bottom right of the window.

When you enter IP address, sub net mask and host name,  
jump to [“3.2.4 Write IP address settings to the Multifunction Analyzer”](#).



### 3. 2. 3 In the case of specifying “Automatic” in “Way to set IP Address”

Get IP address and sub net mask for the Multifunction Analyzer from DHCP server.



When you click “Get IP Address”, the IP address and sub net mask is displayed.

You cannot enter IP address and sub net mask.

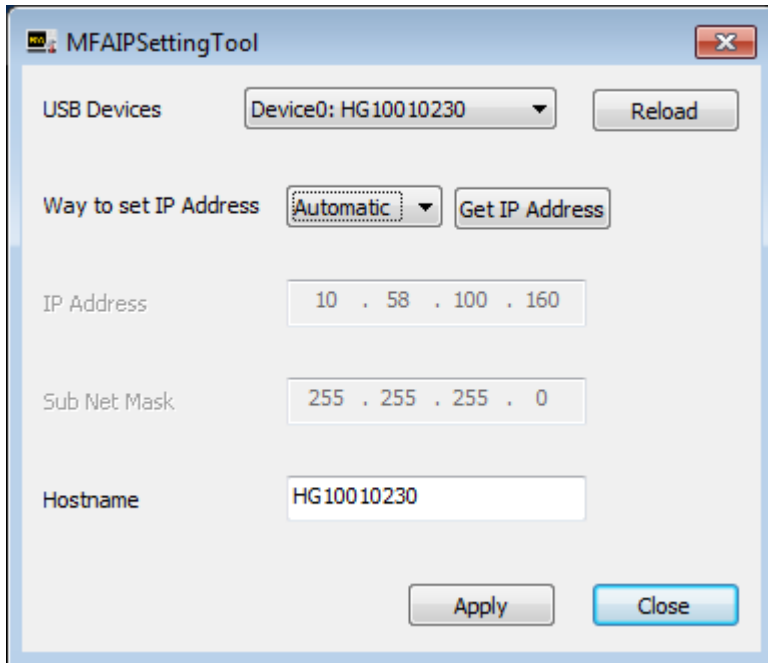
You specify the host name for the Multifunction Analyzer in network.  
The host name is up to 15 characters, and you can use 1 byte alphabet, numbers, ‘-’ (hyphen) and ‘\_’ (underscore).  
The default host name is a serial number.

**If you used 2 bytes characters or 1 byte kana character for the hostname, then behavior is not ensured.**

If you don't change the settings, you cannot click **Apply**. Please click **Close**.

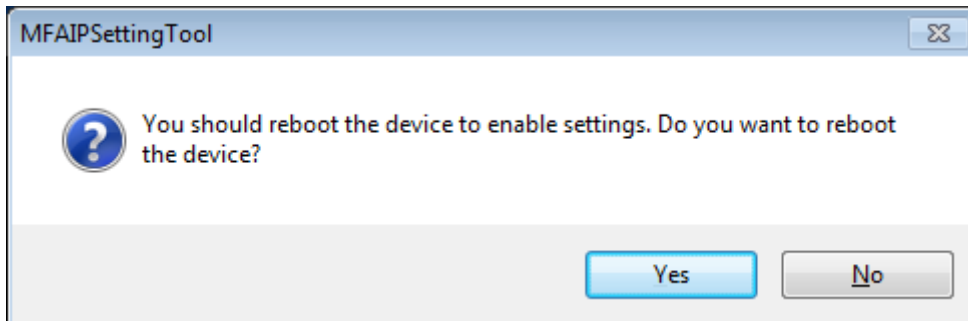
### 3. 2. 4 Write IP address to the Multifunction Analyzer

If you will write IP address, click **Apply**.



When you click this button, the settings will be written to the Multifunction Analyzer. But, the settings will be enabled actually after reboot.

If you want enable new settings soon, select **Yes** in a message box shown as soon as you select **Apply**.



When the Multifunction Analyzer will be rebooted, please select **Close** in “MFAIPSettingTool” dialog to finish “MFAIPSettingTool” dialog.

*If you want to know how to connect the Multifunction Analyzer with LAN, please refer “Basic Operation” – “Connecting to Devices” in online help.*

## 4 Firmware Update

Firmware update of the main unit is performed when the firmware version written on the main unit is older than the firmware version of the installed Multifunction Analyzer.

The procedure for updating the firmware is explained below.

### 4.1 Preparation

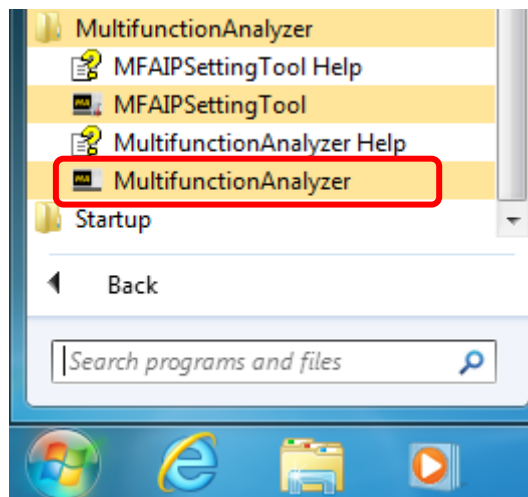
1. Please connect the PC with the USB driver with the USB cable. (Connect the AC adapter and turn on the power to the main unit.)

When connecting to PC for the first time with USB, it is necessary to set USB driver.

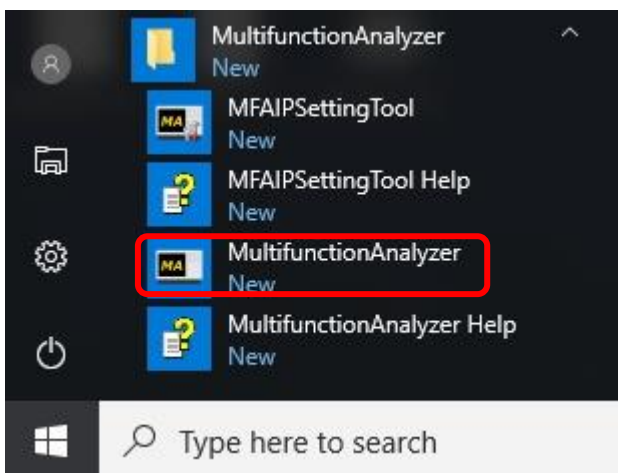
### 4.2 Updating the firmware of the Multifunction Analyzer

1. Start the Multifunction Analyzer.

Windows7:



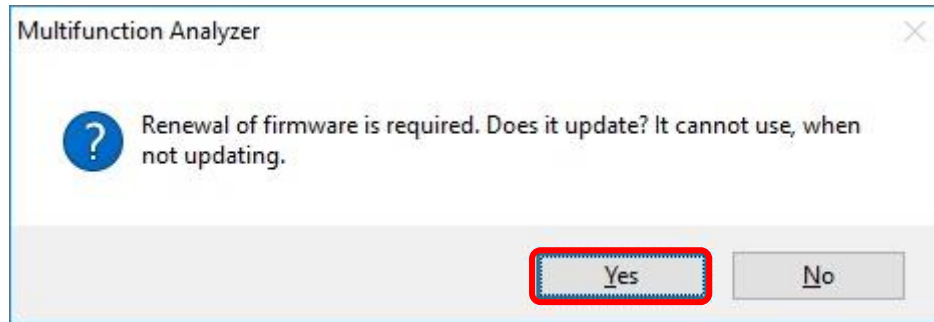
Windows10:



2. Update the firmware.

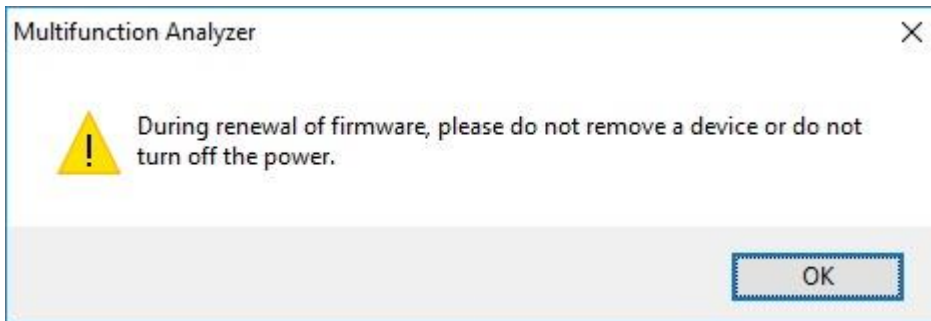
If the firmware version written on the main unit is older than the firmware version of the Multifunction Analyzer installed, the firmware update dialog will be displayed.

If it is not displayed, it is not necessary to update the firmware.



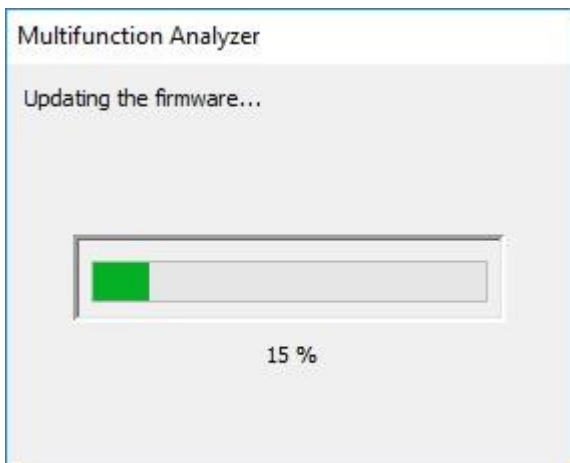
Please select **Yes**.

3. The notes on updating the firmware are displayed.



Please click **OK**.

4. The firmware update in progress dialog will be displayed.



The firmware update will be completed when it reaches 100%.

This completes updating the firmware of the Multifunction Analyzer.

## 5 Uninstall Multifunction Analyzer

Here is 2 way of uninstall Multifunction Analyzer.

1. Re-install Multifunction Analyzer
2. [Uninstall or change program] in Windows

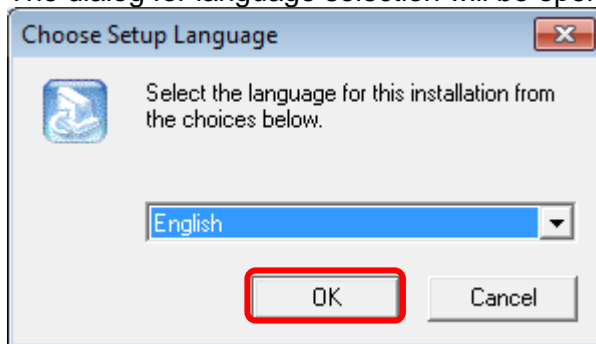
### 5.1 Uninstall by re-install

If the Multifunction Analyzer already in PC,

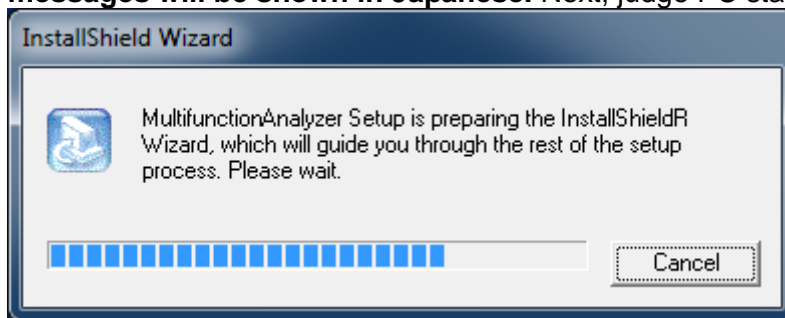
Installer (MultifunctionAnalyzer.exe) of Multifunction Analyzer will execute uninstall.

Please follow the following procedure.

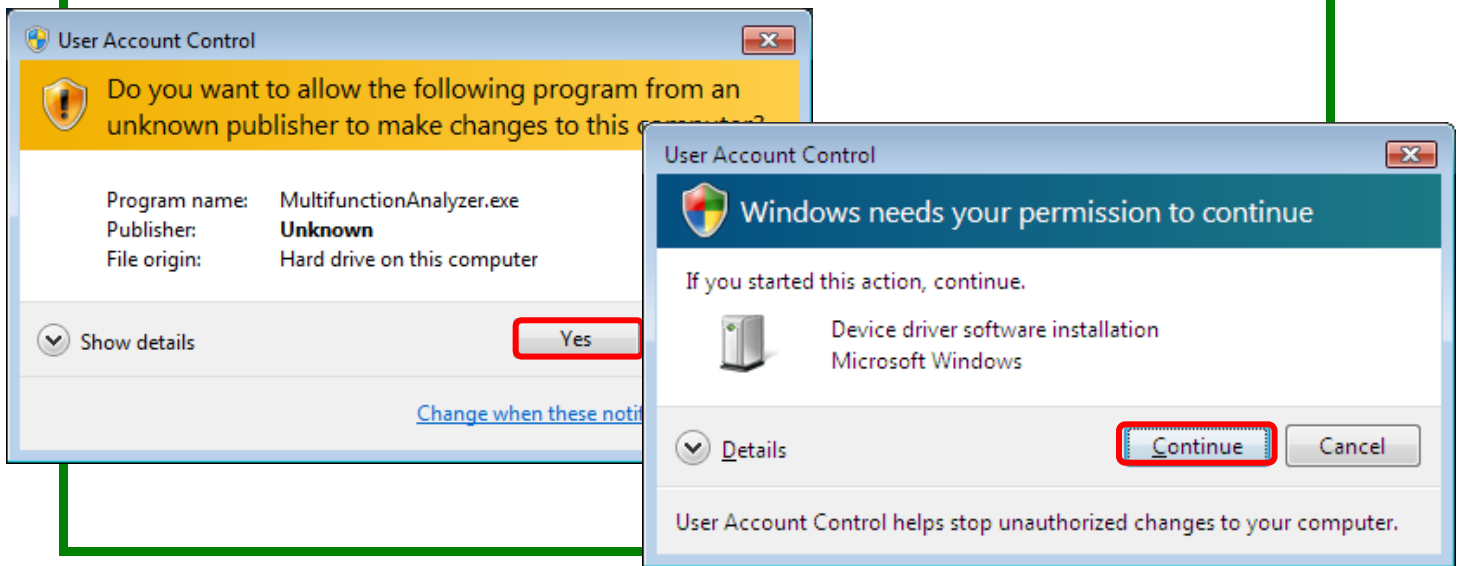
1. The dialog for language selection will be open.



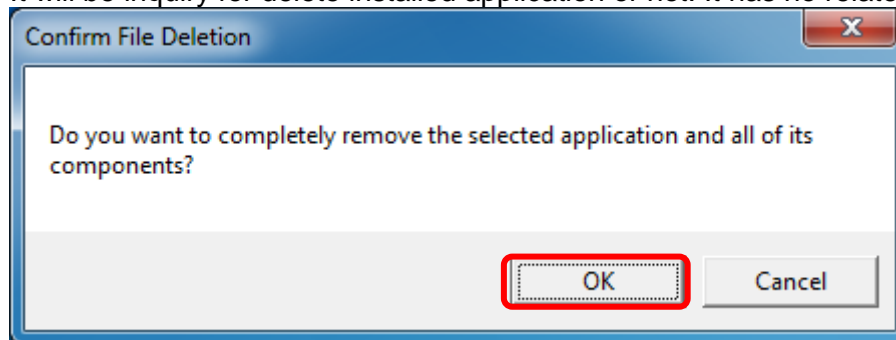
Please select a language, then click **OK**. If you select “Japanese”, the following messages will be shown in Japanese. Next, judge PC status.



Open [Control user account] and [Security warning] dialog based on system security: click [Yes], [Continue] or [Allow] for continuing installing

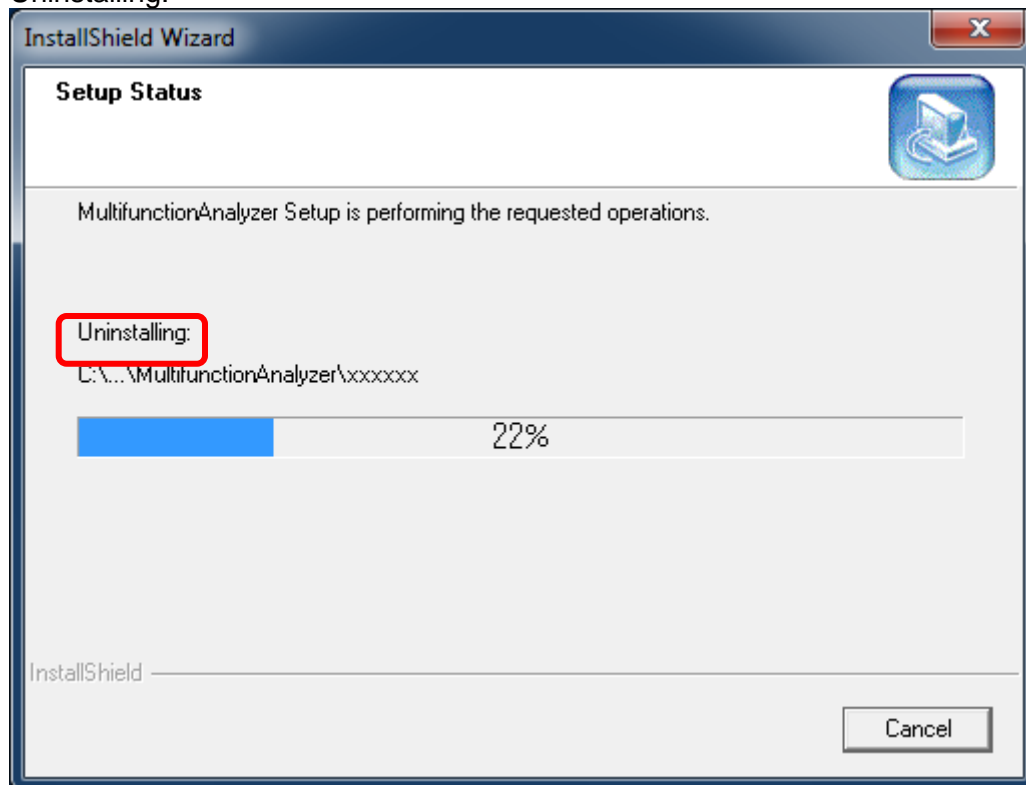


2. It will be inquiry for delete installed application or not. It has no relate of version.

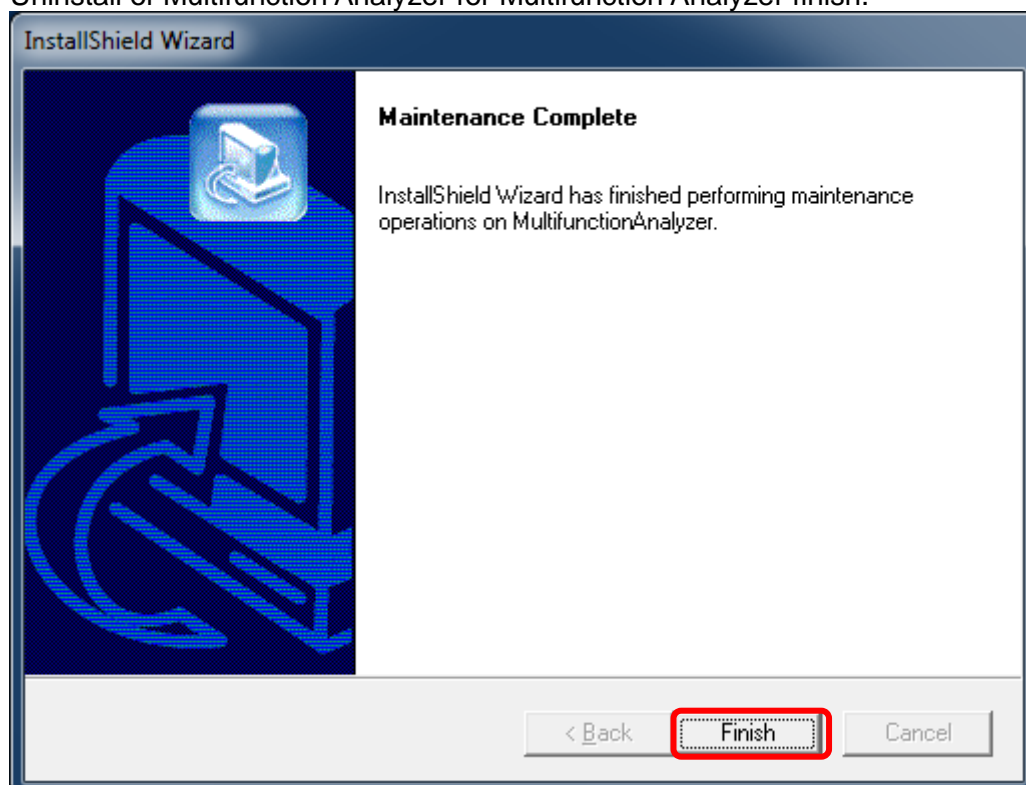


Click **OK**.

3. Uninstalling.



4. Uninstall of Multifunction Analyzer for Multifunction Analyzer finish.

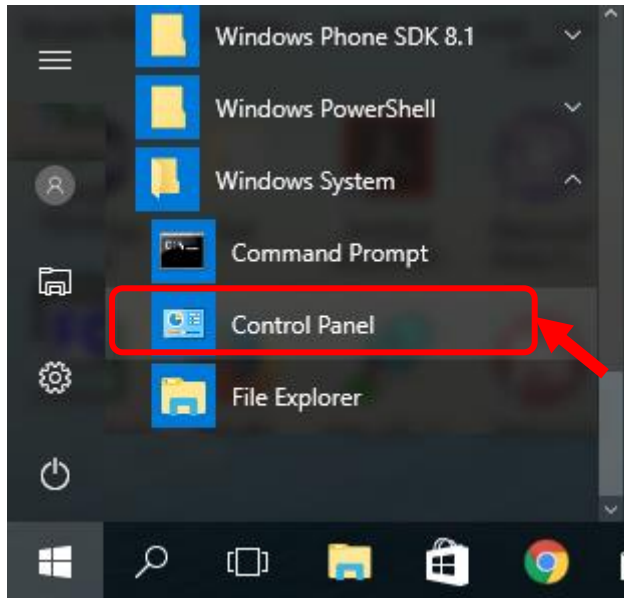


## 5.2 Uninstall by [Uninstall or change program] in Windows

1. Open Control Panel

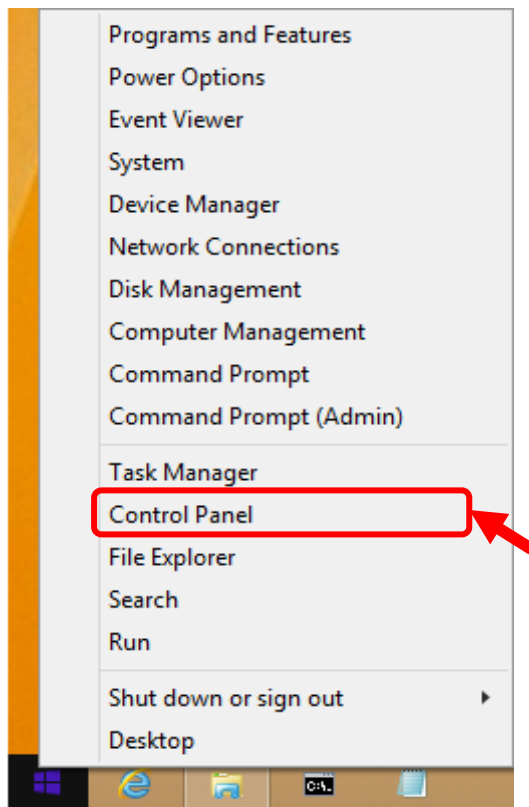
Windows 10:

**Click [Start] >> [Windows System] >> Click [Control Panel]**



Windows 8.1:

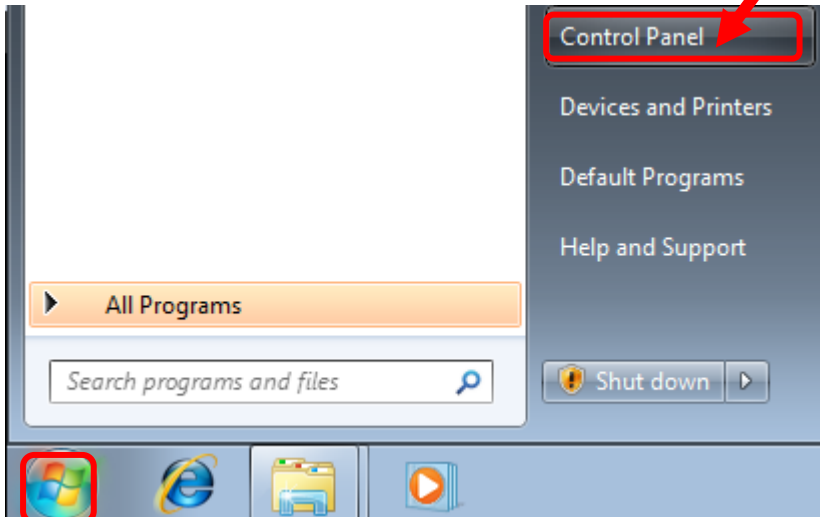
**Right-click [Start] >> Left-click [Control Panel]**





Windows 7:

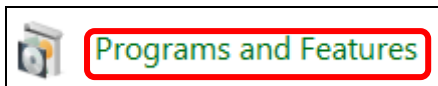
[Start] >> [Control Panel]



2. [Control Panel] will open.

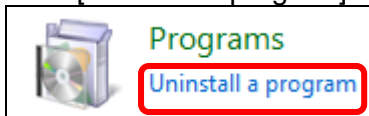
Windows 10 / 8.1:

Click [Programs and Features] icon.

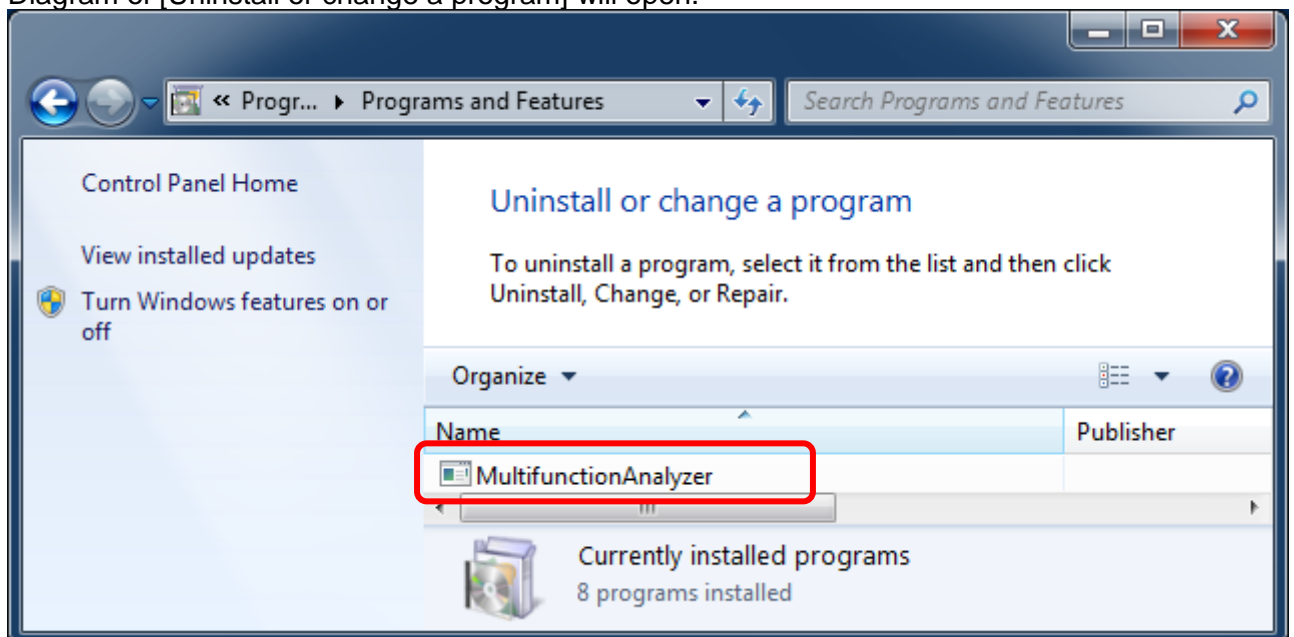


Windows 7:

Click [Uninstall a program] icon.

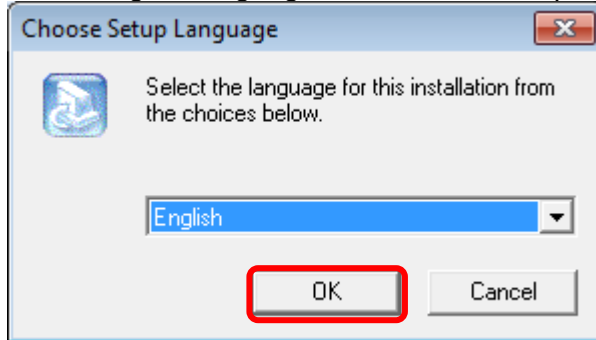


3. Diagram of [Uninstall or change a program] will open.

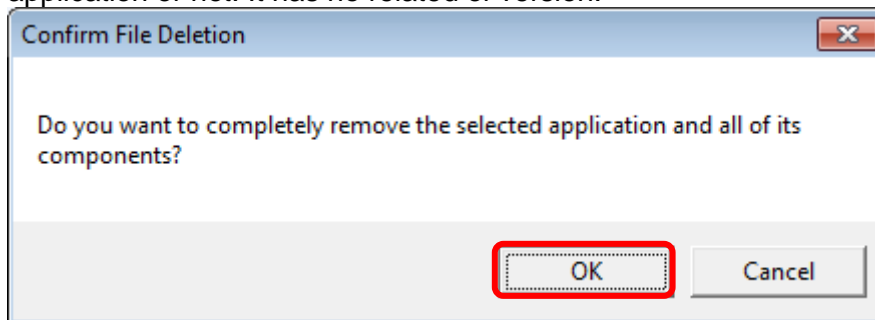


Double click [**Multifunction Analyzer**].  
Follow the procedure to display on screen.

4. The dialog for language selection will be open.

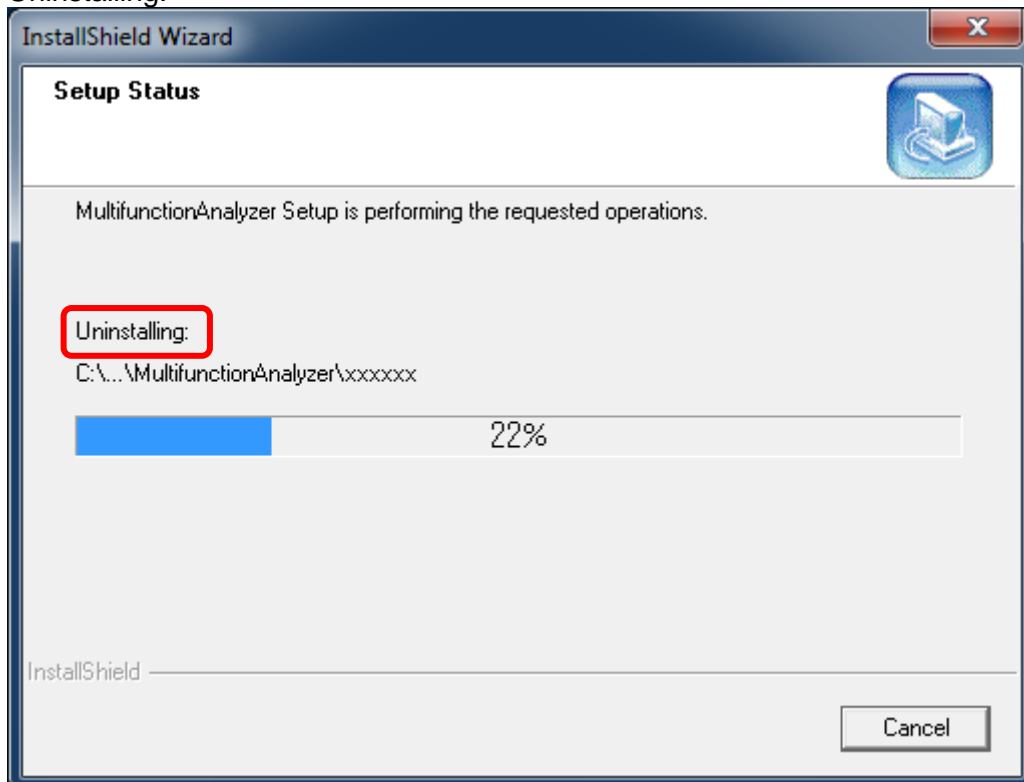


Please select a language, then click **OK**. If you select “Japanese”, the following messages will be shown in Japanese. Next, It will be an inquiry for deleting installed application or not. It has no related of version.

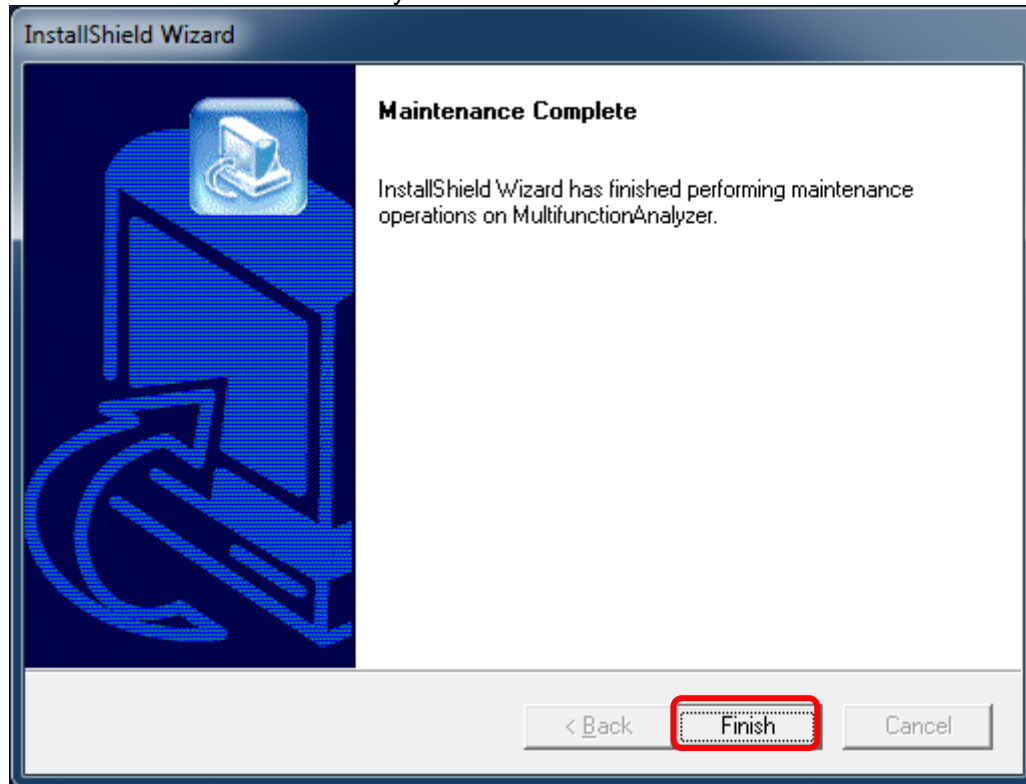


Click **OK**.

5. Uninstalling.

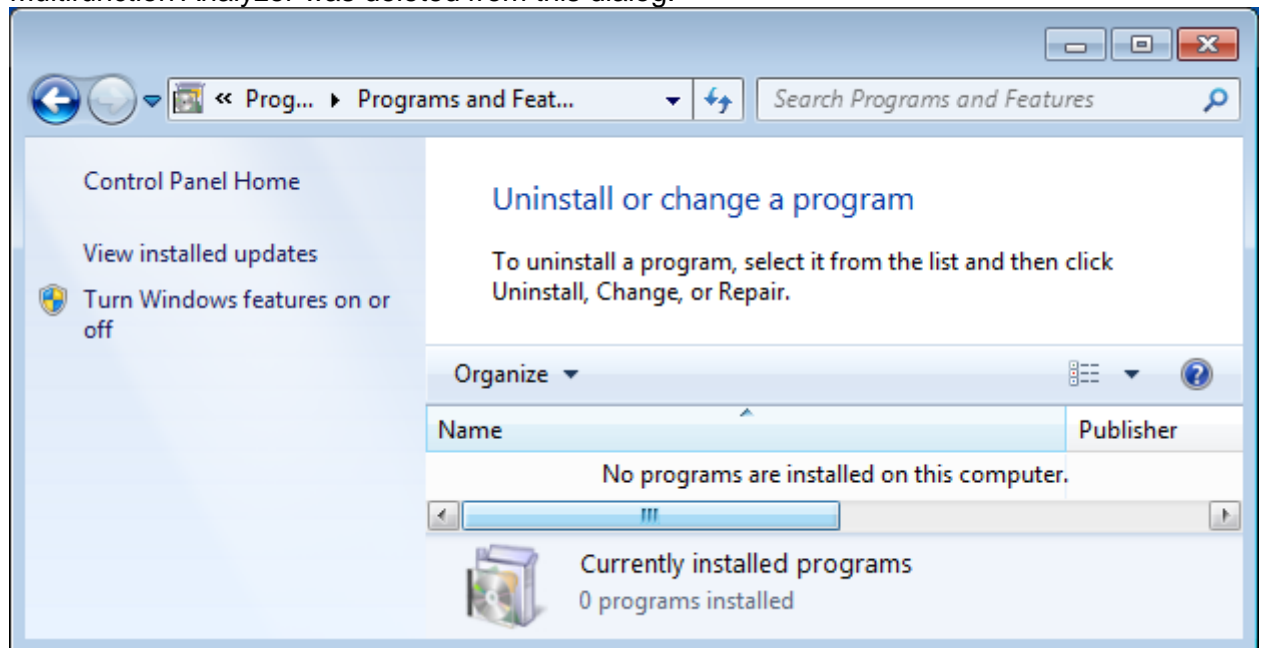


## 6. Uninstall of Multifunction Analyzer finish.



Click **Finish**.

## 7. Multifunction Analyzer was deleted from this dialog.



If it cannot uninstall successful, other application becomes unstable where it influence.

[END]

## History

Revision	Section	Chapter	Contents
E090946-03	Initial version		
E090946-04	Install Uninstall	1.3 4.1, 4.2	UI language selection is added.
E090946-05	Install	1.3	URL is changed.
E090946-06	Install	1.3	URL is changed.
E090946-07	Operation environment	1.1	Notes is added.
E090946-08	Operation environment Install USB driver Install procedure of Windows XP Windows XP	1.1 2 2.4 4.2.2	Windows XP is removed. Description of Device manager for Multifunction Analyzer Ver. 1.8 or newer id added Windows XP is removed. Windows XP is removed.
E090946-09	Operation environment	1.1	Version to guarantee operation by the OS is added.
	Install USB Driver	2.1	Windows 8 remove. Windows 10 added.
		2.2	Move Windows 7 to 2.3. Windows 8.1 Addition.
		2.3	Delete Windows Vista.
	Firmware Update	4	Add firmware update.
	Uninstall by “Uninstall or change program” in Windows	5.2	Added a method to open the control panel of each OS.

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