

AG series Ultrawave Software Help

Welcome to use ultrawave software. Users can create, edit, upload, download waveform and remote control through this software.

The user manual of the waveform generator and the following help content are for your reference.

I. Device Connection

USB with better rate and reliability is a kind of data transmission mode to widely use in connecting with PC. (PS: USB interface of HandHold type device series is mini USB. Please refer the device instruction)

The serial port is another kind of transmission mode in some outdated PC as a supplementary in failure of USB transmission.

The above two are both fit for Windows NT(2000, XP, Vista), while USB driver in Win 98 only for manual installation.

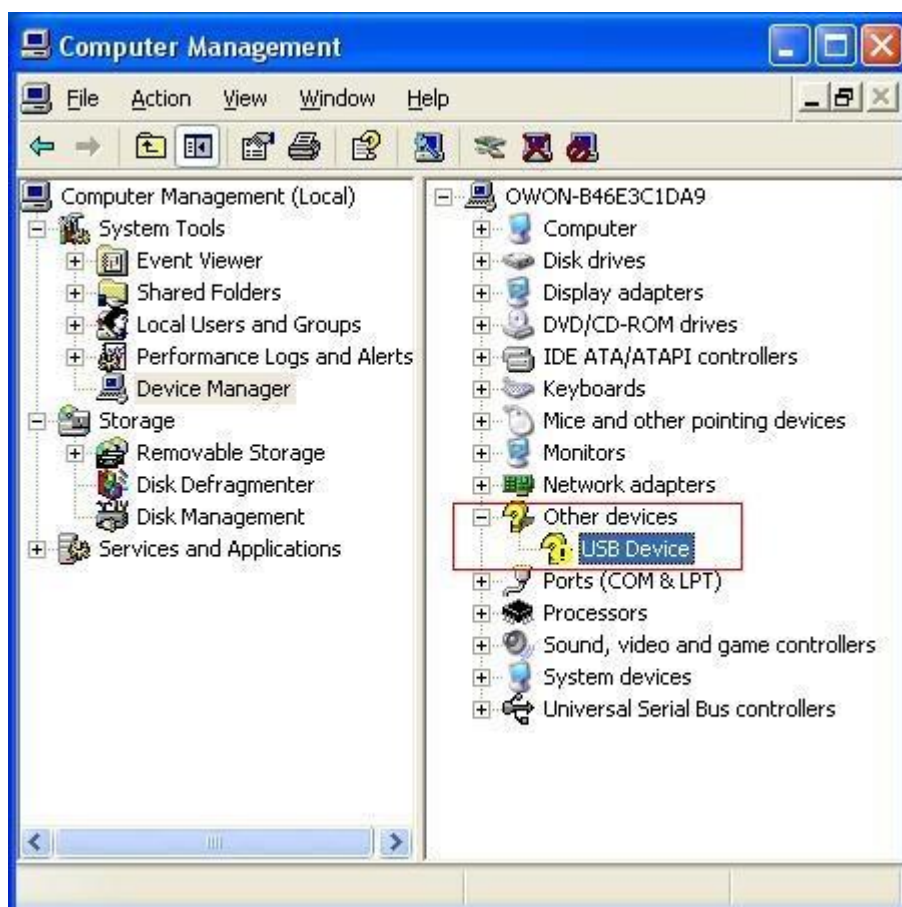
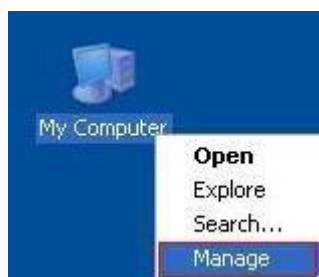
(1) For Windows XP or Windows 2000

Notice: for both x86 and x64.

Plug into the running well device to open [Found New Hardware Wizard] dialog.



Or you can right click [My Computer] and select [Manage], in the left area of opened [Computer Management] select [Device Manager] , double click the item [USB Device] with “?” in the middle area to open the Wizard



In the Wizard, select [No, not this time]

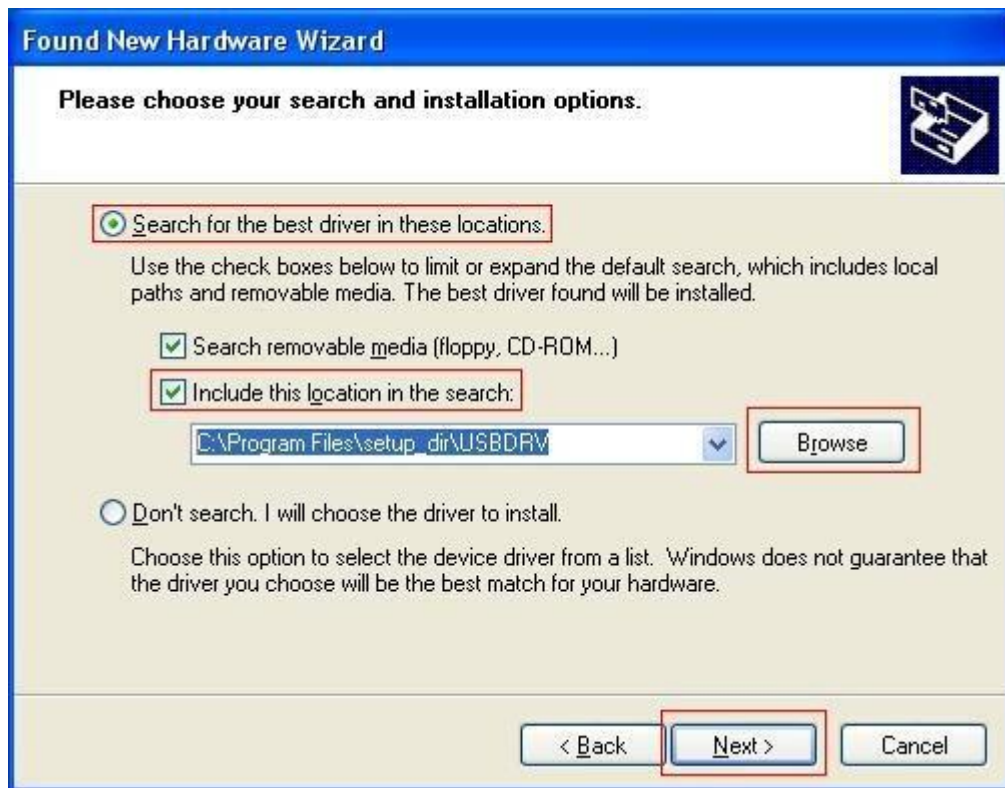


select [Install from a list or specific location(Advanced)]



select [Search for the best driver in these locations.] , then select [Include this location in the search] and indicate a directory location for USB

driver which is named as “USBDRV” and under the directory where you installed the program at



Then the installation is running



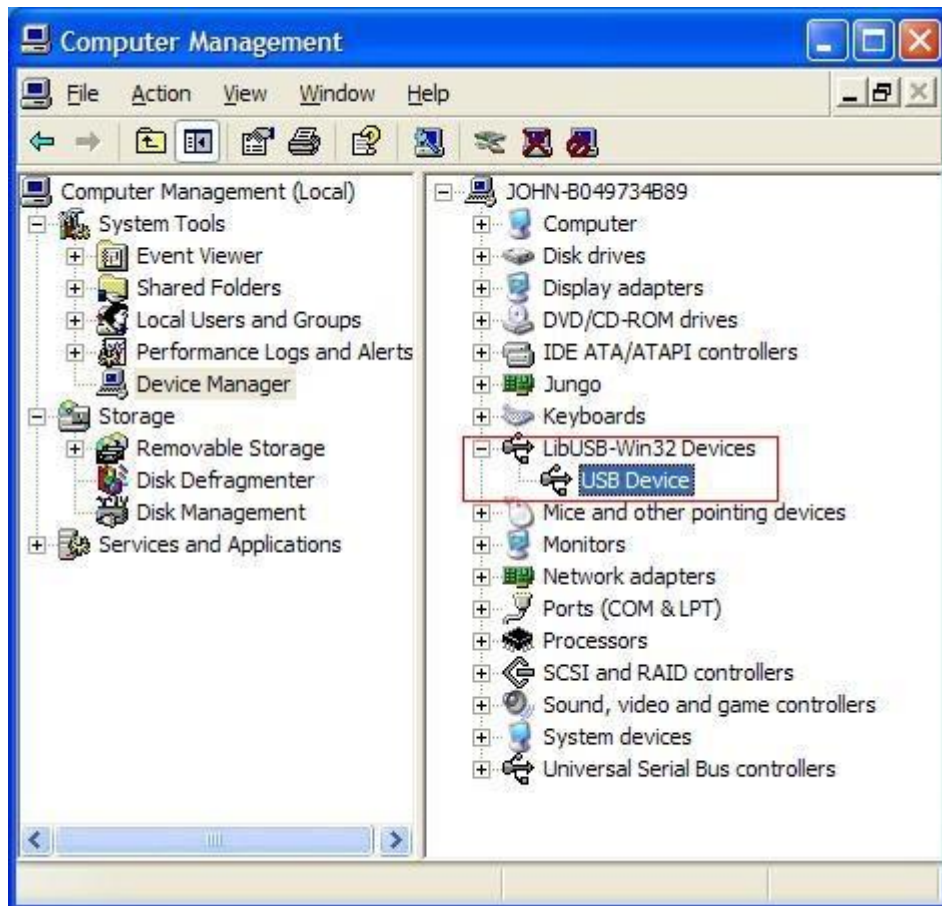
And complete



And prompt as installed



And show installed in [Device Management]



Now you can use the program and use it for USB communication.

If there is an early version of USB driver in your computer, you could try running "reinstall.bat" to fix, the file is under the directory of "USBDRV"

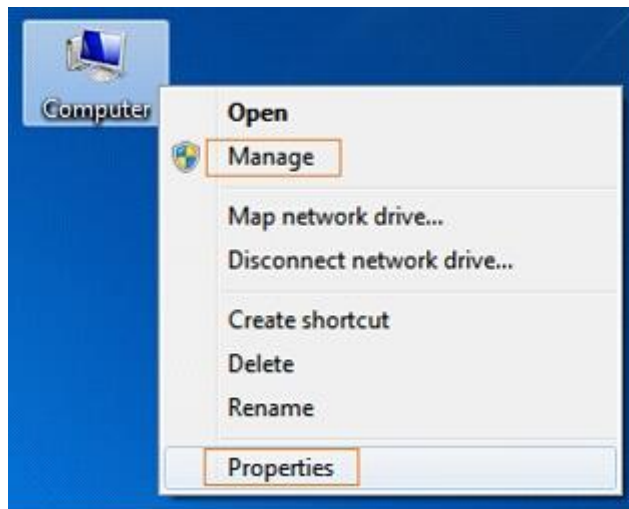
(2) For Windows Vista\Windows 7\Windows 8

The manual installation of USB driver in 32/64-bit Windows XP, 32-bit Windows Vista and 32-bit Windows 7 is a much easier way by "NEXT" or "Confirm", which could also follow most operations below. And for 64-bit Windows Vista and 64-bit Windows 7, it requires a few more operations to fix it by running Windows system in Test Mode because of

a strict signature driver enforcement of Windows. The follow operations will not be complicated, they are definite and with guide pictures.

During the whole installation, please assure that the device is running well and plugged into PC from USB.

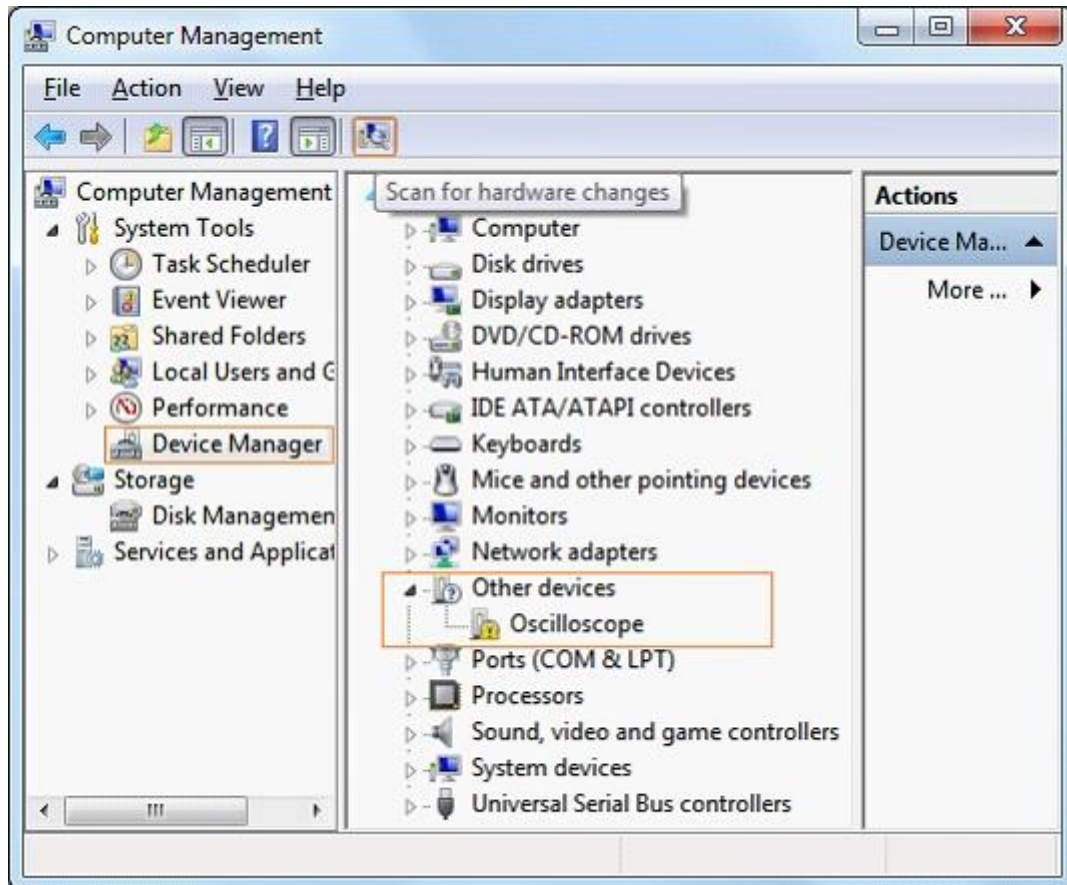
Right click [Computer]



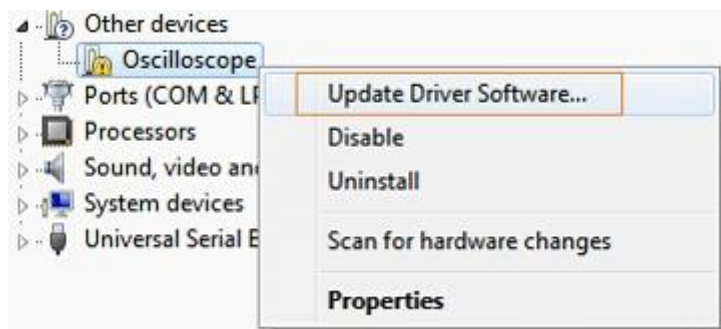
In the pop up menu, click [Properties], as below, to check out whether it is a 32-bit system or a 64-bit system, which helps you later to find out what situation you are facing



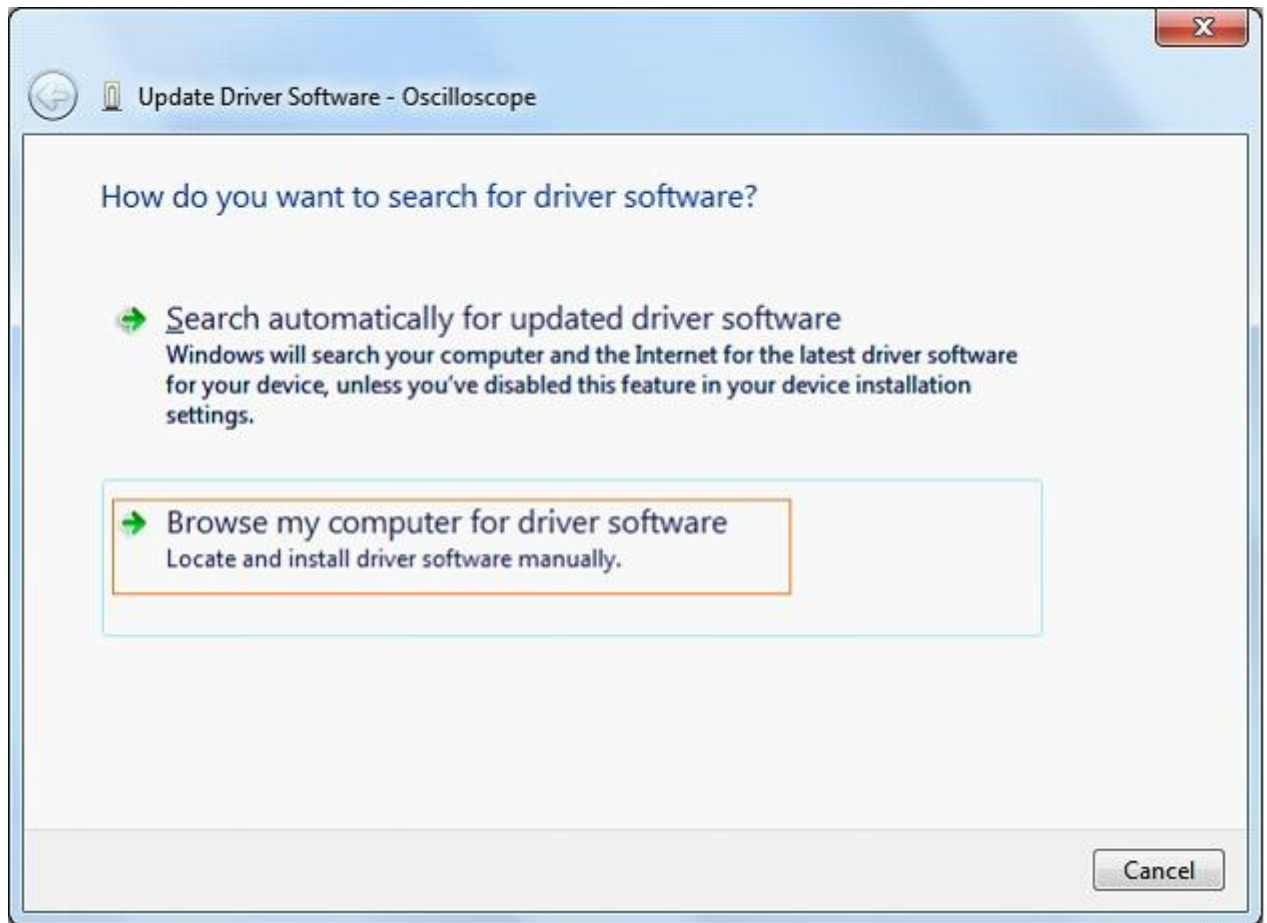
Right click [Computer] again, in the pop up menu, click [Manage] and it will open a window named "Computer Management", as follow, in the left side click [Device Manager], it will show a devices tree in the middle, and then click the last one button "Scan for hardware changes" in tool bar as follow, and if the device is running well and plugged into PC, computer will detect an unknown device with a "!" icon.



Right click the unknown device icon, in the pop up menu click [Update Driver Software...]



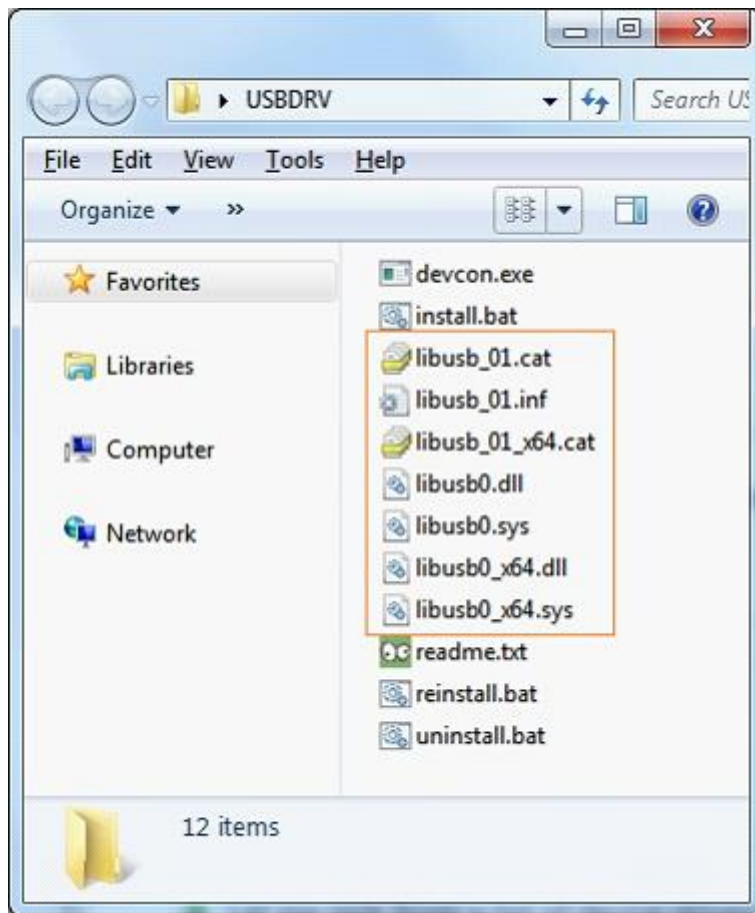
In the open window, select [Browse my computer for driver software]



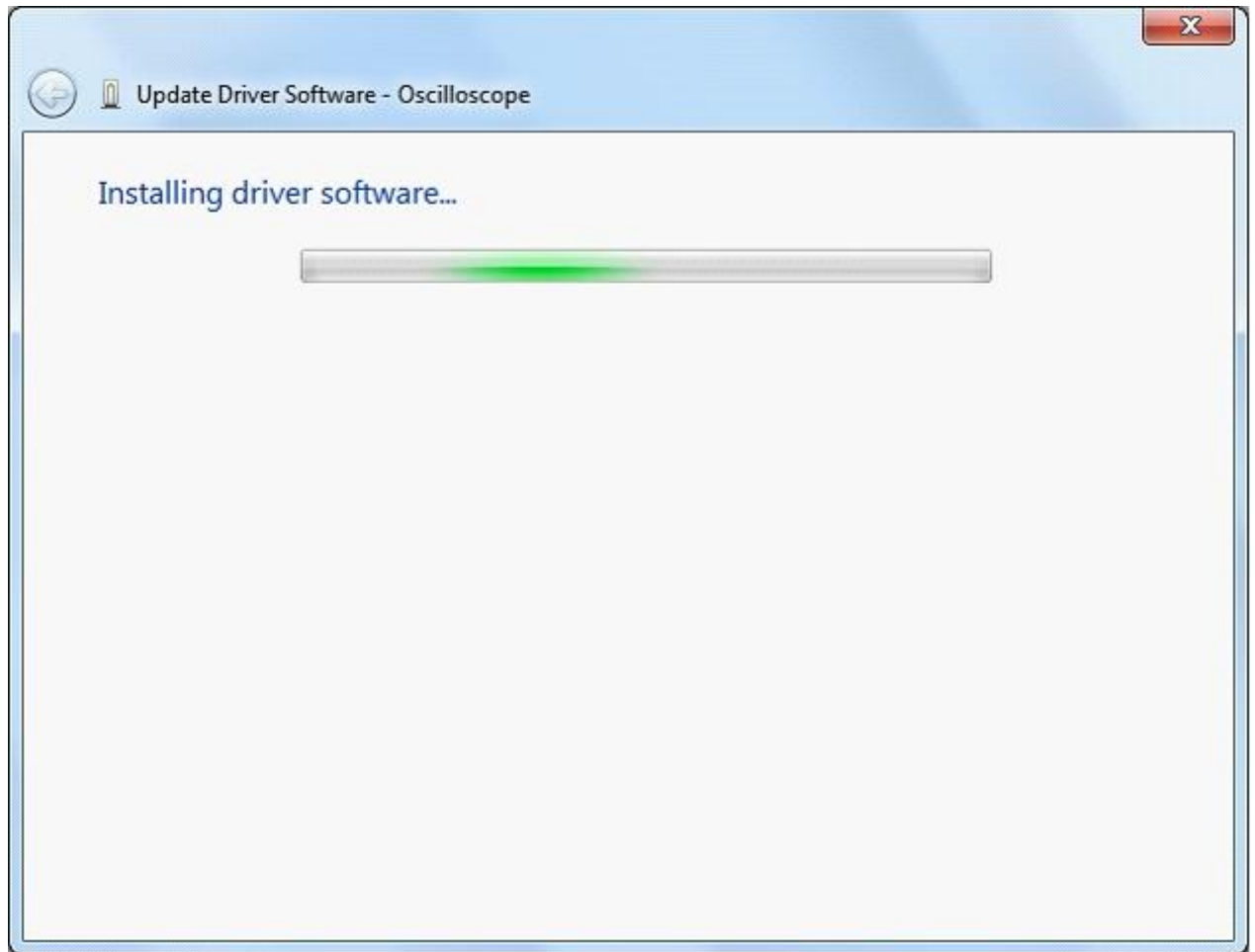
The next window, select a directory path for the driver software location, and click "Next"



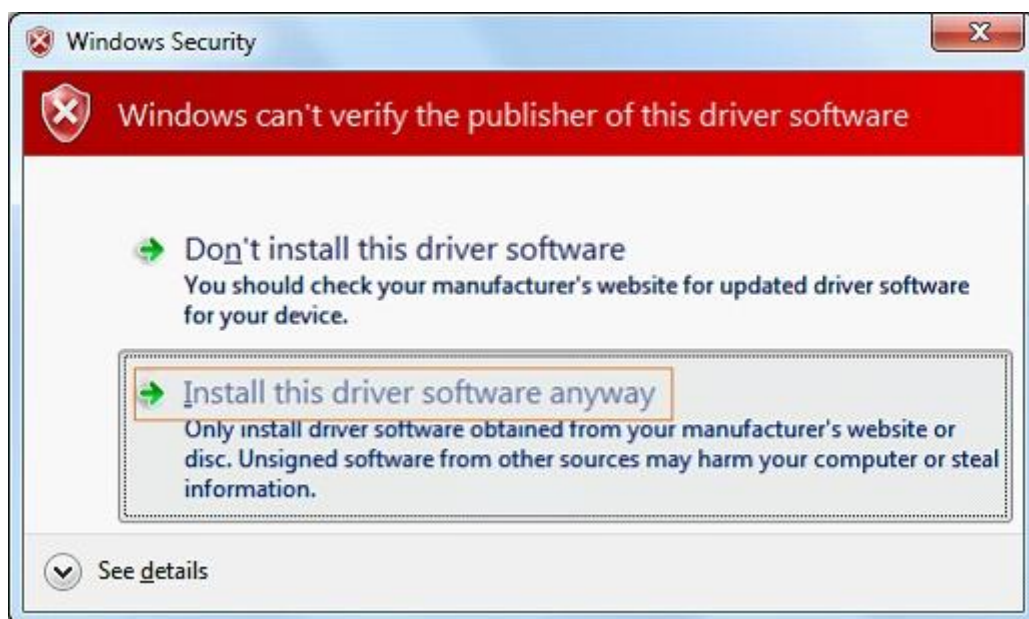
Notice: the driver software location is a directory that is under the software setup folder named "USBDREV", and the contents inside are like these:



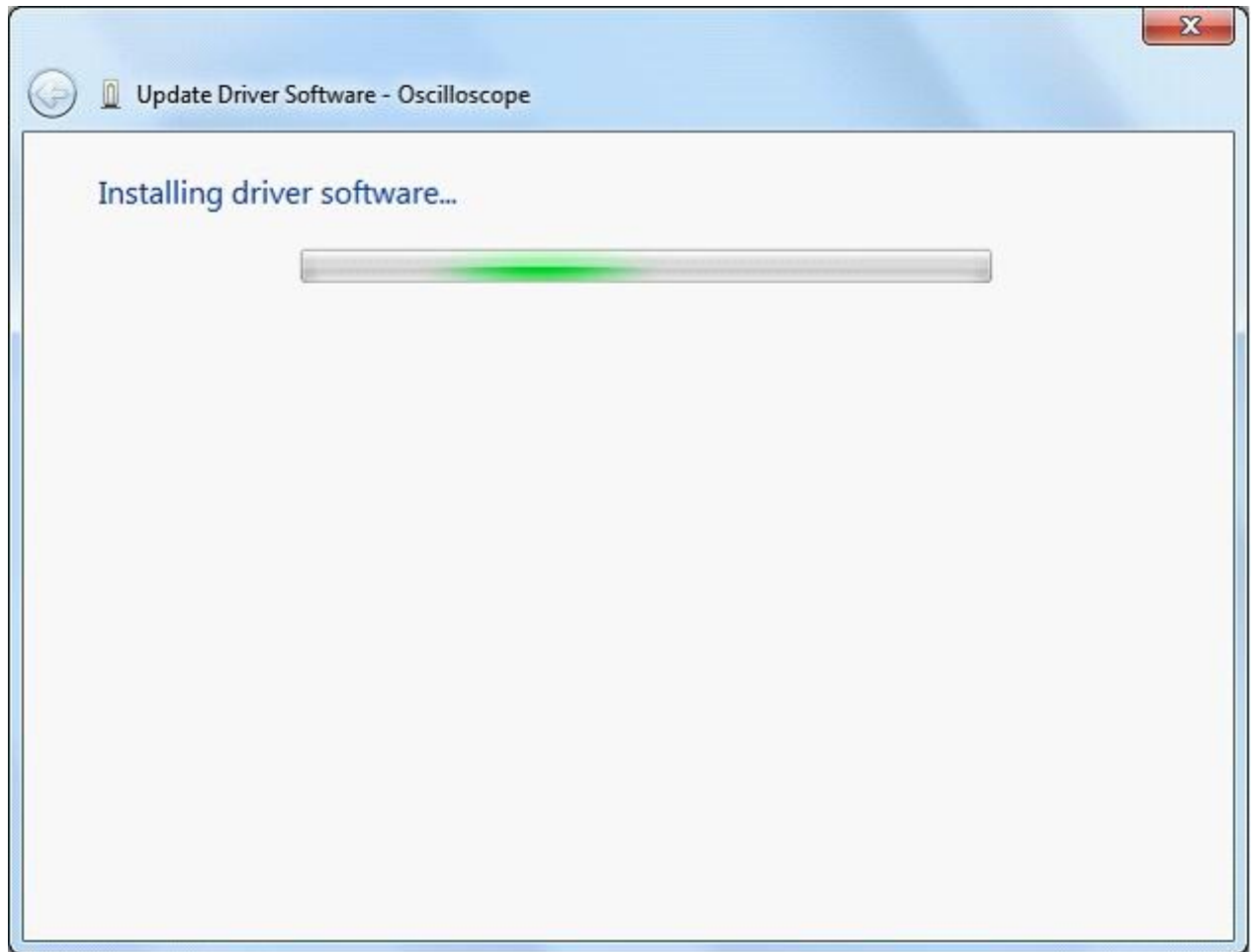
OK, back to the driver installing, after last "Next" step, the system is installing driver software for you, as follow



In the course, it may open a window named "Windows Security", and just select "Install this driver software anyway" to continue



And then continue installing



And finish.

Now if you are using a system except 64-bit Vista or 64-bit Windows 7, a successful installation window opens and now you can use the USB driver

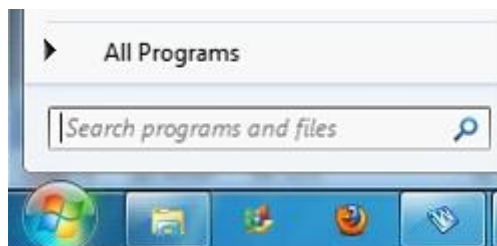


If you are using a system such as 64-bit Vista or 64-bit Windows 7, the window as follow open

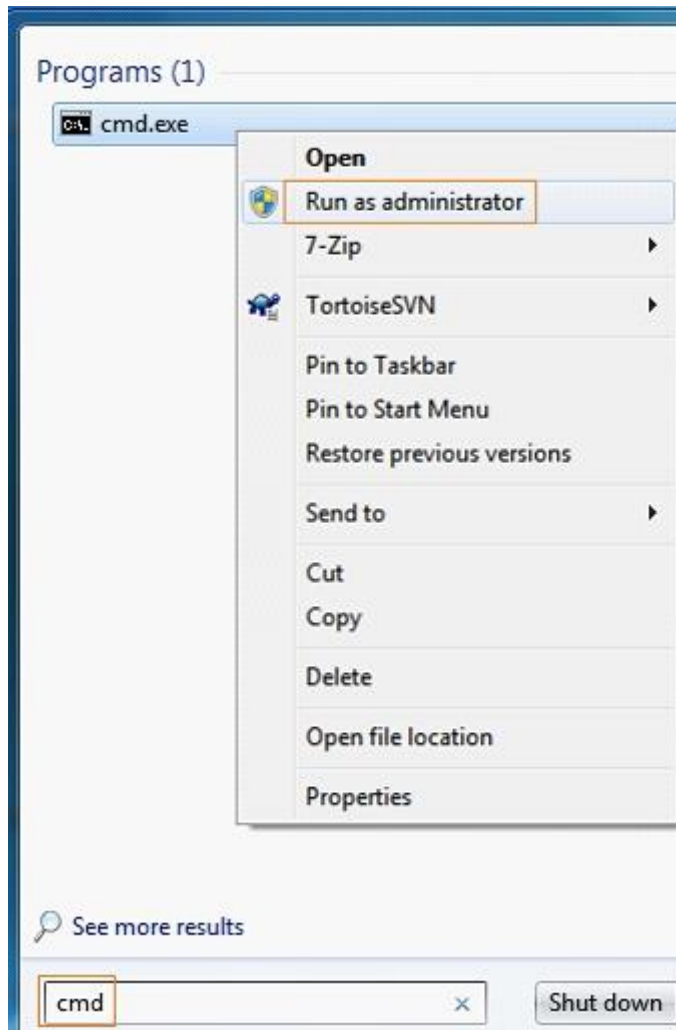


And you need a few steps to make the USB driver work:

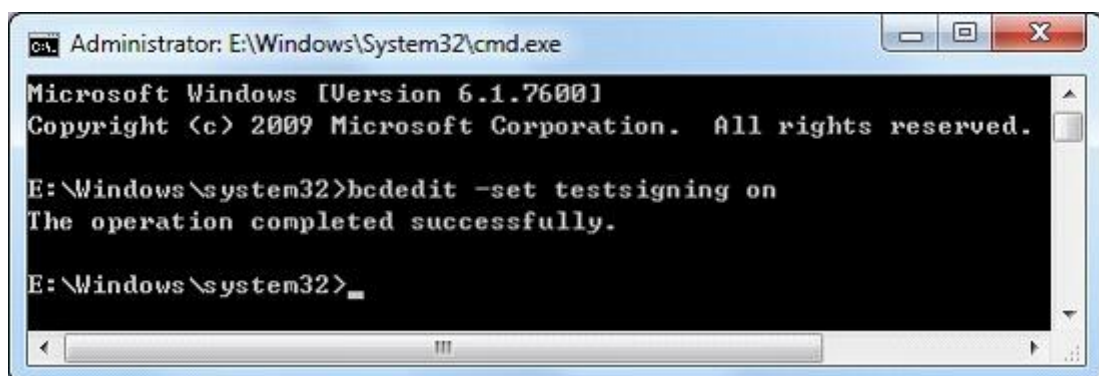
Click and pop up the "Start" menu



In the "Search programs and files" text are, input command: "cmd", and it will show a program found named "cmd.exe", right click it and in the pop up menu click "Run as administrator"



In the open black command window, input command: "bcdedit -set testsigning on", and press ENTER, you will get an echo "The operation completed successfully."

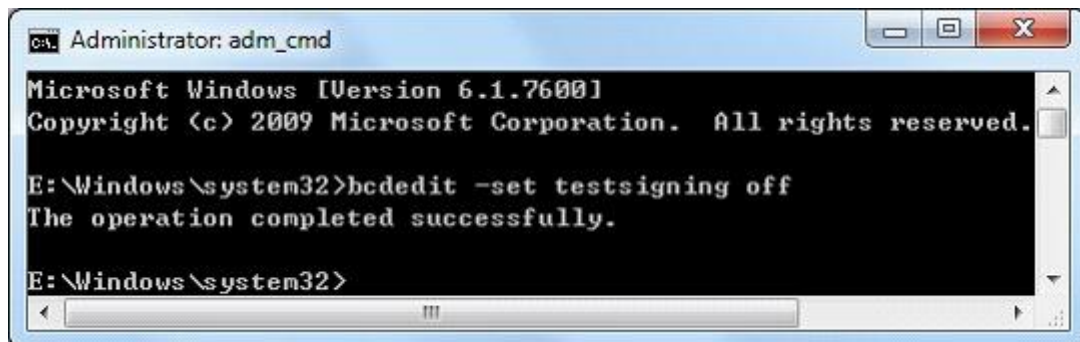


And restart the computer, this time, the USB driver works and you can use the software to communication.

Notice: this way of installation for 64-bit Vista and 64-bit Windows 7 makes the USB driver works in a Test Mode, while without this the strict signature driver enforcement in these Windows system require a driver with digital signature only signed by Microsoft and won't make it work anyway. And when you use system in its Test Mode, nearly nothing different except there are watermarks on the desktop(in 64-bit Vista, it is on the four corners of the desktop, and in 64-bit Windows 7, it is on the right-bottom corner only).



And if you want to roll back to non-Test-Mode, just input another command in the last step: "bcdedit -set testsigning off", as follow:



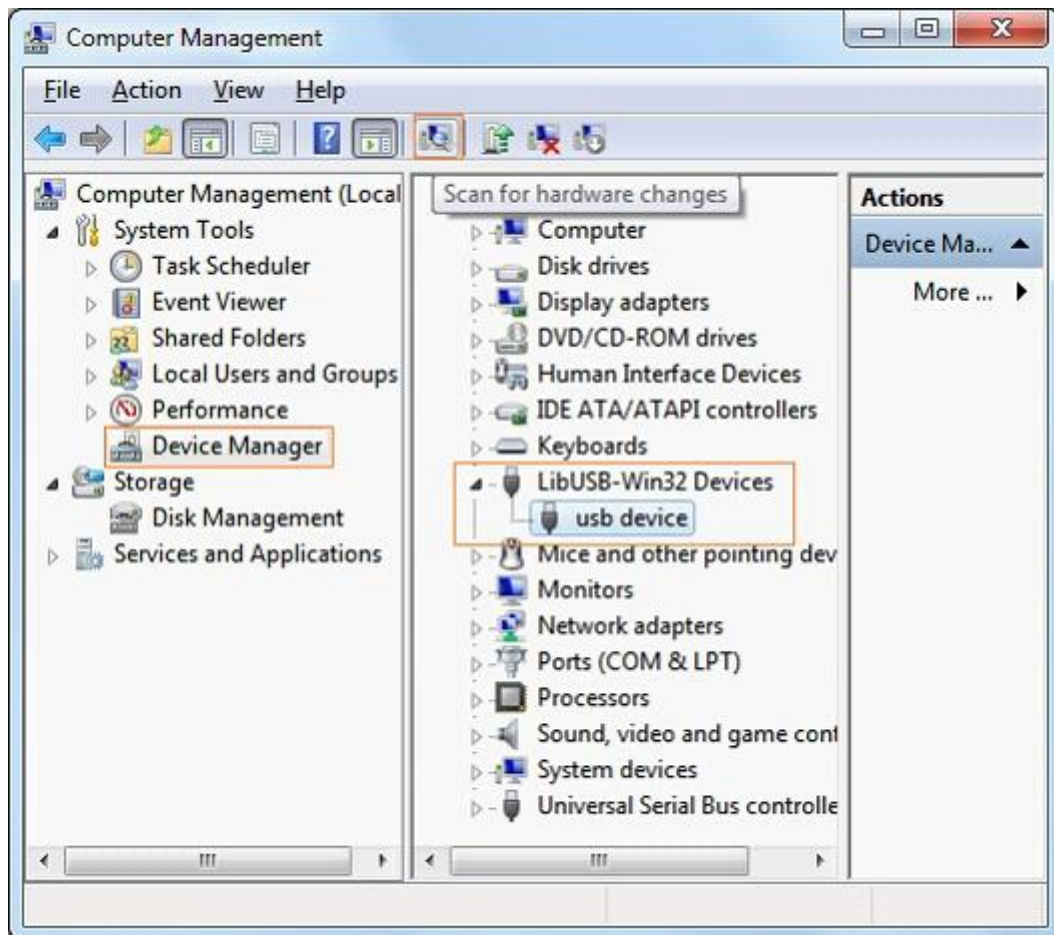
And press ENTER, restart the computer, it will go back.

To make sure that the USB driver does work, you can right click on [Computer] and click [Manage] in the pop up menu

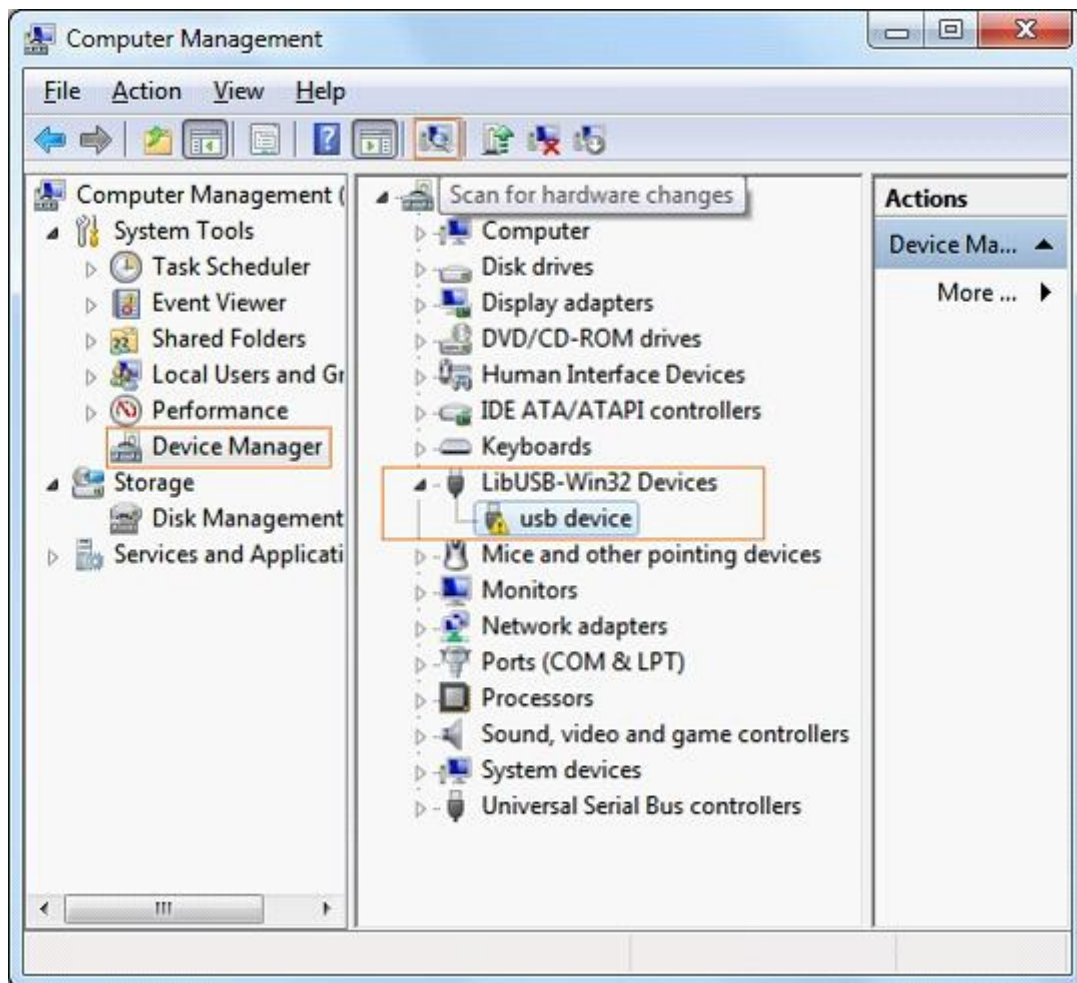


In the open window "Computer Management", click [Device Manager] in the left side, and find a device under [LibUSB-Win32 Devices], it will tell you whether it works.

If successfully installed, it should be like this:



If unsuccessfully installed, it should be like this:

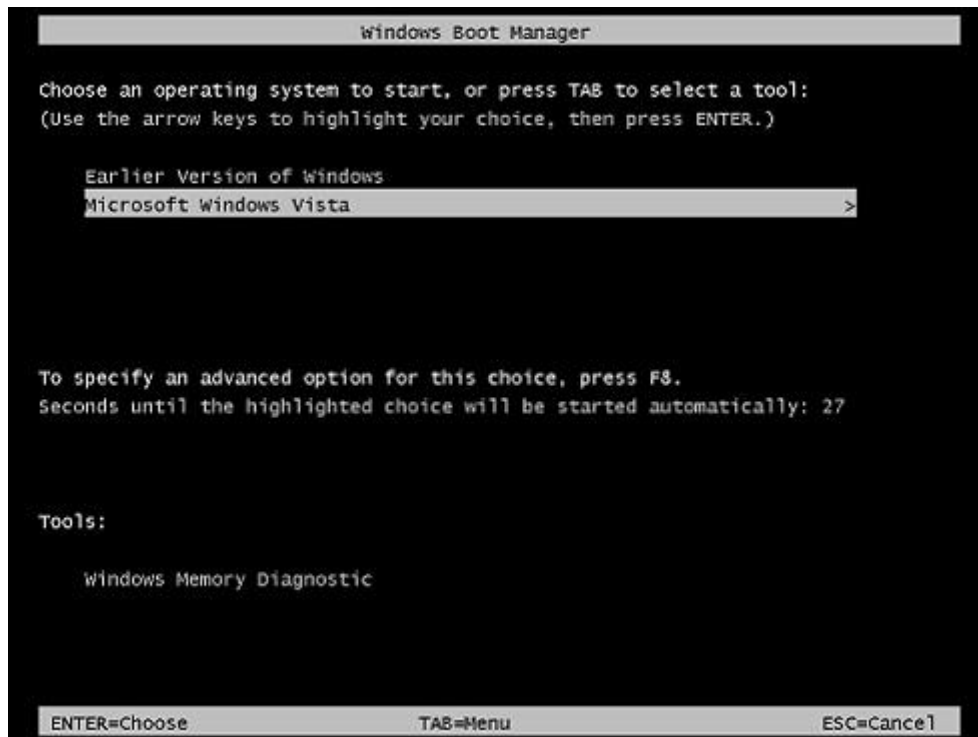


Till now, the 64-bit Windows system of Vista or Windows 7 will work fine with the USB driver in PC software. For more information, see Appendix.

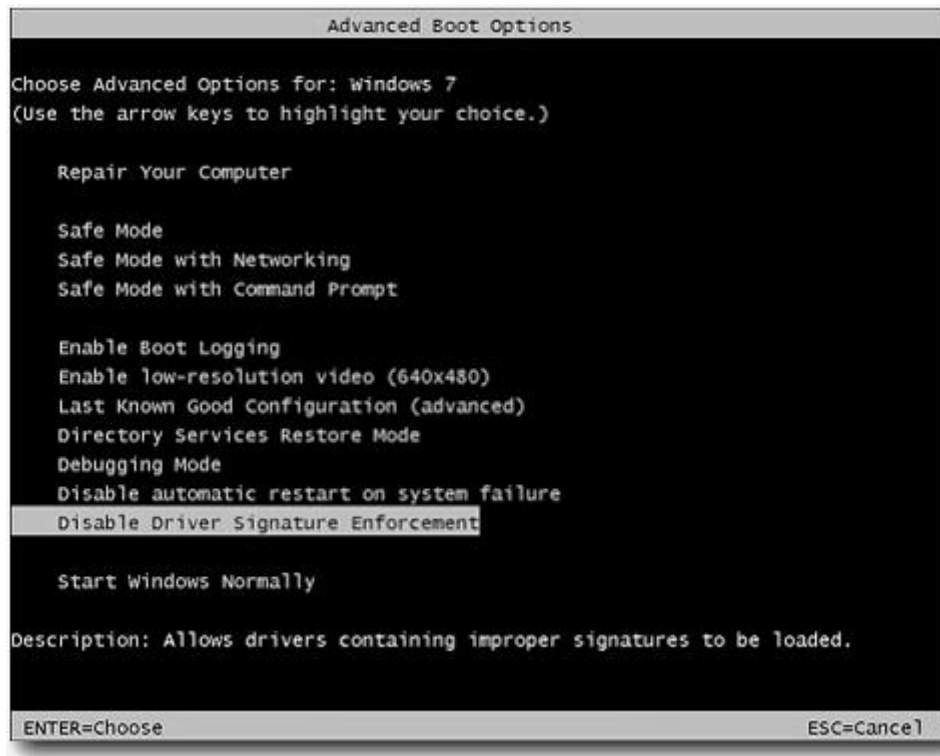
Appendix

Start from Windows Vista, there is a restrict digital signature driver enforcement in 64-bit system, and without the signature signed from Microsoft, the driver won't work. Above there is a easy way to solve this, and now we will introduce another inconvenient way only for knowing.

When you start your computer, after a self-check, it leads to this black screen named "Windows Boot Manager".



Here move the cursor by keyboard to the system you want to boot, like "Windows Vista" or "Windows 7", press F8, it will lead to another black screen, there move the cursor by keyboard to "Disable Driver Signature Enforcement:".



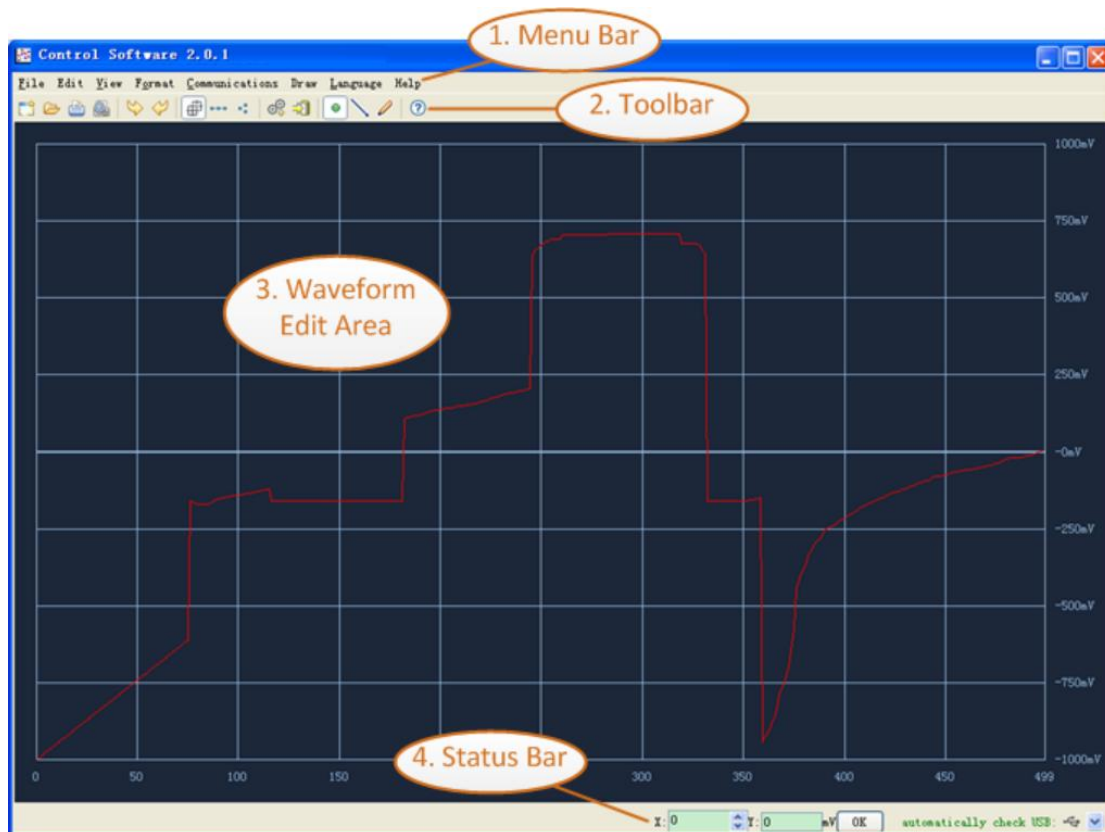
And press ENTER, it will boot Windows system as Test Mode, which makes the installed USB driver work. However, it only work for this time, so you have to do the same thing each time the computer is boot, which we call it as "inconvenient".

(3) Serial Port connection

Connect with serial port in PC directly.

II. User Interface

The main interface is shown as the figure below :



1. **Menu Bar:** provide various functions introductions.
2. **Toolbar:** provide usual shortcut bar of menu options.
3. **Waveform Edit Area**
4. **Status Bar**

III. Menu:

The following menus shows in the menu bar:

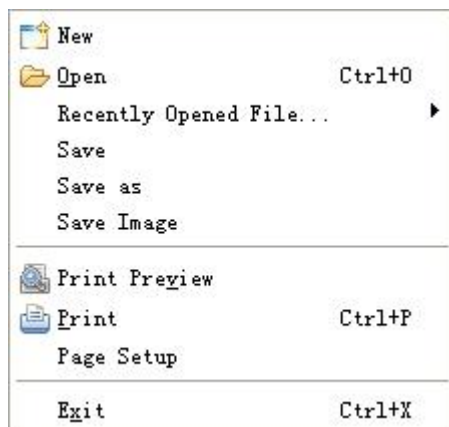
1. File
2. Edit
3. View
4. Format
5. Communications

6. Draw
7. Language
8. Help

The followings are the detailed description.

(1) File

The File menus are shown in the following figure:



New: Create a new waveform file. After clicking this menu, the users can set the property of the new waveform.

Open: Open the saved files with bin suffix.

Recently Opened File: List of the 10 recently opened files.

Save: If users have not saved the waveform before, a dialog box will prompt you to set the file name and saving path. If users have saved the waveform, the waveform in the current window will be saved.

Save as: Save the waveform as another file name, it will prompt users to set the file name and saving path. The file type of the waveforms is “.bin”.

Save Image: Save the current waveforms as picture, support bmp, png, gif etc.

Print Preview: Preview the print effect.

Print: Print by printer.

Page Setup: set the boundary value for printing.

Exit: exit the software.

(2) Edit

The Edit menus are shown in the following figure:



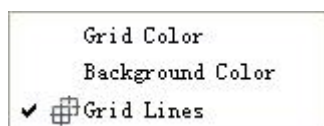
Resume: Cancel the “Undo” operation, make the waveform return to the status before undoing.

Undo: Undo the last operation and return the waveform to the previous status.

Rework: You can modify the property of the waveform.

(3) View

The View menus are shown in the following figure:



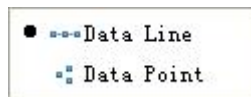
Grid Color: Bring out the color dialogue box and change the color.

Background Color: Choose this menu or double click waveform area of display to bring out the color dialogue box and change the background color.

Grid Lines: Display or hide the grid scale of image background.

(4) Format

The Format menus are shown in the following figure:

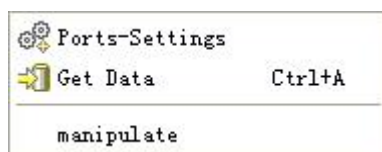


Data Line: Connect the waveform points together by straight line to form a continuous waveform.

Data Point: Draw the point discretely.

(5) Communications

The Communications menus are shown in the following figure:



Ports-Settings: choose the port for communicate with Waveform Generator.

Set as USB and search USB port from connecting Waveform Generators.

Press "refresh" button to refresh the multiple available USB ports.

If the port is set as LAN, you should set IP and port.

Get Data:

Click "**GetFiles**" to get the name list of the waveforms stored in the Waveform Generator and display it in the FileList window.

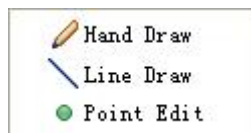
Select one of the file name in the list and click "**Download**", the waveform will be downloaded to the software and displayed in the Waveform Edit Area.

If the waveform in the Waveform Edit Area has been saved, you can upload it to the storage of Waveform Generator by clicking "**Upload**".

Manipulate: The Waveform Generator can be controlled remotely by software. See [\(2\).Operation of Remote control](#) for detailed operations.

(6) Draw

The Draw menus are shown in the following figure:

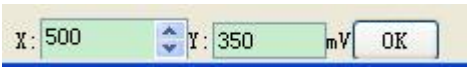


Hand Draw: In the Waveform Edit Area, click and hold the left key of the mouse, drag arbitrarily to draw the waveform you like and release the mouse to finish the drawing. The hand drawing waveform will automatically connect to the waveform that has been stored. Users can modify the waveform again.

Line Draw: In the Waveform Edit Area, click the mouse, if there is a waveform segment before, the software will draw a line from the end point of the waveform segment to the point you have just clicked (else

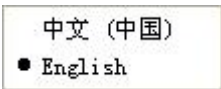
from the zero point), this is the first line you draw, click the mouse at another location, the second line will be drawn. Use the same way to draw a series lines as you like. Users can modify the waveform again.

Point Edit: In this mode, you can edit a single point in two ways. In the Waveform Edit Area, you can set a point by clicking it. In the Status Bar, you can input the location and amplitude of a point, then click "OK".



(7) Language

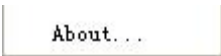
The Language menus are shown in the following figure:



Users can choose one of the languages as in need.

(8) Help

The Help menus are shown in the following figure:

















About: Display the version number of the software.

IV. Toolbar

Toolbar is the shortcut of common menu items, as follows:






Icon	Name	Function
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	New	Create a new waveform file
	Open	Open the stored bin file
	Print	Print by printer
	Print Preview	Preview the print effect
	Resume	Cancel the “Undo” operation
	Undo	Undo the last operation
	Display/hide grids	Display or hide grids scale of waveform background
	Display linked waveform	Connect the waveform points together by straight line
	Display data point	Draw the point discretely
	Ports-settings	Set communication parameters
	Get Data	Download, upload the waveform file
	Point Edit	Enter Point Edit mode
	Line Draw	Enter Line Draw mode
	Hand Draw	Enter Hand Draw mode


V. Relevant operations

Relevant operations of this software.

(1) To Create and Edit Waveform

- 1) Click "File" in the menu bar and select "New" (or click the icon of  in the toolbar), input the number of points and voltage, click "OK".
- 2) Click "Draw" in the menu bar (or click the icon of  in the toolbar) to choose the proper mode to draw the waveform. For more details, see [\(6\).Draw](#).
- 3) Select "Save" or "Save as" in the "File" menu to save the current waveform.
- 4) Upload the waveform: After saving the waveform, click "Communications" in the menu bar and select "Get Data" (or click the icon of  in the toolbar). In the Dialog, click "Upload" to store the current waveform into the storage of the Waveform Generator.

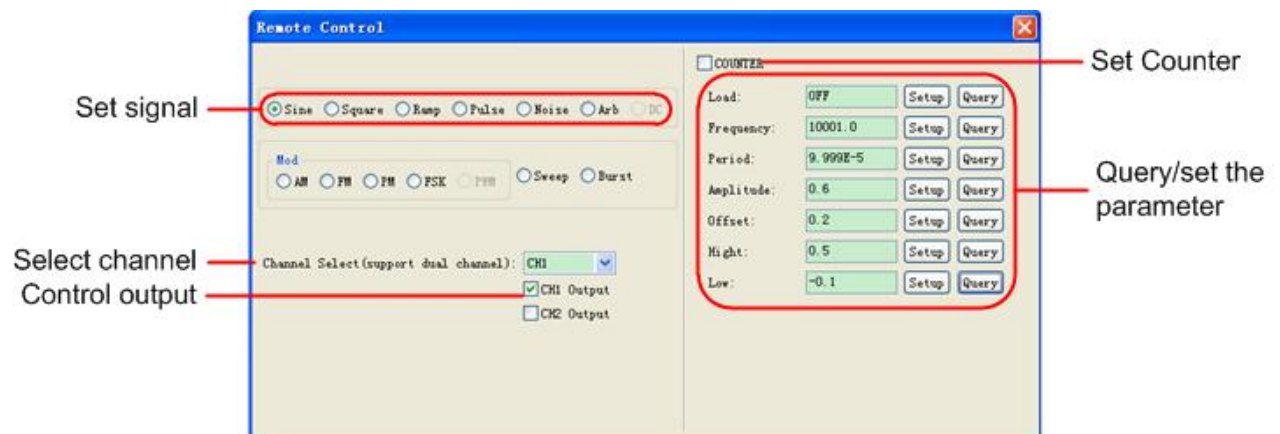
How to import the user-definable waveform in the Waveform Generator:

- 1) Click "Communications" in the menu bar and select "Get Data" (or click the icon of  in the toolbar). In the Dialog, click "GetFiles" to get the name list of the waveforms stored in the Waveform Generator and display it in the FileList window.

- 2) Select one of the file name in the list and click "Download", the waveform will be downloaded to the software and displayed in the Waveform Edit Area.

(2) Operation of Remote control

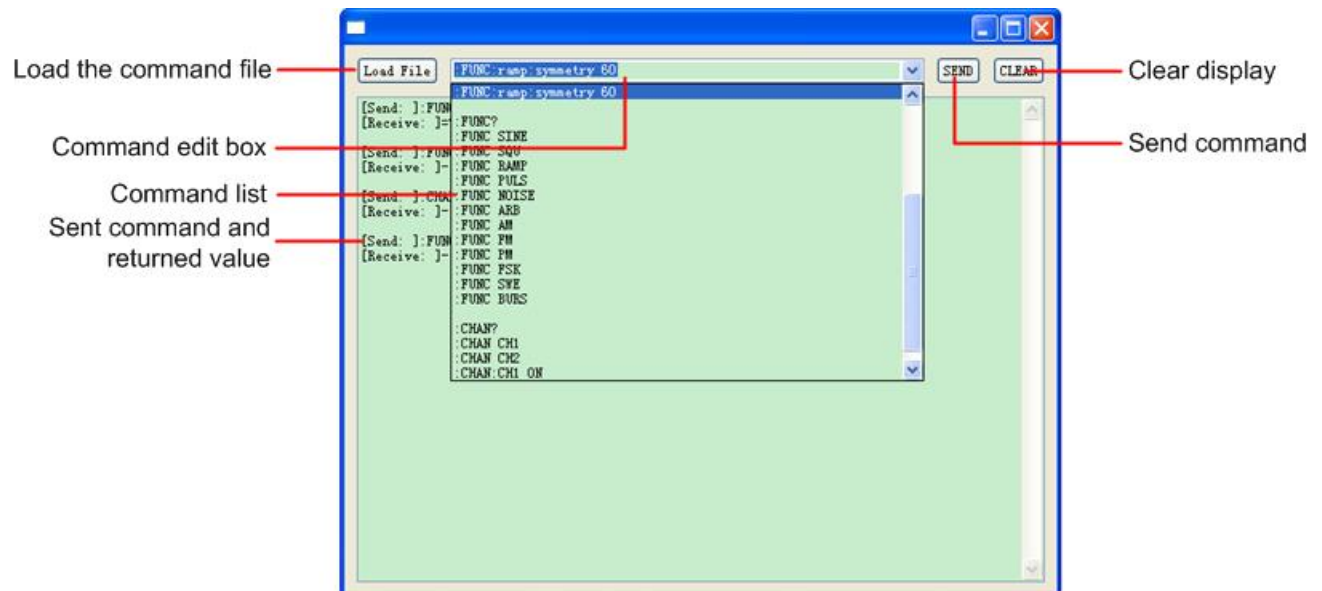
Click "Communications" in the menu bar and select "manipulate" to open the Remote Control panel.



- **Set signal:** Select the desired signal.
- **Mod, Sweep, Burst:** The corresponding function will be enabled if the Waveform Generator supports.
- **Select channel :** Select the channel, equal to the "CH1/2" button on the front panel of the generator.
- **Control output:** Turn on/off output of the corresponding channel.
- **Set Counter:** Check to set the corresponding parameters of counter.
- **Query/set the parameter:** Click "Query" to display the value of current parameter. After inputting the desired value, click "Setup" to send it to the generator.

(3) SCPI Command Control

Click "Communications" in the menu bar and select "CommandLine" to open the SCPI Control panel



- **Load the command file:** You can save the SCPI commands into a TXT file first and load it here, the command list will display the commands in the TXT file.
- **Command edit box:** You can edit the command here.
- **Command list:** Select the desired command.
- **Sent command and returned value:** Display the commands have been sent and the returned values.
- **Clear Display:** Clear the window.
- **Send command:** Send the command in the edit box to the generator.