AX88178 Mac OS X Driver Installation Guide

Revision 3.10
Nov. 10th, 2016

Revision History

Revision	Date	Description
1.00	2010/08/12	Initial release.
1.10	2011/04/27	Modified the script files in Appendix.
1.20	2011/08/15	Added Mac OS X 10.7 support.
1.30	2011/09/14	Modified the description to exclude Mac OS X 10.4 support.
1.31	2011/10/13	Rearranged the document format and added more detailed driver installation/uninstallation procedures information.
1.32	2011/10/14	1. Moved some Section 1 descriptions to Appendix A.
2.00	2012/08/03	1. Changed the document name to “AX88178 Mac OSX Driver Installation Guide”. 2. Removed AX88772B/AX88772A/AX88760/AX88772 related information. 3. Added Appendix C "Apple Mac OSX Native USB to LAN Drivers Supported Devices List". 4. Modified some descriptions in Section 1 and 2.
2.01	2012/08/22	1. Added Section 4 “Troubleshooting”.
2.02	2012/09/26	1. Modified some descriptions in Section 1.
3.00	2014/02/26	1. Modified to support Mac OS X 10.9 driver installer. 2. Modified some descriptions in Section 1, 2, 3. 3. Replaced Section 4-1 “Driver Installation Failure on OS X 10.8 Issue” with new 4-1 "How to identify the Vendor ID and Product ID of your USB dongle?". 4. Added Section 4-2 “How to identify the installed Mac OS X driver revision?”. 5. Removed Appendix A “Script Files Descriptions” and Appendix B “AX88178 Script Files”.
3.10	2016/11/10	1. Modified some descriptions for Mac OS 10.12 native driver supporting changes. 2. Modified some descriptions and pictures to meet the latest Mac OS X driver installer. 3. Added Section 4-3.

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1. Introduction

This document contains the installation and uninstallation information of ASIX's AX88178 Mac OS X 10.5 to 10.8 driver and Mac OS X 10.9 to 10.12 driver.

The native "AppleUSBGigEthernet" driver on Mac OS X 10.5 to 10.11 systems or the native "AppleUSBEthernet" driver on Mac OS 10.12 and later systems already support some of major AX88178 dongles so users need not to manually install ASIX's standard AX88178 Mac OSX driver if you don't have any issue on Apple's native driver.

Some of AX88178 dongles are not supported by the native "AppleUSBGigEthernet" driver on Mac OS X 10.5 to 10.11 systems or the native "AppleUSBEthernet" driver on Mac OS 10.12 and later systems so users MUST manually install ASIX's AX88178 standard Mac OSX driver.

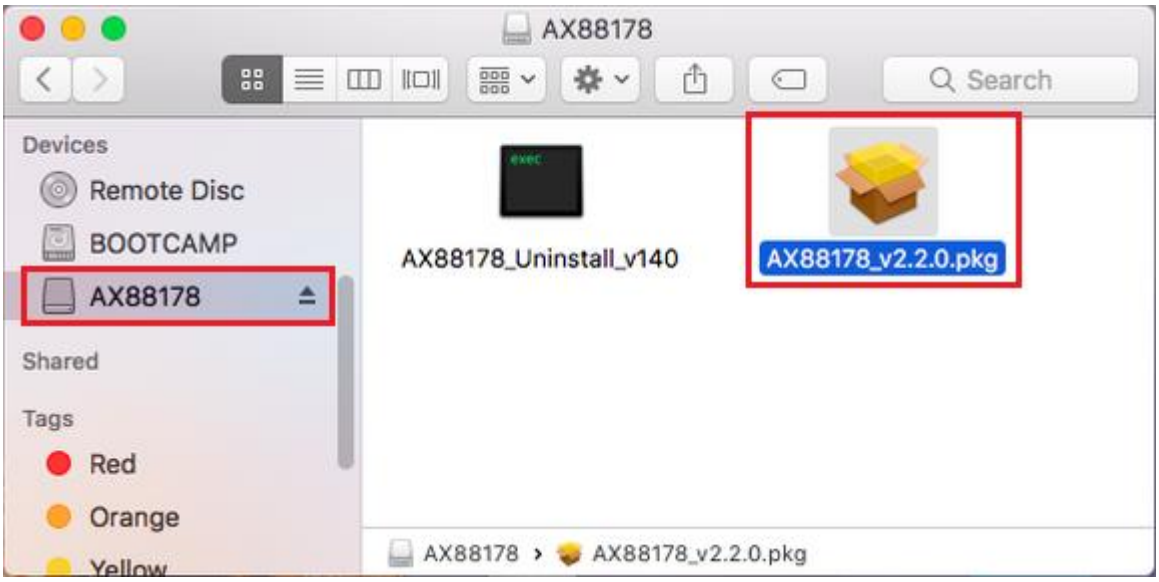
Some USB to LAN dongles have manufacturers' own VID/PID. If both Apple's native driver and ASIX's standard driver couldn't work fine with your USB-to-LAN dongle, please contact the support guys of your USB-to-LAN dongle manufacturer for further support.

2. Driver Installation Procedures

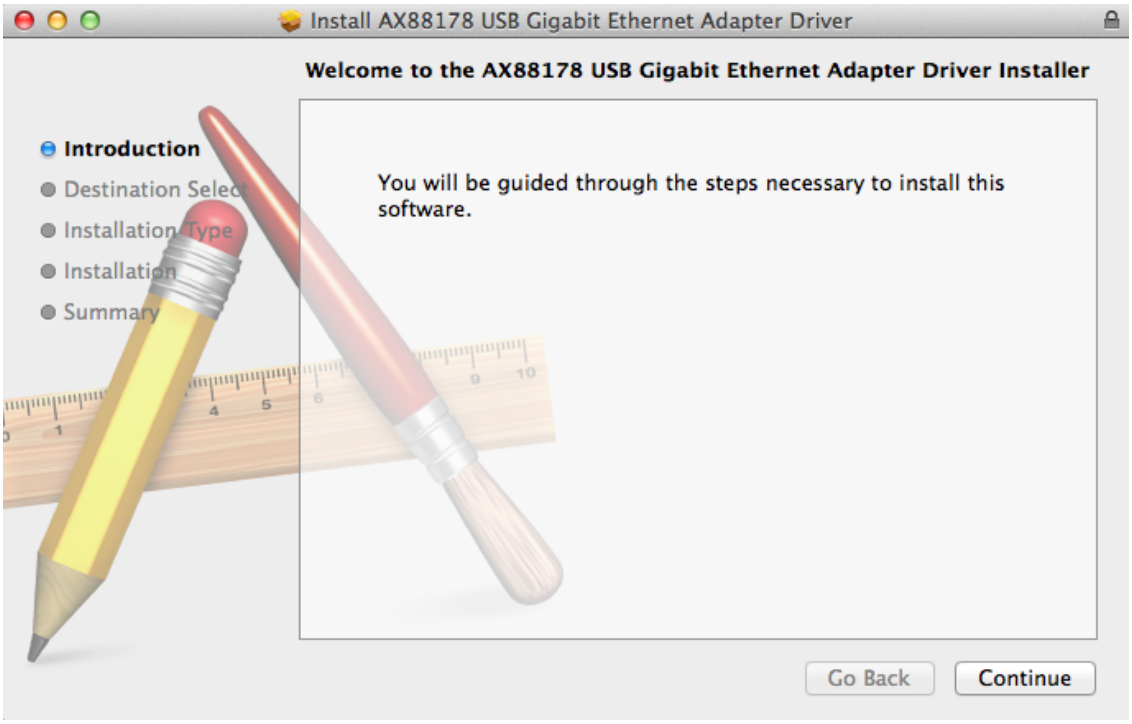
The AX88178 Mac OSX driver installation package is "**AX88178.dmg**".

The following is an example of ASIX's AX88178 Mac OSX driver installation procedures.

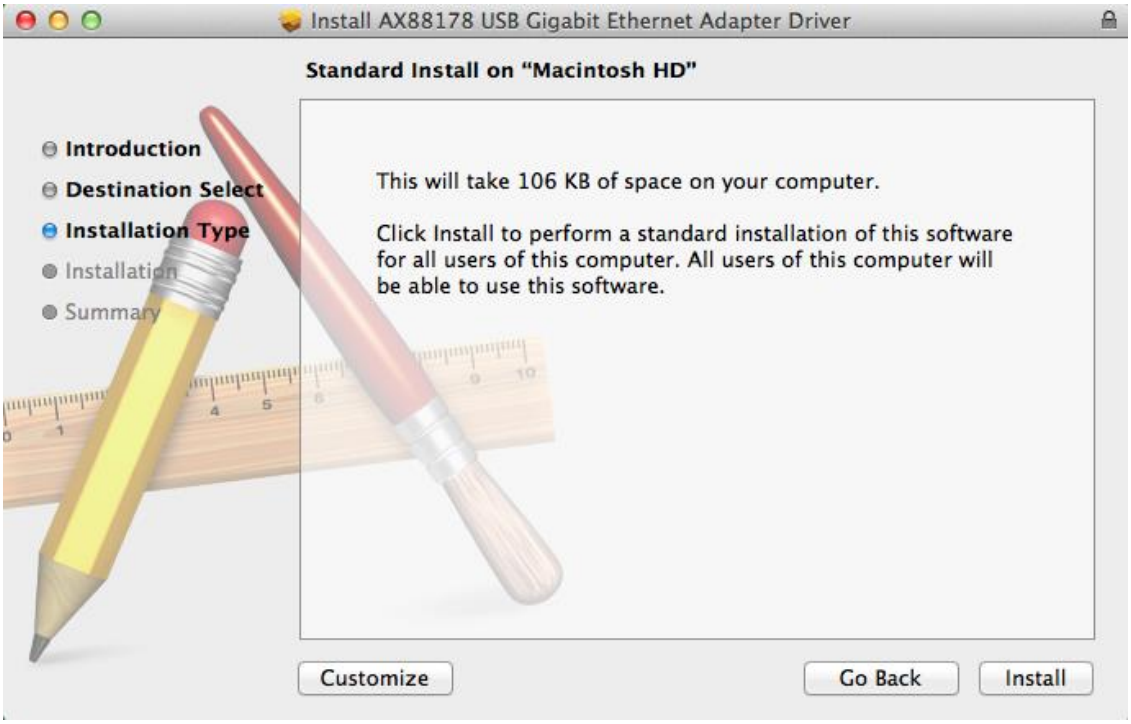
Step 1: Click the "AX88178.dmg", the following "AX88178" virtual disk will be appeared on the Desktop of your Mac OSX system. (This "AX88178" virtual disk will be auto-removed after rebooting Mac OSX system.)



Step 2: Click the "**AX88178_vx.x.x.pkg**" ("x.x.x" is driver installer revision number), the following driver setup dialog will appear. Click the [Continue] button to start the installation operation and follow the instructions to continue the installation.



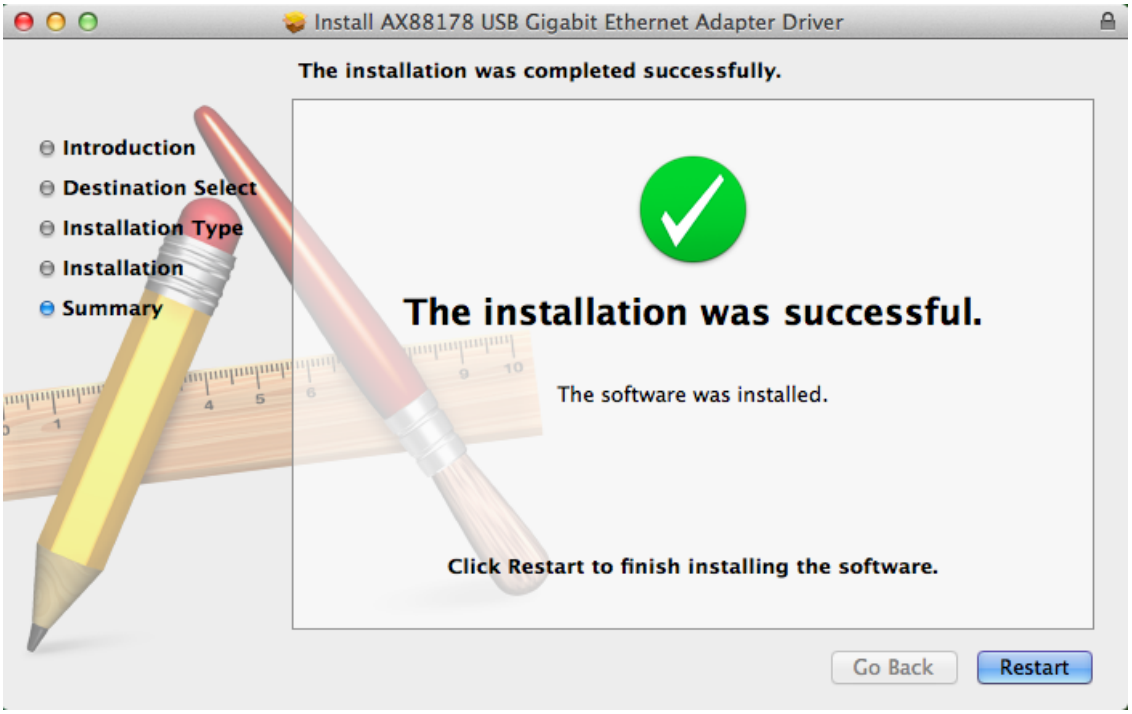
Step 3: Click the [Install] button to continue the installation operation.



Step 4: You might need to enter your user/password during the driver installation.

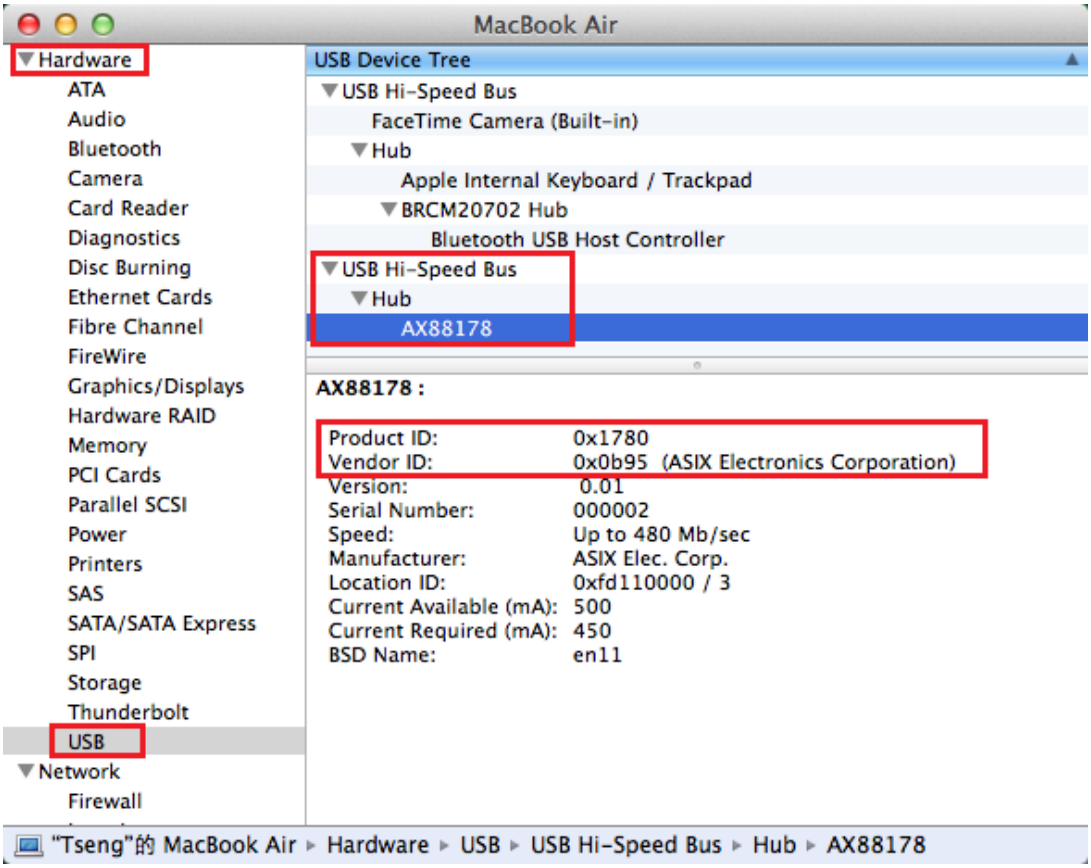
Step 5: Click the [Continue Installation] button to continue the installation operation.

Step 6: Click the [Restart] button to restart Mac OSX system to take effect the revised driver installation.



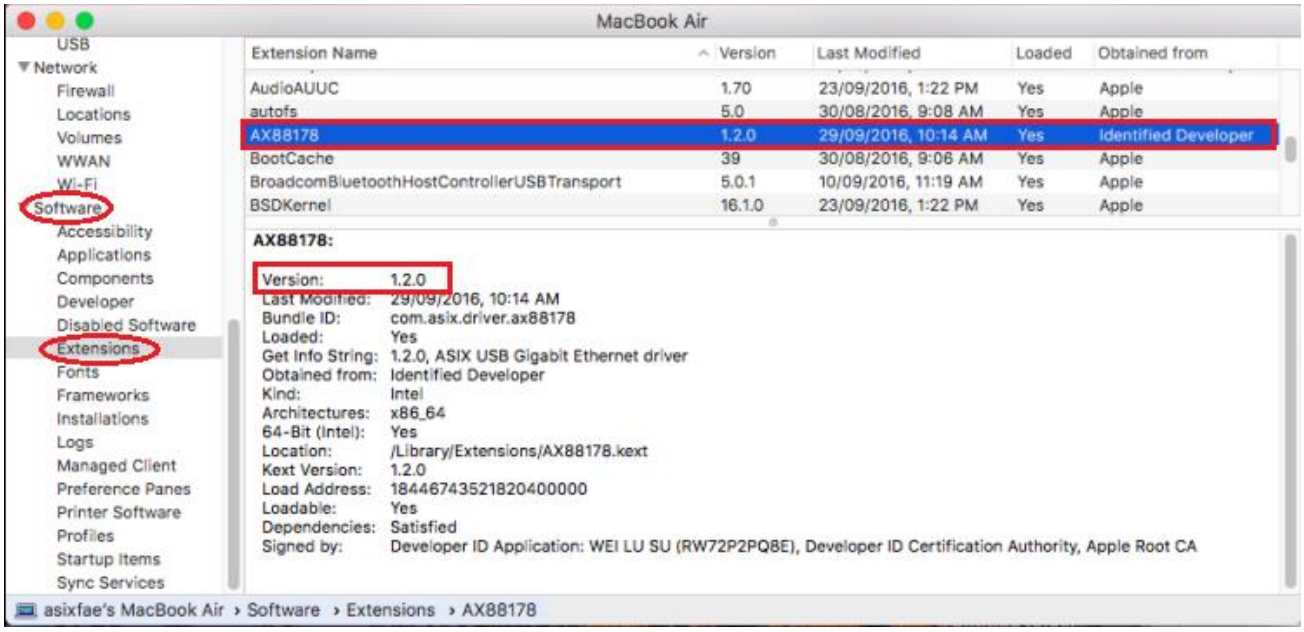
Step 7: After booting up your Mac OSX system, plug your AX88178 USB dongle onto the USB port of your Mac OSX system and refer to the following information to double check if your USB dongle had been identified properly by Mac OSX system and the AX88178 Mac OSX driver was installed correctly or not.

(1) You can check the Vendor/Product ID information of your USB dongle from here.

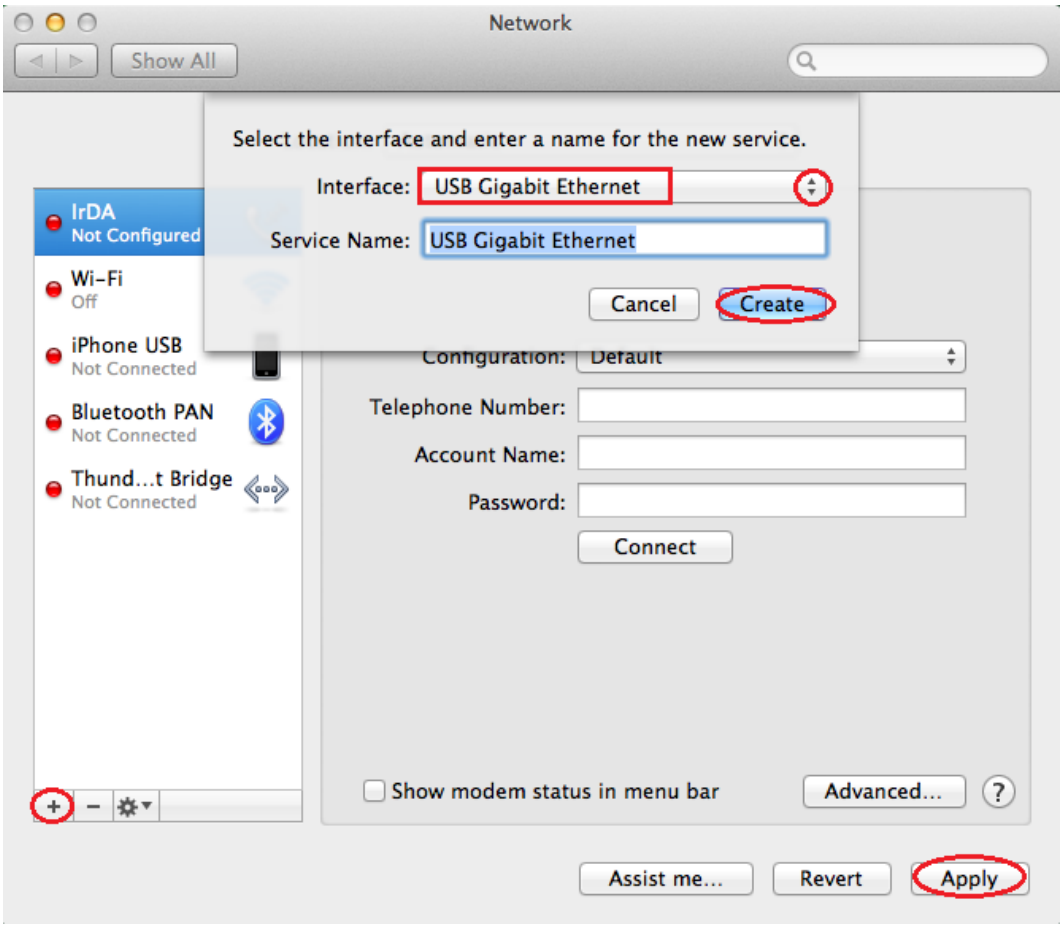


(2) You can check the installed AX88178 Mac OSX driver version information by running the "**kextstat**" command or from the "Software -> Extensions" console as below figure.

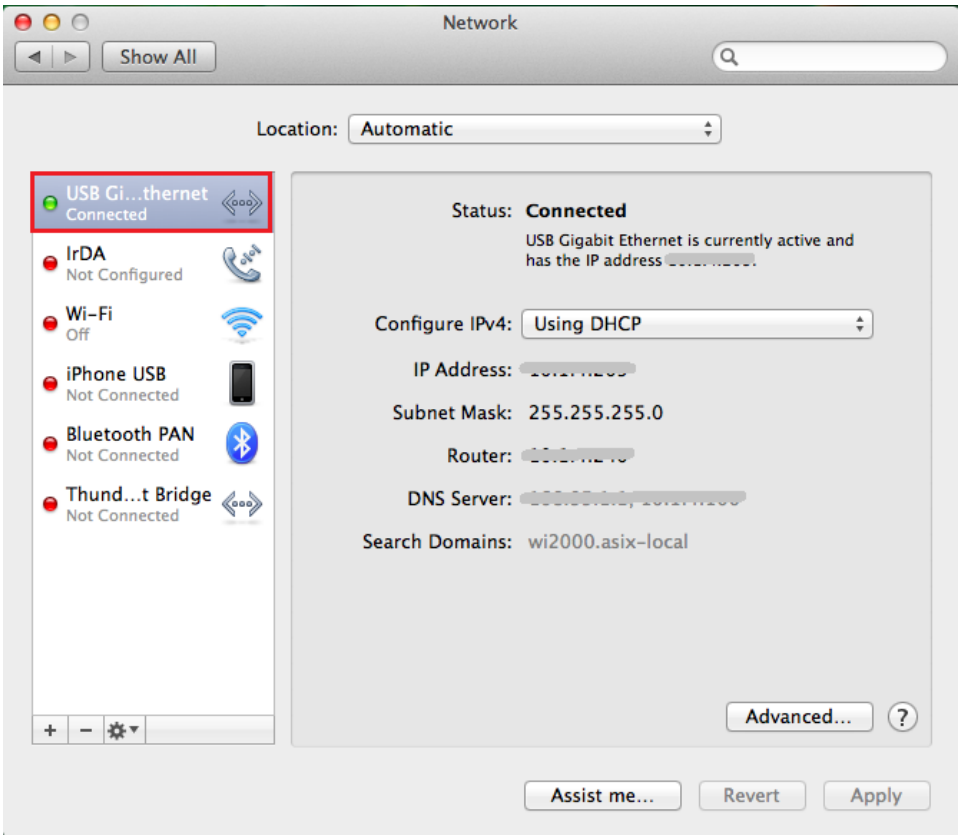
```
Tsengteki-MacBook-Air:~ allan$ kextstat
Index Refs Address            Size       Wired      Name (Version) <Linked Against>
…..
  142    0 0xffffff7f80d88000 0x9000     0x9000     com.asix.driver.ax88178 (1.2.0) 65827D49-E30C-
39F2-9C26-DC7CE994D8A3 <50 40 7 5 4 3 1>
  143    0 0xffffff7f826a2000 0x18000    0x18000    com.apple.driver.usb.ethernet.asix (5.0.0)
0DD762E9-3C44-39DB-BB30-6E69218E823A <79 78 50 39 5 4 3 1>
…..
```

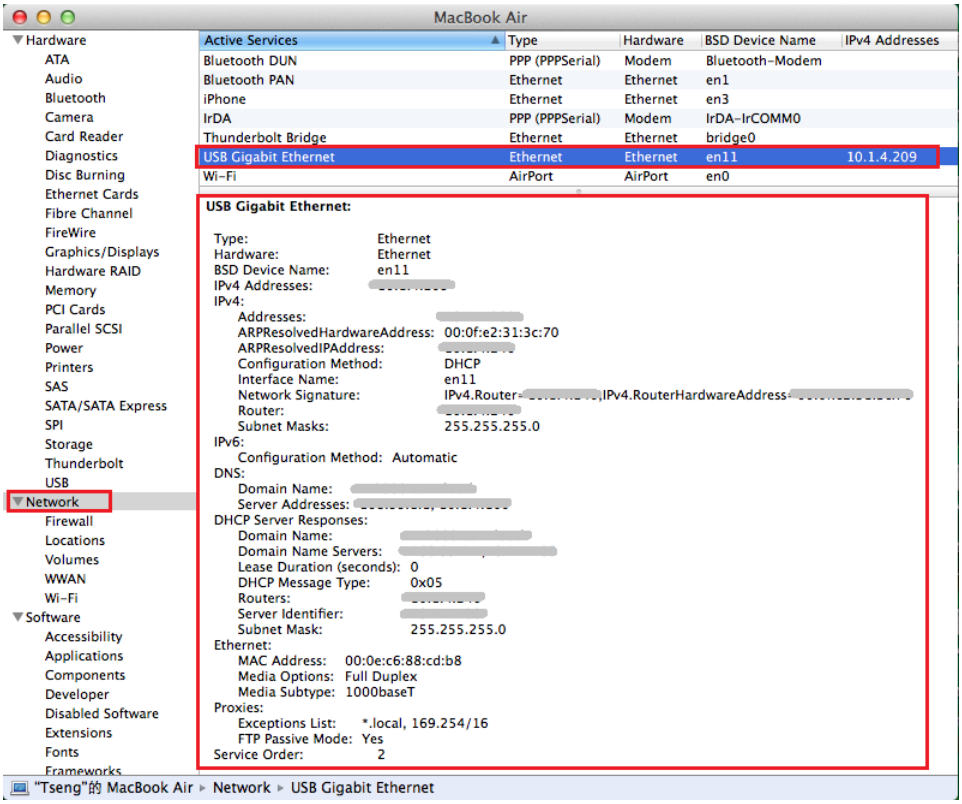


Step 8: Please refer to below figure to add a new “USB Gigabit Ethernet” network interface and then press the [Apply] button to take effect the new network interface.



Step 9: The new “USB Gigabit Ethernet” driver should be ready now.



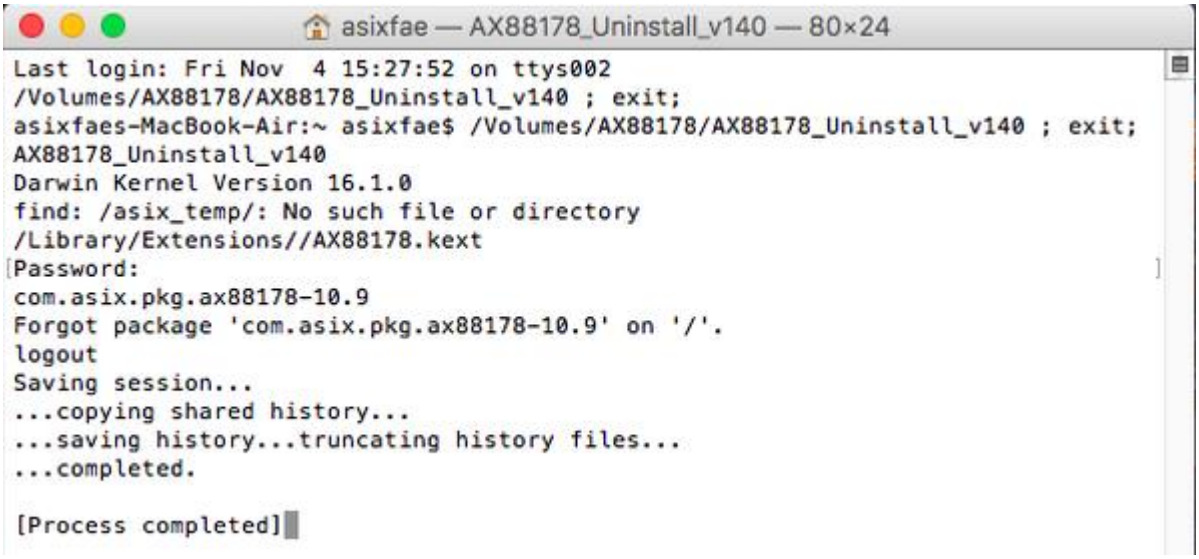


3. Driver Uninstallation Procedures

The following is an example of ASIX's AX88178 Mac OSX driver uninstallation procedures.

Step 1: Click the "AX88178.dmg", the following "AX88178" virtual disk will be appeared on the Desktop of your Mac OSX system. (This "AX88178" virtual disk will be auto-removed after rebooting Mac OSX system.)

Step 2: Click the "**AX88178_uninstall_vxxx**" utility (xxx is the revision number of the driver uninstaller utility) to uninstall ASIX's AX88178 Mac OSX driver.



4. Troubleshooting

(The figures in this section are examples for your reference)

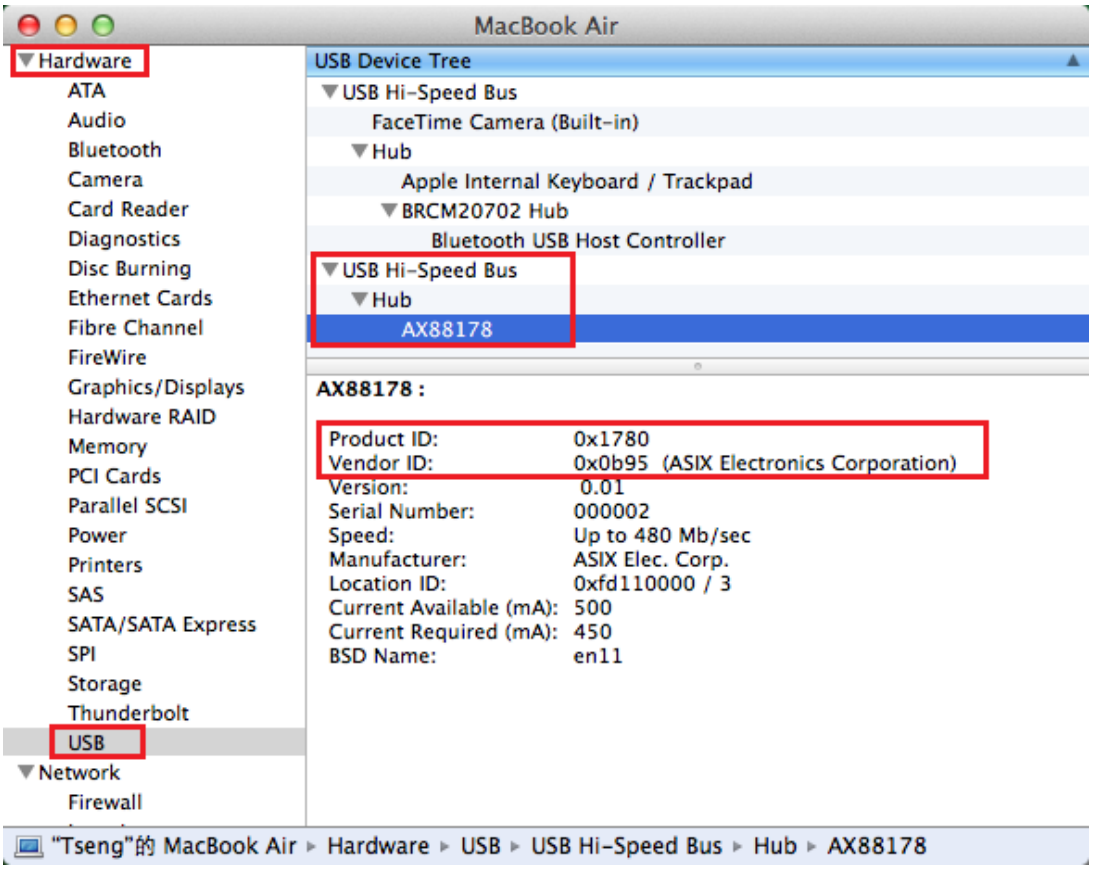
Please refer to Section 2 & 4 to provide us the captured driver installation screens step-by-step and run “sudo dmesg” command to get the driver debug messages for further investigation if you have any problems on AX88178 Mac OS X driver installation.

4-1. How to identify the Vendor ID and Product ID of your USB dongle?

Please refer to below picture to make sure if the Vendor ID and Product ID of your USB dongle are ASIX’s default values or not? If no, please contact the manufacturer of your USB dongle to get a proper driver directly.

The following are the AX88178 default VID/PID.

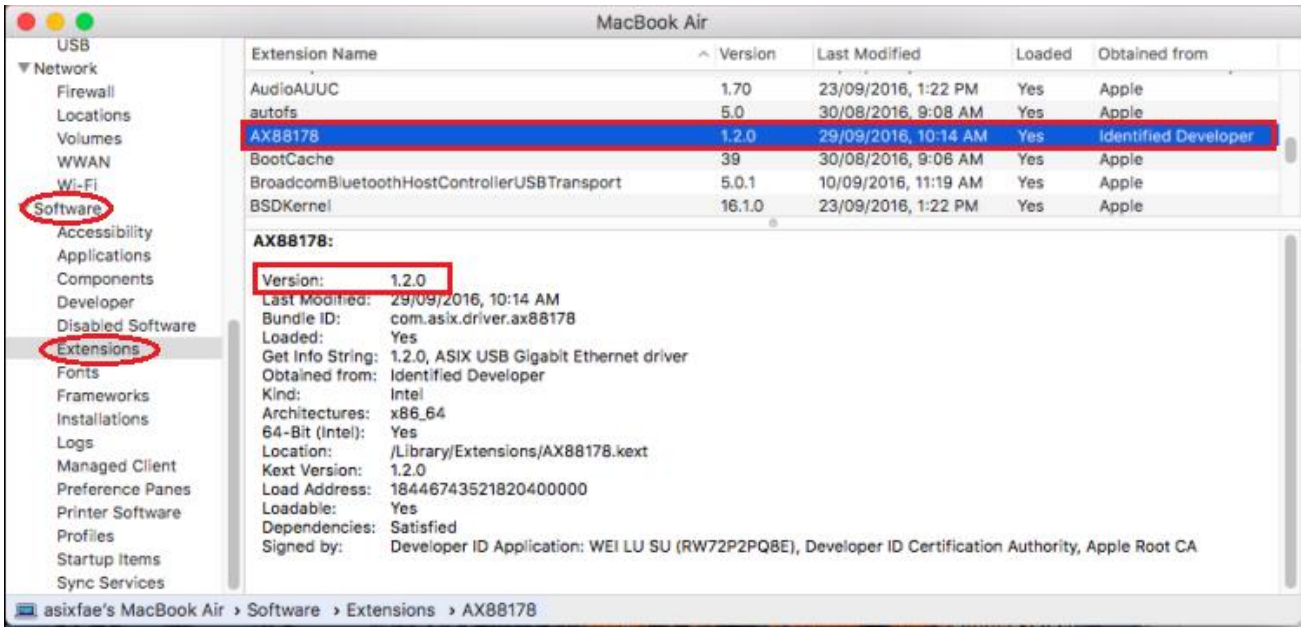
ASIX Product	ASIX Vendor ID	Product ID
AX88178	0B95h	1780h



Note: If you cannot find your AX88178 device under the USB Device Tree, your AX88178 dongle might have some potential hardware compatibility issues on your target platform. Please contact the manufacturer support guys of your suspected AX88178 dongle to isolate your issues.

4-2. How to identify the installed Mac OS X driver revision?

Please refer to below picture to identify the driver revision of the installed AX88178 Mac OS X driver.



Or run the "**kextstat**" or "**sudo dmesg**" commands in the Terminal console to identify the driver revision of the installed AX88178 Mac OS X driver.

```
Tsengteki-MacBook-Air:~ allan$ kextstat
Index Refs Address            Size       Wired      Name (Version) <Linked Against>
…..
  142    0 0xffffff7f80d88000 0x9000     0x9000     com.asix.driver.ax88178 (1.2.0) 65827D49-E30C-39F2-9C26-DC7CE994D8A3 <50 40 7 5 4 3 1>
  143    0 0xffffff7f826a2000 0x18000    0x18000    com.apple.driver.usb.ethernet.asix (5.0.0) 0DD762E9-3C44-39DB-BB30-6E69218E823A <79 78 50 39 5 4 3 1>
…..

asixs-MacBook-Pro:~ allan$ sudo dmesg
…
AX88178: start - Version number 1.2.0
AX88178: Input buffers 64, Output buffers 64
AX88178: setupChip - PHY ID regs: c912 001c
AX88178: enable - Exit
monitorLinkStatus - Link is up at 1000 Mbps - Full Duplex (PHY regs 5,6:0xc1e1,0x0000)
monitorLinkStatus - Link is down.
AX88178::monitorLinkStatus - Link down
monitorLinkStatus - Link is up at 1000 Mbps - Full Duplex (PHY regs 5,6:0xc1e1,0x0000)
…
```

4-3. How to isolate driver failure issues after upgrading Mac OS system?

Please refer to below procedures to isolate the driver failure issues after upgrading Mac OS system.

1. Please refer to Section 3 to uninstall clearly the previous revision AX88178 Mac OSx driver firstly.

2. Please refer to Section 2 to install the latest AX88178 Mac OSx driver to see if the driver can work fine now or not?

3. If you still have problems, please unplug/re-plug your AX88178 dongle to see if it can improve your issues or not?

4. If you still have problems, please refer to Section 4-1 to make usre if your issues are caused by potential hardware compatibility issues on your suspected AX88178 dongle or not? If yes, please contact the manufacturer support guys of your suspected AX88178 dongle to isolate your issues,

5. If you still have problems, please refer to Section 2 & 4 to provide ASIX support (support@asix.com.tw) the captured driver installation screens step-by-step and run "**sudo dmesg**" command to get the driver debug messages for further investigation.

Appendix A. Apple Mac OS X Native USB to LAN Drivers Supported Devices List

The Apple native driver “AppleUSBGigEthernet” on Mac OS X 10.5 to 10.11 systems supports the following AX88178 USB-to-LAN dongles, and the Apple native driver “AppleUSBEthernet” on Mac OS X 10.5 to 10.11 systems supports the following AX88772A/AX88760/AX88772 USB-to-LAN dongles.

On Mac OS 10.12 and later systems, the Apple “AppleUSBGigEthernet” native driver is already removed and the new Apple “AppleUSBEthernet” native driver supports all these AX88178/AX88772A/AX88760/AX88772 USB-to-LAN dongles.

Vendor	Model Name	VID	PID	Comments
ASIX Electronics Corp.	AX88178	0B95h	1780h	
ASIX Electronics Corp.	AX88772A/AX88760	0B95h	772Ah	
ASIX Electronics Corp.	AX88772	0B95h	7720h	
Apple	Apple USB Ethernet Adapter	05ACh	1402h	
Linksys	USB200M	13B1h	0018h	
D-Link Corp.	DUB-E100 Fast Ethernet	2001h	3C05h	
Linksys	USB1000 (AX88178)	1737h	0039h	
Belkin Components	F5D5055 (AX88178)	050Dh	5055h	
MelCo., Inc.	USB Gigabit Ethernet (AX88178)	0411h	006Eh	
I-O Data Device, Inc.	ETG-US2 (AX88178)	04BBh	0930h	

For the other USB-to-LAN dongles with ASIX solution inside, please download the latest ASIX’s standard Mac OS X drivers from ASIX web site (http://www.asix.com.tw/download.php?sub=driver). If you still have problems, please contact the support guys of your USB-to-LAN dongle manufacturer for further support.

Note: Users should get proper driver from the manufacturer of your USB-to-LAN dongle if both Apple’s native driver and ASIX’s standard driver couldn’t work with your USB-to-LAN dongle.

4F, No.8, Hsin Ann Rd., Hsinchu Science Park,
Hsinchu, Taiwan, R.O.C.

TEL: +886-3-5799500
FAX: +886-3-5799558

Email: support@asix.com.tw
Web: http://www.asix.com.tw