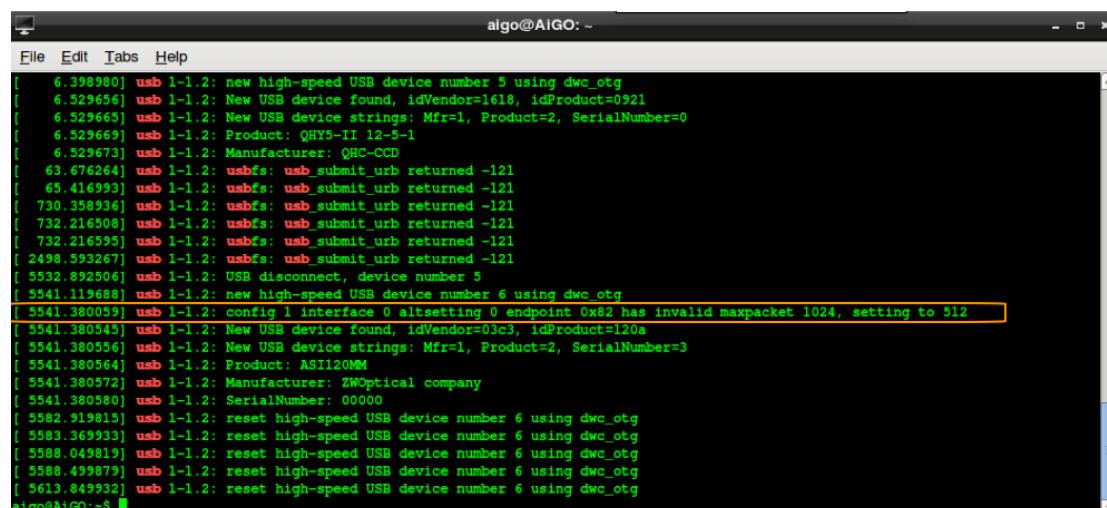


AiGO Field Notes 2017-03-11

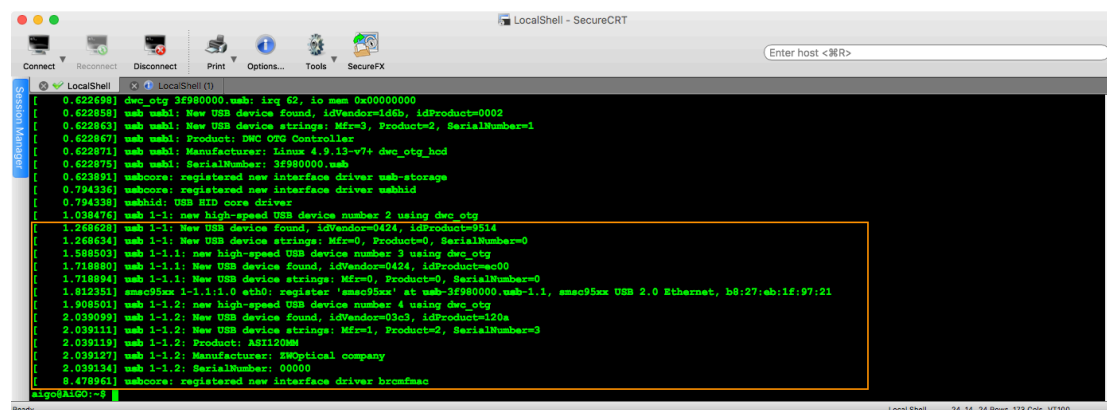
如何更新 ASI 034, ASI120MM/MC 韌體

為解決 ASI120MM/MC 因為 USB 埠最大封包長度不合而導致 AiGO 導星派上無法擷取影像問題，此問題可透過更新 ASI120MM/MC 韌體來解決。



```
algo@AiGO: ~  
File Edit Tabs Help  
[ 6.398980] usb 1-1.2: new high-speed USB device number 5 using dwc_otg  
[ 6.529656] usb 1-1.2: New USB device found, idVendor=1618, idProduct=0921  
[ 6.529665] usb 1-1.2: New USB device strings: Mfr=1, Product=2, SerialNumber=0  
[ 6.529669] usb 1-1.2: Product: QHY5-II 12-5-1  
[ 6.529673] usb 1-1.2: Manufacturer: QHC-CCD  
[ 63.676264] usb 1-1.2: usbfs: usb_submit_urb returned -121  
[ 65.416993] usb 1-1.2: usbfs: usb_submit_urb returned -121  
[ 730.358936] usb 1-1.2: usbfs: usb_submit_urb returned -121  
[ 732.216508] usb 1-1.2: usbfs: usb_submit_urb returned -121  
[ 732.216595] usb 1-1.2: usbfs: usb_submit_urb returned -121  
[ 2498.593267] usb 1-1.2: usbfs: usb_submit_urb returned -121  
[ 5532.892506] usb 1-1.2: USB disconnect, device number 5  
[ 5541.119688] usb 1-1.2: new high-speed USB device number 6 using dwc_otg  
[ 5541.380059] usb 1-1.2: config 1 interface 0 altsetting 0 endpoint 0x82 has invalid maxpacket 1024, setting to 512  
[ 5541.380545] usb 1-1.2: New USB device found, idVendor=03c3, idProduct=120a  
[ 5541.380556] usb 1-1.2: New USB device strings: Mfr=1, Product=2, SerialNumber=3  
[ 5541.380564] usb 1-1.2: Product: ASI120MM  
[ 5541.380572] usb 1-1.2: Manufacturer: ZWOOptical company  
[ 5541.380580] usb 1-1.2: SerialNumber: 00000  
[ 5582.919815] usb 1-1.2: reset high-speed USB device number 6 using dwc_otg  
[ 5593.369933] usb 1-1.2: reset high-speed USB device number 6 using dwc_otg  
[ 5588.049819] usb 1-1.2: reset high-speed USB device number 6 using dwc_otg  
[ 5588.499879] usb 1-1.2: reset high-speed USB device number 6 using dwc_otg  
[ 5613.849932] usb 1-1.2: reset high-speed USB device number 6 using dwc_otg  
algo@AiGO: ~$
```

未更新韌體前，在 AiGO 開啟 x-Terminal，輸入 `dmesg | grep usb` 可見到，**config 1 interface 0 altsetting 0 endpoint 0x82 has invalid maxpacket 1024, setting to 512** 訊息，在此情況下導能導致導星軟體閃退或無法擷取影像；升級完韌體後，即可解決此問題；

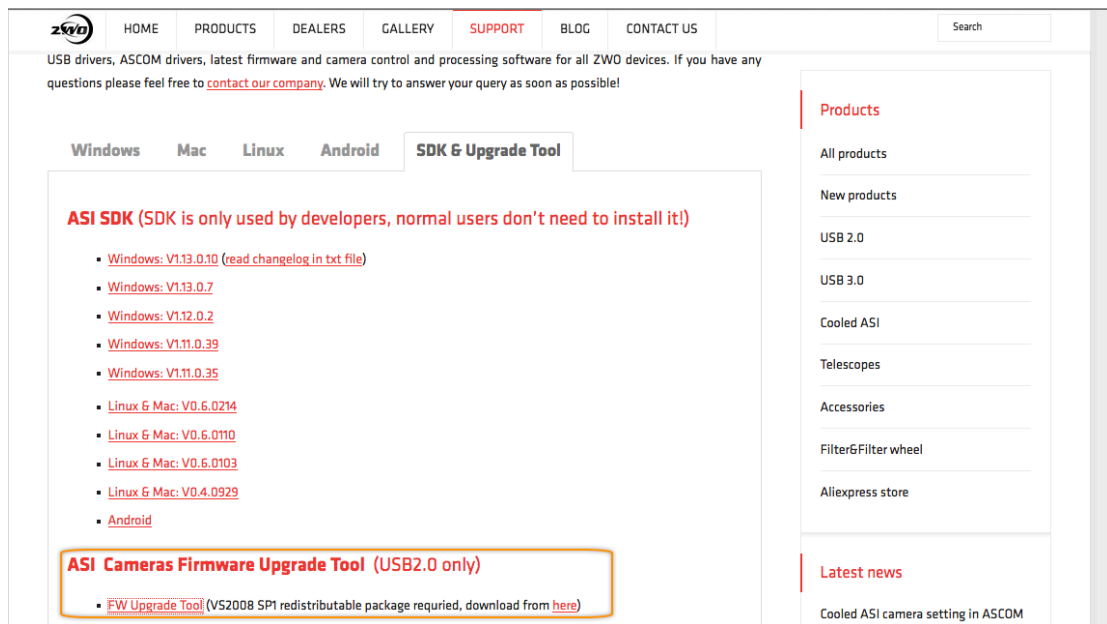


```
LocalShell - SecureCRT  
Connect Reconnect Disconnect Print Options... Tools SecureFX  
Enter host <R>  
[ 0.622698] dwc_otg 3f980000.usb: irq 62, io mem 0x00000000  
[ 0.622698] usb usb1: New USB device found, idVendor=1d6b, idProduct=0002  
[ 0.622693] usb usb1: New USB device strings: Mfr=3, Product=2, SerialNumber=1  
[ 0.622697] usb usb1: Product: DMC OTG Controller  
[ 0.622671] usb usb1: Manufacturer: Linux 4.9.13-v7+ dwc_otg_hcd  
[ 0.622675] usb usb1: SerialNumber: 3f980000.usb  
[ 0.622681] usbcore: registered new interface driver usb-storage  
[ 0.794336] usbcore: registered new interface driver usbhid  
[ 0.794338] usbhid: USB HID core driver  
[ 1.038476] usb 1-1: new high-speed USB device number 2 using dwc_otg  
[ 1.268628] usb 1-1: New USB device found, idVendor=0424, idProduct=9514  
[ 1.268644] usb 1-1: New USB device strings: Mfr=0, Product=0, SerialNumber=0  
[ 1.588503] usb 1-1.1: new high-speed USB device number 3 using dwc_otg  
[ 1.718880] usb 1-1.1: New USB device found, idVendor=0424, idProduct=ec00  
[ 1.718894] usb 1-1.1: New USB device strings: Mfr=0, Product=0, SerialNumber=0  
[ 1.812351] smac95xx 1-1.1.0.eth0: register 'smac95xx' at usb-3f980000.usb-1.1, smac95xx USB 2.0 Ethernet, b8:27:eb:1f:97:21  
[ 1.908581] usb 1-1.2: new high-speed USB device number 4 using dwc_otg  
[ 2.038090] usb 1-1.2: New USB device found, idVendor=03c3, idProduct=120a  
[ 2.039111] usb 1-1.2: New USB device strings: Mfr=1, Product=2, SerialNumber=3  
[ 2.039119] usb 1-1.2: Product: ASI120MM  
[ 2.039127] usb 1-1.2: Manufacturer: ZWOOptical company  
[ 2.039134] usb 1-1.2: SerialNumber: 00000  
[ 2.478941] usbcore: registered new interface driver brmfmac  
algo@AiGO: ~$
```

升級 ASI120MM/MC 韌體的步驟如下：

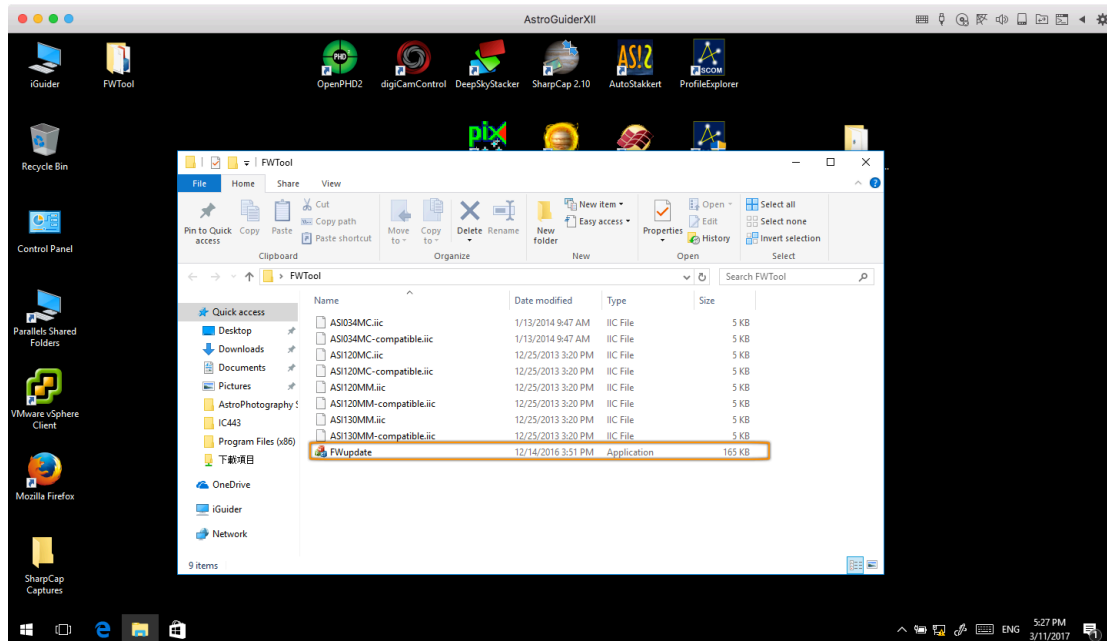
(1) 請至官方網站上下载 Firmware Upgrade tool

<http://astronomy-imaging-camera.com/software/FWTool.zip>

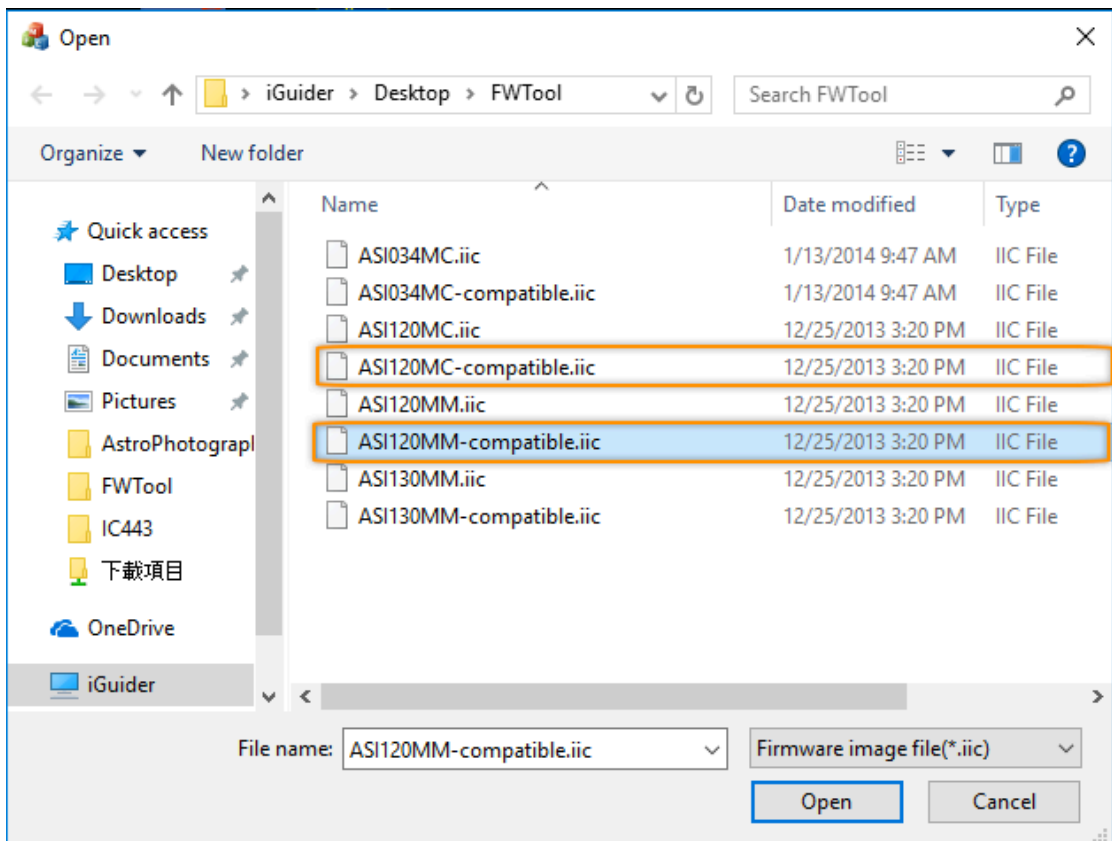
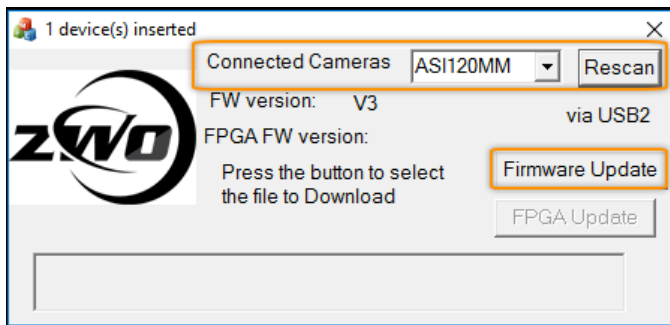


(2) 將檔案解壓縮，如果你的 **Windows** 內沒有安裝微軟 **Visual Studio 2008 SP1** 執行程式庫的話，請在此頁面的“**here**”處下載並安裝該程式庫，否則無法執行 **Firmware Upgrade Tool**;

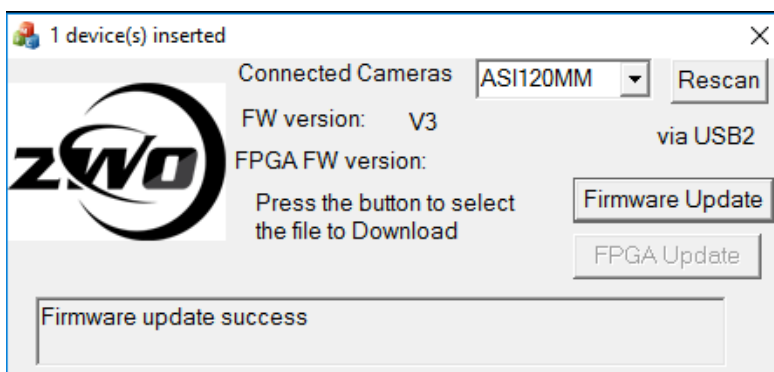
(3) 將 **ASI120MM/MC CCD** 連接到電腦上，然後執行 **FWUpgradeTool** 執行檔



(4) 如果 **CCD** 連接成功，你會在 **FWUpgradeTool** 上見到該 **CCD** 的型號和目前韌體的版本；點擊 **[Firmware Upgrade]** 圖框，並選取相對應的韌體檔 **ASI120MC-compatible.iic** (**ASI120MC**) 或 **ASI120MM-compatible.iic** 後，點擊 **[Open]** 圖框



(5) 如果沒有任何問題，畫面上會顯示 **"Downloading firmware"->"Firmware update success"** 訊息，此時即可退出該程式，並退出 CCD。



* **compatible** 版本韌體執行效能較差，如果此 **CCD** 僅使用於導星用途，則後續不需要在做任何處置，如果後續想利用於行星、太陽、月面等高速錄影的環境，可以再恢復一般韌體版本。

