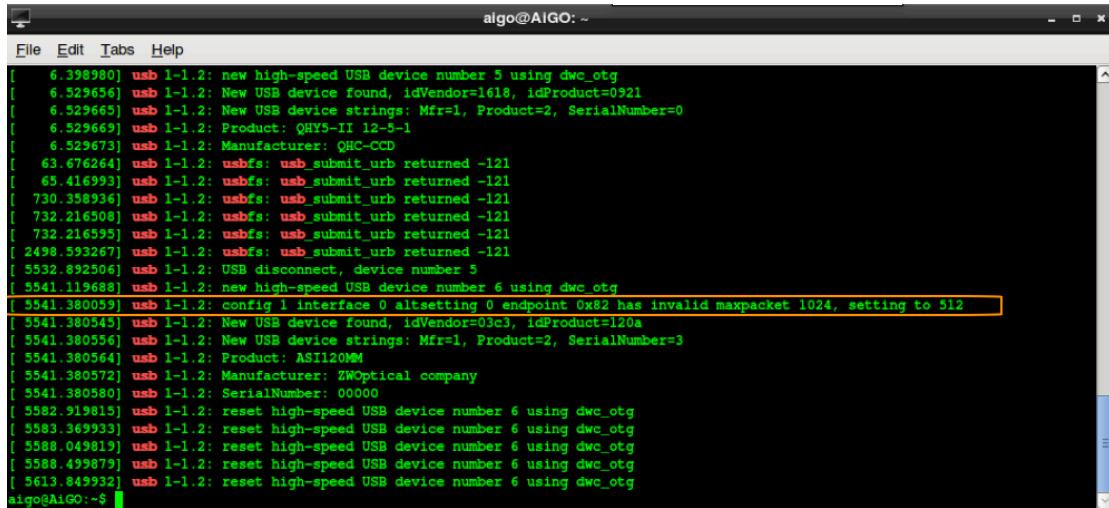


AiGO Field Notes 2017-03-11

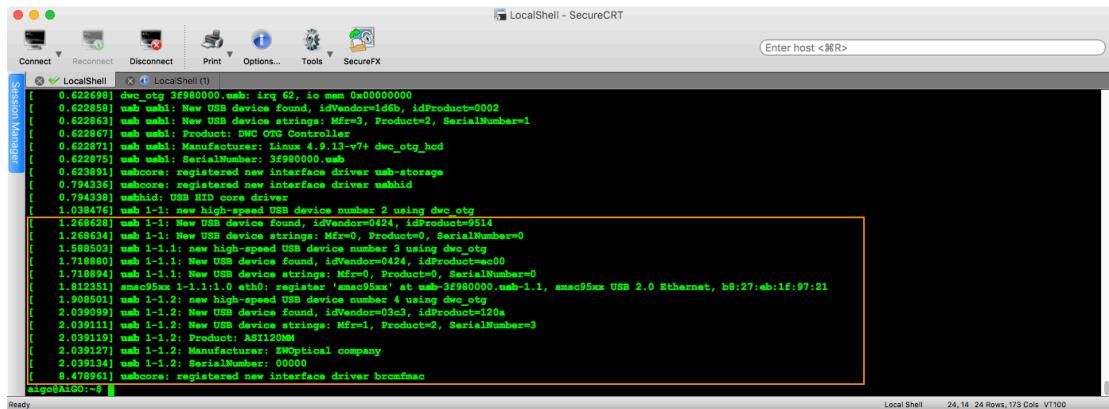
如何更新 ASI 034, ASI120MM/MC 韌體

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。



```
aigo@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 12-51
[ 6.529673] usb 1-1.2: Manufacturer: QHY-CCD
[ 63.676264] usb 1-1.2: usbfis: usb_submit_urb returned -121
[ 65.416993] usb 1-1.2: usbfis: usb_submit_urb returned -121
[ 730.358936] usb 1-1.2: usbfis: usb_submit_urb returned -121
[ 732.216508] usb 1-1.2: usbfis: usb_submit_urb returned -121
[ 732.216595] usb 1-1.2: usbfis: usb_submit_urb returned -121
[ 2498.593267] usb 1-1.2: usbfis: usb_submit_urb returned -121
[ 5532.892506] 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: ZWOptical 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
[ 5583.369933] 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
[ 5588.429879] 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
aigo@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
Enter host <36R>
[ 0.622698] dwc_otg 36980000.usb: irq 62, io mem 0x00000000
[ 0.622858] usb usb1: New USB device found, idVendor=1d6b, idProduct=0002
[ 0.622863] usb usb1: New USB device strings: Mfr=3, Product=2, SerialNumber=1
[ 0.622867] usb usb1: Product: DWC OTG Controller
[ 0.622871] usb usb1: Manufacturer: Linux 4.9.13-v7+ dwc_otg_hcd
[ 0.622875] usb usb1: SerialNumber: 3E980000.usb
[ 0.623891] uehcobus: registered new interface driver uehc-storage
[ 0.794336] uehcobus: registered new interface driver uehchid
[ 0.794338] uehchid: USB HID core drivers
[ 1.030476] uehcobus: registered new high-speed USB device number 2 using dwc_otg
[ 1.260634] uehcobus: found new high-speed USB device at 0x0424, idVendor=03c3, idProduct=9514
[ 1.260634] uehcobus: uehc 1-1: New USB device found, idVendor=03c3, idProduct=9514, SerialNumber=0
[ 1.598503] uehcobus: uehc 1-1.1: new high-speed USB device number 3 using dwc_otg
[ 1.719889] uehcobus: uehc 1-1.1: New USB device found, idVendor=0424, idProduct=<c>0
[ 1.719889] uehcobus: uehc 1-1.1: New USB device strings: Mfr=0, Product=0, SerialNumber=0
[ 1.812351] smsc95xx 1-1.1:1.0 eth0: register 'smsc95xx' at uehc-3E980000.usb-1.1, smsc95xx UBB 2.0 Ethernet, h8:27:eb:1f:97:21
[ 1.908501] uehcobus: uehc 1-1.2: new high-speed USB device number 4 using dwc_otg
[ 2.039099] uehcobus: uehc 1-1.2: New USB device found, idVendor=03c3, idProduct=120a
[ 2.039119] uehcobus: uehc 1-1.2: New USB device strings: Mfr=1, Product=2, SerialNumber=3
[ 2.039119] uehcobus: uehc 1-1.2: Product: ASI120MM
[ 2.039127] uehcobus: uehc 1-1.2: Manufacturer: ZWOptical company
[ 2.039127] uehcobus: uehc 1-1.2: SerialNumber: 00000
[ 2.478961] uehcobus: registered new interface driver brcmfmac
aigo@AiGO: ~ $
```

升級 ASI120MM/MC 韌體的步驟如下：

(1) 請至官方網站上下載 *Firmware Upgrade tool*

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

ASI SDK (SDK is only used by developers, normal users don't need to install it!)

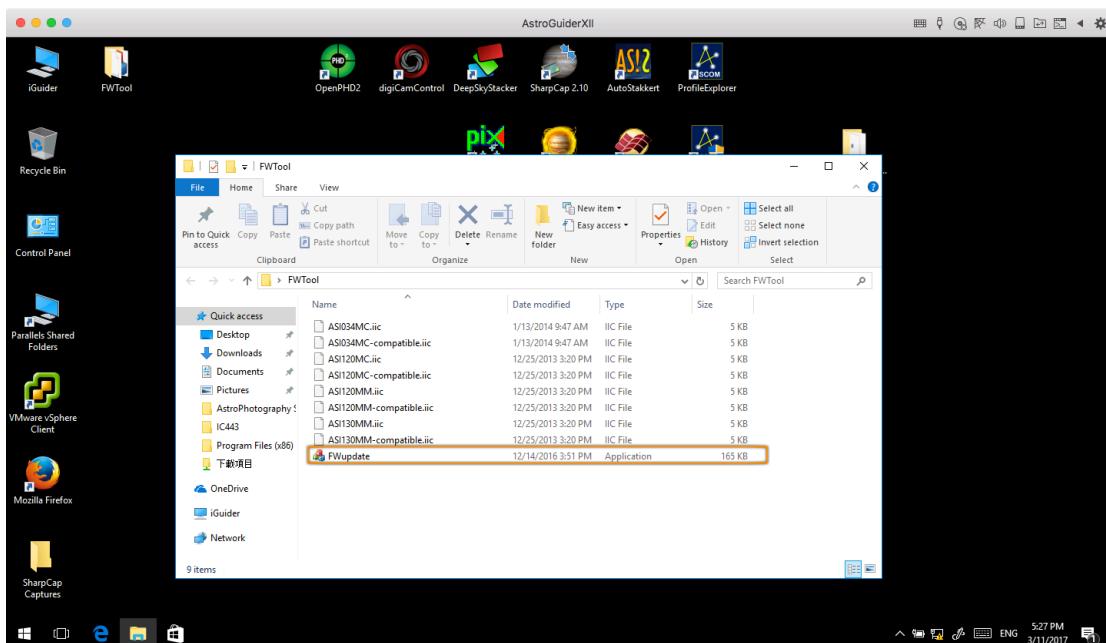
- [Windows: V1.13.0.10](#) (read changelog in txt file)
- [Windows: V1.13.0.7](#)
- [Windows: V1.12.0.2](#)
- [Windows: V1.11.0.39](#)
- [Windows: V1.11.0.35](#)
- [Linux & Mac: V0.6.0214](#)
- [Linux & Mac: V0.6.0110](#)
- [Linux & Mac: V0.6.0103](#)
- [Linux & Mac: V0.4.0929](#)
- [Android](#)

ASI Cameras Firmware Upgrade Tool (USB2.0 only)

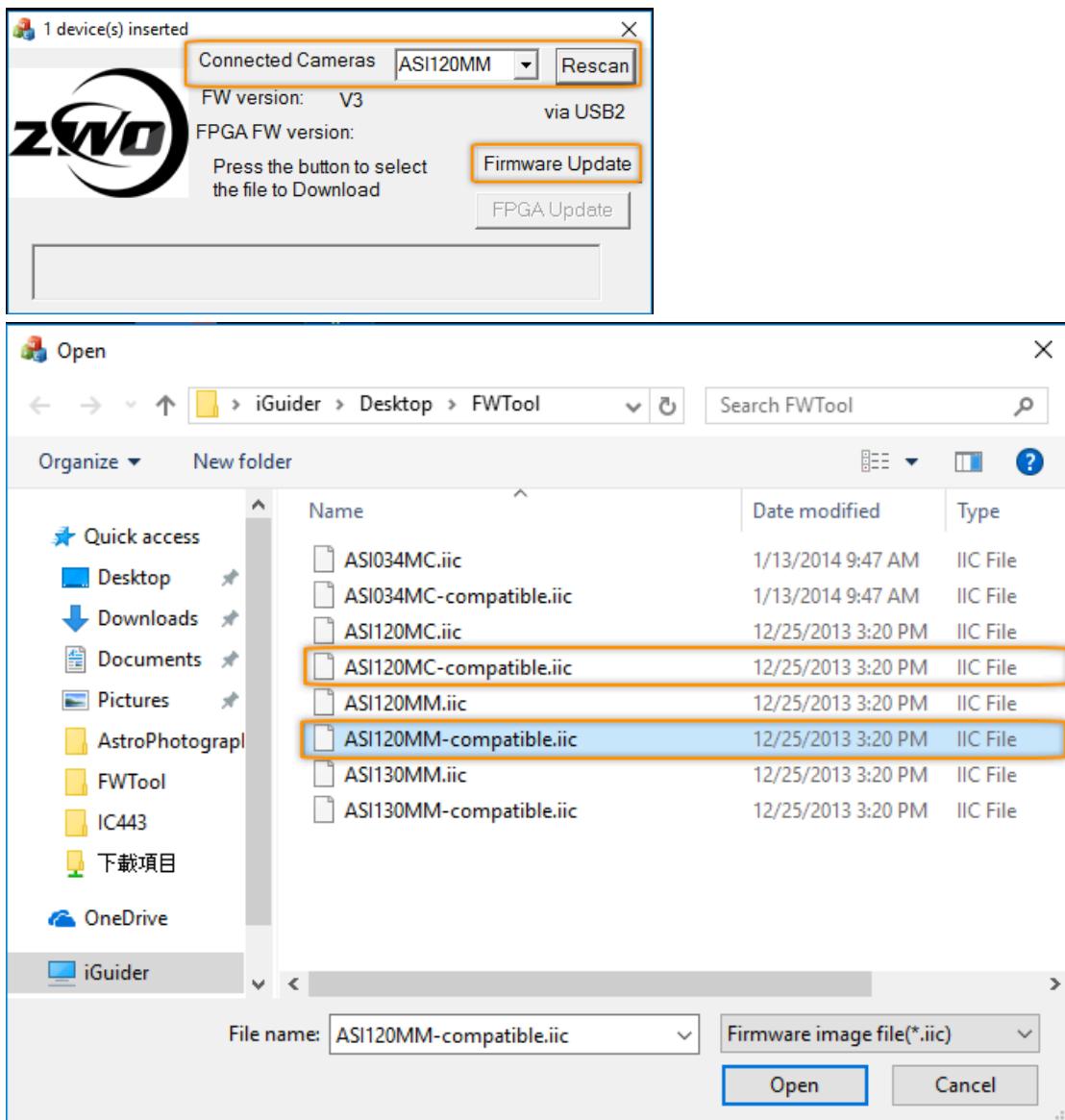
- [FW Upgrade Tool](#) (VS2008 SP1 redistributable package required, download from [here](#))

(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**;

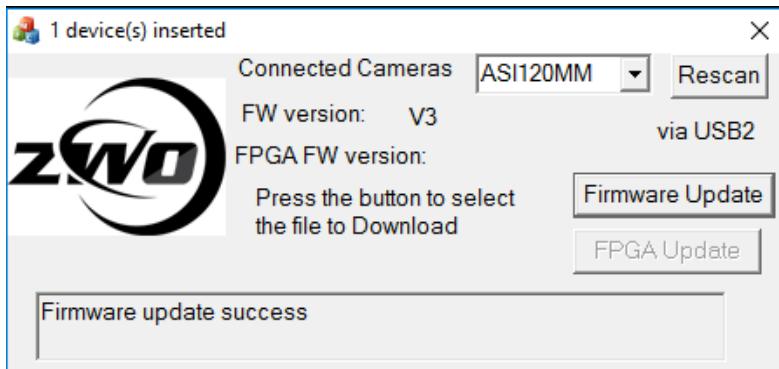
(3) 將 ASI120MM/MC CCD 連接到電腦上，然後執行 **FWUpgradeTool** 執行檔



(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。

