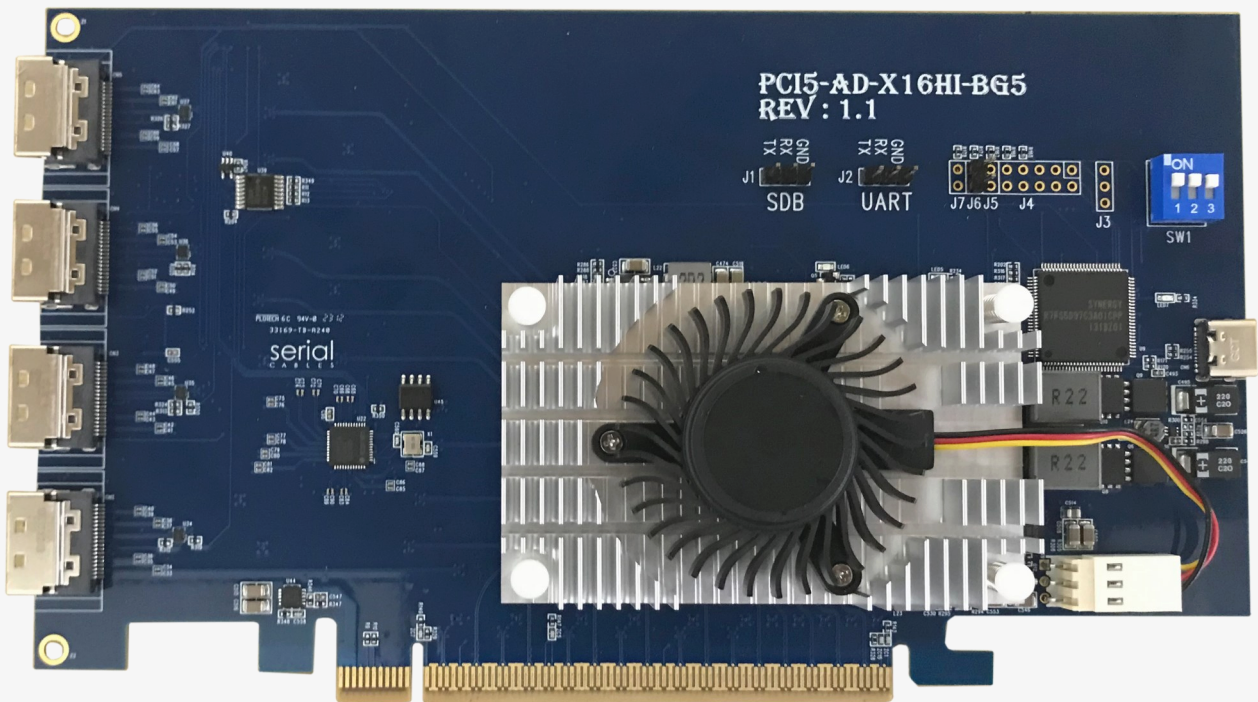


Atlas2 MCIO Host Adapter Card



User's Manual

REV: 1.0

May. 2023

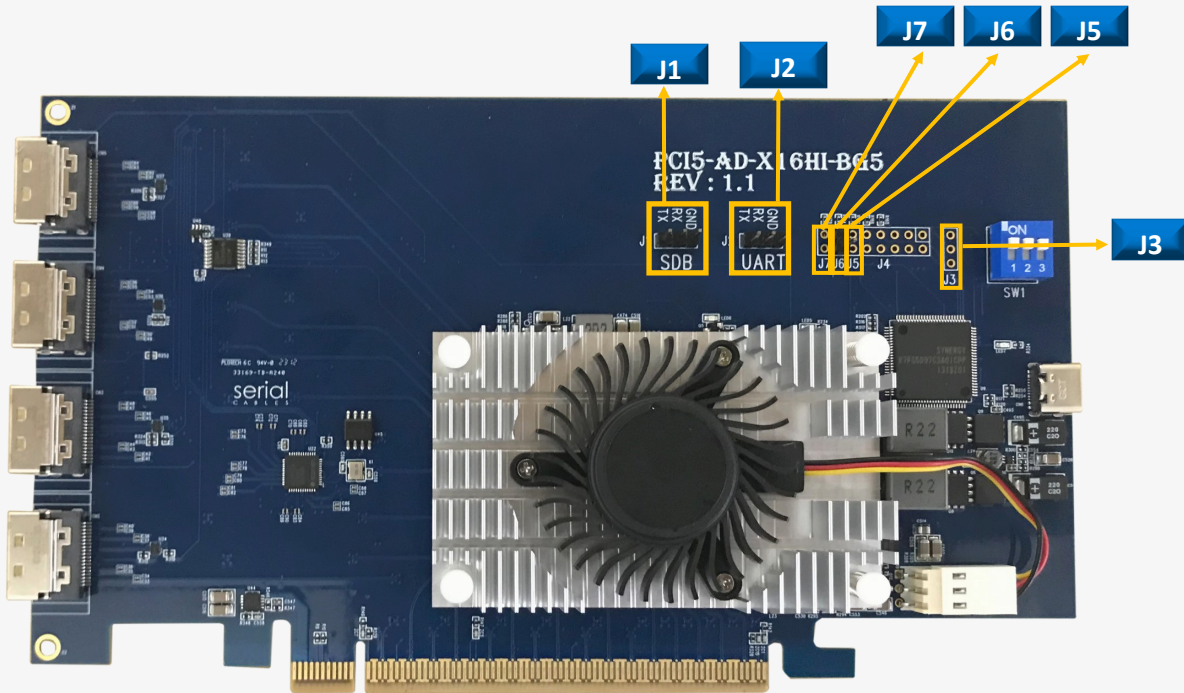


Change history

| REV | Change history |
|-----|----------------|
| | |



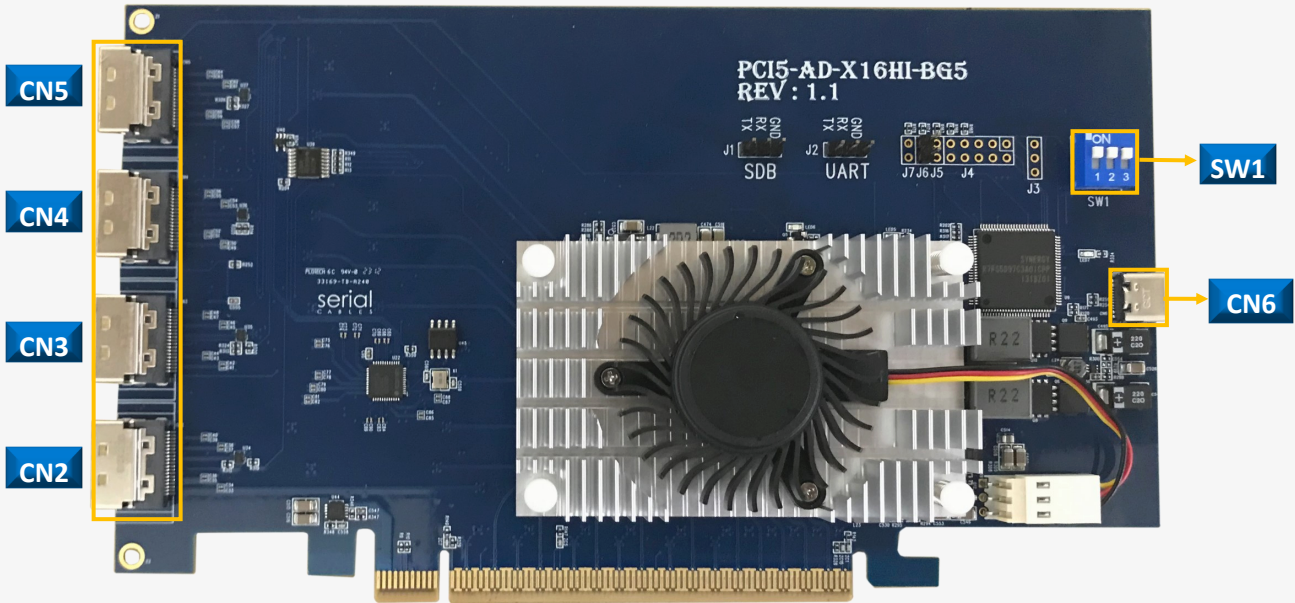
Function Description For Headers



| Location | Descriptions | Pinout |
|----------|--|-----------|
| J6 | ON: MCU without SDB of switch control for debug purpose (etc. needs to access Atlas2 PCIe switch via SDB) | |
| J1 | Atlas2 switch SDB port. UART with 3.3V TTL signals level | TX/RX/GND |
| J2 | Atlas2 switch UART port, require Atlas2 FW support UART with 3.3V TTL signals level | TX/RX/GND |
| J3 | Reserved I/F for MCU FW debugging | |
| J5 | Reserved I/F for MCU boot-loader mode | |
| J7 | Reserved I/F for MCU FW upgrading | |



Function Description For Connectors



| Location | Descriptions |
|----------|--|
| CN2:CN5 | X4 MCIO(mini-cool edge IO), SFF-TA-1016 connector. |
| CN6 | Type-C USB connector for CLI commands |
| SW1 | Slide switch for side-band mode selection <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 20px; height: 10px; background-color: #ccc; border: 1px solid #000; margin-right: 5px;"></div> SC mode (Default) </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 20px; height: 10px; background-color: #ccc; border: 1px solid #000; margin-right: 5px;"></div> ACE mode </div> <div style="display: flex; align-items: center; margin-bottom: 5px;"> <div style="width: 20px; height: 10px; background-color: #ccc; border: 1px solid #000; margin-right: 5px;"></div> ACU mode </div> <div style="display: flex; align-items: center;"> <div style="width: 20px; height: 10px; background-color: #ccc; border: 1px solid #000; margin-right: 5px;"></div> CM mode </div> |



Side-Band Mode Descriptions (SW1)

| Pin | SC mode | ACE mode | ACU mode | CM Mode |
|-----|-----------|-----------|-----------|-----------|
| A8 | CLK_0_P | CLK_0_P | CLK_0_P | CLK_0_P |
| A9 | CLK_0_N | CLK_0_N | CLK_0_N | CLK_0_N |
| B8 | CLK_1_P | PWRDIS | PWRDIS | PERST# |
| B9 | CLK_1_N | HOST_LED | LINKFAT | PWRON |
| A11 | ATLAS_SCL | ATLAS_SCL | ATLAS_SCL | ATLAS_SCL |
| A12 | ATLAS_SDA | ATLAS_SDA | ATLAS_SDA | ATLAS_SDA |
| B11 | PERST#_0 | PERST#_0 | PERST#_0 | PERST#_0 |
| B12 | PERST#_1 | PERST#_1 | PERST#_1 | PERST#_1 |

SC: Serial cables mode

Use for drive direct attached via MCIO cables, support single port U2/U3 and dual ports U2/U3 cables.

visit the website below for more details in cables support

<https://www.serialcables.com/product-category/gen5-mcio-cables/>

ACE: Adapter Card EDSFF

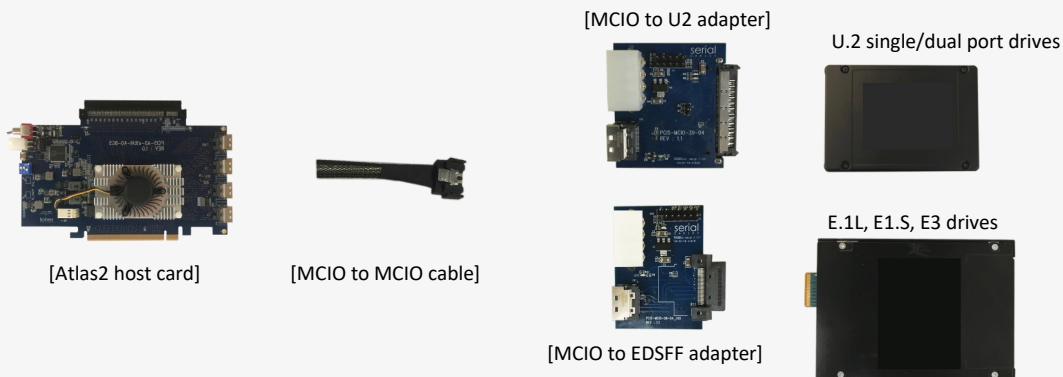
Using MCIO to MCIO cables connect with “MCIO to EDSFF adapter card”.

- a.) It is able set PWRDIS in “H” or “L” in EDSFF drives via CLI.
- b.) Turn ON/OFF the Host LED inside EDSFF drives via CLI.

ACU: Adapter Card U2

Use MCIO to MCIO cable to connect with “MCIO to U2 adapter card”.

- a.) It is able set PWRDIS in “H” or “L” in U2 drives via CLI.
- b.) Turn ON the link match LEDs in adapter if link width isn’t x4.

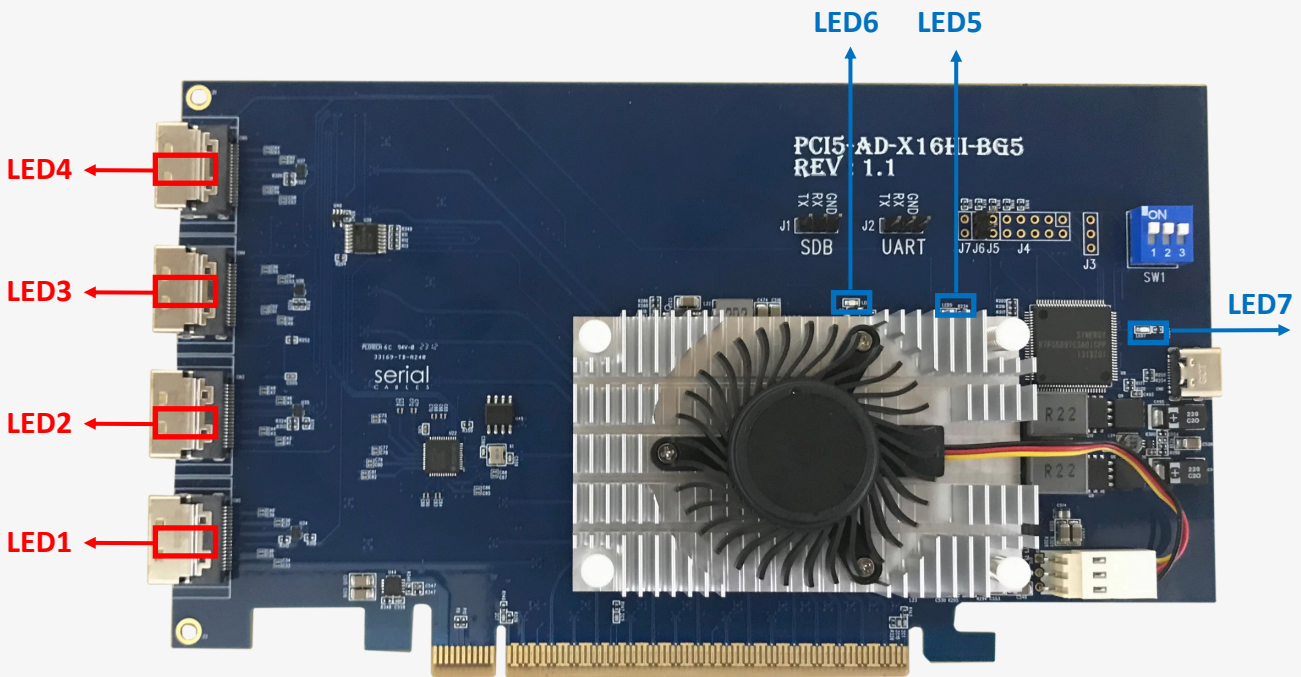


CM: Common mode

- a.) Pin B8 of MCIO connector is PERST#.
- b.) Pin B9 is “PWRON”, always keep in “H” state after host server power on.



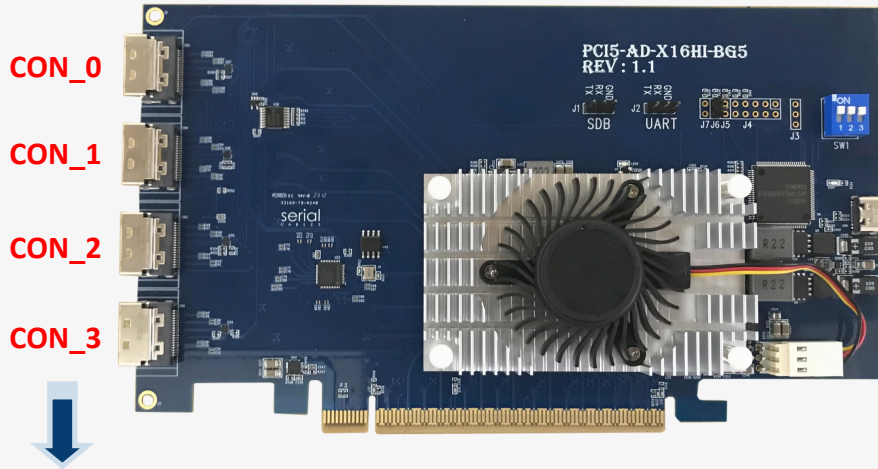
Function Description For LEDs



| Location | Color | Description |
|------------|-------|--|
| LED7 | Green | Host card Healthy LED 0.5Hz blinking for Host card good 2Hz blinking if any failure events detected, etc. voltages, FAN, and temperatures failed |
| LED6 | Blue | Atlas2 switch Heartbeat LED Blinking: Indicates the Atlas2 switch working in Synthetic switch mode Solid ON: Indicates the Atlas2 switch working in base fanout switch mode |
| LED5 | Red | Atlas2 switch failure LED Solid ON: indicates failure detected in Atlas2 switch |
| LED1/2/3/4 | Red | MCIO Port link matching LEDs Each LED corresponds to MCIO port. LED1, LED4, LED3 and LED2 light when attached devices in MCIO port not link at x4 or 2x2 link width. |



MCIO Pin Definition



| | | | | | | | |
|-------|---|--------|--------|--------|--------|----------|----------|
| CON_0 | | 2 | 3 | 5 | 6 | 8 | 9 |
| | A | PERN16 | PERP16 | PERN17 | PERP17 | CLKP1 | CLKN1 |
| | B | PETN16 | PETP16 | PETN17 | PETP17 | CLKP0 | CLKN0 |
| | | 14 | 15 | 17 | 18 | 11 | 12 |
| | A | PERN18 | PERP18 | PERN19 | PERP19 | I2C_SCL3 | I2C_SDA3 |
| | B | PETN18 | PETP18 | PETN19 | PETP19 | PERST#_6 | PERST#_7 |
| CON_1 | | 2 | 3 | 5 | 6 | 8 | 9 |
| | A | PERN20 | PERP20 | PERN21 | PERP21 | CLKP3 | CLKN3 |
| | B | PETN20 | PETP20 | PETN21 | PETP21 | CLKP2 | CLKN2 |
| | | 14 | 15 | 17 | 18 | 11 | 12 |
| | A | PERN22 | PERP22 | PERN23 | PERP23 | I2C_SCL2 | I2C_SDA2 |
| | B | PETN22 | PETP22 | PETN23 | PETP23 | PERST#_4 | PERST#_5 |
| CON_2 | | 2 | 3 | 5 | 6 | 8 | 9 |
| | A | PERN24 | PERP24 | PERN25 | PERP25 | CLKP5 | CLKN5 |
| | B | PETN24 | PETP24 | PETN25 | PETP25 | CLKP4 | CLKN4 |
| | | 14 | 15 | 17 | 18 | 11 | 12 |
| | A | PERN26 | PERP26 | PERN27 | PERP27 | I2C_SCL1 | I2C_SDA1 |
| | B | PETN26 | PETP26 | PETN27 | PETP27 | PERST#_2 | PERST#_3 |
| CON_3 | | 2 | 3 | 5 | 6 | 8 | 9 |
| | A | PERN28 | PERP28 | PERN29 | PERP29 | CLKP7 | CLKN7 |
| | B | PETN28 | PETP28 | PETN29 | PETP29 | CLKP6 | CLKN6 |
| | | 14 | 15 | 17 | 18 | 11 | 12 |
| | A | PERN30 | PERP30 | PERN31 | PERP31 | I2C_SCL0 | I2C_SDA0 |
| | B | PETN30 | PETP30 | PETN31 | PETP31 | PERST#_0 | PERST#_1 |

Note: Host card supports 4 types of side-band modes (SC,ACE, ACU, and CM).

The sideband signals listed in table above is for SC mode.

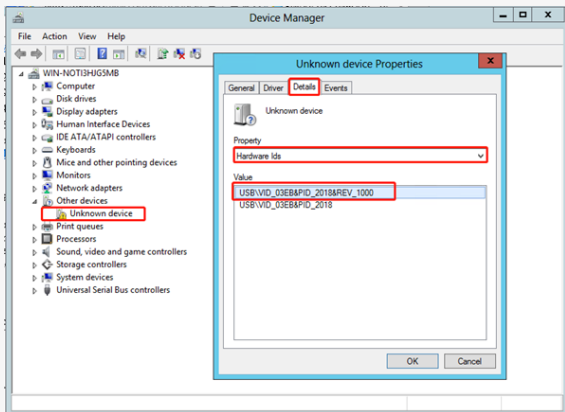


Install USB Driver

Download and install the CDC driver for unidentified device (VID_03EB&PID_2018)

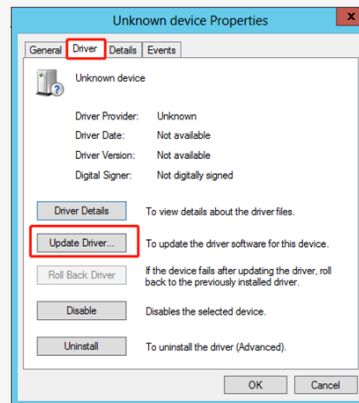
Available at:

https://www.serialcables.com/wp-content/uploads/2018/11/SynergyUSB CDC_20180518.rar



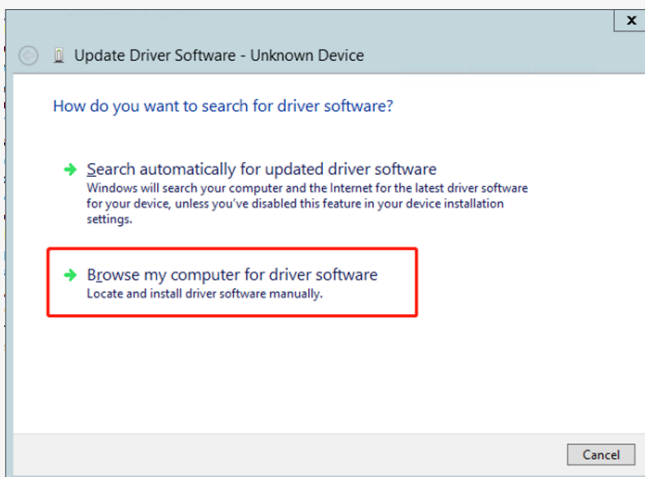
[Figure 1]

Note:

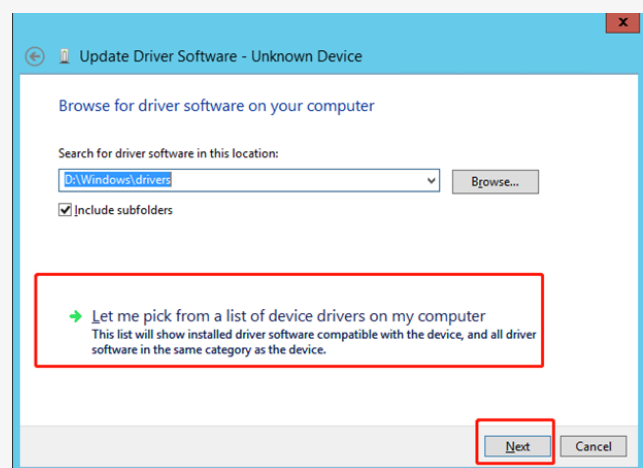


No USB driver is

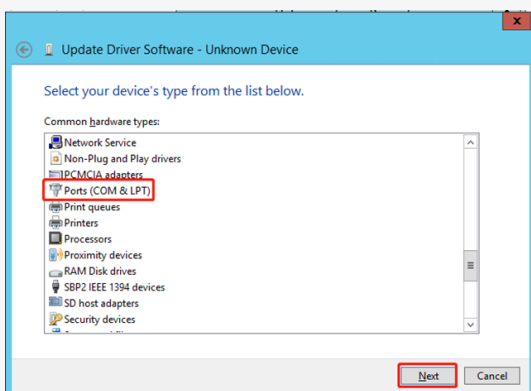
[Figure 2]



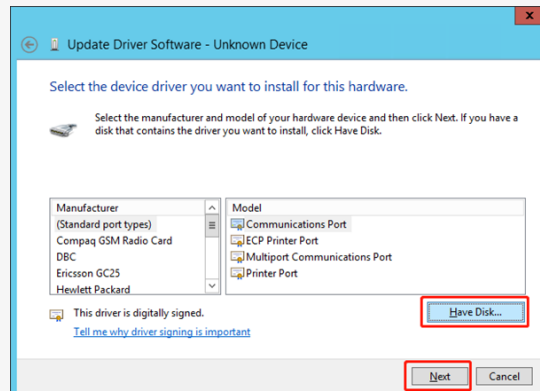
[Figure 3]



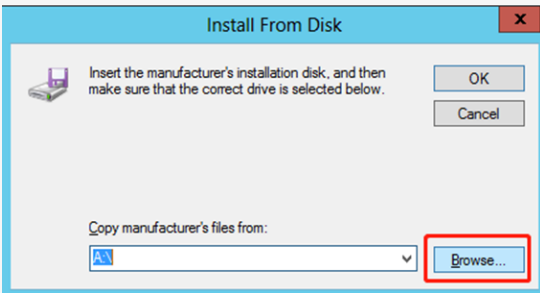
[Figure 4]



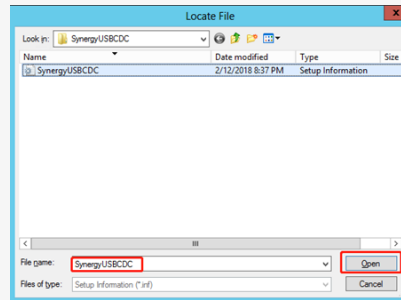
[Figure 5]



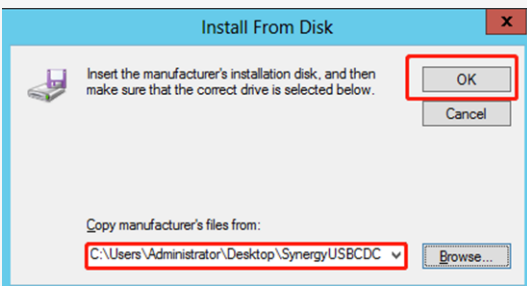
[Figure 6]



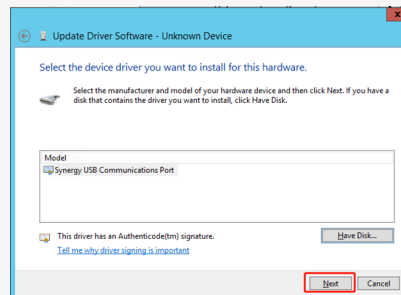
[Figure 7]



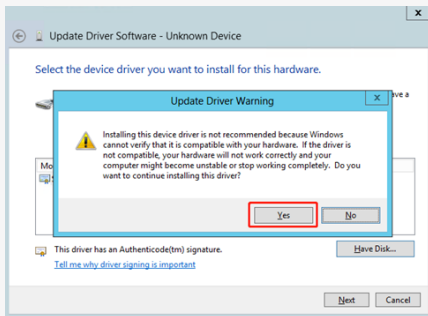
[Figure 8]



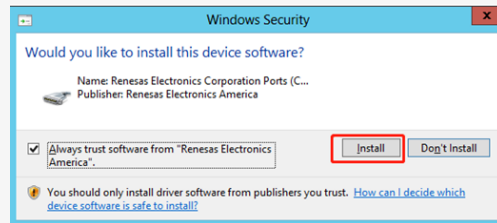
[Figure 9]



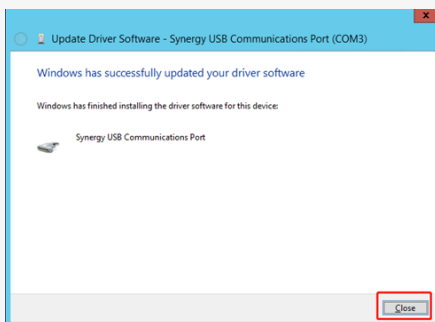
[Figure 10]



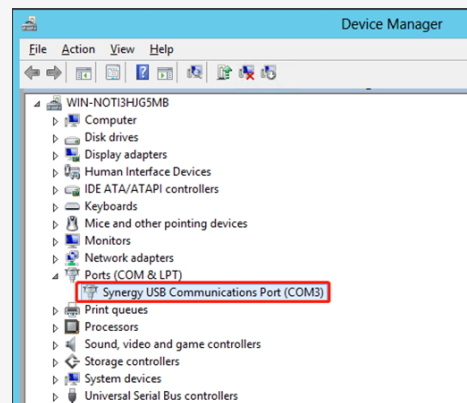
[Figure 11]



[Figure 12]



[Figure 13]



[Figure 14]

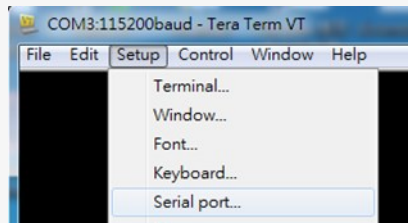


MCU CLI Setup

Step 1. Install and launch Tera Term application



Step 2: To ensure proper communications between host adapter card and the VT100 Terminal emulation, please configure the VT100 Terminal emulation settings to the values shown below:



Step 3:

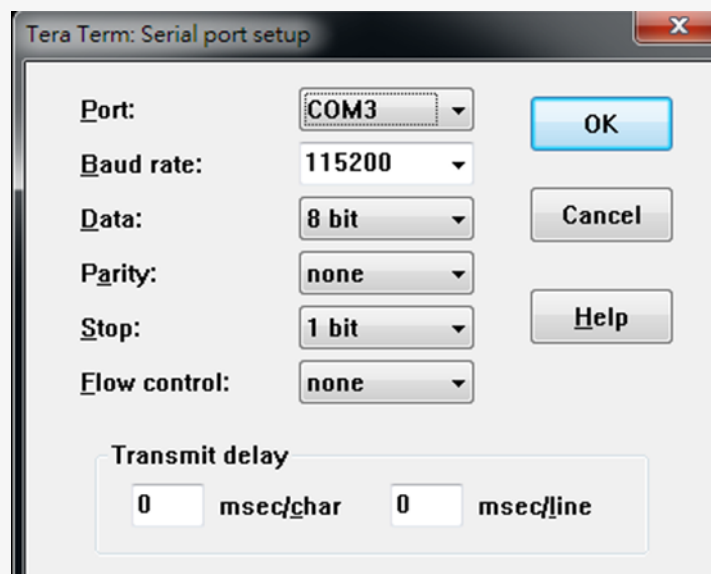
For “Port”, select COM3 in this example. (Depend on which COM port used on Host)

For “Baud rate”, select 115200.

For “Data”, select 8 bit. For “Parity”, select none.

For “Stop”, select 1 bit. For “Flow control”, select: none.

Click OK when you have finished your selections.





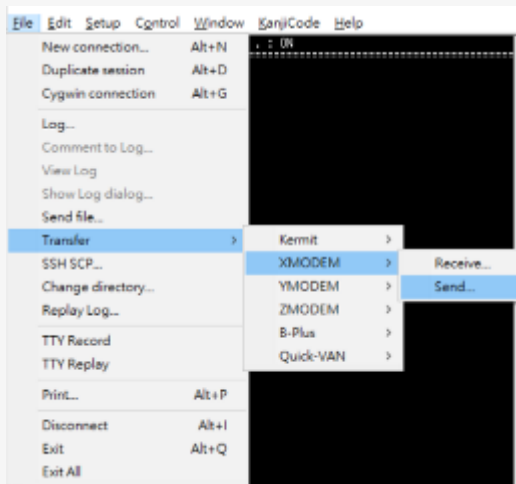
MCU FW Upgrading (Option 1)

Step 1. Type “fdl mcu” in CLI commands

```
File Edit Setup Control Window KanjiCode Help
Cmd>fdl mcu
=====
Xmodem update Atlas2 FW & Config
=====
Use Q Or q to quit Download
Send data using the -Xmodem- protocol from terminal emulator now!
Xmodem successfully received 244736 bytes
Complete update process !!!
Please reboot system now !!!
```

Step 2: Sending updated FW(i.e Atlas2_MCIO_Host_Card_Fw_v001) via XMODEM.

It will take few seconds to complete update process.

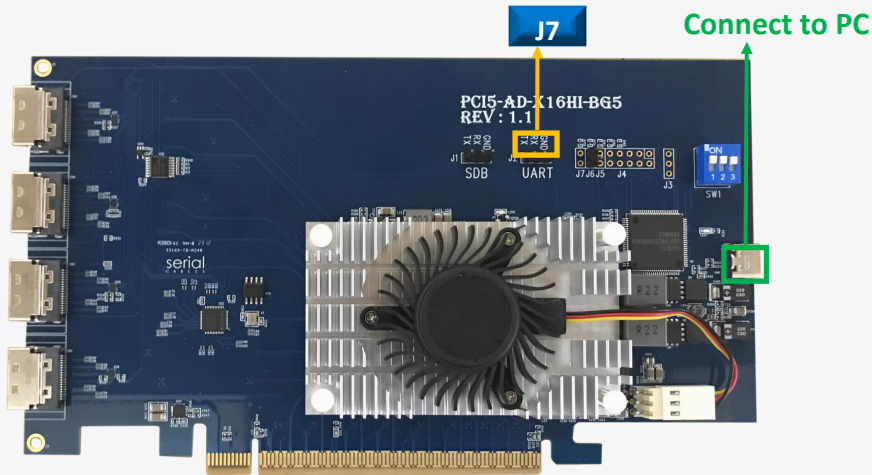


Step 3. Power cycle host card to apply new FW setting.



MCU FW Upgrading (Option 2)

Step 1. Jumper J7 ON to force MCU entering FW upgrading mode.



Step 2: Install host adapter card into PCIe slot of server, and connect Micro USB port to PC which uses for FW upgrading, then power on the server.

Step 3.

- a.) it will show an added USB device in PC or laptop.
- b.) Put upgrading FW(i.e `PCI5_AD_x16HI_BG5_V01.srec`) into the folder of FW.
- c.) Put `update.txt` in the root folder.

| 名稱 | 日期 | 類型 | 大小 | 時間 |
|-----------------|-------------------|-------|------|----|
| Config | 2017/1/1 上午 12:00 | 檔案資料夾 | | |
| FW | 2017/1/1 上午 12:00 | 檔案資料夾 | | |
| Web | 2017/1/1 上午 12:00 | 檔案資料夾 | | |
| device_info.txt | 2017/1/1 上午 12:00 | 文字文件 | 1 KB | |
| update.txt | 2018/2/9 下午 06:02 | 文字文件 | 1 KB | |

Step 4. Power cycle host card to apply new FW setting.



MCU Commands List

| Commands | Description |
|-----------------|---|
| fdl | Update the configuration file or firmware for Atlas2 PCIe switch and MCU FW upgrading |
| lsd | Shows switch temperature, FAN speed, voltages and Side-band modes. |
| mw | Write 32bits data into any register as defined in Atlas2 switch |
| dr | Dump the values of Atlas2 switch for any register with specified address. |
| dp | Dump the values of Atlas2 switch for any register with specified port number. |
| df | Dump the values of Atlas2 flash with specified address. |
| ssdrst | Issue 300ms duration PERST# to attached devices in MCIO ports or straddlePCIe connector. |
| pwrdis | Set PWRDIS to H state (disable SSD power), or L state (enable SSD power) |
| hled | Turn ON/OFF the host LED inside EDSFF drive |
| showport | Show link status for USP in golden finger, DSP for MCIO ports and Straddle port. |
| bist | On-board I2C devices diagnostic. |
| spread | Show spread information, set -0.3% or -0.5% SSC in PCIe reference clock to Atlas2 switch. |
| clk | Show the clock output status or disable/enable the clock output for all MCIO ports. |
| iicwr | SMBus data read from drive attached in MCIO port. |
| iicw | SMBus data write to drive attached in MCIO port. |
| ver | Shows card information, MCU FW and Atlas2 FW version. |
| sysinfo | Shows system information |
| reset | MCU FW reset (not including Atlas2 PCIe switch) |



fdl Command

Update the configuration file or firmware for Atlas2 PCIe switch.

-Usage: fdl sbr|fw|mfg|MCU

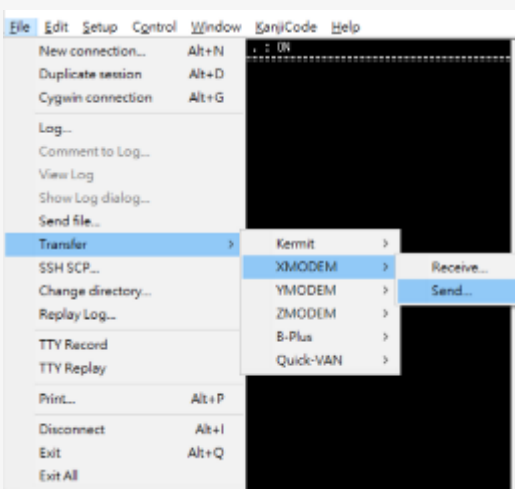
```
File Edit Setup Control Window KanjiCode Help
fdl :
Xmodem download image.
- Usage: fdl <cfg|sbr|fw|mfg|mcu>
- sbr : update sbr into switch.
- fw  : update fw into switch.
- mfg : update mfg into switch.
- mcu : update fw into MCU.
```

sbr=update the SBR file into flash of Atlas2 switch. (Applicable in base switch mode)

fw=program or upgrade FW into flash of Atlas2 switch (Applicable in Synthetic mode)

mfg=update mfg file into flash of Atlas2 switch (Reserved for further used).

mcu=on-board MCU FW upgrading





Isd Command

Shows switch temperature, FAN speed, voltages and Side-band modes.

-Usage: Isd

```
File Edit Setup Control Window KanjiCode Help
Cmd>Isd
Thermal:
  Switch Temperature : 37 degree
Fans Speed:
  Switch Fan : 4116 rpm
Voltage Sensors:
  12V Voltage : 12300 mV
  1.8V Voltage : 1816 mV
  1.8AV Voltage : 1835 mV
  1.25V Voltage : 1284 mV
  0.8V Voltage : 815 mV
Side-Band Mode: SC
```

Thermal: Temperature sensor near Atlas2 PCIe switch

Fan Speed: The FAN TACH value reading.

Voltage sensors: Main voltages monitoring in Atlas2 host card.

Side-Band Mode: Shows the side-band mode in running.



mw Command

Write 32bits data into any register as defined in Atlas2 switch

-Usage: mw <register(H)> <data(H)>

-register(H) : register should be 0x00000000 ~ 0xFFFFFFFF

-data(H) : data should be 0x00000000 ~ 0xFFFFFFFF

```
File Edit Setup Control Window KanjiCode Help
mw fff0017c ffffffff
Cmd>
```

Write data "0xFFFFFFFF" into register address "0xFFF0017C" of Atlas2 PCIe switch



dr Command

Dump the values of Atlas2 switch for any register with specified address.

-Usage: dr <register<H> [count(H)]

-register(H) : register should be 0x00000000 ~ 0xFFFFFFFF

-count(H) : count should be 0x00000000 ~ 0xFFFFFFFF

```
File Edit Setup Control Window KanjiCode Help
Cmd>dr 60800000
60800000:c0341000 00100006 060400a0 00010010
60800010:fa000000 00000000 00160403 000001f1
60800020:0000ffff 0001fff1 00000000 00000000
60800030:00000000 00000040 00000000 00000128
60800040:c8034801 00000008 03866805 00000000
60800050:00000000 00000000 00000000 00000000
60800060:00000000 00000000 0052a410 012c8004
60800070:00090020 0042ed05 01030000 00000000
60800080:00000000 00000000 00000000 00350840
60800090:00000000 81803f3e 011e0003 00000000
608000a0:00000000 0000000d 00321000 00000000
608000b0:00000000 00000000 00000000 00000000
608000c0:00000000 00000000 00000000 00000000
608000d0:00000000 00000000 00000000 00000000
608000e0:00000000 00000000 00000000 00000000
608000f0:00000000 00000000 00000000 00000000
```

Dump the values in Atlas2 switch registers, start from address "0x60800000" .

```
File Edit Setup Control Window KanjiCode Help
Cmd>dr 60800000 4
60800000:c0341000
```

Dump the values in Atlas2 switch registers, start from address "0x60800000" with 4bytes count.



dp Command

Dump the values of Atlas2 switch for any register with specified port number.

-Usage: dp port_number(D)

-port_number(D) : port_number should be 0 ~ 31

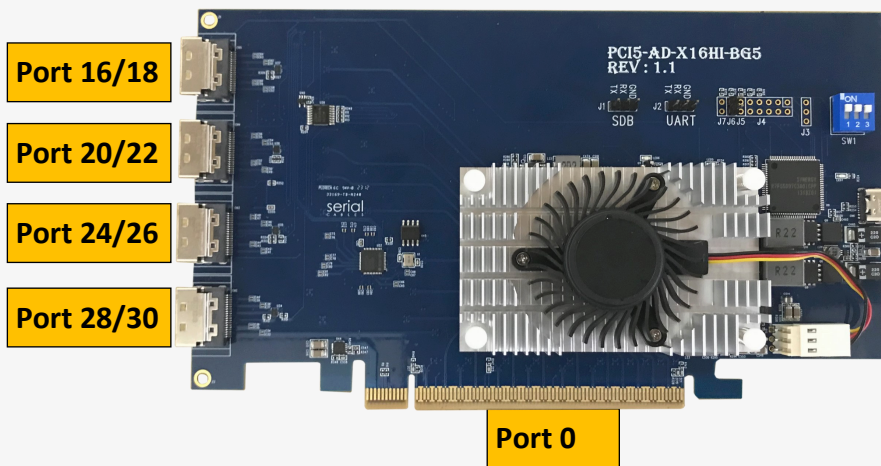
```

File Edit Setup Control Window KanjiCode Help
Cmd>dp 0
60800000:c0341000 00100006 060400a0 00010010
60800010:fa000000 00000000 00180403 000001f1
60800020:0000ffff 0001ffff 00000000 00000000
60800030:00000000 00000040 00000000 00000128
60800040:c8034801 00000008 03866805 00000000
60800050:00000000 00000000 00000000 00000000
60800060:00000000 00000000 0052a410 012c8004
60800070:00090020 0042ed05 01030000 00000000
60800080:00000000 00000000 00000000 00350840
60800090:00000000 81803f3e 011e0003 00000000
608000a0:00000000 0000000d 00321000 00000000

```

Dump the values in Atlas2 switch registers for Port "0".

Port number mapping





df Command

Dump the values of Atlas2 flash with specified address.

-Usage: df address(H) [count(H)]

-address(D) : address should be 0x00000000 ~ 0xFFFFFFFF

-count(H) : count should be 0x00000000 ~ 0xFFFFFFFF

```

File Edit Setup Control Window KanjiCode Help
Cmd>df 400
00000400:3ba234c0 00020000 60020000 60040000
00000410:10000000 70040000 10000000 00000000
00000420:01000000 00000000 01000000 00000000
00000430:01000000 00000000 01000000 00000000
00000440:01000000 00000000 01000000 00000000
00000450:01000000 00000000 01000000 00000000
00000460:01000000 00000000 01000000 80040000
00000470:38040000 00000000 01000000 00240040
00000480:92000000 00000000 00000000 00000000
00000490:4c30908c 80000100 01000000 02000000
000004a0:3c140128 051ebb00 00022805 00000000
000004b0:00000000 00ff7100 00000000 0000c029
000004c0:08f09fe5 00f020e3 00f020e3 08f09fe5
000004d0:00000000 00000000 00000000 00000000
000004e0:00000000 00000000 00000000 00000000
000004f0:00000000 00000000 00000000 00000000

```

Dump the values in Atlas2 flash registers, start from address "0x00000400".

```

File Edit Setup Control Window KanjiCode Help
Cmd>df 400 4
00000400:3ba234c0

```

Dump the values in Atlas2 flash registers, start from address "0x00000400" with 4bytes count.



ssdrst Command

Issue PERST# with 300ms duration to attached devices in MCIO ports.

-Usage: ssdrst <con(D)|all> [channel(C)]

-con(D) : con number should be 0 ~ 3

-channel(C) : channel number should be a or b

```
File Edit Setup Control Window KanjiCode Help
Cmd>ssdrst 1
Reset con 1 success
Cmd>
```

Issue PERST# signals in MCIO CON1.

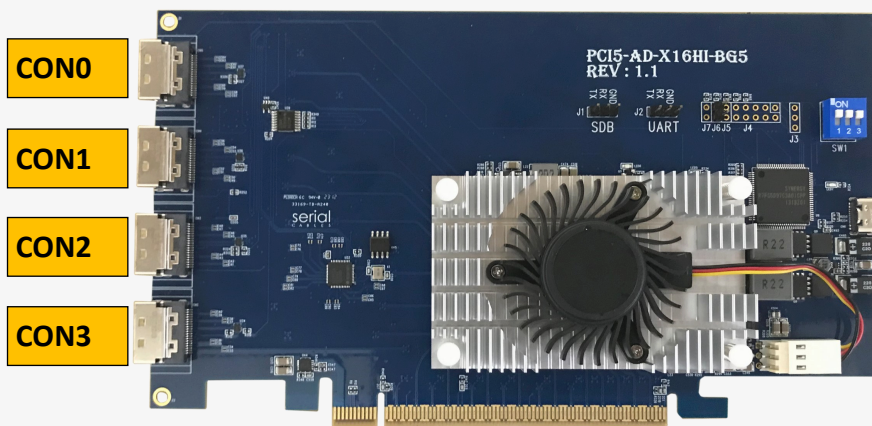
```
File Edit Setup Control Window KanjiCode Help
Cmd>ssdrst all
Reset all con success
```

Issue PERST# signals in MCIO CON0 to CON3.

```
File Edit Setup Control Window KanjiCode Help
Cmd>ssdrst 1 a
Reset channel a of con 1 success
```

Issue PERST# signals in MCIO CON1 for channel A.

CON Mapping





pwrdis Command (Applicable in ACE and ACU modes)

Set the signal level of pwrdis in MCIO connectors to be high or low.

- Usage: pwrdis [<con(D)|all> <h/l>(C)]
- con(D) : con number should be 0 ~ 3
- h(C) : disable SSD power
- l(C) : enable SSD power
- Ex : pwrdis all h
- Ex : pwrdis 1 h

```
File Edit Setup Control Window KanjiCode Help
Cmd>pwrdis all h
Set con 0 pwrdis level to high success.
Set con 1 pwrdis level to high success.
Set con 2 pwrdis level to high success.
Set con 3 pwrdis level to high success.
```

Set PWRDIS to "H" state in all of MCIO ports

```
File Edit Setup Control Window KanjiCode Help
Cmd>pwrdis 1 h
Set con 1 pwrdis level to high success.
Cmd>pwrdis 1 l
Set con 1 pwrdis level to low success.
```

Set PWRDIS to "H" or "L" state in MCIO port 1



hled Command (Applicable in ACE mode)

Set hled signals in EDSFF SSD to be on or off.

- Usage: htled <con(D)|all> <on|off>
- con(D) : con number should be 0 ~ 3
- Ex : hled all on
- Ex : hled 1 on

```
File Edit Setup Control Window KanjiCode Help
Cmd>hled all on
Set con 0 host led on success.
Set con 1 host led on success.
Set con 2 host led on success.
Set con 3 host led on success.
```

Turn on all of host LEDs in EDSFF drives.

```
File Edit Setup Control Window KanjiCode Help
Cmd>hled 1 on
Set con 1 host led to on success.
Cmd>lend 1 off
Unsupported Cmd Command
Cmd>hled 1 on
Set con 1 host led to on success.
Cmd>hled 1 off
Set con 1 host led to off success.
```

Turn ON/OFF host LED in EDSFF drive which attached in MCIO port1



showport Command

Show link status for USP in golden finger, DSP for MCIO ports and Straddle port.

-Usage: showport

Refer to page 18 for Port number and page 20 for CON number mapping.

Negotiated link speed/width

Maximum link speed/width

```

File Edit Setup Control Window KanjiCode Help
Cmd>showport
Atlas2 chip ver: A0
=====
Upstream
=====
USP: port 0, speed = Gen3, width = 16, max_speed = Gen5, max_width = 16
=====
Downstream
=====
Con0: port 16 speed = Gen5, width = 4, max_speed = Gen5, max_width = 4
Con1: port 20 speed = Gen4, width = 2, max_speed = Gen5, max_width = 2
Con1: port 22 speed = Gen4, width = 2, max_speed = Gen5, max_width = 2
Con2: port 24 speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con2: port 25 speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con2: port 26 speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con2: port 27 speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con3: port 28 speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con3: port 29 speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con3: port 30 speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con3: port 31 speed = Gen1, width = 0, max_speed = Gen5, max_width = 1

```

USP (Upstream port), the port in Golden finger.

etc.

The maximum link speed is Gen5 and link width to x16 in default.

The negotiated link speed and width to Gen3 x16.

DSP (Downstream ports), the ports in MCIO connectors.

Atlas2 PCIe switch supports DPR (Dynamic Port Reconfiguration), it configures Gen5 x1 for 16 lanes in MCIO ports 16 to 31.

etc.

1. A Gen5 x4 device attached in CON0, it shows the negotiated speed/width to be Gen5x4 in Port 16.
2. A Gen4 dual port SSDs attached in CON1, it shows Gen4x2 in Port 20 and Port 22.



bist Command

On-board I2C devices diagnostic.

- Usage: bist

```
File Edit Setup Control Window KanjiCode Help
Cmd>bist

Scan I2C channel 0 devices ....
Device address:0xa0 ok.
Device address:0x12 ok.

Scan I2C channel 1 devices ....
Device address:0xe2 ok.
```

Show all of on-board I2C devices for debug purpose.



Spread Command

Set the PCIe reference clock to Show spread information or set -0.5% SSC in PCIe reference clock to Atlas2 switch.

-Usage: spread [1|2|off]

-1 : Down spreading 3000PPM.

-2 : Down spreading 5000PPM.

- off : Turn off spread.

1. Spread command usually used for SRIS testing.

It requires to power cycle host card to apply new “spread” setting.

```
File Edit Setup Control Window KanjiCode Help
Cmd>spread
Spread status:off
Cmd>
```

```
File Edit Setup Control Window KanjiCode Help
Cmd>spread
Spread status:Down spreading 3000PPM.
```

```
File Edit Setup Control Window KanjiCode Help
Cmd>spread
Spread status:Down spreading 5000PPM.
```

Shows the reference clock of Atlas2 switch running in CFC (spread off) or SSC (3000ppm or 5000ppm).

```
File Edit Setup Control Window KanjiCode Help
Cmd>spread 1
Set down spreading 3000PPM success.
Cmd>spread 2
Set down spreading 5000PPM success.
```

Set to PCIe reference clock to SSC(3000ppm or 5000ppm).



clk Command

Show the clock output status or disable/enable the clock output for all MCIO ports.

Usage: clk [en|dis]

clk command usually used for SRNS or SRIS testing.

```
File Edit Setup Control Window KanjiCode Help
Cmd>clk
DIFF0 output enable
DIFF1 output enable
DIFF2 output enable
DIFF3 output enable
DIFF4 output enable
DIFF5 output enable
DIFF7 output enable
DIFF8 output enable
```

Show the clock output status for Atlas2 PCIe switch and all MCIO ports.

```
File Edit Setup Control Window KanjiCode Help
Cmd>clk dis
OK, clock output disable
Cmd>
```

```
File Edit Setup Control Window KanjiCode Help
Cmd>clk
Out00: clk disable
Out01: clk disable
Out02: clk disable
Out03: clk disable
Out04: clk disable
Out05: clk disable
Out06: clk disable
Out07: clk disable
Out08: clk enable
```

1. Enable or disable clock output are for all of clocks in MCIO ports, the PCIe reference clock to Atlas2 PCIe switch is always enabled.
2. Clock output/disable feature is allowed for dynamically changed, it doesn't need to power cycle host card to apply new setting.
3. The clock enable/disable setting will be stored in MCU and applied automatically in next time host card power on.



iicwr Command

SMBus data read from drive attached in MCIO ports.

-Usage: iicwr <Addr(H)> <con(D)> <ReadByte(D)> <WriteData(H)>

-Addr(H) : Device address

C-on(D) : Con should be 0 ~ 3

-ReadByte(D) : Max read byte is 32 byte

-WriteData(D) : Max write byte is 32 byte

Ex : iicwr d4 1 8 0

```
File Edit Setup Control Window KanjiCode Help
Cmd>iicwr d4 1 8 0
Data [0] = 6
Data [1] = 7b
Data [2] = 1f
Data [3] = 1a
Data [4] = 0
Data [5] = 0
Data [6] = 0
Data [7] = 26
```

Read 8 bytes data starts from register "0" of I2C slave address "0xd4" in drive which attaches in MCIO CON1.

Refer to page 20 for CON number mapping.



iicw Command

SMBus data write to drive attached in MCIO port.

-Usage: iicw <Addr(H)> <conD> <WriteData(H)...>

-Addr(H) : Device address

-con(D) : Con should be 0 ~ 4

-WriteData(D) : Max write byte is 128 byte

Ex : iicw d4 1 ff

```
File Edit Setup Control Window KanjiCode Help
Cmd>iicw d4 1 ff
Write Data [0] = ff
```

Write data "0xff" to I2C slave address "0xd4" in drive which attaches in MCIO CON 1.

Refer to page 20 for CON number mapping.



ver Command

Shows card information, MCU FW and Atlas2 FW version.

-Usage: ver

```
File Edit Setup Control Window KanjiCode Help
Cmd>ver
S/N      : B5A042305010001
Company  : Serial Cables
Model    : ATLAS2 MCIO HOST CARD
Version  : 0.0.2      Date : May  2 2023 15:49:11
=====
Atlas2 Firmware Revision Information:-
=====
Active Firmware: unknown
Version : unknown
Platform: unknown
```



sysinfo Command

Show system information.

Sysinfo command is for host card diagnostic, it combines ver, lsd, pwrdis, spread, clk, showport, and bist commands.

- Usage: sysinfo

```

File Edit Setup Control Window KanjiCode Help
Cmd>sysinfo
=====
ver
=====
S/N      : B5A042305010001
Company  : Serial Cables
Model    : ATLAS2 MCIO HOST CARD
Version  : 0.0.2      Date : May 2 2023 15:48:11
=====
Atlas2 Firmware Revision Information:-
=====
Active Firmware: unknown
Version : unknown
Platform: unknown
=====
lsd
=====
Thermal:
  Switch Temperature : 38 degree
Fans Speed:
  Switch Fan : 4122 rpm
Voltage Sensors:
  12V Voltage : 12294 mV
  1.8V Voltage : 1826 mV
  1.84V Voltage : 1848 mV
  1.25V Voltage : 1288 mV
  0.8V Voltage : 819 mV
Side-Band Mode: SC
=====
pwrdis
=====
Not support in SC mode
=====
spread
=====
Spread status:OFF
=====
clk
=====
Out00: clk enable
Out01: clk enable
Out02: clk enable
Out03: clk enable
Out04: clk enable
Out05: clk enable
Out06: clk enable
Out07: clk enable
Out08: clk enable
=====
showport
=====
Atlas2 chip ver: A0
=====
Upstream
=====
USP: port 0, speed = Gen3, width = 16, max_speed = Gen5, max_width = 16
=====
Downstream
=====
Con0: port 16, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con0: port 17, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con0: port 18, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con0: port 19, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con1: port 20, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con1: port 21, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con1: port 22, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con1: port 23, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con2: port 24, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con2: port 25, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con2: port 26, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con2: port 27, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con8: port 28, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con8: port 29, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con8: port 30, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
Con8: port 31, speed = Gen1, width = 0, max_speed = Gen5, max_width = 1
=====
bist
=====
Scan I2C channel 0 devices ....
Device address:0xa0 ok.
Device address:0x12 ok.
=====
Scan I2C channel 1 devices ....
Device address:0xe2 ok.
=====

```



reset Command

MCU FW reset (It won't reset Atlas2 PCIe switch)

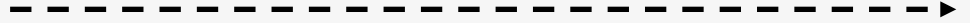
-Usage: reset

```
File Edit Setup Control Window KanjiCode Help
Cmd>reset
System Reset...
Cmd>
```



Atlas2 MCIO Host Adapter Card

Cables interoperability



PCI5-ENC8-E3-08



PCI5-AD-MCIOU2



U.2 1x4 or 2x2



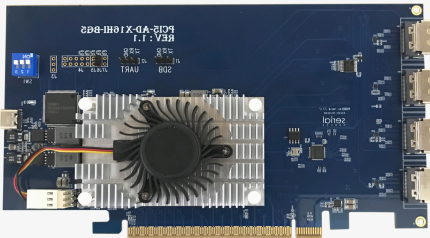
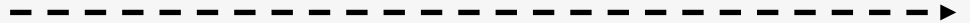
MCIO5-4XL-4XL



PCI5-AD-MCIOEDSFF



E.1L, E1.S, E3



MCIO5-4X-39U3-1X4

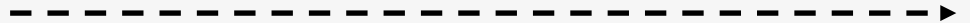
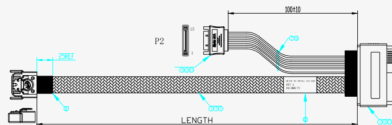
MCIO5-4X-39U2-2X2

MCIO5-4X-39U3-2X2

MCIO5-4X-39U2LL-1X4

U.2 1x4 or 2x2

U.3 1x4 or 2x2



MCIO5-4XSC-EDSFF-1X4

MCIO5-4XSC-EDSFF-2X2

E.1L, E1.S, E3

