PCIe Gen4 U2/U3 8Bay Passive JBOF

User's Manual

REV: 1.2

Oct. 2020

PCIe Gen4 U2/U3 8Bay Passive JBOF

Front Panel

Drive Present LED: White

Drive Fault LED: Red

Drive Activity Led: Blue

Power Button

Slot 8

Slot 1

Rear I/O

AC Input

System FANs

Ethernet

PSU

USB

Two Quad Port SFF8674

Red: Slot set to dual port

Green: Slot set to single port

Mute button

System LED

system good: Green

failures on system: Red
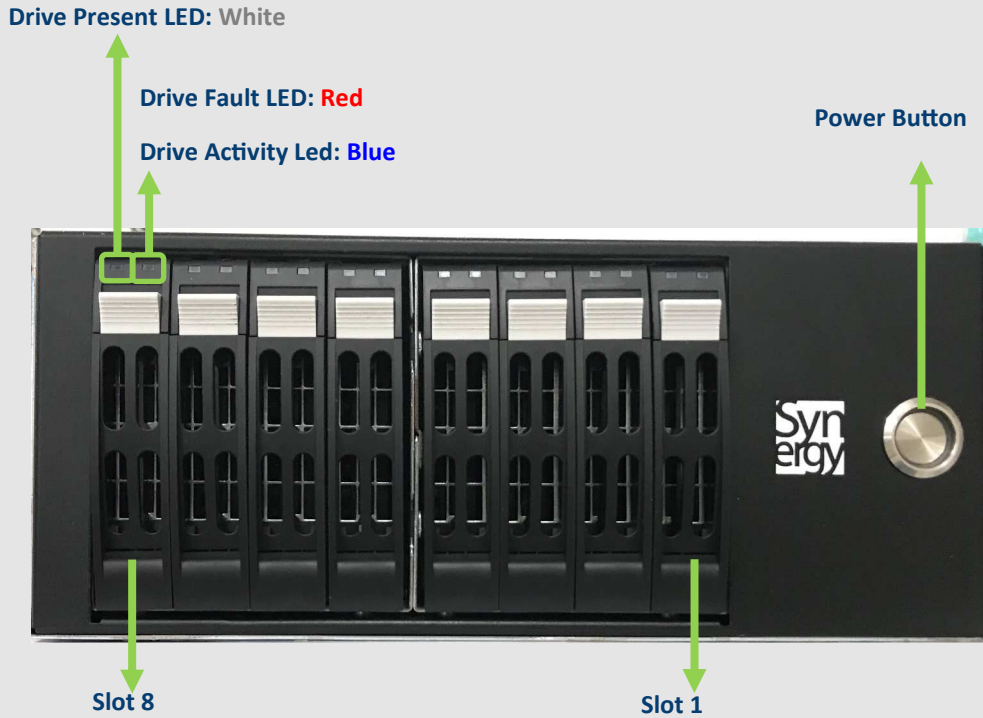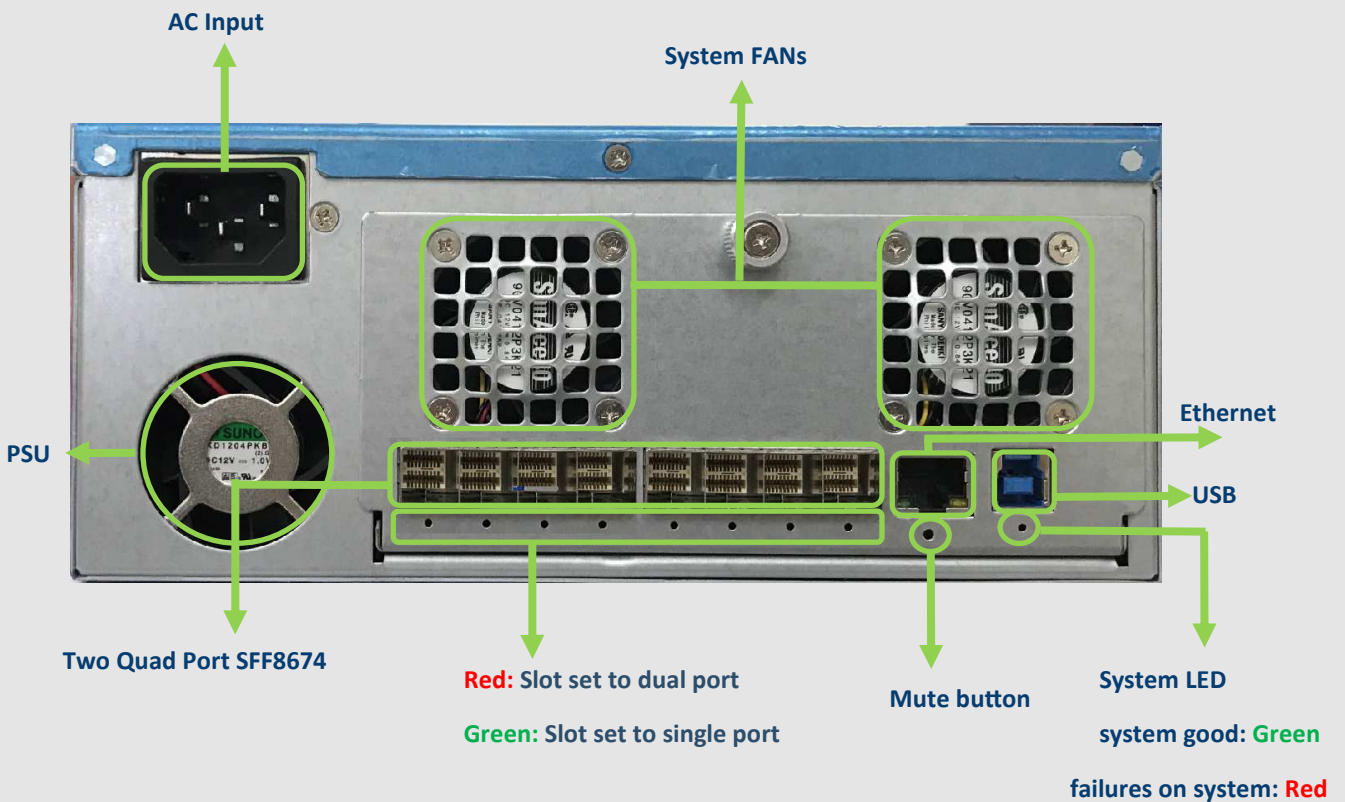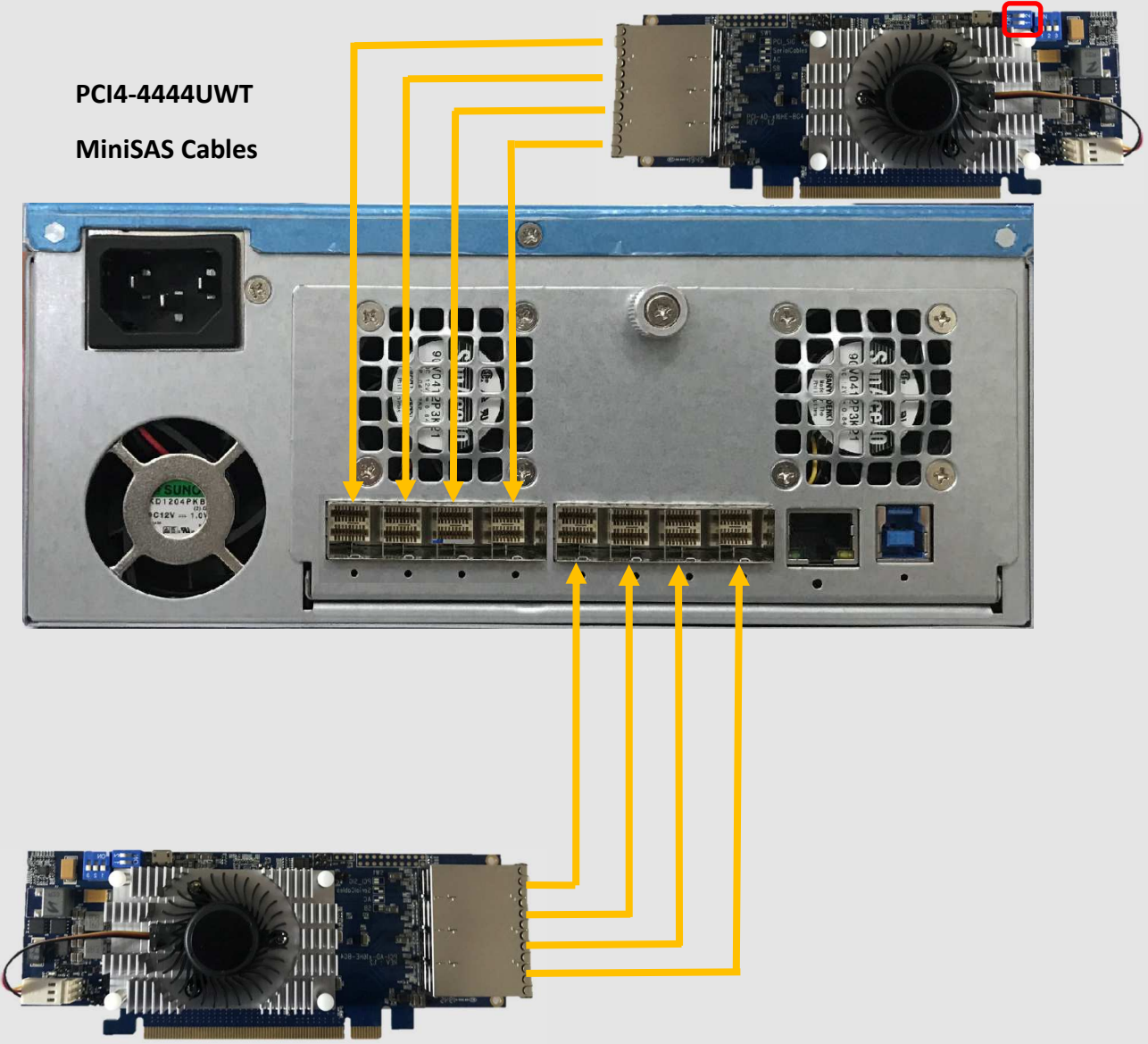
Connecting Passive JBOF to Host card

Set Host card side band mode to "Serial Cables"

PCI4-4444UWT
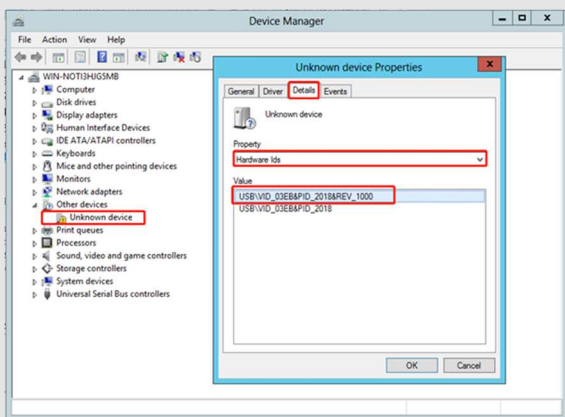
MiniSAS Cables

PCIe Gen4 U2/U3 8Bay Passive JBOF

USB Driver Installation

Step1: Download and install the CDC driver for unidentified device (VID_03EB&PID_2018)

Available at:

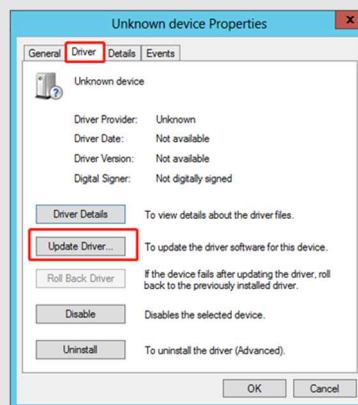https://www.serialcables.com/wp-content/uploads/2018/11/SynergyUSBCDC_20180518.rar
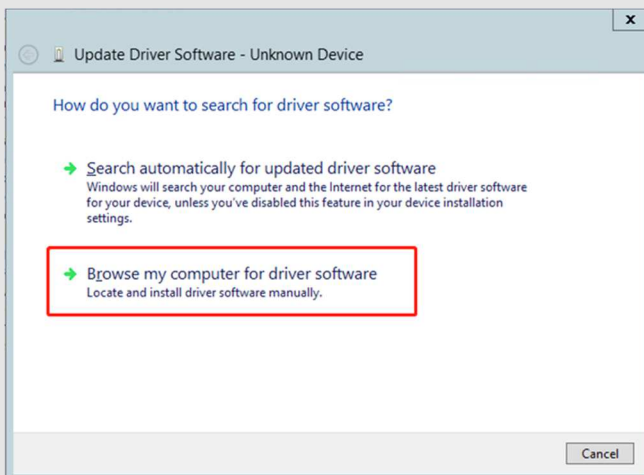
Note: No USB driver is required for Windows 10 and Linux
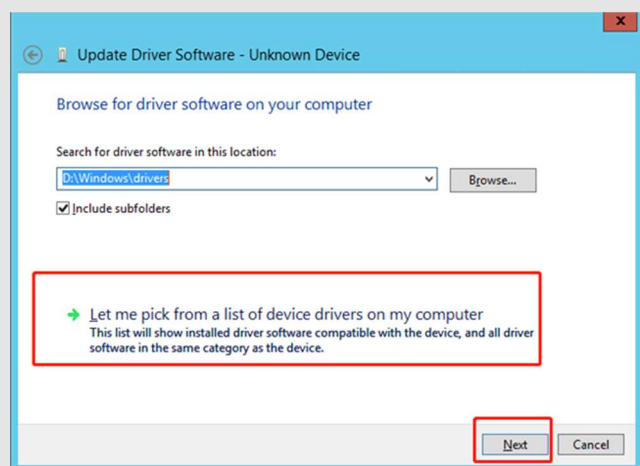

[Figure 1]

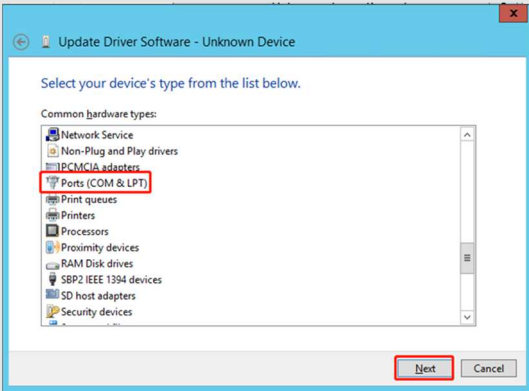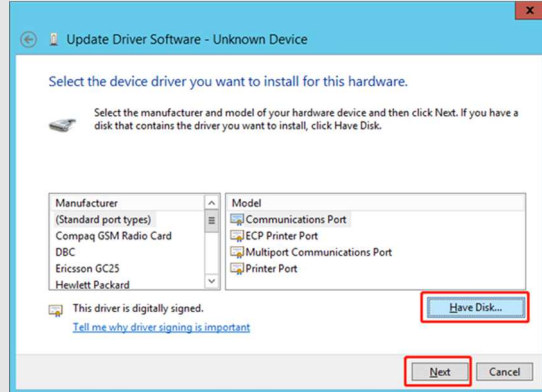[Figure 2]

[Figure 3]

[Figure 4]

USB Driver Installation

[Figure 5]

[Figure 6]
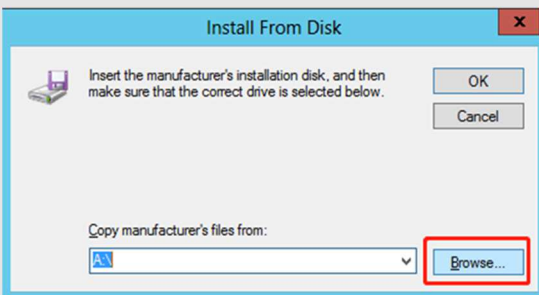
[Figure 7]
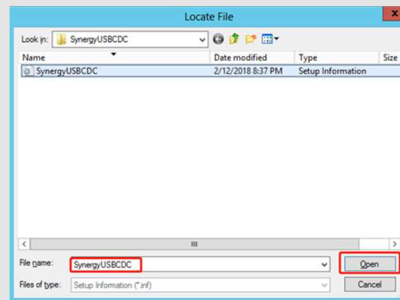
[Figure 8]
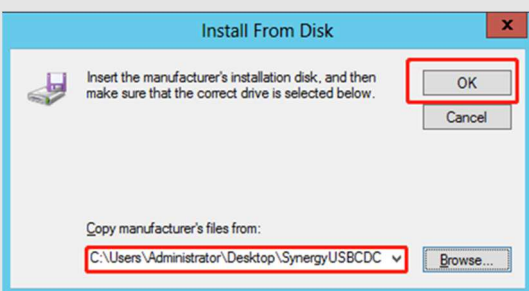
[Figure 9]
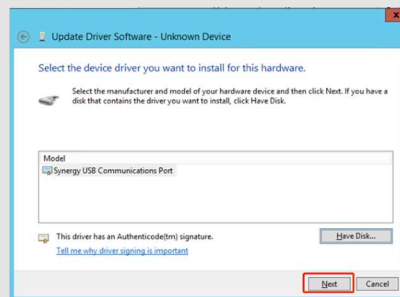
[Figure 10]
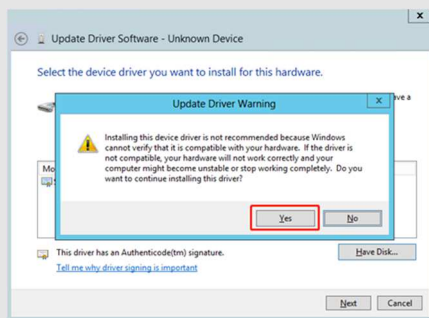
[Figure 11]
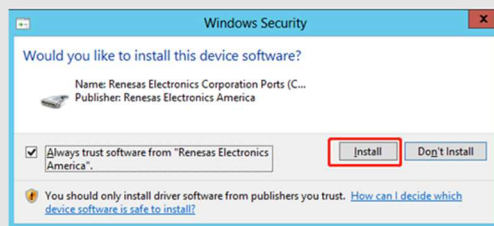
[Figure 12]

USB Driver Installation

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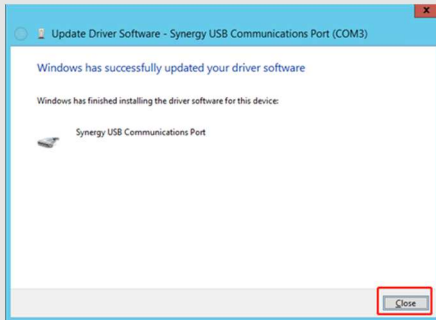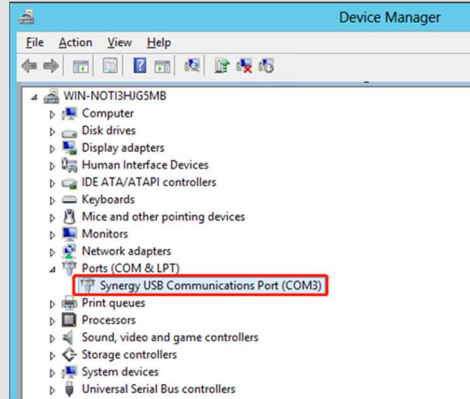
[Figure 13]

[Figure 14]

CLI Setup

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Step 1. Install and launch Tera Term application

(or Hyper Terminal requires version 3.0 or higher).

Step 2: To ensure proper communications between Active 8bays JBOF controller

and the VT100 Terminal emulation, please configure the VT100 Terminal

emulation settings to the values shown below:
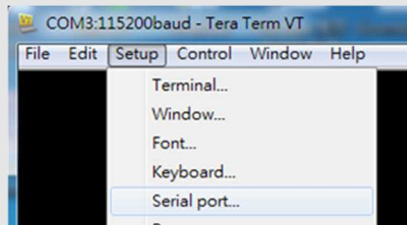
Step 3:

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.
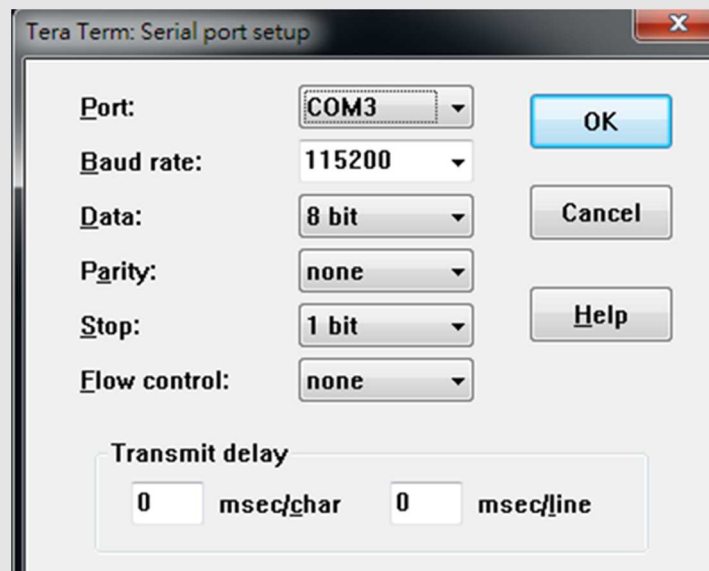
uP Synergy FW Upgrading

Step 1. Connect the USB port of JBOF to PC or laptop

Step 2. Press the mute button in the rear of JBOF then power on.

USB

Mute button

Step 3.

a.) it will show an added USB device in PC or laptop.

b.) Put upgrading FW(i.e SC8BAY_U3_JBOF_v006.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 JBOF to apply the new FW.

Active JBOF Commands List


```
File  Edit  Setup  Control  Window  KanjiCode  Help

Cmd>help
   Cmd Help Menu
     eth :
          Set Ethernet IP Configuration.
          - Usage: eth <ipaddr(*)> <subnet(*)> <gateway(*)>

     setmac :
          Set Ethernet MAC address.
          - Usage: setmac <xx:xx:xx:xx:xx:xx>

     lsd :
          Show environmental conditions information.
          - Usage: lsd

     pwmctrl :
          Fan pwm ctrl.
          - Usage: pwmctrl <fan_id(D)> <duty(D)|off>
          - fan_id(D) : fan_id should be 1 ~ 2
          - duty(D) : duty should be 0 ~ 100

     ssdpwr :
          slot power control.
          - Usage: ssdpwr [<slot(D)> <on|off>]
          - slot(D) : slot number should be 1 ~ 8

     ssdrst :
          Reset slot.
          - Usage: ssdrst <slot(D)|all> [channel(C)]
          - slot(D) : slot number should be 1 ~ 8
          - channel(C) : channel number should be a or b
          - Ex: ssdrst 1
          - Ex: ssdrst 1 a
          - Ex: ssdrst all
          - Ex: ssdrst all a

     showtype :
          Show backplane type.
          - Usage: showtype

     dual :
          Set dual channel enable on/off.
          - Usage: dual [<slot(D)|all> <on/off>]
          - slot(D) : slot number should be 1 ~ 8
          - Ex : dual all on
          - Ex : dual 1 on

     buz :
          buzzer control.
          - Usage: buz [on|off|en|dis]
```

```
File  Edit  Setup  Control  Window  KanjiCode  Help

     scan :
          Scan devices of I2C bus.
          - Usage: scan

     iicwr :
          iicwr <Addr(H)> <Slot(D)> <ReadByte(D)> <WriteData(H)>
          - Addr(H) : Device address
          - Slot(D) : Slot should be 1 ~ 8
          - ReadByte(D) : Max read byte is 32 byte
          - WriteData(D) : Max write byte is 32 byte
          - Ex : iicwr d4 1 8 0

     iicw :
          iicw <Addr(H)> <Slot(D)> <WriteData(H)...>
          - Addr(H) : Device address
          - Slot(D) : Slot should be 1 ~ 8
          - WriteData(D) : Max write byte is 32 byte
          - Ex : iicw d4 1 ff

     ver :
          Show microcontroller firmware version.
          - Usage: ver

     eventmask :
          Set System Event Mask.
          - Usage: eventmask [<number(D)> <on|off>]
          - number(D): number should be 1 ~ 3

     quit :
          Close telnet.
          - Usage: quit

     reset :
          System reset.
          - Usage: reset
```

eth Command

Set Ethernet IP configuration.

Usage: eth <ipaddr(*)> <subnet(*)> <gateway(*)>

```
File  Edit  Setup  Control  Window  Help

Cmd>eth 192.168.100.211 255.255.255.0 0.0.0.0

 Set Ethernet - save configuration ok
Cmd>
```

```
File  Edit  Setup  Control  Window  Help

Cmd>eth

=================================================
Physical Address . . . . . . . . . . : 2E-09-0A-00-76-C7
Ethernet Link Status . . . . . . . : Up
IP Address . . . . . . . . . . . . : 192.168.100.211
Subnet Mask . . . . . . . . . . . : 255.255.255.0
Gateway  . . . . . . . . . . . . . : 0.0.0.0
MTU  . . . . . . . . . . . . . . . : 1500
```

setmac Command

Set Ethernet MAC (Media Access Control) address

Usage: setmac <xx:xx:xx:xx:xx:xx>

```
File  Edit  Setup  Control  Window  Help

Cmd>setmac 38:26:2B:00:00:00

 MacAddress[0] 38

 MacAddress[1] 26

 MacAddress[2] 2B

 MacAddress[3]  0

 MacAddress[4]  0

 MacAddress[5]  0

 Set MAC - save configuration ok
Cmd>
```

lsd Command

Shows environmental information (etc. temperature, fan, voltage) of Active 8bays JBOF.

Usage: lsd

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

Thermal:
    Switch Temperture 1 :  28 degree
Fan Speed:
         System Fan1 :  16363  rpm
         System Fan2 :  16317  rpm
```

pwmctrl Command

Set the PWM duty for all FANs in JBOF

Usage: pwmctrl <fan_id(D)> <duty(D)|off>

fan_id=1, System Fan1

fan_id=2, System Fan2

```
File   Edit   Setup   Control   Window   KanjiCode   Help
Cmd>pwmctrl 1 100
Cmd>lsd

Thermal:
    Switch Temperture 1 :  27 degree
Fan Speed:
         System Fan1 :  16438  rpm
         System Fan2 :  8130   rpm
```

```
File  Edit  Setup  Control  Window  Help

Cmd>pwmctrl  1 off
Fan1: smart fan enable
Cmd>
```

ssdpwr Command

Slot power status checking and ON/OFF control

Usage: Usage: ssdpwr [<slot(D)> <on|off>]

```
File  Edit  Setup  Control  Window  Help

Cmd>ssdpwr
Backplane slot 01 power status turn off.
Backplane slot 02 power status turn off.
Backplane slot 03 power status turn off.
Backplane slot 04 power status turn off.
Backplane slot 05 power status turn off.
Backplane slot 06 power status turn off.
Backplane slot 07 power status turn off.
Backplane slot 08 power status turn on.
```

```
File  Edit  Setup  Control  Window  Help

Cmd>ssdpwr 8 off

Slot 08 turn off success.
Cmd>ssdpwr
Backplane slot 01 power status turn off.
Backplane slot 02 power status turn off.
Backplane slot 03 power status turn off.
Backplane slot 04 power status turn off.
Backplane slot 05 power status turn off.
Backplane slot 06 power status turn off.
Backplane slot 07 power status turn off.
Backplane slot 08 power status turn off.
```

```
File  Edit  Setup  Control  Window  Help

Cmd>ssdpwr 8 on

Slot 08 turn on success.
Cmd>ssdpwr
Backplane slot 01 power status turn off.
Backplane slot 02 power status turn off.
Backplane slot 03 power status turn off.
Backplane slot 04 power status turn off.
Backplane slot 05 power status turn off.
Backplane slot 06 power status turn off.
Backplane slot 07 power status turn off.
Backplane slot 08 power status turn on.
```

The slot power is turned off automatically when drive is plug out from slot, the use case of power control command is when drive is plugging into slot.

ssdrst Command

Issue PERST# from uP to device

Usage: Usage: ssdrst <slot(D)|all> [channel(D)]

Channel a: The 1st PHY of dual port drive

Channel b: The 2nd PHY of dual port drive

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

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

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

```
File  Edit  Setup  Control  Window  KanjiCode  Help
Cmd>ssdrst all b
Reset channel b of all slot success
Cmd>
```

showtype Command

Shows the Back plane board type(U2 or U3) in Passive 8 bays JBOF.

Usage: showtype

Dual Command

Enable dual port control per slot or for all slots.

Usage: dual <slot(D)|all> <on|off>

It requires drive power cycle, drive hot plug to apply the dual port enable/disable setting.

buz Command

The command is for controlling the buzzer on switch controller board

Usage: buz <on|off|en|dis>

[en]: enable the buzzer function

[dis]: disable the buzzer function

[on]: set buzzer to beep in one time

[off]: mute buzzer beeping

```
File  Edit  Setup  Control  Window  Help

Cmd>buz
Buzzer status:disable
Cmd>
```

```
File  Edit  Setup  Control  Window  Help

Cmd>buz on
OK, turn on buzzer
Cmd>
```

```
File  Edit  Setup  Control  Window  Help

Cmd>buz off
OK, turn off buzzer
Cmd>
```

```
File  Edit  Setup  Control  Window  Help

Cmd>buz en
OK, enable buzzer
Cmd>
```

```
File  Edit  Setup  Control  Window  Help

Cmd>buz dis
OK, turn off buzzer
OK, disable buzzer
Cmd>
```

scan Command

Scan all devices in 8bays Active JBOF

Usage: scan

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

Scan I2C channel 0 devices ....
Device address:0xa2 found
Device address:0x42 found
Device address:0x44 found
Device address:0x46 found
Device address:0x48 found
Device address:0x50 found
Device address:0xe0 found
Device address:0x52 found
```

iicwr Command

Data read for U.2/M.2 drives from SMbus

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

   - Addr(H) : Device address

   - Slot(D) : Slot should be 1 ~ 8

   - 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
```

iicw Command

Byte or page write data to U.2/M.2 drive from SMbus

Usage: iicw <Addr(H)> <Slot(D)> <WriteData(H)...>

- Addr(H) : Device address

- Slot(D) : Slot should be 1 ~ 8

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

- Ex : iicw d4 1 ff

```
File  Edit  Setup  Control  Window  KanjiCode  Help
Cmd>iicw d4 1 ff

Write Data [0] = ff
```

ver Command

Show S/N, company and model names, the FW version for uP

Usage: ver

```
File  Edit  Setup  Control  Window  KanjiCode  Help
S/N     : 400052001010012
Company : Serial Cables
Model   : PASSIVE 8BAY JBOF
Version : 0.0.6      Date : Feb 13 2020 16:14:23
```

eventmark Command

Use for following events mask

Usage: eventmask <event ID> <on|off>

Event ID from 1 to 3

1. System Fan1 Event

2. System Fan2 Event

3. Switch Temp Event

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

1.       System Fan1 Event :  enable
2.       System Fan2 Event :  enable
3.       Switch Temp Event :  enable
```

```
File  Edit  Setup  Control  Window  KanjiCode  Help
Cmd>eventmask 2 off

Set Event Mask success.
```

reset Command

Reset uP in passive JBOF

Usage: reset

```
File  Edit  Setup  Control  Window  Help

Cmd>reset
System Reset...
Cmd>
```