



2U EOS Server

OSS-EOS-2U-4A



User Manual

SKU: OSS-EOS-2U-4A



www.onestopsystems.com

Table of Contents

Preface	4
Advisories	4
Safety Instructions	5
Protecting Against Electrostatic Discharge	6
1 Introduction	7
1.1 General Specifications.....	7
1.2 Overview	9
1.3 Motherboard Layout.....	11
1.4 Descriptions	12
1.5 Quick Reference Table	14
1.6 Motherboard Features.....	16
1.7 Pre-Installation Information.....	17
1.8 Tools Required for Installation	17
2 Setting Up	18
3 How to Remove Top Covers	20
4 How to Install 2.5 Storage Drive	22
4.1 Remove faceplate	22
4.2 Remove Drive Tray	22
4.3 Install Storage Drive	23
5 How to Set Up SATA Bootable Drive	25
5.1 Connect HD Mini SAS (SFF-8643) cable.....	25
6 How to Set Up NVME SSD Bootable Drive	28
6.1 Connect Oculink Cable.....	28
7 Setup NVME SSD and M.2 NVME	29
8 Target Card Installation	30
9 Connecting OSS Expansion Unit	32
9.1 Connect LINK Cables	32
9.2 Power Up.....	33
10 M.2 NVME Installation	34
11 How to Remove Power Supply	38
12 How to Remove PSU Housing	39
13 How to Remove the Fan	41
14 How to Install the Fan	42
15 How to Access Motherboard BMC Web Interface	44
16 How to Update BIOS via IPMI Web User Interface	45

17	How to Update BMC Firmware via Web User Interface	48
18	Contacting Technical Support	52
19	Returning Merchandise to One Stop Systems	52
20	APPENDIX A Compliance.....	53
	FCC	53
	CE	53

Preface

Advisories

Five types of advisories are used throughout this manual to provide helpful information, or to alert you to the potential for hardware damage or personal injury.

**NOTE**

Used to amplify or explain a comment related to procedural steps or text.



Important

IMPORTANT

Used to indicate an important piece of information or special “tip” to help you



Caution

CAUTION

Used to indicate and prevent the following procedure or step from causing damage to the equipment.



Warning

WARNING

Used to indicate and prevent the following step from causing injury.

**DANGER or STOP**

Used to indicate and prevent the following step from causing serious injury or significant data loss

Disclaimer: We have attempted to identify most situations that may pose a danger, warning, or caution condition in this manual. However, One Stop Systems does not claim to have covered all situations that might require the use of a Caution, Warning, or Danger indicator.

Safety Instructions

Always use caution when servicing any electrical component. Before handling the One Stop Systems Expansion chassis, read the following instructions and safety guidelines to prevent damage to the product and to ensure your own personal safety. Refer to the “Advisories” section for advisory conventions used in this manual, including the distinction between Danger, Warning, Caution, Important, and Note.

Always use caution when handling/operating the computer. Only qualified, experienced, authorized electronics personnel should access the interior of the computer and expansion chassis.



WARNING

Never modify or remove the radio frequency interference shielding from your workstation or expansion unit. To do so may cause your installation to produce emissions that could interfere with other electronic equipment in the area of your system.

When Working Inside a Computer

Before taking covers off a computer, perform the following steps:

Turn off the computer and any peripheral devices.

Disconnect the computer and peripheral power cords from their AC outlets or inlets in order to prevent electric shock or system board damage.

In addition, take note of these safety guidelines when appropriate:

To help avoid possible damage to systems boards, wait five seconds after turning off the computer before removing a component, removing a system board, or disconnecting a peripheral device from the computer.

When you disconnect a cable, pull on its connector or on its strain-relief loop, not on the cable itself. Some cables have a connector with locking tabs. If you are disconnecting this type of cable, press in on the locking tabs before disconnecting the cable. As you pull connectors apart, keep them evenly aligned to avoid bending any connector pins. Also, before connecting a cable, make sure both connectors are correctly oriented and aligned.



CAUTION

Do not attempt to service the system yourself except as explained in this manual. Follow installation instructions closely.

Protecting Against Electrostatic Discharge



Electrostatic Discharge (ESD) Warning

Electrostatic Discharge (ESD) is the enemy of semiconductor devices. You should always take precautions to eliminate any electrostatic charge from your body and clothing before touching any semiconductor device or card by using an electrostatic wrist strap and/or rubber mat.

Static electricity can harm system boards. Perform service at an ESD workstation and follow proper ESD procedures to reduce the risk of damage to components. One Stop Systems strongly encourages you to follow proper ESD procedures, which can include wrist straps and smocks, when servicing equipment.

You can also take the following steps to prevent damage from electrostatic discharge (ESD):

When unpacking a static-sensitive component from its shipping carton, do not remove the component's anti-static packaging material until you are ready to install the component in a computer. Just before unwrapping the anti-static packaging, be sure you are at an ESD workstation or are grounded.

When transporting a sensitive component, first place it in an anti-static container or packaging.

Handle all sensitive components at an ESD workstation. If possible, use anti-static floor pads and workbench pads.

Handle components and boards with care. Do not touch the components or contacts on a board. Hold a board by its edges or by its metal mounting bracket.

1 Introduction

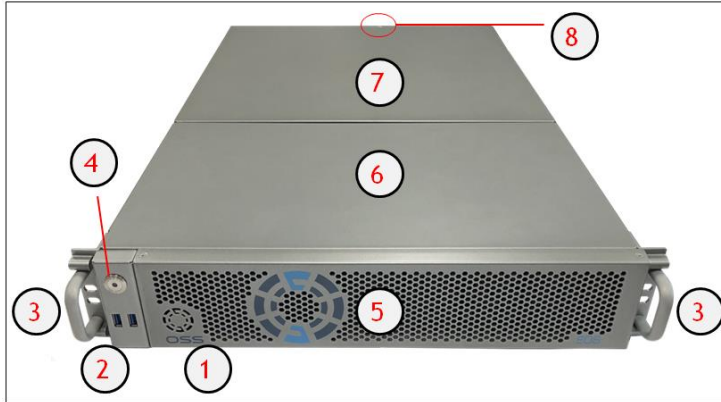
1.1 General Specifications

The 2U EOS server revolutionizes the capabilities of homogenous systems containing tightly coupled processors, NVMe solid-state storage, high-speed networking, and accelerator co-processing elements such as GP-GPUs and FPGAs. The 2U EOS contains two of the newest Intel Scalable Processors and provides the widest BIOS compatibility with dense storage and accelerator expansion systems. This allows the highly integrated server to stand alone or form the core CPU and memory resources for a scale-out, rack level, expandable solution. The EOS server features two storage and I/O configurations providing up to six PCIe 3.0 x16 half-height slots or 24 U.2 NVMe drives. The server supports up to 4TB of memory and a resource expanded BIOS for scale-out device enumeration and large memory mapped I/O used for GP-GPUs and accelerators

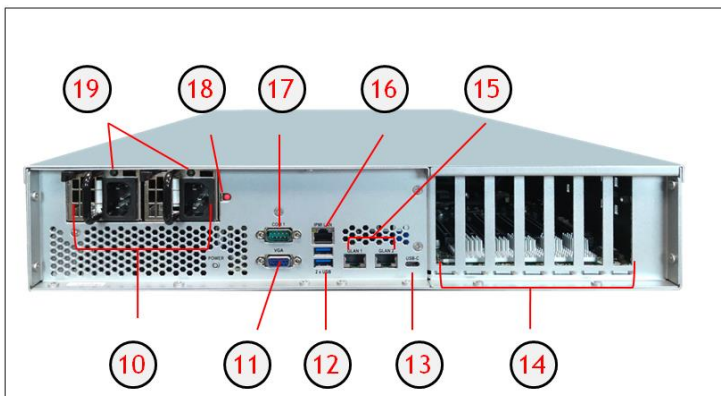
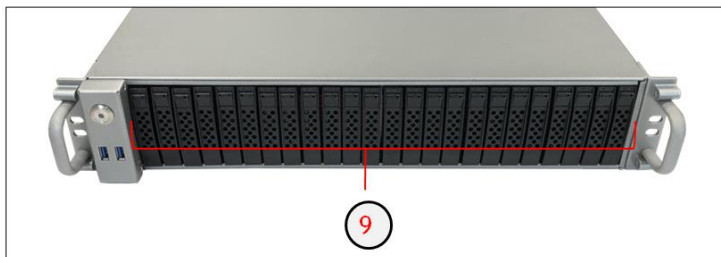
Item	Description
Dimensions	3.45" H x 17.2" (19" with rack ears) W x 28" D (8.7 x 43.7 x 71 cm)
CPU	AMD EPYC™ 7002 Series (Rome), LGA 4094 single socket SP3
System Memory	<ul style="list-style-type: none"> 8x DDR4 3200/2933/2666/2400 R DIMM slots (Modules Up to 64GB Supported) LR DIMM (Modules up to 256GB Supported) 8 Memory Channels, 1.2V low profile DIMM
Expansion Slots	<p>EOS configuration:</p> <ul style="list-style-type: none"> 5 x PCIe 4.0 x16 HHFL slots 1 x PCIe 4.0 x16 HHFL slot or 2x M.2 (2230/2242/2260/2280) + 2x miniSAS-HD + 2x Oculink by jumper 1 x PCIe 3.0 x16 HHFL slot <p>NVMe configuration:</p> <ul style="list-style-type: none"> x PCIe 4.0 x16 HHFL slots available with 48 PCIe 3.0 lanes routed to NVMe drives 1 x PCIe 4.0 x16 HHFL slot or 2x M.2 (2230/2242/2260/2280) + 2x miniSAS-HD + 2x Oculink by jumper 1 x PCIe 3.0 x16 HHFL slot
Storage Subsystem	<p>EOS configuration:</p> <ul style="list-style-type: none"> 24x hot-swap configurable SATA-3, SAS-3 or NVMe x4 2.5" x 15mm drive carriers 12Gb SAS-3, 6Gb SATA-3 SFF-8680, NVMe x4 32Gb slots Up to 8 SATA-3 slots use no PCIe slots 12x and 24x SATA/SAS slots require 1 and 2 PCIe x16 HHHL slots respectively 8x and 16x NVMe x2 slots require 1 and 2 x16 PCIe HHHL slots respectively (for 24x NVMe x4 use NVMe config) Further expansion up to 4PB possible using OSS JBOF expansion systems 2x M.2 x4 and 4x NVMe internal drive connections possible with jumper option <p>NVMe configuration:</p> <ul style="list-style-type: none"> 24x hot-swap NVMe x4 2.5" x 15mm drive carriers Up to 8 NVMe drive bays can be SATA-3 configured 1x M.2 x4 internal drive connections possible with jumper option
Network Controllers	2x RJ45 10GBASE-T LAN from Intel® X550-AT2 1 x RJ45 Dedicated IPMI LAN port from RTL8211E
USB	4 USB 3.1 Gen 1 (2 from Rear I/O, 2 via Header) 3 USB 3.1 Gen 2 (1 from Type C, 2 via Header)
BIOS	32 MB AMI UEFI BIOS Supports PnP, PCI 4.0, ACPI 2.0 Wake, SMBIOS 2.8 support, Instant Flash 1TB BAR1 max size and 256 PCI bus enumeration expansion support
Cooling Fans	Four 80mm x 38mm PWM hot-swap Cooling fans
Chassis	Rugged steel enclosure Liquid paint with customizable front bezel
Weight	33-48lbs (15-22 kg)
Power Supply	1000W 90-264VAC, 47-63Hz Input: <ul style="list-style-type: none"> 1+1 Redundant 80plus Silver efficiency with Active PFC, PM Bus and Over Voltage Protection 15A input current at 115VAC and 7.5A at 230VAC each module 15A @ 115VAC and 30A @ 230VAC max inrush current each module EPS 12V Output type with 22A at+5V, 83A at +12V, 0.5A at -12V, 22A at+3.3V and 3A at +5V Standby EPS 12V Output type with 22A at+5V, 83A at +12V, 0.5A at -12V, 22A at+3.3V and 3A at +5V Standby

Environment	<p>Operating: 5°C to 35°C (41°F to 95°F) at 0 to 915m (3,000ft) altitude 5% to 90% non-condensing relative humidity, max dew point 21°C, max rate of change 5°C/hr</p> <p>Non-Operating: -20C to 60°C (-40°F to 140°F) 5% to 90% non-condensing relative humidity, max dew point 27°C, max rate of change 5°C/hr</p>
Agency	<p>Tested to conform to the following standards:</p> <p>FCC - Verified to comply with Part 15 of the FCC Rules, Class A Canada ICES-003, issue 4, Class A CE Mark (EN55022 Class A, EN55024, EN61000-3-2, EN61000-3-3) CISPR 22, Class A</p> <p>Designed to conform to the following extended standards:</p> <p>NOM-019 Argentina IEC60950-1 Japan VCCI, Class A Australia/New Zealand AS/NZS CISPR 22, Class A China CCC (GB4943), GB9254 Class A, GB17625.1 Taiwan BSMI CNS13438, Class A; CNS14336-1 Korea KN22, Class A; KN24 Russia/GOST ME01, IEC-60950-1, GOST R 51318.22, GOST R 51318.24, GOST R 51317.3.2, GOST R 51317.3.3</p> <p>TUV-GS (EN60950-1 /IEC60950-1,EK1-ITB2000)</p>
Compliance	RoHS Compliant WEEE

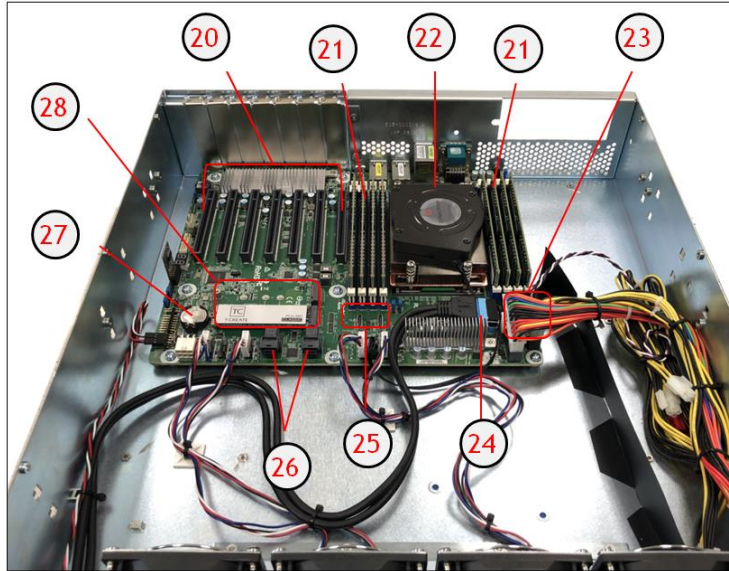
1.2 Overview



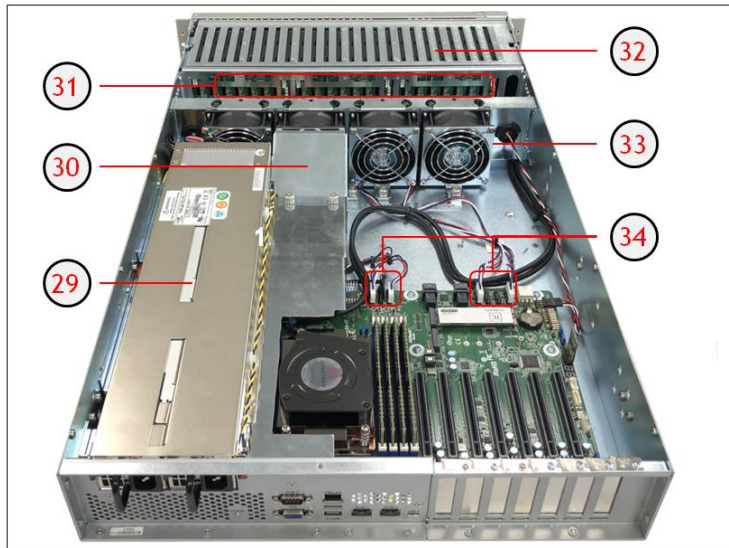
Number	Description
1	OSS LOGO-LED
2	USB 3.0 Ports
3	Front Handles
4	Power Push Button & Power LED
5	Front Panel
6	Front-end Top Cover
7	Back-end Top Cover
8	Top Cover Screw
9	Storage Drive Trays



Number	Description
10	Power Supply Modules
11	VGA Port
12	USB 3.0 Super Speed
13	USB-C Type Port
14	I/O Slot Panels
15	LAN#1 and LAN# 2
16	Dedicated BMC LAN
17	COM Port 1
18	Power Supply Alarm Reset
19	Power Supply LEDs

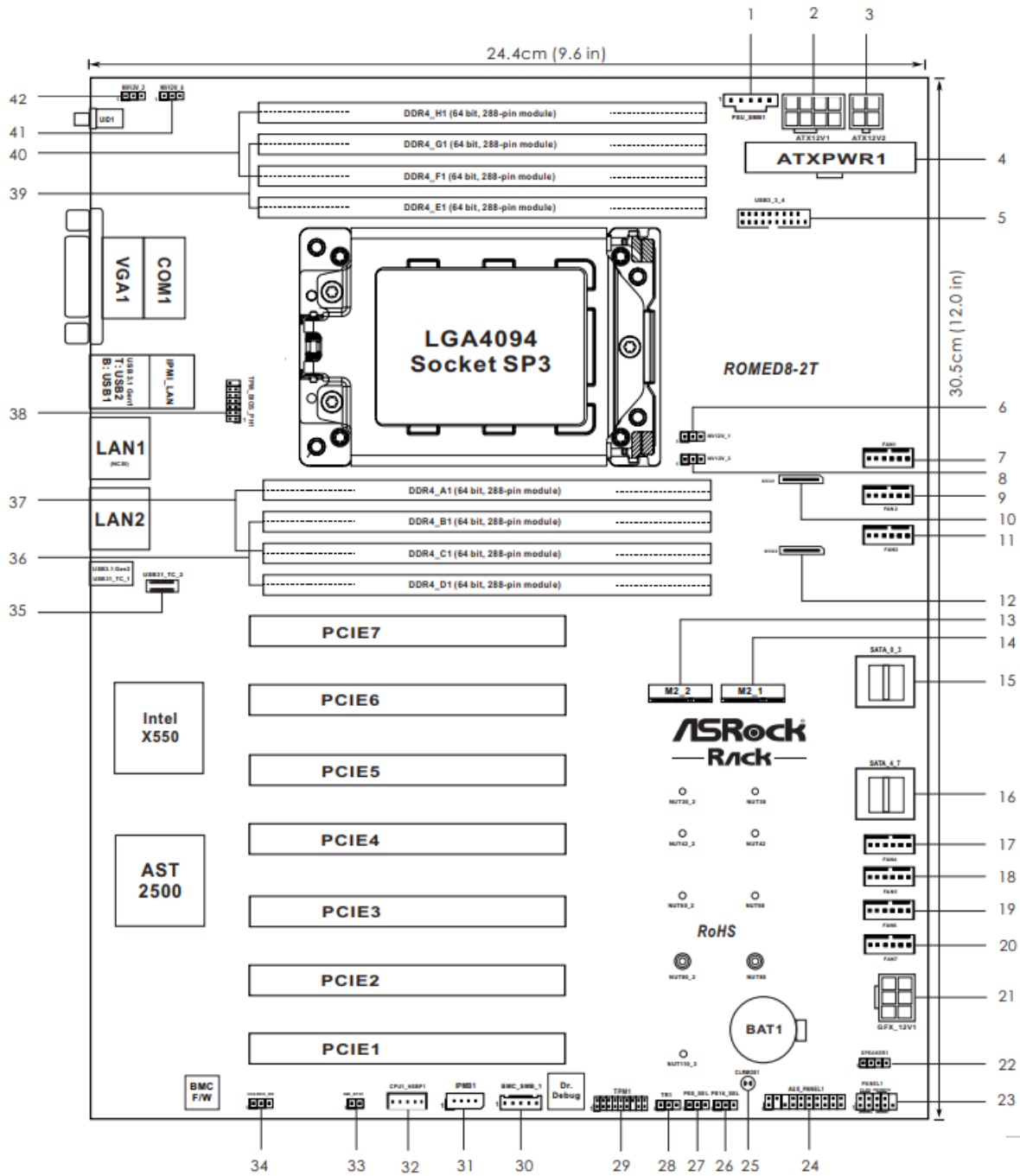


Number	Description
20	PCIe 4.0 X16 Slots
21	Memory Modules / Slots
22	CPU / FAN
23	24-pin ATX Power Connector
24	USB3.1 Gen1 Header
25	OCulink x4 Connectors
26	Mini-SAS HD Connector
27	Onboard CMOS Battery
28	M.2 x4 PCIe Slots



Number	Description
29	Power Supply Metal Housing
30	Air Baffle
31	Storage Drive Board Interface
32	Storage Drive Housing
33	Removable Fans
34	Fan Connectors

1.3 Motherboard Layout



1.4 Descriptions

No.	Description
1	PSU SMBus Header (PSU_SMB1)
2	ATX 12V Power Connector (ATX12V1)
3	ATX 12V Power Connector (ATX12V2)
4	ATX Power Connector (ATXPWR1)
5	USB 3.1 Gen1 Header (USB3_3_4)
6	NVDIMM Power Support Jumper (NV12V_1)
7	System Fan Connector (FAN1)
8	NVDIMM Power Support Jumper (NV12V_3)
9	System Fan Connector (FAN2)
10	OCuLink x4 Connector (OCU1)
11	System Fan Connector (FAN3)
12	OCuLink x4 Connector (OCU2)
13	M.2 Socket (M2_2) (Type 2230 / 2242 / 2260 / 2280 / 22110)
14	M.2 Socket (M2_1) (Type 2230 / 2242 / 2260 / 2280)
15	Mini-SAS HD Connector (SATA_0_3)
16	Mini-SAS HD Connector (SATA_4_7)
17	System Fan Connector (FAN4)
18	System Fan Connector (FAN5)
19	System Fan Connector (FAN6)
20	System Fan Connector (FAN7)
21	Graphics 12V Power Connector (GFX_12V1)
22	Speaker Header (SPEAKER1)
23	System Panel Header (PANEL1)
24	Auxiliary Panel Header (AUX_PANEL1)
25	Clear CMOS Pad (CLRMOS1)
26	PCIE2 x16 Selection Jumper (PE16_SEL)
27	PCIE2 x8 Selection Jumper (PE8_SEL)
28	Thermal Sensor Header (TR1)
29	TPM Header (TPM1)
30	BMC SMBus Header (BMC_SMB1)
31	Intelligent Platform Management Bus Header (IPMB1)
32	CPU HP-SMBus Connector (CPU1_HSBP1)
33	Non Maskable Interrupt Button (NMI_BTN1)

No.	Description
34	Chassis ID Jumper (CHASSIS_ID0)
35	Front Panel Type C USB 3.1 Gen2 Header (USB31_TC_2)
36	2 x 288-pin DDR4 DIMM Slots (DDR4_B1, DDR4_D1)**
37	2 x 288-pin DDR4 DIMM Slots (DDR4_A1, DDR4_C1)**
38	TPM-SPI Header (TPM_BIOS_PH1)
39	2 x 288-pin DDR4 DIMM Slots (DDR4_E1, DDR4_G1)**
40	2 x 288-pin DDR4 DIMM Slots (DDR4_F1, DDR4_H1)**
41	NVDIMM Power Support Jumper (NV12V_4)
42	NVDIMM Power Support Jumper (NV12V_2)

1.5 Quick Reference Table

Jumper	Description	Default Setting
JBT1	CMOS Clear	Open (Normal)
JHD_AC1	AC97/High Definition Audio Enable	Off (HD Enabled)
JPAC1	Audio Enable	Pins 1-2 (Enabled)
JPME2	ME Manufacturing Recovery	Pins 1-2 (Normal)
JPTG1	LAN Port Enable/Disable	Pins 1-2 (Enabled)
JVRM1	VRM SMB Clock (to BMC or PCH)	Pins 1-2 (BMC, Normal)
JVRM2	VRM SMB Data (to BMC or PCH)	Pins 1-2 (BMC, Normal)
JWD1	Watchdog Timer Reset	Pins 1-2 (Reset)

LED	Description	Status
LED1	Unit Identifier (UID) LED	Solid Blue: Unit Identified
LEDBMC	BMC Heartbeat LED	Blinking Green: BMC Normal
M2_1_LED1, M2_2_LED1	M.2 LEDs	Blinking Green: Device Working

Connector	Description
AUDIO_FP	Front Panel Audio Header
Battery (BT1)	Onboard CMOS Battery
BMC_LAN	Dedicated BMC LAN Port
COM1	Rear I/O COM Port
COM2	Front Accessible COM Port Header
FAN1 - FAN6, FANA - FAND	CPU/System Fan Headers (FAN5: CPU1 Fan Header, FAN6: CPU2 Fan Header)
JF1	Front Control Panel Header
JIPMB1	4-pin BMC External I ² C Header
JL1	Chassis Intrusion Header
JNCSI1	NC-SI (Network Controller Sideband Interface) Connector
JNVI ² C	NVMe I ² C Header
JPI ² C1	Power System Management Bus (SMB) I ² C Header
JPWR1	24-pin ATX Power Connector
JPWR2, JPWR3, JPWR4	8-pin Power Connectors
JPWR5	4-pin Power Connector
JSD1, JSD2	SATA DOM Power Connectors
JSEN1	Inlet Sensor Header
JSPDIF_IN1	Sony/Philips Digital Interface Audio Input Header
JSTBY1	Standby Power Header
JTPM1	Trusted Platform Module/Port 80 Header
JUIDB1	Unit Identifier (UID) Switch / BMC Reset Button
LAN1, LAN2	Ethernet LAN (RJ45) Port 1 and Port 2

Connector	Description
M.2_HC1, M.2_HC2	PCIe 4.0 x4 M.2 Slots (with support of M-Key 2242, 2260, 2280, and 22110)
P1_NVME0/1, P1_NVME2/3	PCIe 4.0 x4 SlimSAS Ports with support of four NVMe connections
I-SATA0~3, I-SATA4~7	Intel PCH SATA 3.0 Ports (with RAID 0, 1, 5, 10)
S-SATA4, S-SATA5	Intel PCH Powered S-SATA 3.0 Ports with support for SuperDOM (Disk on Module) devices
S-SGPIO2	Serial Link General Purpose I/O Connection Header (for S-SATA4/5 SuperDOM support)
SLOT2, SLOT4, SLOT9	PCIe 4.0 x16 Slots supported by CPU1
SLOT6, SLOT8, SLOT10	PCIe 4.0 x16 Slots supported by CPU2
SLOT11	PCIe 4.0 x8 Slot supported by CPU2
SP1	Internal Speaker/Buzzer
USB0/1 (2.0)	Front-accessible USB Header with support for two USB 2.0 port
USB2/3, USB4/5 (3.0)	Rear I/O USB 3.0 Ports
USB6/7 (3.0)	Front-accessible USB Header with support for two USB 3.0 port
USB8 (3.0)	Internal USB 3.0 Type-A Header
VGA1	Front VGA Header
VGA2	Rear VGA Port on the I/O back panel
VROC (JRK1)	Intel VROC Key Header for NVMe RAID support

1.6 Motherboard Features

CPU	Supports two 3rd Gen. Intel Xeon Scalable Processors (in Socket P+ LGA 4189) with up to 38 cores per CPU and a thermal design power (TDP) of up to 270W	
Memory	Supports up to 4 TB of 3DS LRDIMM/LRDIMM/3DS RDIMM/RDIMM DDR4 (288-pin) ECC memory with speeds of 3200/2933/2666 MHz in 16 memory slots and up to 4 TB of Intel Optane PMem 200 Series with speeds of up to 3200 MHz Note 1: The Intel Optane Persistent Memory (PMem) 200 Series are supported by the 3rd Gen. Intel Xeon Scalable (83xx/63xx/53xx/4314) series processors. Note 2: Memory speed and capacity support depends on the processors used in the system.	
DIMM Size	Up to 256 GB at 1.2V Note: For the latest CPU/memory updates, please refer to our website at http://www.supermicro.com/products/motherboard	
Chipset	Intel PCH C621A	
Expansion Slots	<ul style="list-style-type: none"> • One PCIe 4.0 x8 slot (CPU2 Slot11) • Six PCIe 4.0 x16 slots (CPU1 Slot2 / CPU1 Slot4 / CPU1 Slot9 / CPU2 Slot6 / CPU2 Slot8 / CPU2 Slot10) • Two PCIe 4.0 x4 M.2 slots (supports M-Key 2242, 2260, 2280, and 22110) • Two PCIe 4.0 x8 SlimSAS ports w/support of two connections each port (P1_NVME0/1, P1_NVME2/3) 	
Network	<ul style="list-style-type: none"> • Two 10G Ethernet LAN ports supported by Intel X550 LAN controller • One Dedicated BMC LAN located on the rear I/O panel (via AST2600 BMC) 	
Baseboard Management Controller (BMC)	ASPEED AST2600 BMC	
Graphics	Graphics controller & VGA support via ASPEED AST2600 BMC	
I/O Devices		
	Serial (COM) Port	<ul style="list-style-type: none"> • One (serial port on the rear I/O panel (COM1) • One front accessible serial port header (COM2)
	SATA 3.0	<ul style="list-style-type: none"> • Eight I-SATA 3.0 ports at 6 Gb/s (I-SATA0~3, I-SATA4~7) • Two Intel PCH powered S-SATA 3.0 Ports with support for SuperDOM (Disk on Module) devices (S-SATA4, S-SATA5)
	Video (VGA) Connections	<ul style="list-style-type: none"> • One VGA port on the rear I/O panel (VGA2) • One VGA header on the motherboard for front access (VGA1)
Peripheral Devices	<ul style="list-style-type: none"> • Four USB 3.0 ports on the rear I/O panel (USB2/3, USB4/5) • One front-accessible USB header with support for two USB 2.0 ports (USB0/1) • One front-accessible USB header with support for two USB 3.0 ports (USB6/7) • One internal USB 3.0 Type-A header (USB8) 	
BIOS	<ul style="list-style-type: none"> • AMI BIOS • ACPI 3.0 or later, PCI firmware 4.0 support, BIOS rescue hot-key, SPI dual/quad speed support, RTC (Real Time Clock) wakeup, and SMBIOS 3.0 or later 	
Power Management	<ul style="list-style-type: none"> • ACPI power management • Power button override mechanism • Power-on mode for AC power recovery • Wake-on-LAN • Power supply monitoring 	
System Health Monitoring	<ul style="list-style-type: none"> • Onboard voltage monitoring for +/-12V, +5V/+5V standby, +3.3V, and +3.3V standby • Onboard temperature monitoring for CPU, VRM, LAN, PCH, system, and memory • 7+1 CPU switch phase voltage regulator • CPU thermal trip support • Platform Environment Control Interface (PECI) 	
Fan Control	<ul style="list-style-type: none"> • Fan status monitoring via BMC connections • Single cooling zone • Low-noise fan speed control • Ten 4-pin fan headers 	
LED Indicators	<ul style="list-style-type: none"> • Power LED • UID/remote UID • LAN activity LED • BMC Heartbeat LED 	
Dimensions	15.12" (W) x 13.2" (L) ATX (384.05 mm x 335.28 mm)	

1.7 Pre-Installation Information

Before using the One Stop Systems expansion chassis, you should perform the following steps:

- Inventory the shipping carton contents.
- Gather all the necessary tools required for installation.
- Read this manual

1.8 Tools Required for Installation

To complete the installation of the product you will need a Phillips-head screwdriver and ESD wrist strap to prevent electrostatic discharge.



2 Setting Up

2.1 Installation-Procedures Overview

1. Connect video cable
2. Connect mouse and keyboard
3. Connect Ethernet cable
4. Plug in power cords in the back of the unit
5. Press the front switch to power ON the unit
6. Login

2.2 Connect IO Cables

Connect keyboard, mouse, video and ethernet cables to the unit.



2.3 Power ON the Unit

Connect the power cords. Press the front switch button to turn ON the unit.



Upon powering ON the unit, the following LEDs will illuminate.

- Front LED will illuminate as solid AMBER / YELLOW. Power supply LEDs will illuminate as solid green. Blinking green, indicates the unit is on standby mode.



3.4 Log in

You can log in to the Linux or Windows system using the following account credentials.

Username: oss
Password: oss#111

Username: root
Password oss123

You can erase the existing OS in the system and install your preferred OS.

3 How to Remove Top Covers

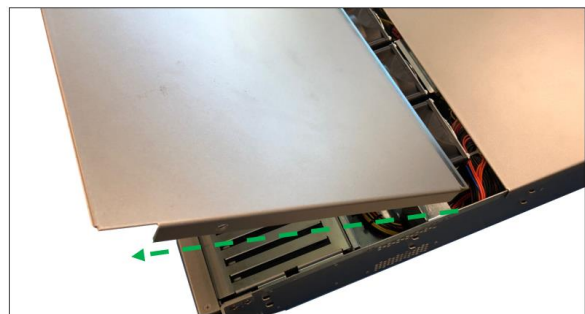
Remove the screws located on each side of the panel, see photos below on the location of the screws.



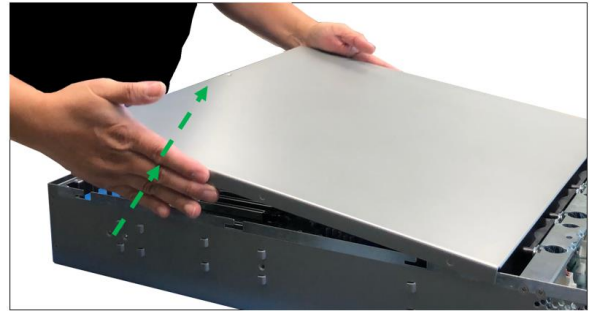
Remove the screw located on the rear end of the top cover, see photo below.



Remove front top cover first. Lift the front top cover up and slowly slide it out.



After removing the front top cover, remove the back-end top cover. Stand right behind the unit, using both hands push the cover and then lift it up.

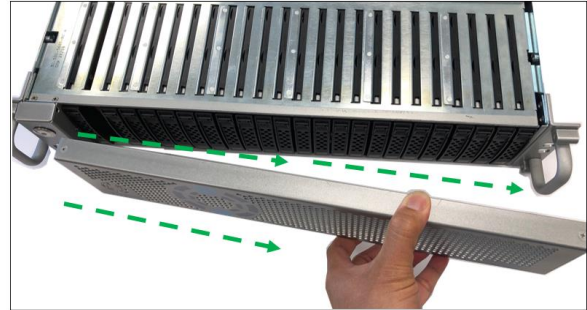
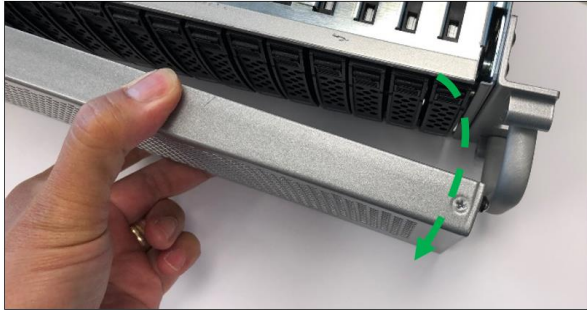


4 How to Install 2.5 Storage Drive

4.1 Remove faceplate

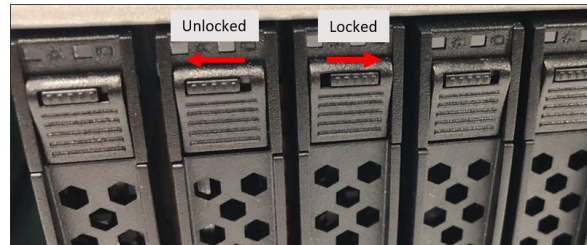
Carefully remove the front faceplate or the front bezel.

Hold the front face plate from the right-side (as shown from the photos below) and gently pull it to detach.



4.2 Remove Drive Tray

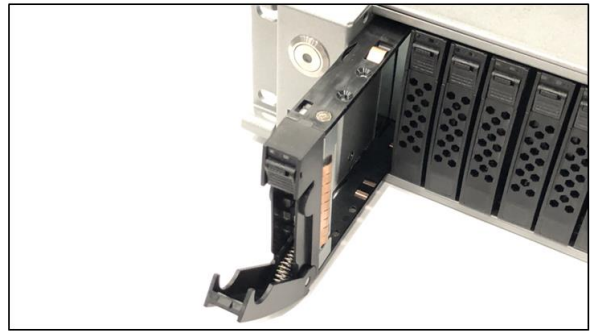
Locate the locking tab, slide it to the left to unlock.



Pull the drive tray out from the unit by pressing the release button. The drive tray handle will extend.

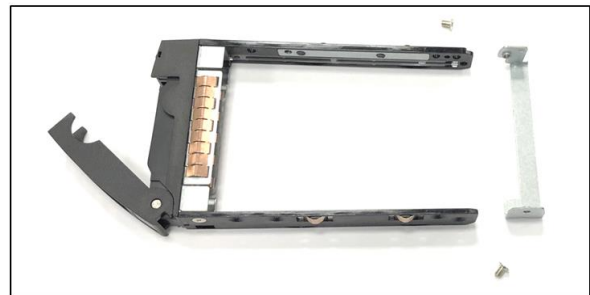
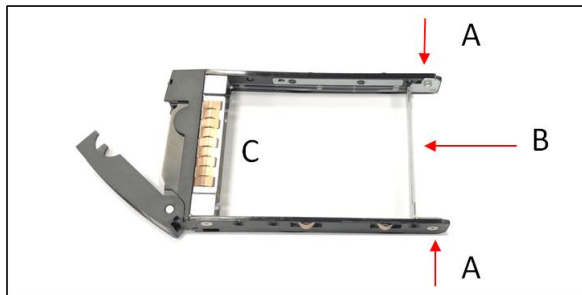


Grasp the handle and gently pull the drive tray out.

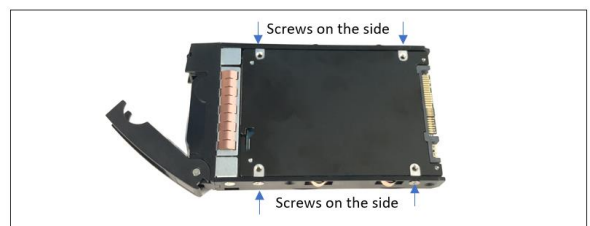
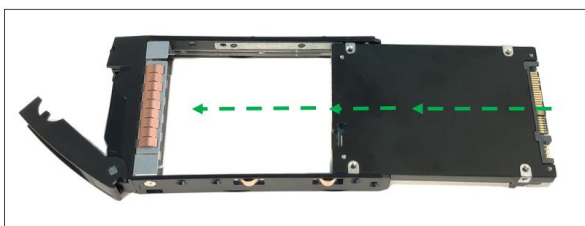


4.3 Install Storage Drive

Remove the two screws (A) securing the dummy bracket (B) to the hard drive tray (C). Remove the dummy drive from the hard drive tray.



Place the hard drive tray on a flat, stable surface such as a desk, table, or work bench. Slide the hard drive into the tray with the gold-connector facing upward, see photos below.



Carefully align the mounting holes in the hard drive and the tray. Secure the hard drive using all four screws.

Insert the hard drive and drive carrier into its bay vertically, keeping the carrier correctly oriented so that the release button is on the top. When the carrier reaches the rear of the bay, the release handle will retract.

Using the thumb, push against the upper part of the hard drive handle. Push the hard drive into the hard drive bay as illustrated below, until the hard drive clicks into the locked position.

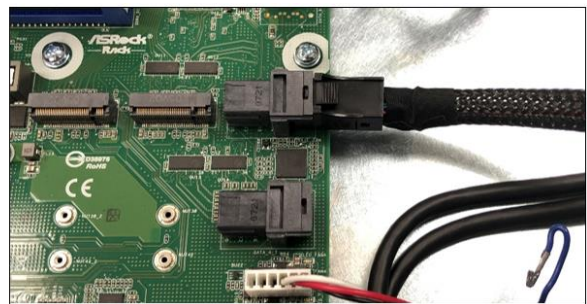


5 How to Set Up SATA Bootable Drive

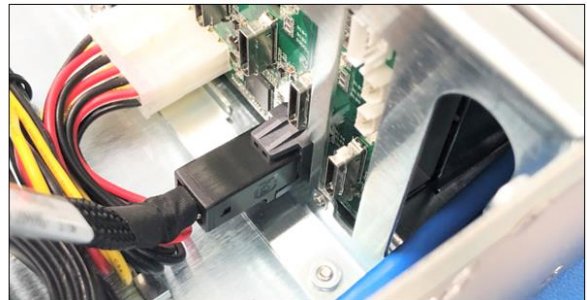
5.1 Connect HD Mini SAS (SFF-8643) cable



Plug in the SFF-8643 cable to the onboard Mini-SAS HD connector.



Plug in the other end of the cable to the drive midplane board.



Set the jumpers on the motherboard correctly to enable the Mini-SAS HD connector; photo below is the correct jumper settings.



Install the drive into the carrier.

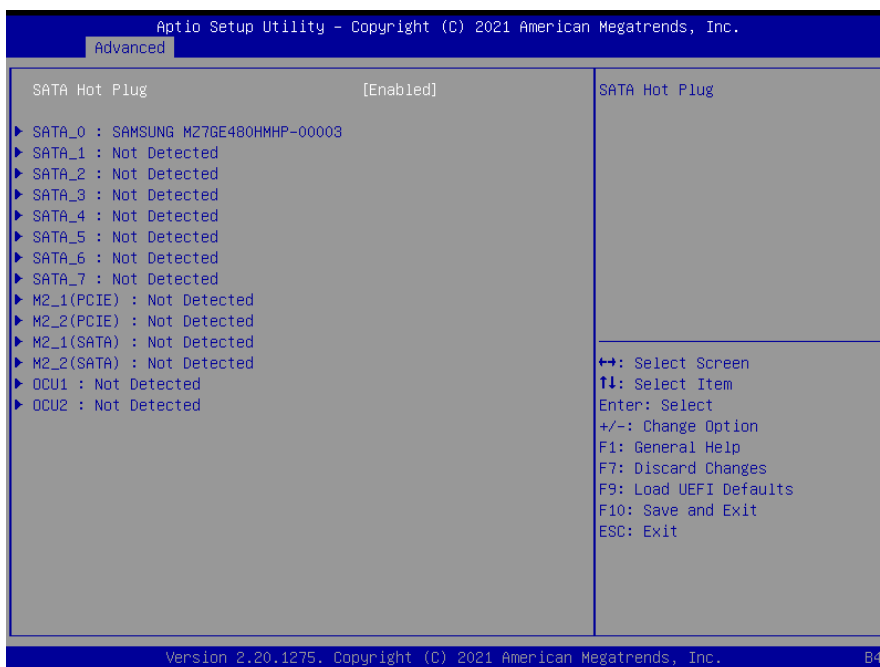


Turn ON the system: the two front LED on the drive carrier will illuminate as green and blue.

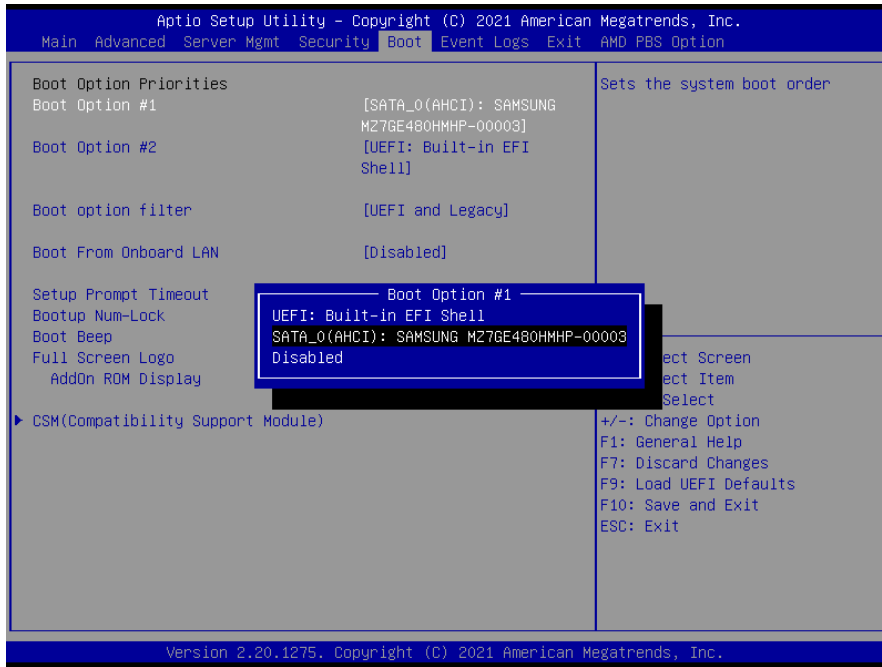


During boot up hit or press the DEL key. Go to the BIOS, verify, and confirm the SATA drive is detected.

In the BIOS, select Advanced Tab, check if the SATA drive is visible. The example screenshot below shows the storage drive is detected.



Go to "Boot" tab, select the SATA drive as Boot Option #1 or primary boot device. Click Save and exit.

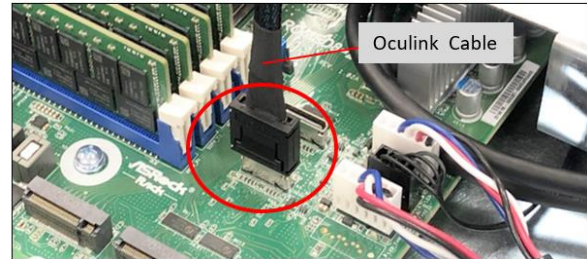
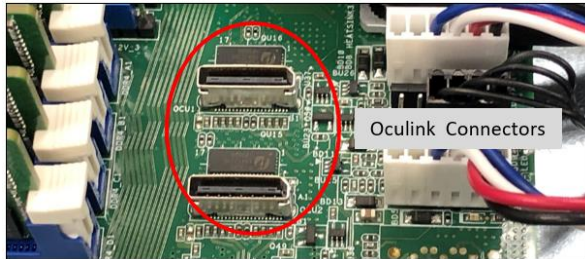


6 How to Set Up NVME SSD Bootable Drive

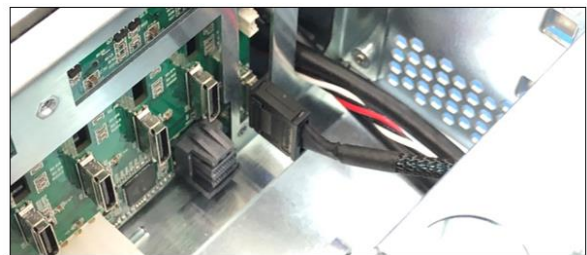
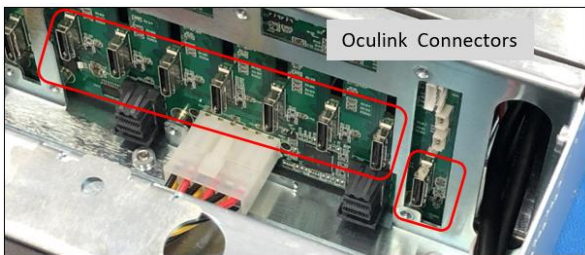
6.1 Connect Oculink Cable

OcuLink "PCIe PCI-Express SFF-8611 4i to OcuLink SFF-8611" cable

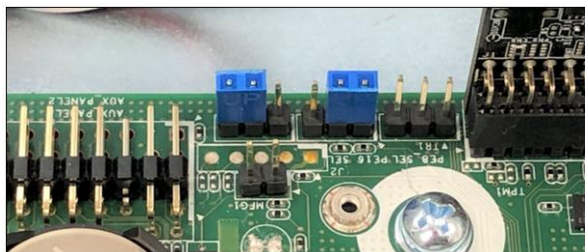
Plug in the Oculink cable to the onboard Oculink connector.



Plug in the other end of the cable to the external drive backplane.



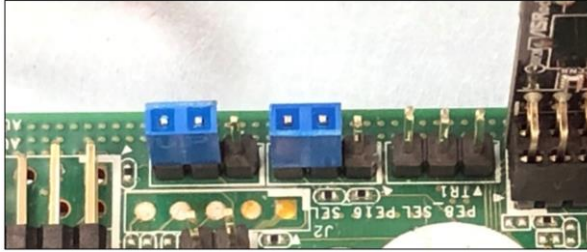
To enable the Oculink connection, allowing the NVME drive to be detected, you need to set the jumpers on the motherboard properly; photo below is the correct OCULINK jumper settings.



7 Setup NVME SSD and M.2 NVME

To enable both Oculink (OCU1 & OCU2) and M.2_1 on ROMED8-2T MB, the jumpers PE8_SEL && PE16_SEL should be in pin2_3.

NOTE: The PCIE2 will be disable with this setting.



8 Target Card Installation



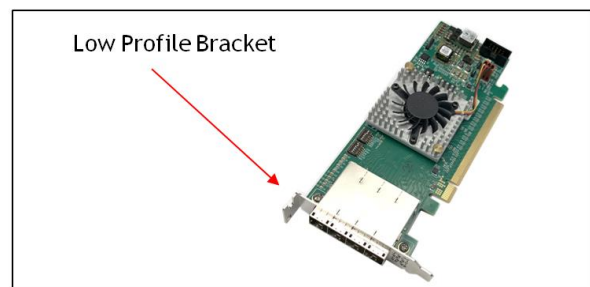
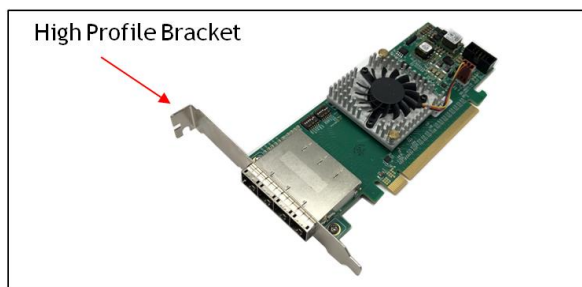
CAUTION

Power down the system first before installing a PCIe card

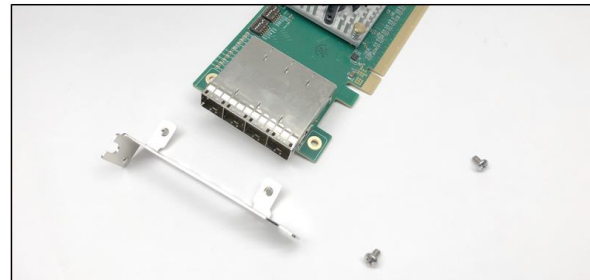
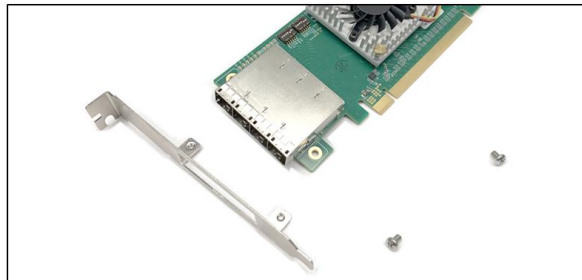
Begin the installation by first powering down your computer. Remove the power cord. 5VSB (5V Standby) is still available if the power cord is still connected. Use the procedures for shutting down your operating system and shutting off power to your computer provided in your owner's manual or system documentation.

Remove the top cover of unit, see "How to Remove Top Cover" section.

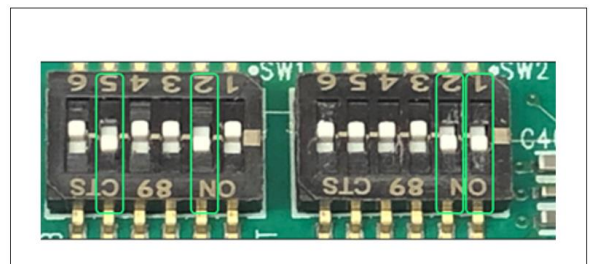
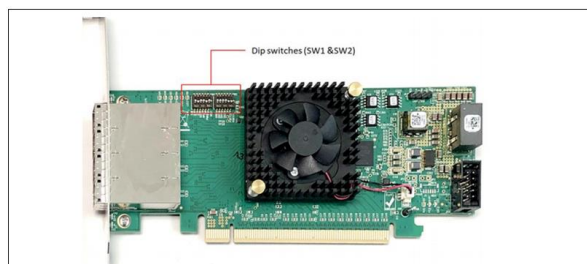
The PCIe host card is a "half-height," x16-capable PCIe card mounted to a "full-height" bracket as shown below.



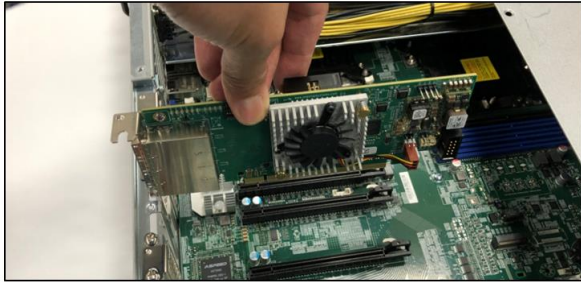
For low profile case applications, change the mounting bracket to the low-profile bracket. You can order a low-profile bracket by contacting our Sales Support. Replacing the "High Profile Bracket" with "Low Profile Bracket" is done by removing the screws that hold the card to the bracket. Detach the standard bracket from the card and place the low-profile bracket and secure it. Use proper ESD procedures when completing this action.



Once the bracket is mounted, configure the card dipswitches to host mode at x16. See settings below.



Insert the host card into a vacant x16 PCIe slot by gently pushing the card until it is firmly seated.



Then secure the card to the slot with a mounting screw.



Electrostatic Discharge (ESD) Warning

All PCI cards are susceptible to electrostatic discharge. When moving PCI cards, it is best to carry the cards in anti-static packaging. If you need to set a PCIe card down, be sure to place it inside or on top of an anti-static surface. For more information, see "Protecting Against Electrostatic Discharge" in the Preface.

9 Connecting OSS Expansion Unit

This section shows on how to connect an OSS Expansion unit to the EOS system. This will require using an OSS adapter cards and four SFF-8644 link cables. Use the same model of Target and Host adapter cards (i.e., OSS-OSS-PCIE-HIB616-X16).

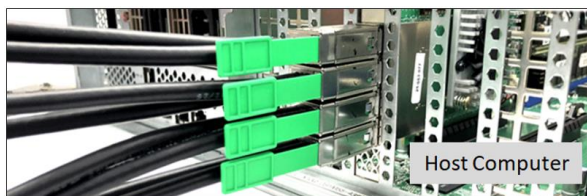
9.1 Connect LINK Cables

Plug in the cables (i.e., SFF-8644) between host and target cards.

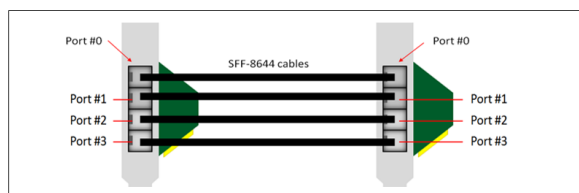
Connect the four x4 SFF-8644 cables to the target card (installed in the expansion unit).



Connect the other end of the cables to the host card.

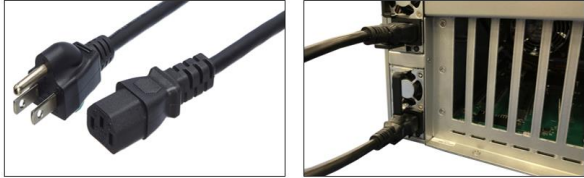


Cable diagram below shows how to connect all four SFF-8644 cables between Host and Target cards.



9.2 Power Up

Connect all available power cables to the expansion unit. The expansion unit will power UP instantly. Other expansion units will require you to manually turn the power switch ON.



Connect power cable(s) to the computer. Turn On the computer, Upon powering UP the computer, it will initialize a link between host and target.

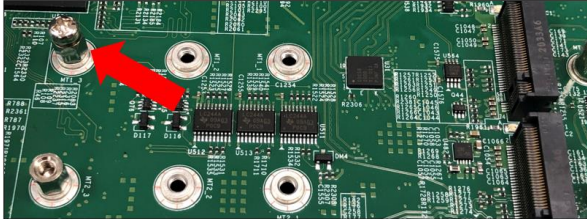


10 M.2 NVME Installation

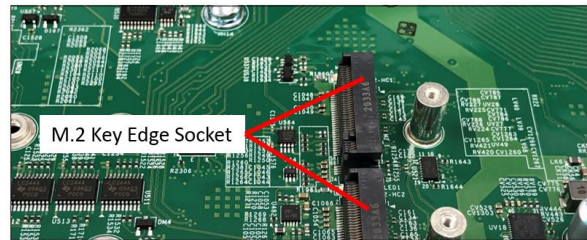
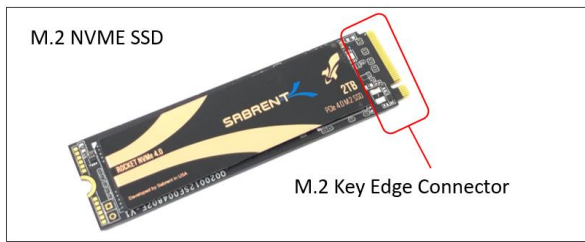
The X12DPG-QT6 motherboard has two PCIe 4.0 M.2 slots. The M.2 slots on the motherboard support PCIe 4.0 x4 M.2 NVMe SSDs in the 2242, 2260, 2280, and 22110 form factors.

Follow this step-by-step guide on how to install PCIe M.2 SSD in your computer.

Step 1: Remove the mounting screw located across from the M.2 slot.



Step 2: Align the M.2 Key edge connector to the M.2 key edge socket on the board



Step 3: Slowly insert the media at ~30-degree position into the socket until it is fully seated. The SSD will naturally stand at an angle when inserted, this is normal. See photos below.



Step 4: Secure the M.2 SSD using the mounting screw. Press down and hold the M.2 SSD while you replace the mounting screw that was removed in Step 1. This will secure the SSD in place. See photos below.

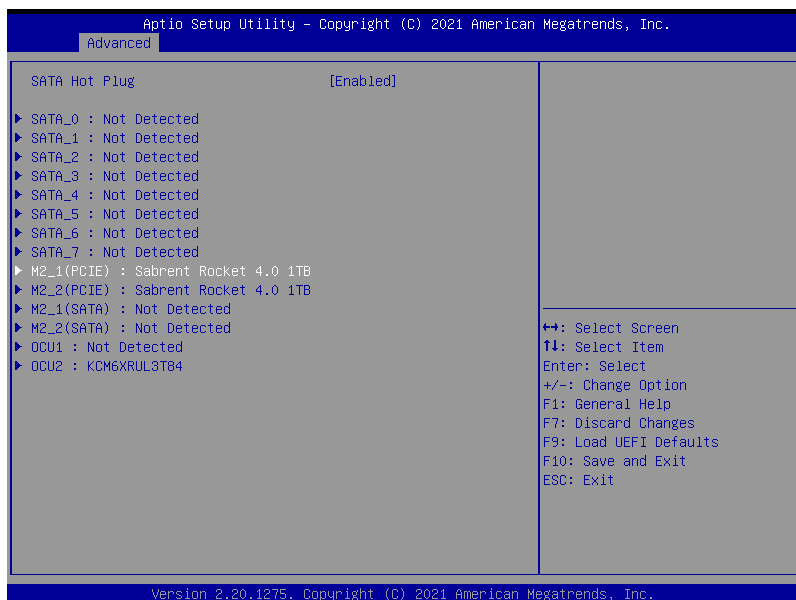
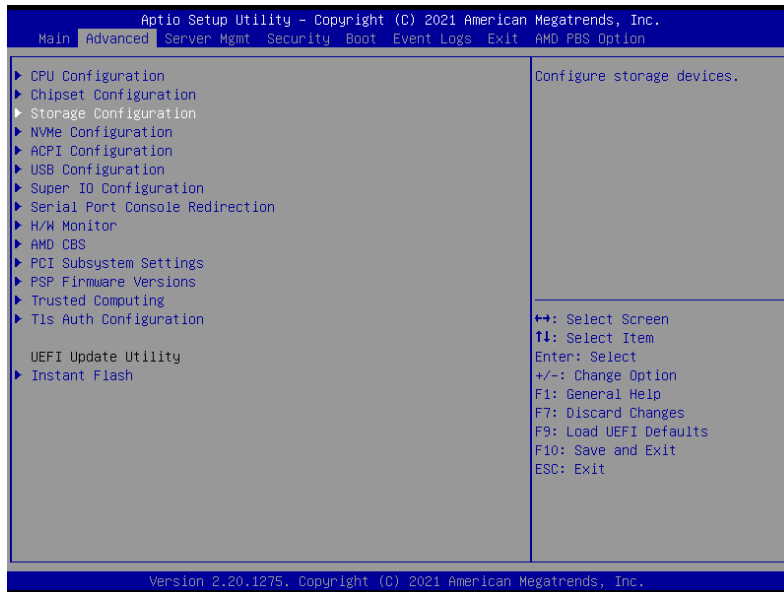


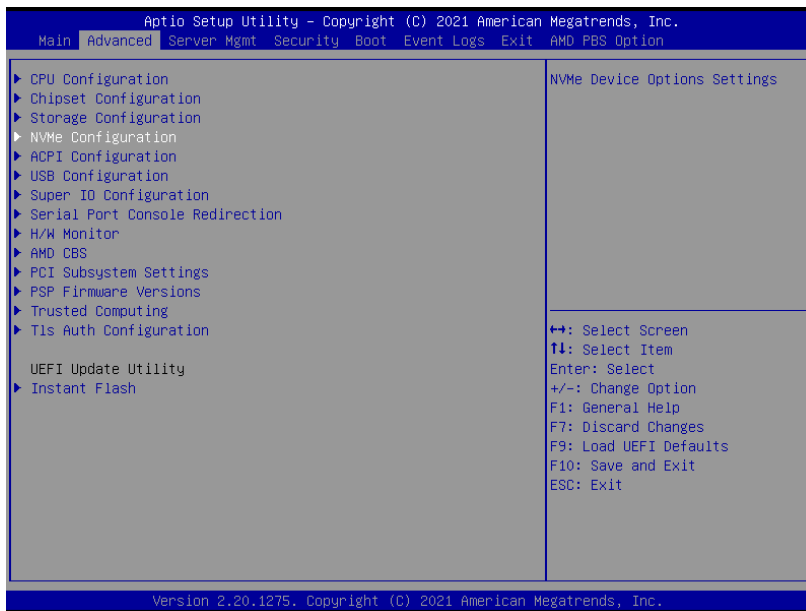
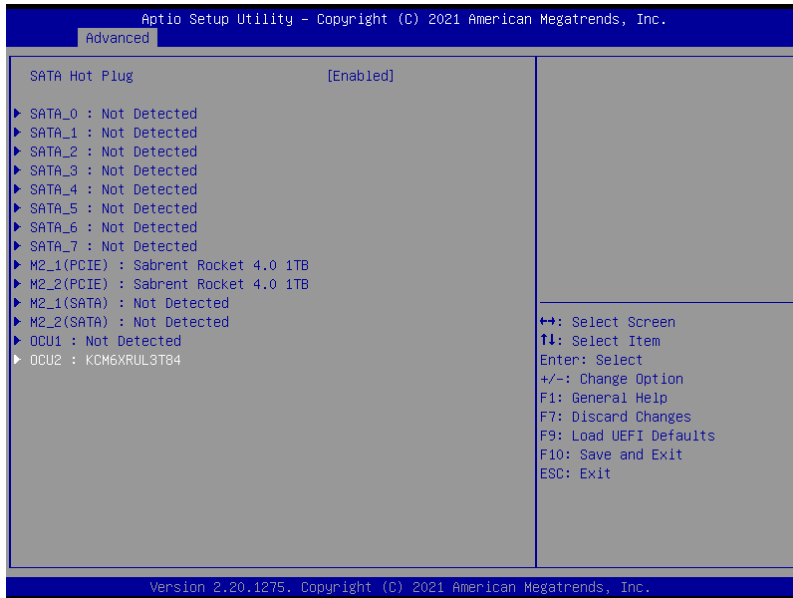
10.1 Verify Device

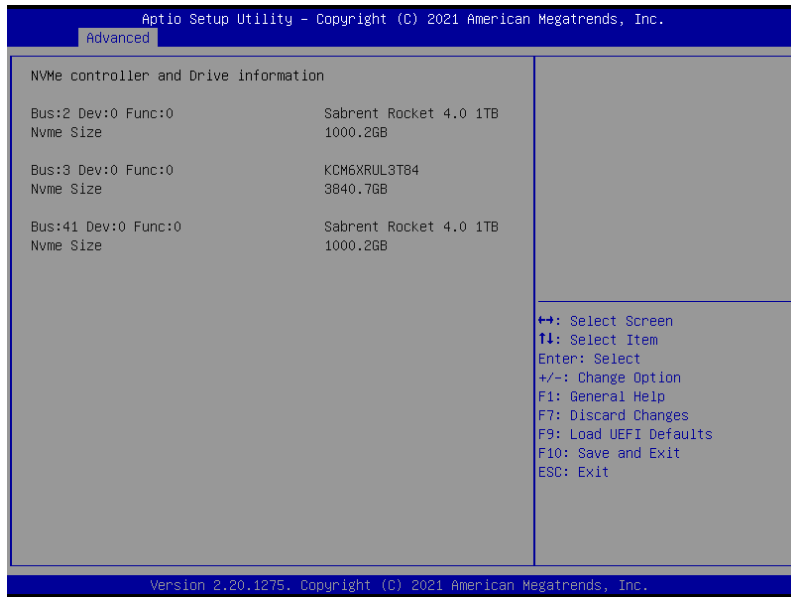
Make Sure the M.2 SSD is recognized by your computer.

After you have installed the M.2 media, make sure your computer recognizes it as a new storage device. There are some motherboards will automatically detect an M.2 SSD, but when that does not happen, you will need to manually go to the BIOS and set the settings that an M.2 device is connected.

1. Power UP the computer, during the boot-up process, press “Delete” to enter BIOS.
2. Go to Advanced Tab, select, and select “Storage Configuration,” you should see the M.2 detected.
3. Go to NVME Configuration, it will show the NVME drives that are detected.

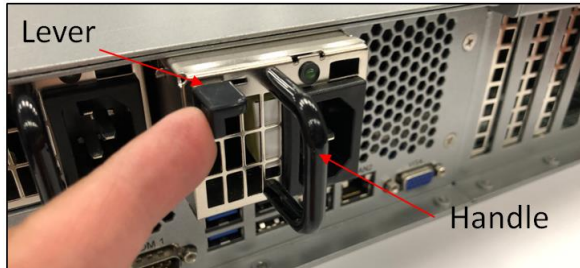






11 How to Remove Power Supply

Pressing and holding the lever towards your right and gently pull the handle to remove power supply module.



CAUTION

Turn OFF the unit first before removing the power supply.

12 How to Remove PSU Housing

This section will demonstrate on how to detach the power supply housing to have physical access to the CPU and memory modules.

Remove the PSU modules



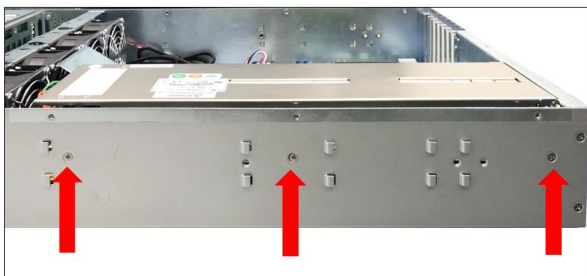
Remove the two mounting screws underneath the metal enclosure



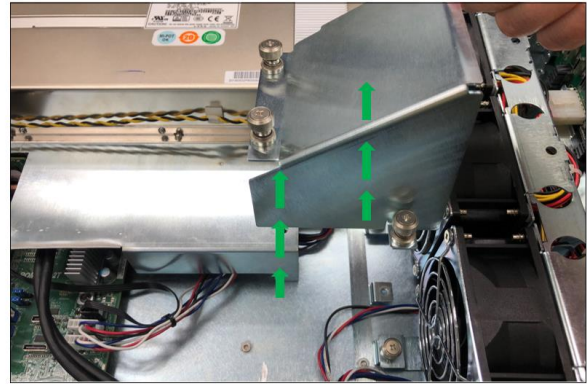
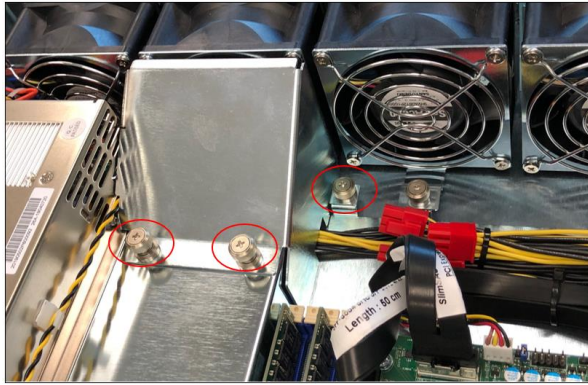
Remove the two mounting screws on the back of the unit, see photos below.



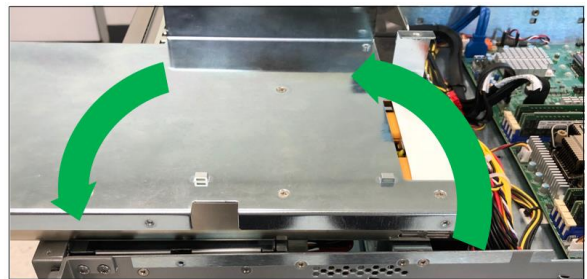
Remove the three mounting screws located on the side of the unit, see photo below.



Remove the air baffle

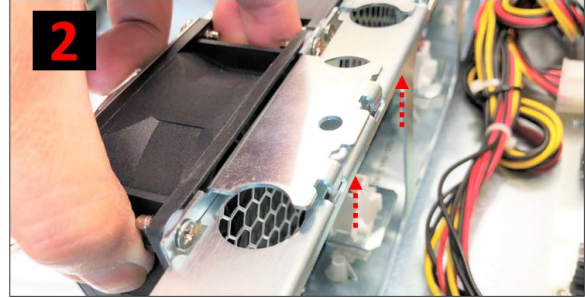
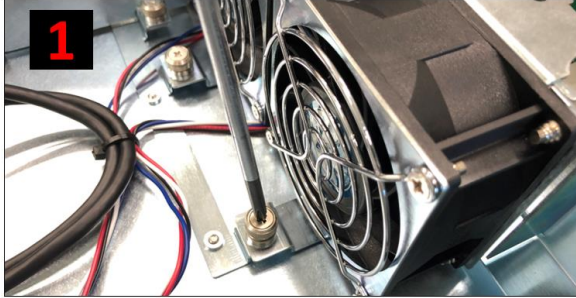


Slowly raise the PSU housing and lay it flat on the top surface of the unit.

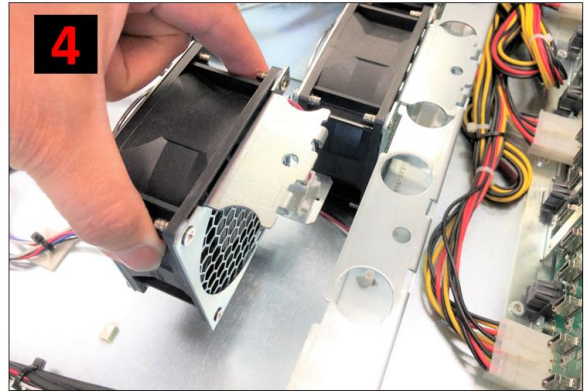
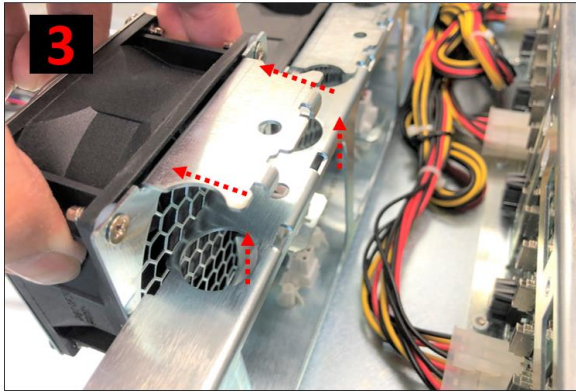


13 How to Remove the Fan

1. Loosen up the screw.
2. Grasp the fan on both sides

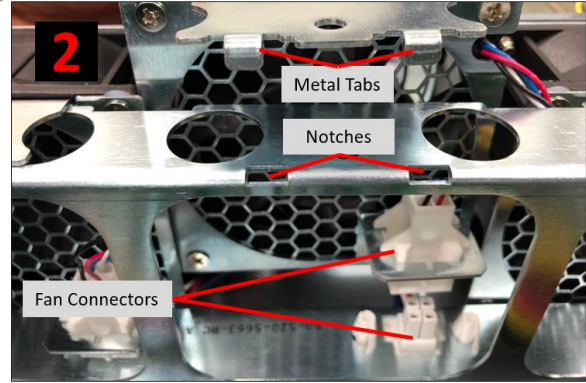
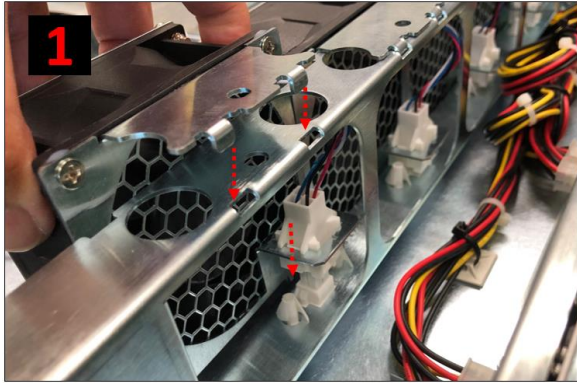


3. Lift the fan.
4. Pull the fan away from mounting bracket.

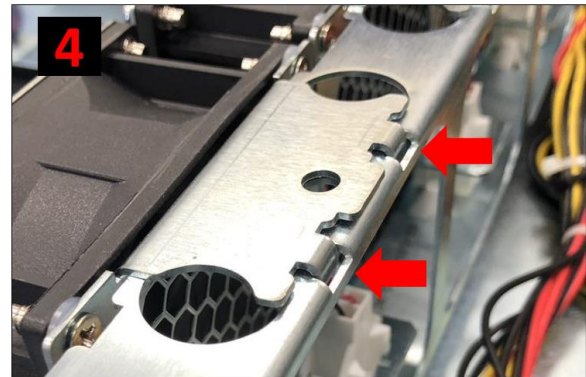
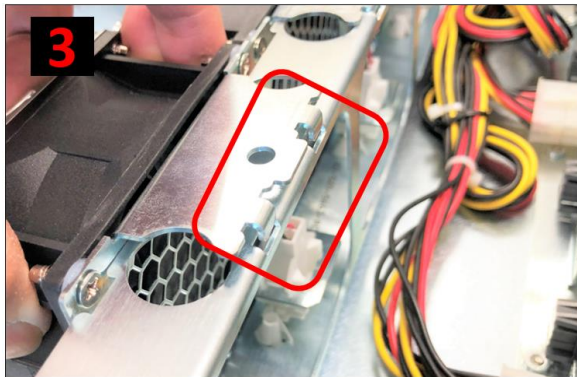


14 How to Install the Fan

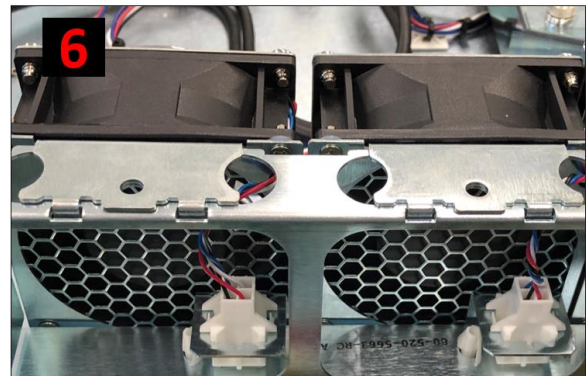
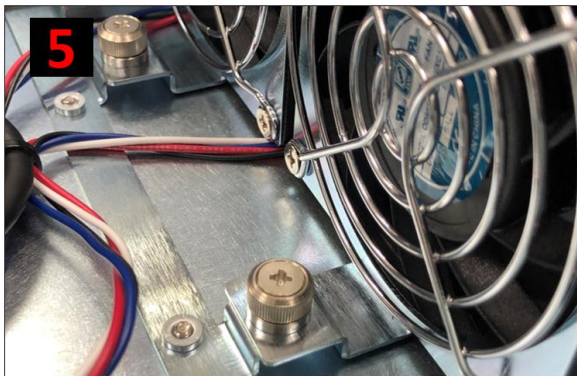
1. Align the two metal tabs on top of the two notches.
2. Align the two fan connectors.



3. Slowly push the fan down
4. Check both tabs are fully seated

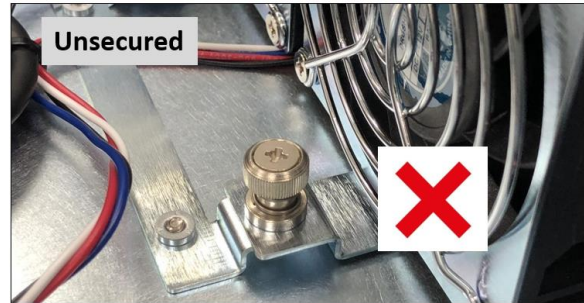
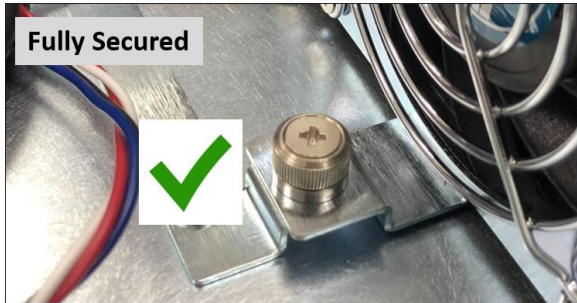


5. Tighten up the screw to secure the fan
6. Photo below shows the fan is seated properly.

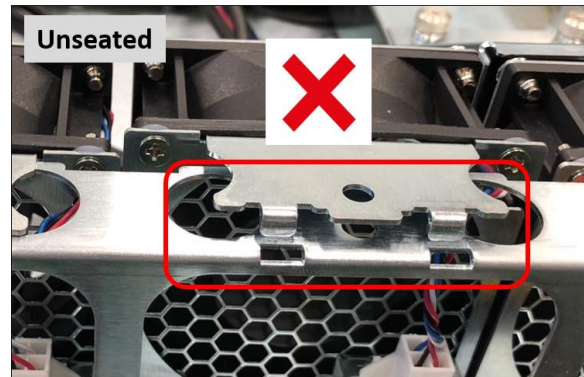
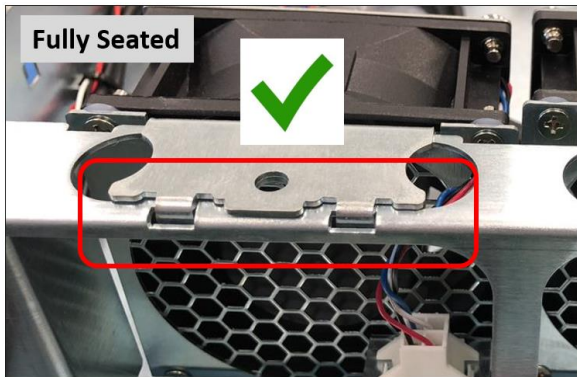


Make sure the fan is installed. Use photos below as reference on how to check if the fan is installed and secured properly.

Verify the screw is tightened, see photos below.



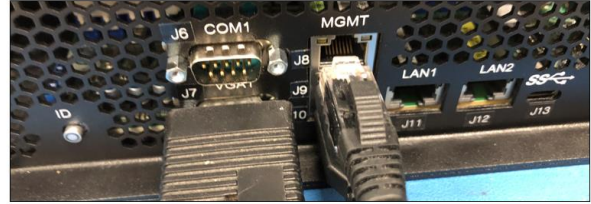
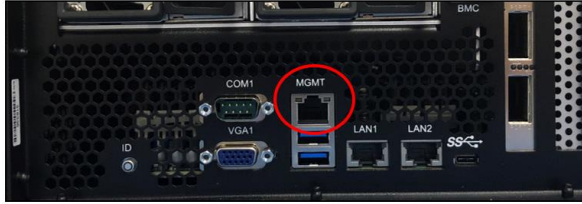
Verify the fan is fully seated, see photos below.



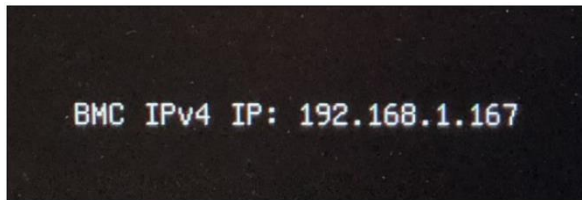
15 How to Access Motherboard BMC Web Interface

To Access the BMC web interface of the motherboard, follow the instructions below.

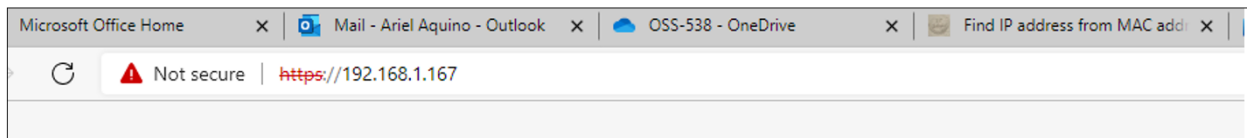
Plug in an Ethernet cable to the MGMT port, see photo below.



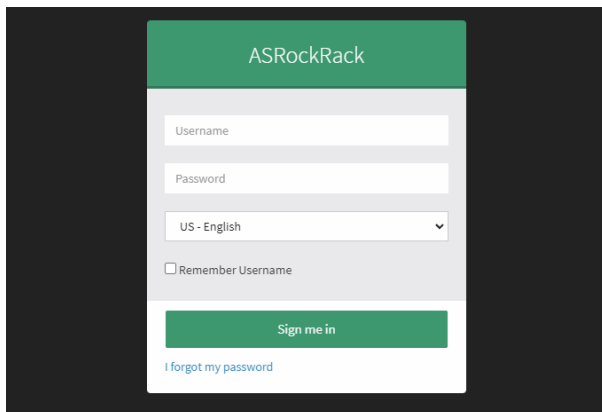
Power up the SDS system, during boot up, the BMC IP address will show up on the screen, see photo below as example.



Start your internet browser and enter the BMC IP address, see screenshot below:

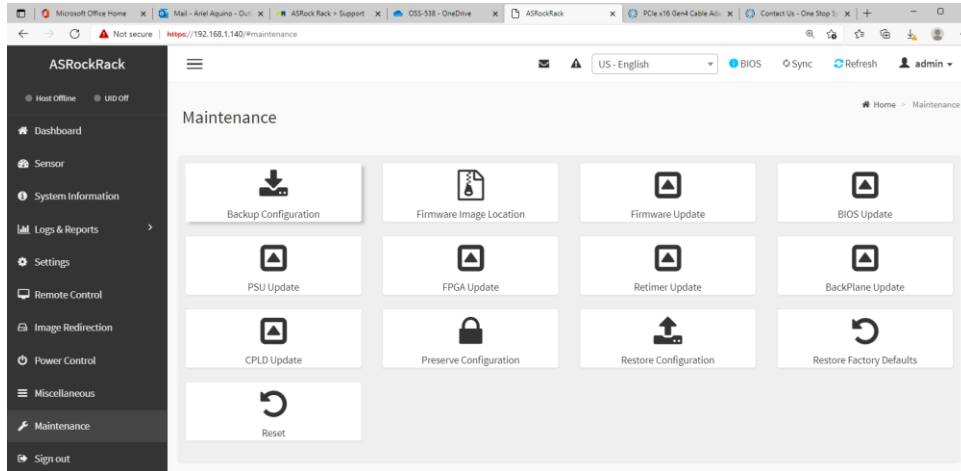


Login as "Admin," password is "Admin"

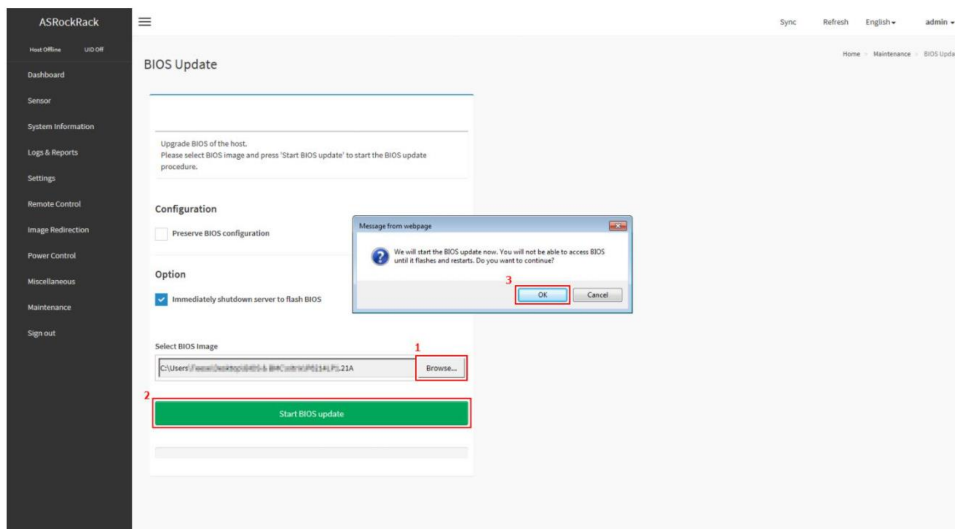


16 How to Update BIOS via IPMI Web User Interface

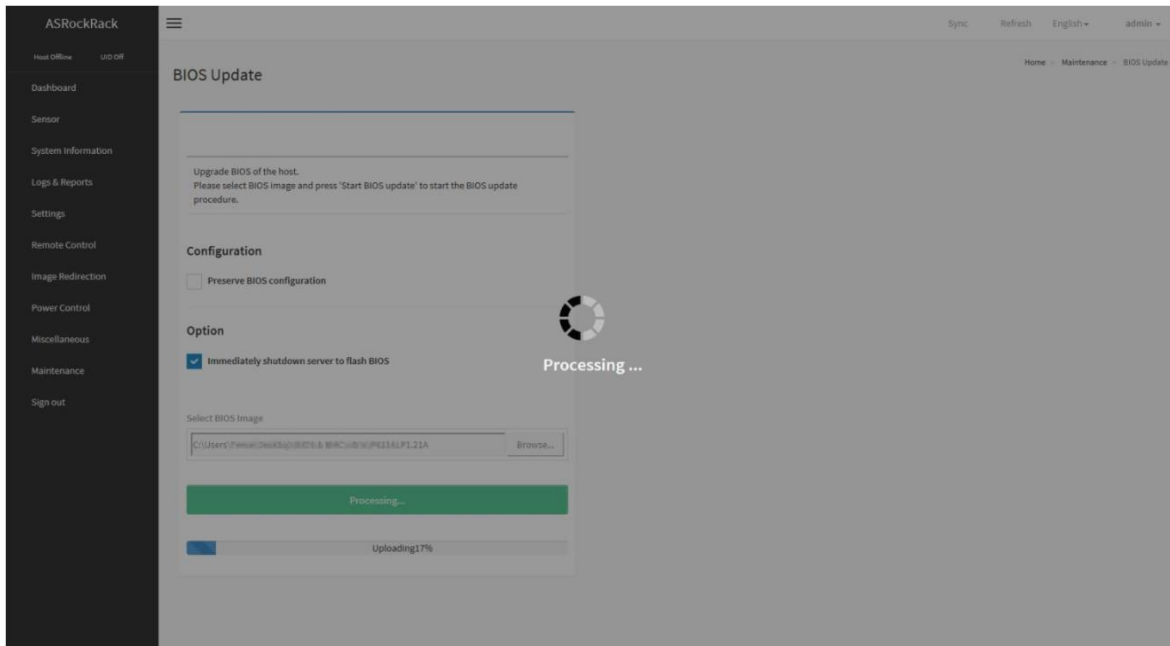
Login to BMC
 Click Maintenance
 Click BIOS Update



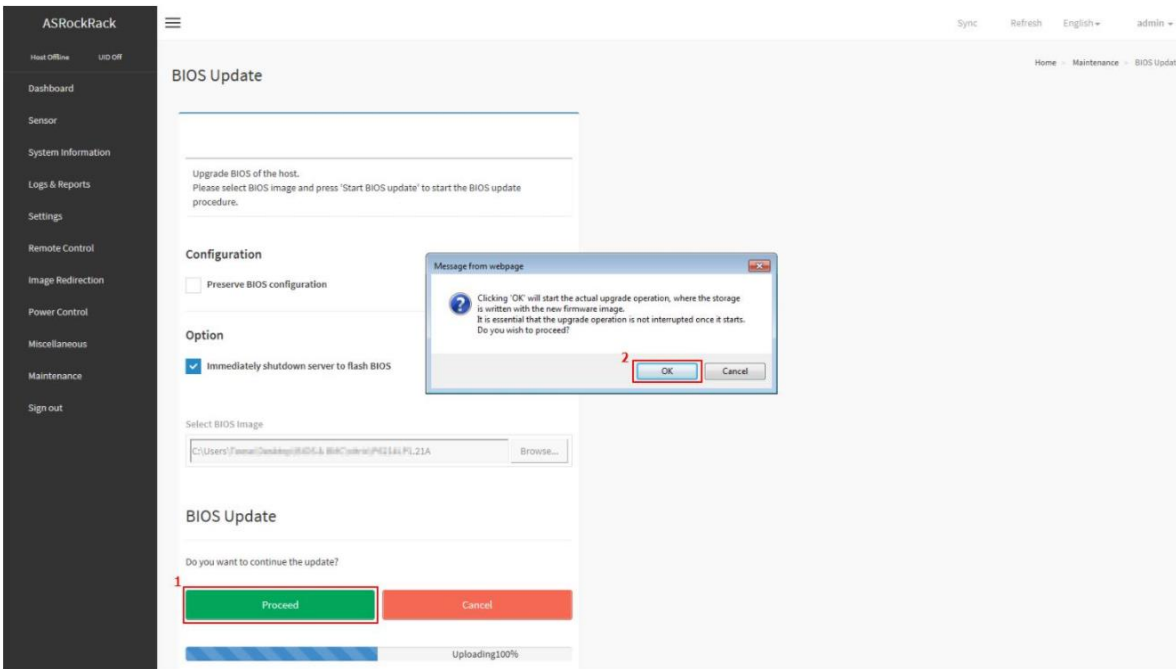
This wizard will take you through the process of firmware upgrades.
 Click the "Browse to select the BIOS FW file."
 Then click "Start BIOS update" to start the upgrade process. Click OK if confirmed to continue the process.



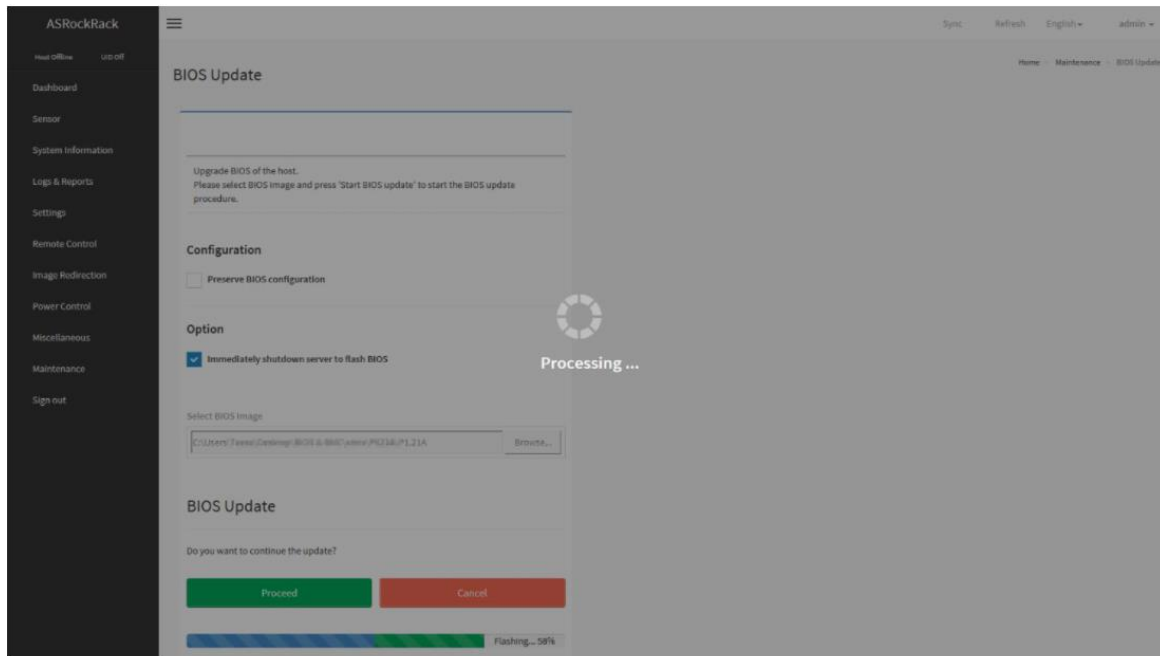
FW verification processing, please wait a few second.



Click "Proceed" to continue the BIOS FW upgrade process. Then click "OK" to start the actual BIOS FW upgrade operation.



FW upgrade is processing, please wait a few second.

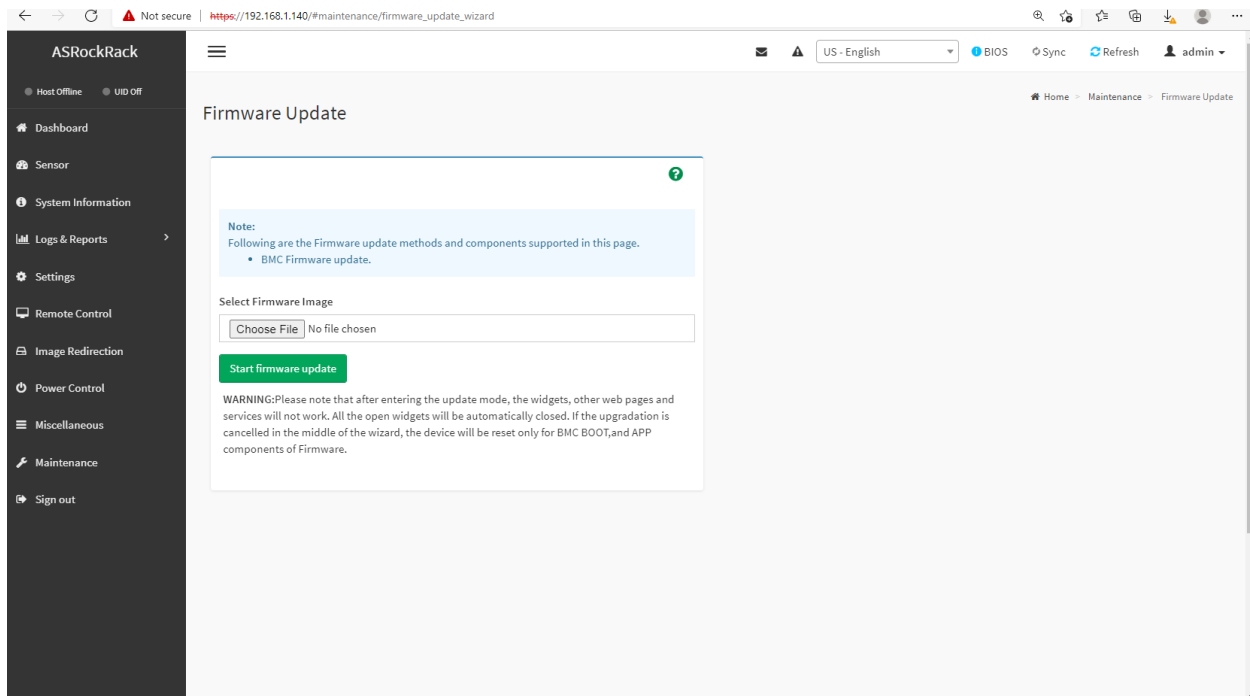
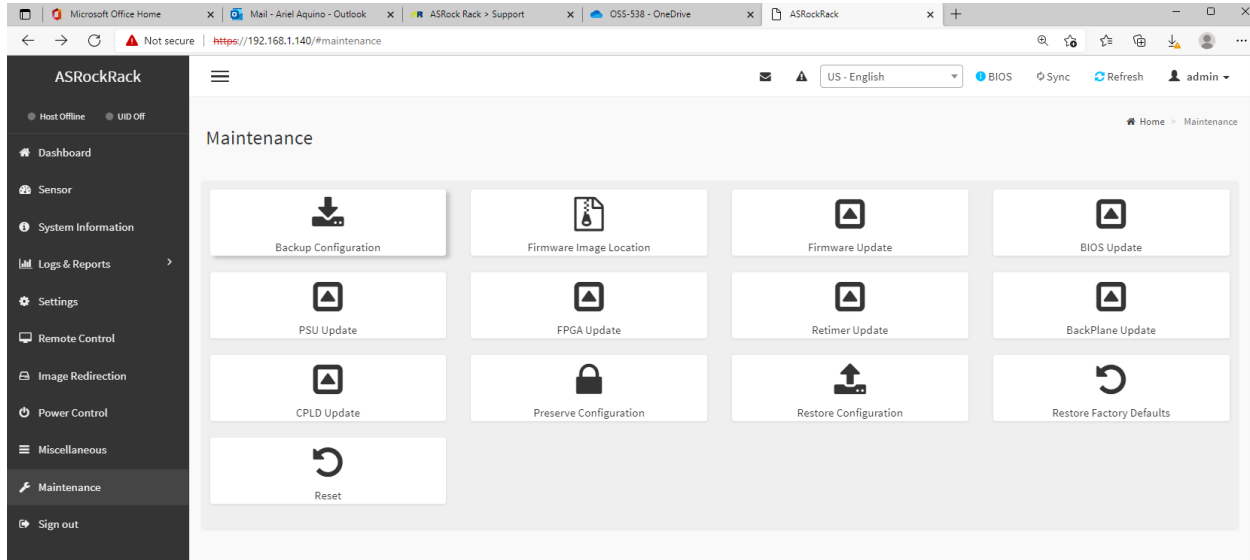


BIOS FW upgrade process finished. Click "OK" to reload the webpage.

NOTE: Clear the browser cookies after the BIOS FW upgrade process is finished.

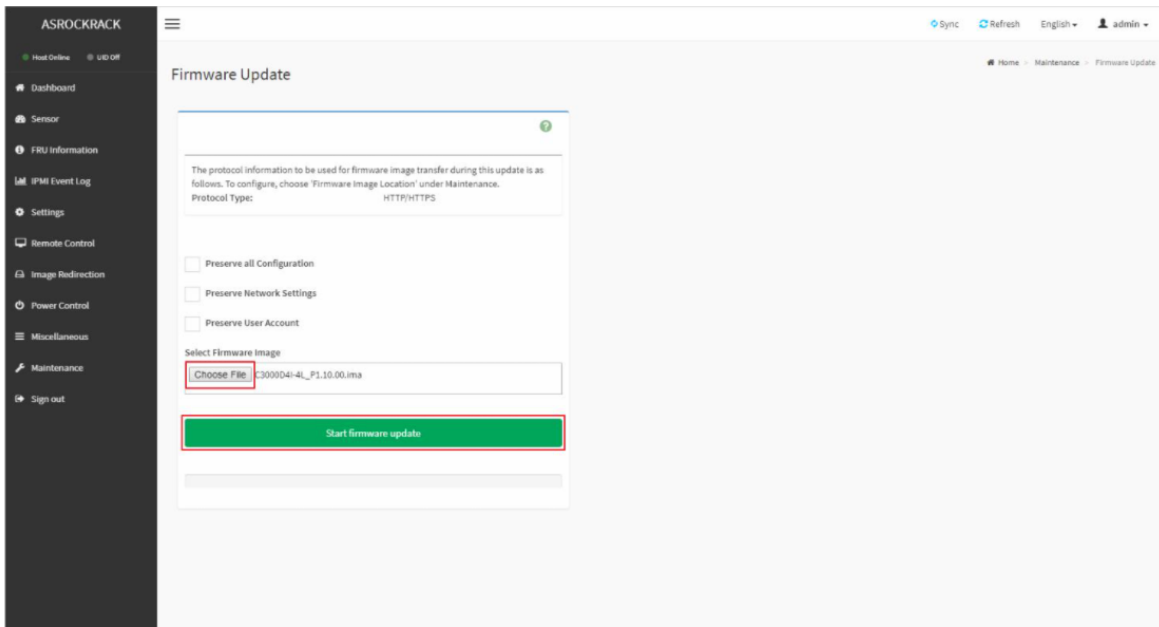
17 How to Update BMC Firmware via Web User Interface

- Click Maintenance
- Click Firmware update

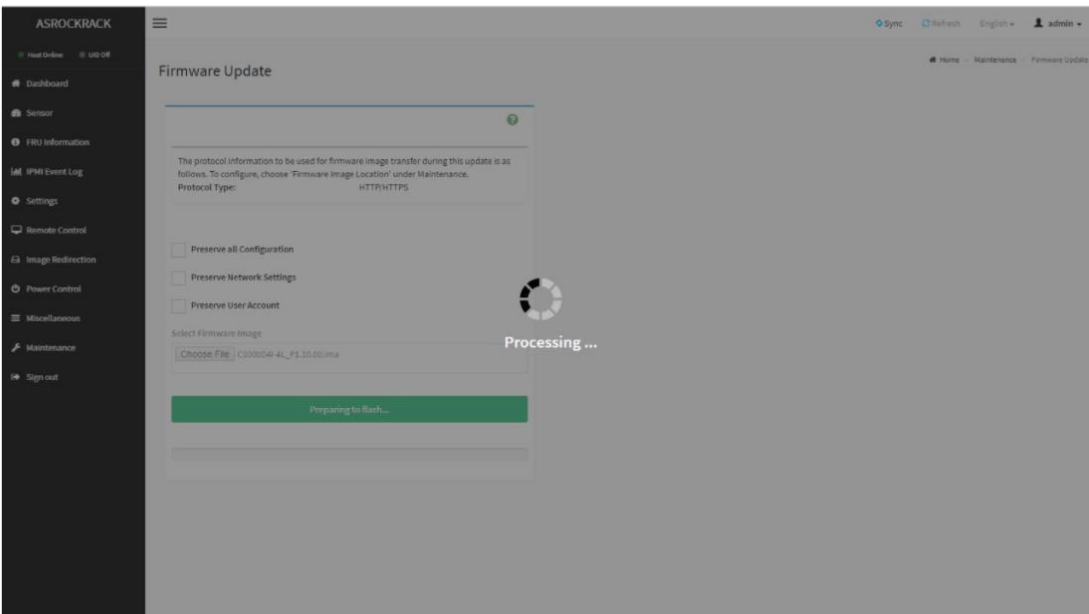


This wizard will take you through the process of firmware upgrades.

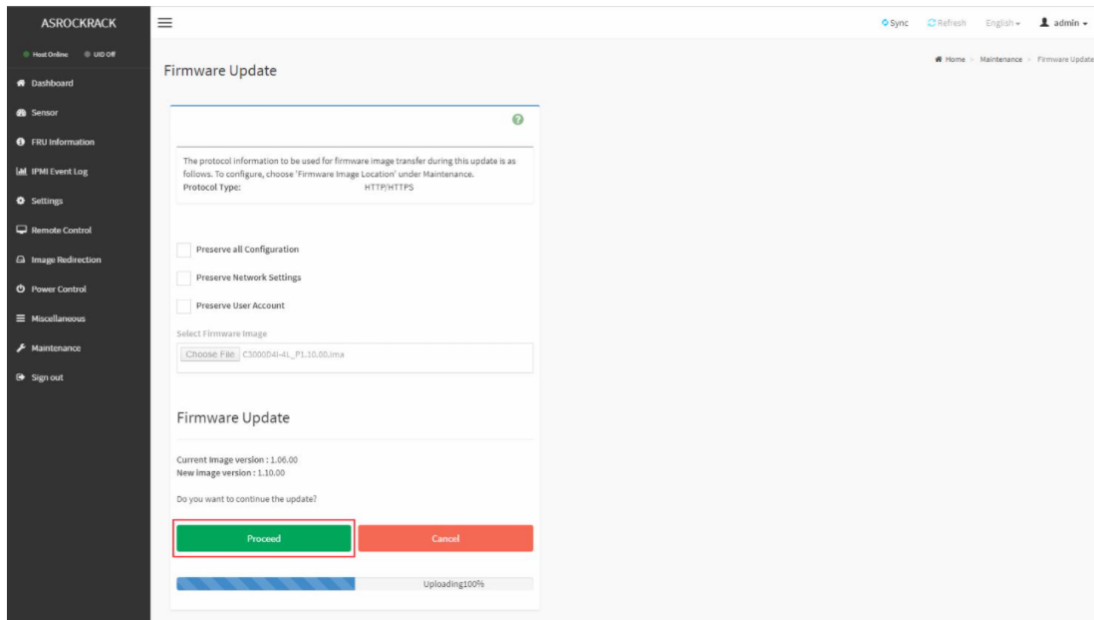
Click the "Choose File" to select the BMC FW file. Then click "Start firmware update" for the upgrade process.



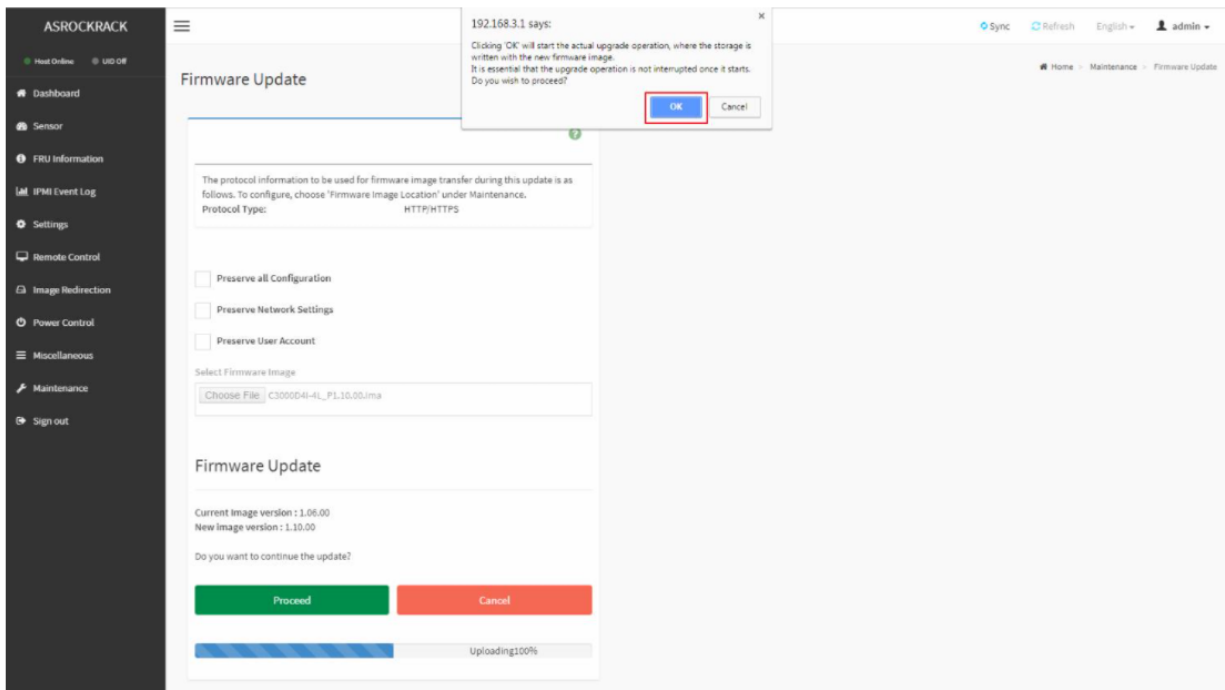
FW verification processing, please wait a few second..



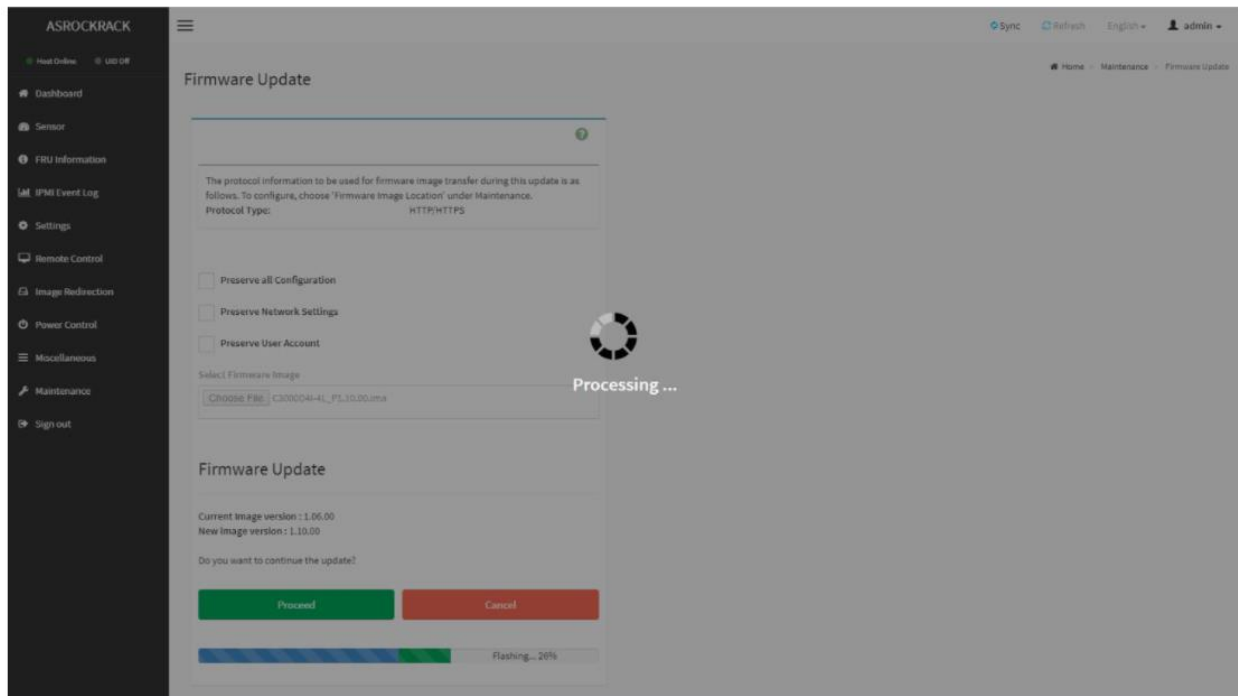
Click "Proceed" to continue the BMC FW upgrade process.



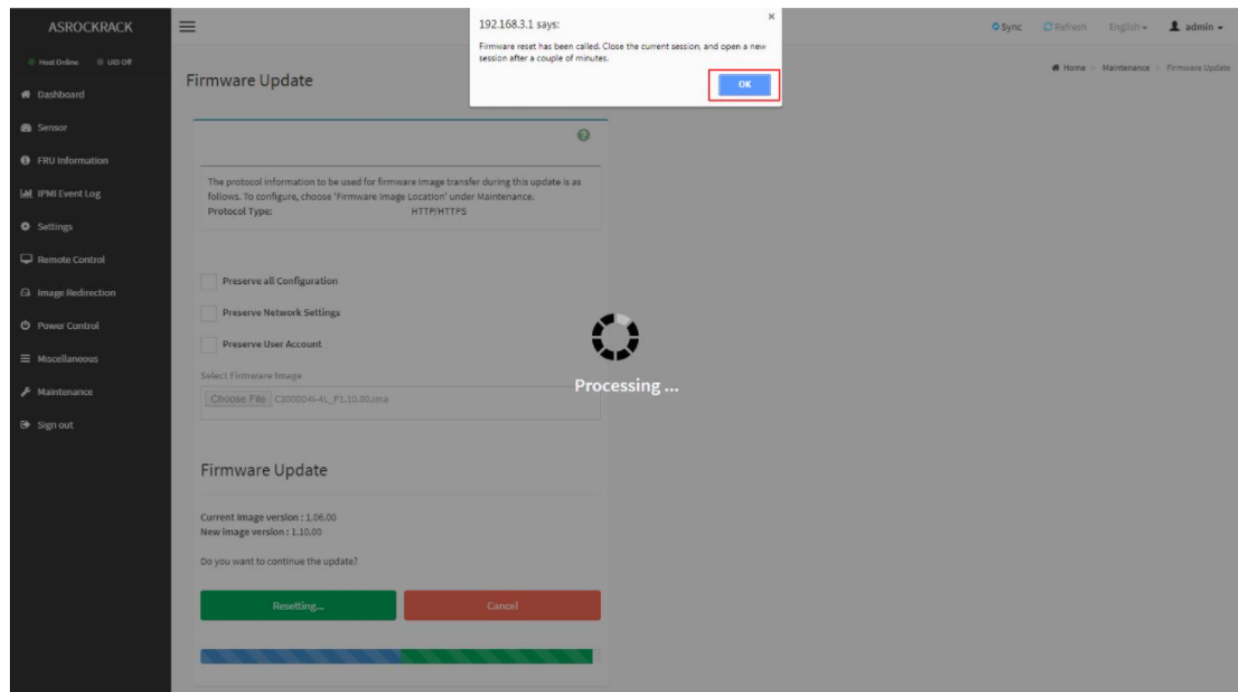
Click "OK" to start the actual BMC FW upgrade operation.



FW updrage is processing, please wait a few second..



BMC FW upgrade process finished. Click "OK" and reboot the system.



Remark: Clear the browser cookies after the BMC FW upgrade process finished.

18 Contacting Technical Support

Our support department can be reached by fax at (858) 530-2733 or by phone at (858) 530-2511. Support is available Monday through Friday, 8:00 AM to 5:00 PM PT. When contacting One Stop Systems Technical Support, please be sure to include the following information:

- | | |
|------------------|--|
| 1) Name | 7) Serial Number |
| 2) Company Name | 8) Computer Make |
| 3) Phone Number | 9) Computer Model |
| 4) Fax Number | 10) Operating System and Version |
| 5) Email Address | 11) Make/Model of PCI cards in expansion chassis |
| 6) Model Number | 12) Detailed description of the problem |

You can also visit our web site at: www.onestopsystems/support/

For a quick response, use the Technical Support and RMA Request Form available in the Support Section of the website. Simply complete the form with all required information. Please make sure that your problem description is sufficiently detailed to help us understand your problem.

For example: Do not say "Won't boot up." Do say "Tried all the steps in the Troubleshooting Section and it still won't boot up."

For faster diagnosis of your problem, please run the two utility programs described in the following sections and include the diagnostic files they generate with your email.

19 Returning Merchandise to One Stop Systems

If factory service is required, you must contact OSS Service Representative to obtain a Return Merchandise Authorization (RMA) number. Put this number and your return address on the shipping label when you return the item(s) for service. **One Stop Systems will return any product that is not accompanied by an RMA number.** Please note that One Stop Systems WILL NOT accept COD packages, so be sure to return the product freight and duties paid.

Ship the well-packaged product to the address below:

RMA # _____

One Stop Systems

2235 Enterprise Street, Suite#110 92029

USA

It is not required, though highly recommended, that you keep the packaging from the original shipment of your One Stop Systems product. However, if you return a product to One Stop Systems for warranty repair/ replacement or take advantage of the 30-day money back guarantee, you will need to package the product in a manner similar to the manner in which it was received from our plant. One Stop Systems cannot be responsible for any physical damage to the product or component pieces of the product (such as the host or expansion interfaces for the PCIe expansion chassis) that are damaged due to inadequate packing. Physical damage sustained in such a situation will be repaired at the owner's expense in accordance with Out of Warranty Procedures. Please, protect your investment, a bit more padding in a good box will go a long way to ensuring the device is returned to use in the same condition you shipped it in. Please call for an RMA number first.

20 APPENDIX A Compliance

FCC

NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the service personnel will be required to correct the interference at his own expense.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the service personnel's authority to operate the equipment.



NOTE

The assembler of a personal computer system may be required to test the system and/or make necessary modifications if a system is found to cause harmful interferences or to be noncompliant with the appropriate standards for its intended use.

Industry Canada

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conformé à la norme NMB-003 du Canada

CE

The product(s) described in this manual complies with all applicable European Union (CE) directives. One Stop Systems will not retest or recertify systems or components that have been reconfigured by customers



2235 Enterprise Street, Suite#110, Escondido CA 92029

Toll-Free : +1(800)285-8900 US • Main: +1 (760) 745-9883 • Fax: +1 (760) 745-9824

www.onestopsystems.com