Assembly Manual

Revision 1.4

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Introduction

The next generation of Spectre has arrived in the form of a Cyberpunk themed limited edition. The distribution plate has been redesigned with a full triple layer design throughout all fluid routes for improved flow and aesthetics. The PowerBoard has been redesigned for increased power delivery with all choke points removed. The layout has been changed to improve connector locations, and three direct connect SATA 2.5" drive positions have been added which are accessible from the back of the distribution plate. The PowerBoard has integrated capacitors for noise and ripple, and includes both ARGB and UV LEDs with a switch to use both at the same time, or one or the other. The CNC machined 6061 aluminum case frame components has been redesigned to improve strength and aesthetics with some unnecessary components being removed increasing integration. There is an IPS 1920x480 60Hz screen included on the PSU side shroud. There are glowing panels on the PSU Top Shroud, PSU Front Shroud and Rear IO Panel.

Features

- **Integrated Liquid Cooling Features**
  Reservoir, D5 Pump Top, D5 Pump Cover, Fill Port, Drain Port, parts of the cooling loop.

- **PowerBoard Integration**
  The PowerBoard is a PCB integrating 24pin, PCIe, EPS and 12VHPWR along with PWM and ARGB Hubs, SATA and Power and Reset Buttons. The Spectre Integra Proxima PowerBoard also has an integrated touch sensing Power Button. The PowerBoard has x27 90-degree ARGB LEDs and x18 90-degree UV LEDs around the external perimeter of the PowerBoard to optimally light up the distribution plate. Essentially the PowerBoard is a distribution plate for cables also integrating other features and functions. It is a new method for cables allowing standardization of cable lengths and making cable management no longer necessary. Black sleeved PowerBoard Linking cables are included with the case, 24pin x1, 8pin EPS x2, 8pin PCIe x3, and PWM and ARGB PowerBoard input cables meaning these cables do not have to be purchased separately.

- **Reduced build time due to integration**
  With the pump, reservoir, fill and drain ports, half of the water-cooling loop, the core component cables, PWM and ARGB hubs all integrated there is less assembly to be done. Also, less fittings and tubes are needed. There is no cable management to be done for the core component cables thanks to the PowerBoard integration.

- **Integration Cost Component**
  A large portion of the case cost is due to the integration. These are components you do not have to purchase for your build. The pump top, pump cover, reservoir, cables, ARGB and PWM hubs, less fittings, less tube, no cable combs, or cable management components.

- **Compatibility**

  Theoretically the more integration the less compatibility. For Spectre Integra's integration each port and connector were positioned based on an average of a vast range of components. We have created standard cable lengths to go with the PowerBoard which allow for any motherboard or GPU. We have also created adaptors for motherboards with 90-degree 24pin and EPS connections.

- **Integration & Optimization**

  With the integration we did not just develop a case, we developed all the integrated components. This meant that we could focus more on optimization than would normally be possible. The integrated loop routes in Spectre allow for more flow than 16mm tubes. The pump top was designed for the D5 pump, maximizing flow to and from the distribution plate. The reservoir was designed to remove air as quickly as possible making the loop easier to fill. The fill port is at the highest point on the back for the case and the drain port at the lowest point.

- **High End Components**

  Spectre 3.0 Integra Proxima fits XL-ATX motherboards and has 8 expansion slots. It is designed to fit the largest high-end GPUs. It can fit the largest PSUs up to 220mm. For the water-cooling system it can fit 2x 360mm radiators 60mm thick with a single set of fans or 2x 360mm radiators 40mm thick with two sets of fans, and the D5 pump. The PowerBoard can handle the most high-end PSUs and components.

- **Radiator Adjustment**

  The radiator mounting panels have a large range of adjustment to help with port alignment to the distribution plate.

- **Storage**

  Spectre 3.0 Integra has 10 x 2.5" Drive positions. Two are on the top of the PSU shroud, four inside of the PSU shroud and three are integrated on the PowerBoard. The two on top of the PSU shroud cannot be used with vertically mounted GPUs.

Design & Engineering

We are all experienced system builders at Singularity Computers having built high end water-cooled systems for over 15 years. Our approach to product development begins with a need for our own builds and so the origin is always function. We then build ideas around this function and the aesthetics and everything else follows. The original idea for Spectre came from our years of building highly customized, high end water-cooled systems and trying to reduce the exceptionally long build times and complexity. Our approach to development is hands on, we are using our own products every day. Development moves quickly and much of our focus is on Spectre, it is a constant process of improvement.

The aesthetics of Spectre originate from its function with one of the main aesthetic features (the distribution plate lighting) being something only made possible by the integration. We wanted the case to look skeletal and transparent enough to (in a way) disappear around the components.

The metal components have been designed to enhance this with an extreme focus on detailed and complex multi sided CNC machining.

Manufacturing & Quality

Every component of Spectre is CNC machined from a solid block of material. With the level of transparency and being an open case, we wanted it to be a celebration of the raw materials. There is no hidden or back side, and this also goes for the components being installed. Due to this we selected the most high-end materials manufacturing process. The Distribution Plate is machined on a CNC router built from thick sheets of cast acrylic. It is hand assembled with silicone gaskets and stainless-steel fasteners, and pressure tested. The metal components are machined with Extreme Precision from solid blocks of 6061 aluminum on a CNC mill then sand blasted and anodized.
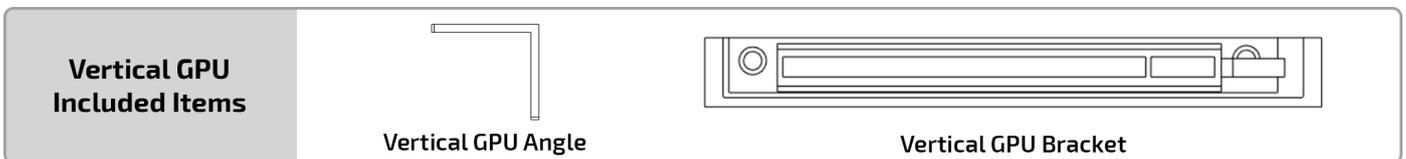
Specifications

Water-cooling Integration	Reservoir, Pump Top, Pump Cover, Fill Port, Drain Port, Parts of water-cooling loop. Ports: x6 G1/4" BSPP. 1x Fill Port. 1x Drain Port. Pump: (Not included): Compatible with all D5 pumps.
Electronics Integration	Connectors: 24pin x1. PCIe 8pin x 3. 8pin EPS x4. PCIe 6pin Supplementary x1. 12VHPWR x2. (As many inputs must be used as outputs). Hubs: PWM: x6. ARGB: x7 (Single input for all output connectors). LEDs: x27 Integrated ARGB 90-degree LEDs and x18 UV 90-degree LEDs around the external perimeter of the PowerBoard. There are two switches on the PowerBoard one switches the ARGB on or off and the other switches the UV on or off (both can be on or off at the same time). Touch sensing Power Button. Power and Reset Buttons. PowerBoard direct mount 3x 2.5" SATA 3.0 6Gb/s accessible from the back of the distribution plate. Screen: IPS 1920⁄480 60Hz (cables are included)..
Cables	PowerBoard Linking Cables Standard Set: 24pin x1. 8pin EPS x2. 8pin PCIe x3. 18AWG Black Headshrinkless Sleeve. PWM Female to Female 50cm Black Sleeved x1. ARGB Female to Female 50cm Black Sleeved x1. Screen cables: Mini HDMI to HDMI Black 1m (Signal). USB-A to USB Micro-B 0.9m (Power). Touch Power Button Cables: Power, Reset, LED +/- Black 20cm.
LED strips	Total included x8: 50cm ARGB LED Strips with 50cm cables x3. 30cm ARGB LED Strips x3 with 50cm cables (preinstalled). 50cm LED Strips x2 (preinstalled).
Motherboard Form Factor	XL-ATX (Up to: 285mm Wide & 343.5mm High). E-ATX, ATX, Mini-DTX, Mini-ITX.
Expansion Slots	x8.
Case Form Factor	Mid Tower.
Package Dimensions & Weight	L: 640mm W: 620mm H: 110mm (Case is flat packed and requires partial assembly). 23kg.
Case Dimensions & Weight	L: 545mm H: 595mm W: 254mm. | 18kg.
Storage	10x 2.5". x2 are on top of the PSU shroud and cannot be used when the GPUs are vertically mounted. x4 are inside of the PSU Shroud. X3 are on the PowerBoard behind the PSU.
Radiators	360mm x 60mm with x1 set of standard 25mm fans. Or 360mm x 40mm with x2 sets of standard 25mm fans (Push/Pull).
Maximum GPU Length	500mm.
Maximum GPU Height	170mm in standard orientation. Unlimited in vertical orientation.
Maximum CPU Cooler Height	170 mm
Maximum PSU Length	220mm (Space allowed for cables inside of PSU shroud).
Front Panel I/O	No Front I/O | Vandal Switch 16mm | White LED

Vertical GPU Mount	x2 with 3 slots (60mm) spacing. x1 is included. 2nd Vertical GPU Mount available here. Riser cable available here.
Materials	6061 Aluminum Anodized. Cast Acrylic. Stainless Steel. PCB.
Manufacturing Process	CNC Mill, CNC Lathe, CNC Router, PCB.
Assembly	Distribution Plate Assembled by Hand. Metal Components need to be assembled and attached to the distribution plate by the customer.
Testing/Validation	All Distribution Plates are factory pressure tested and precise fastener tension is applied.

Included Items

Items		Spectre	
		Integra Proxima Limited edition	Integra 3.5
Case Components			
Distribution Plate		1	1
Clear Cast Acrylic Side Panel Window		1	1
Case Panel Set		19	19
Vertical GPU Mount (Includes Vertical GPU Bracket and Angle Mount).		1	1
Accessories			
Hex Keys:	• M3	1	1
	• M4	1	1
	• M6	1	1
Microfiber Cloth		1	1
Stop Fittings		2	2
5v ARGB LED Strip 50cm		3	3

Vertical GPU Included Items		
	Vertical GPU Angle	Vertical GPU Bracket

Table of Fasteners & Panels

Fasteners

Type	Quantity
6-32 Thumbscrew	8
M4 x 20mm	8
M4 x 14mm	4
M4 x 10mm	22
M4 x 8mm	3
M4 x 6mm	22
M4 Standoff 13mm	4
M4 Spring Washer	10

Type	Quantity
M3 x 8mm	3
M3 x 6mm	25
M3 x 4mm	3
M6 x 30mm	2
M6 x 20mm	9
MB Standoff M3-M4 18x6	9
SSD Mount	3

Panels
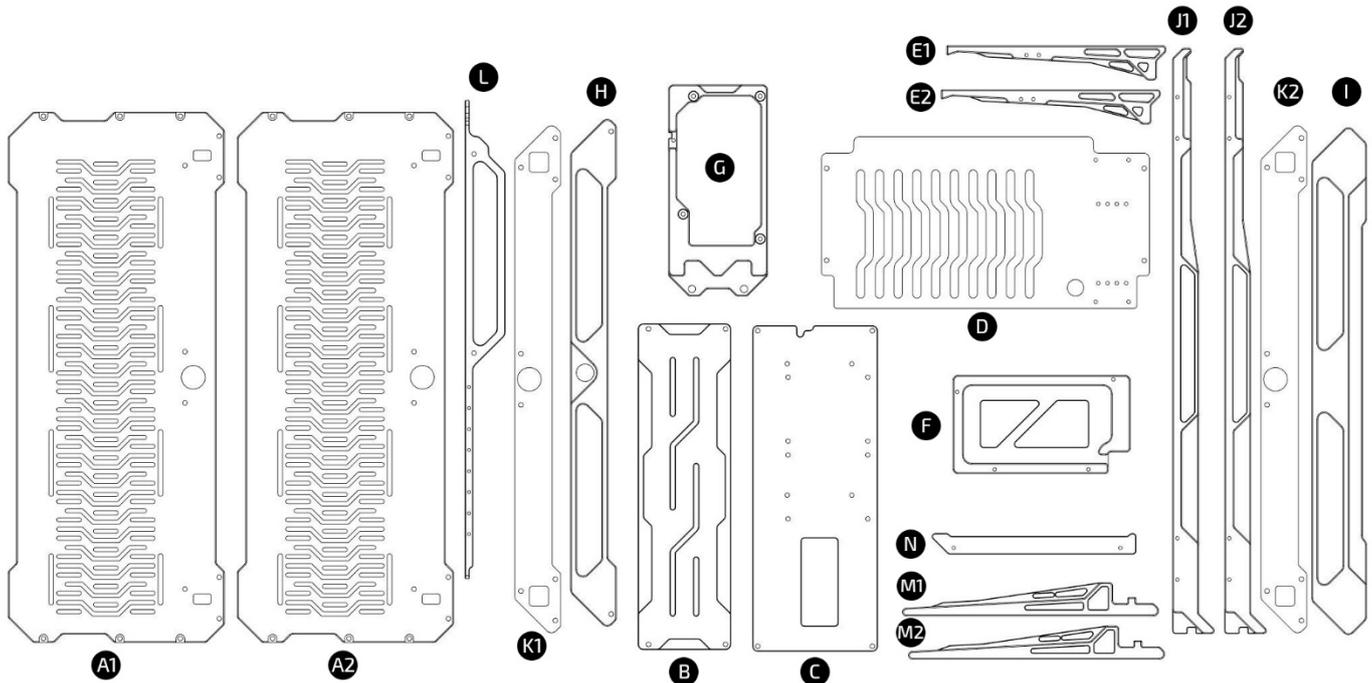
	Name
A1 A2	Radiator Panels
B	PSU Side Shroud
C	PSU Top Shroud
D	PSU Bottom Shroud
E1 E2	Top Supports
F	PSU Front Shroud
G	PSU Mount

	Name
H	Front Cover
I	Top Cover
J1 J2	Legs
K1 K2	LED Diffusors
L	I/O Panel
M1 M2	Feet
N	Cable Shroud

Warranty

Spectre Integra Proxima Limited Edition & Spectre Integra 3.5 2-Year Limited Warranty:

1: The Integrated Water-cooling system is pressure tested at the factory, there is no need to adjust the fasteners on the distribution plate. Take care not to over tighten any of the fasteners particularly on the acrylic, stop as soon as you feel feedback or tension on the fastener. On the metal parts you can tighten normally. We are not responsible for damage caused by over-tightening the fasteners.

2: Any thread stripping, cross threading or thread damage will not be covered under our warranty. All threads are pre-tested. We use stainless steel fasteners which are extremely durable.

3: All acrylic is carefully checked for scratches, marks or particles as the manifold is assembled. We are not responsible for mistreatment of the acrylic. Only clean with a microfiber cloth and use nothing except distilled or deionized water for cleaning, or Novus Plastic Cleaner. Damage caused by cleaning agents (particularly alcohols or solvents) is not covered under warranty.

4: Acrylic Surface Guarantee: Marks on acrylic which cannot be wiped away with a microfiber cloth will only be covered under warranty under the following conditions: That they did not occur after the item was shipped from the Singularity Computers Factory or Retailer. If there are more than 5 marks which are beyond 5mm in length and visible when facing perpendicular to the surface. Evidence of this must be photographed in detail and photographs must be taken perpendicular to the surface. Marks must be easily visible in photographs.

5: For the latest coolant recommendations please visit http://bit.ly/sc-important-info. We are not responsible for staining of the acrylic, but it has never been an issue with our products. Most staining will be easy to remove by flushing out the loop with distilled water for 24hrs or using Mayhems Blitz. If you are concerned about staining, then we suggest Mayhems Non-Stain Dyes.

6: Any damage which occurs after the item leaves the Singularity Computers Factory or our Retailers is not covered under warranty. We are not responsible for shipping damage or mishandling.

Assembly Manual

ⓘ Assembly Note

Spectre is built from thick and strong CNC Machined aluminum components with tight tolerances. There is no flex in the metal parts like there is on other cases. Due to this we have had to build tolerances into all the mounting holes on Spectre Integra. If something does not align then loosen all related fasteners on the surrounding panels to let the component settle in, then tighten the fasteners again.

Step 1: Install Legs onto Distribution Plate.

Install the Legs onto the Distribution Plate using 7x M6x20mm fasteners. It is best to lay the legs down on a table in position, then place the distribution plate on top, align the legs to the holes and then install the fasteners.
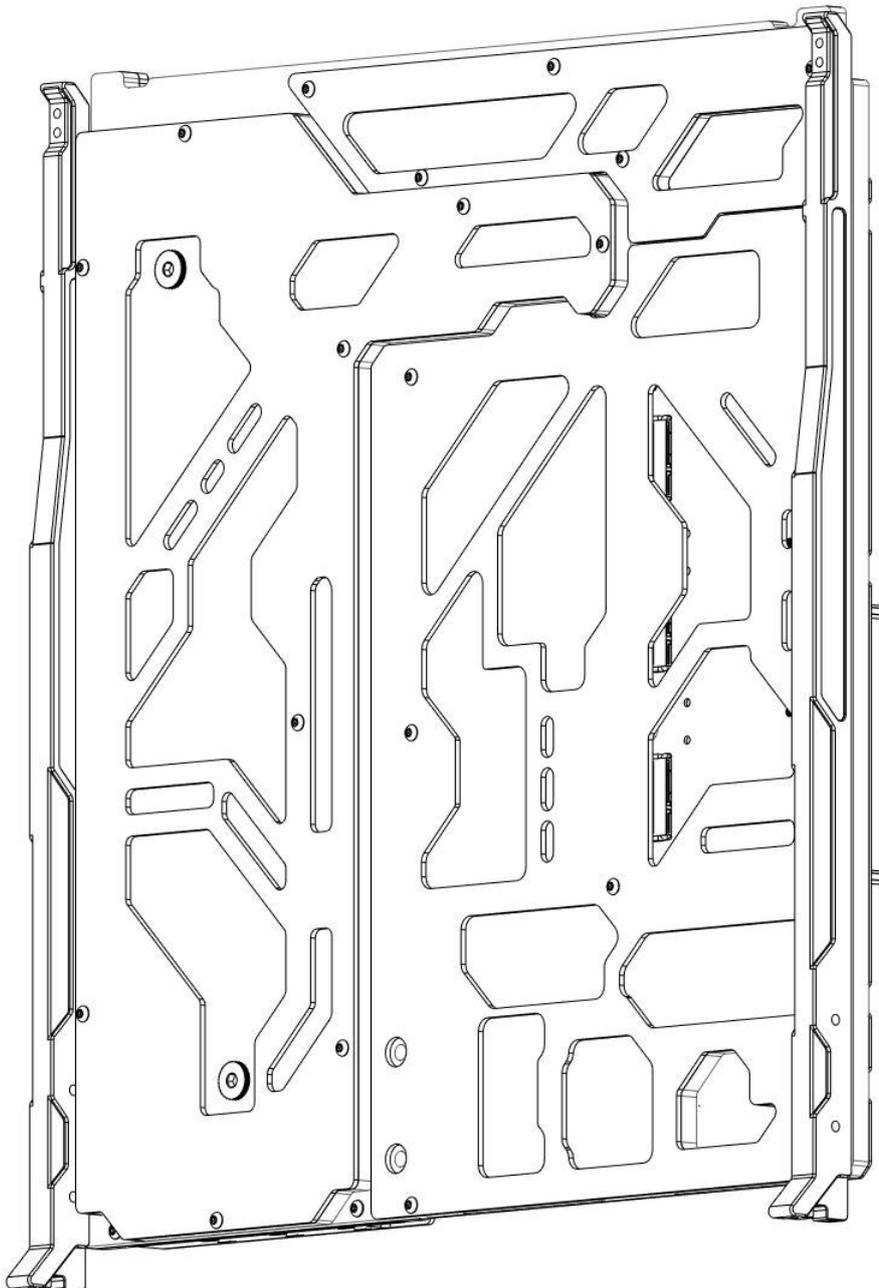
Step 2: Install ARGB 50cm LED Strips.

Remove the adhesive covers on the LED strips and stick them onto the positions marked in the diagrams below. Make sure to put the cables in the correct orientation for the best cable management, which depends where you plan on connecting them in your build. There should be one LED strip installed onto the inside of LED Cover Front, another installed inside of LED Cover Top and another installed on the inside of the top Radiator Panel.

IMPORTANT: All three LED Strips need to be cut to length to fit into position. If you plan on using the individually LED Strip functions then you need to know how many LEDs are remaining on each LED Strip after you cut them. When you cut them, count how many LEDs are remaining on each LED Strip and remember which header you will plug each one into. The LED Strips each have 30 LEDs before they are cut.

↑ Top Radiator Panel ↑
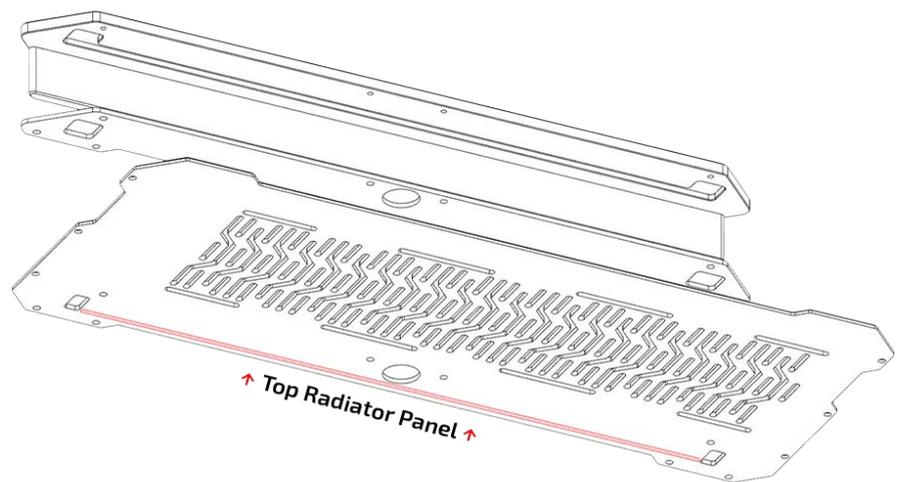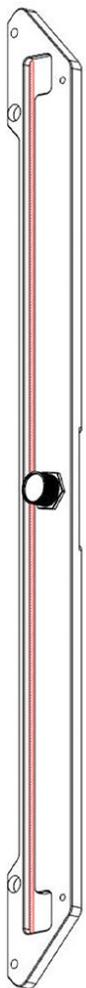
Cut LED Strips on the sections marked in the diagram below.
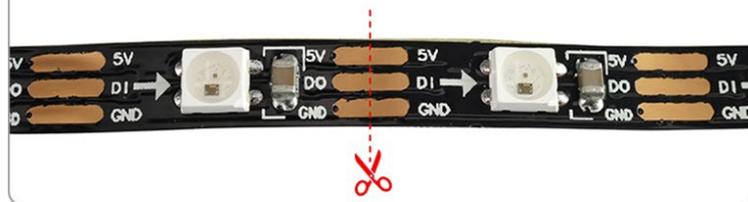
Step 3: Install Power Button.

Remove the Power Button retention ring and O-ring. Thread the cable through from the front of the Front LED Cover until the Power Button is in position. Install the O-ring onto the Power Button and then tighten the retention ring to hold it in position. The O-ring prevents the Power Button from coming loose.
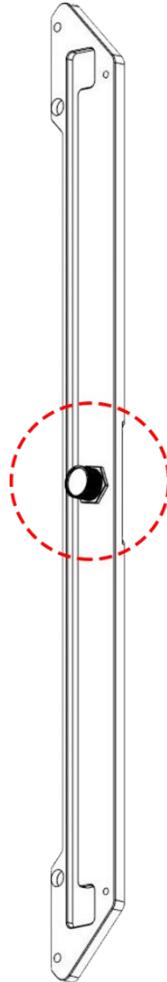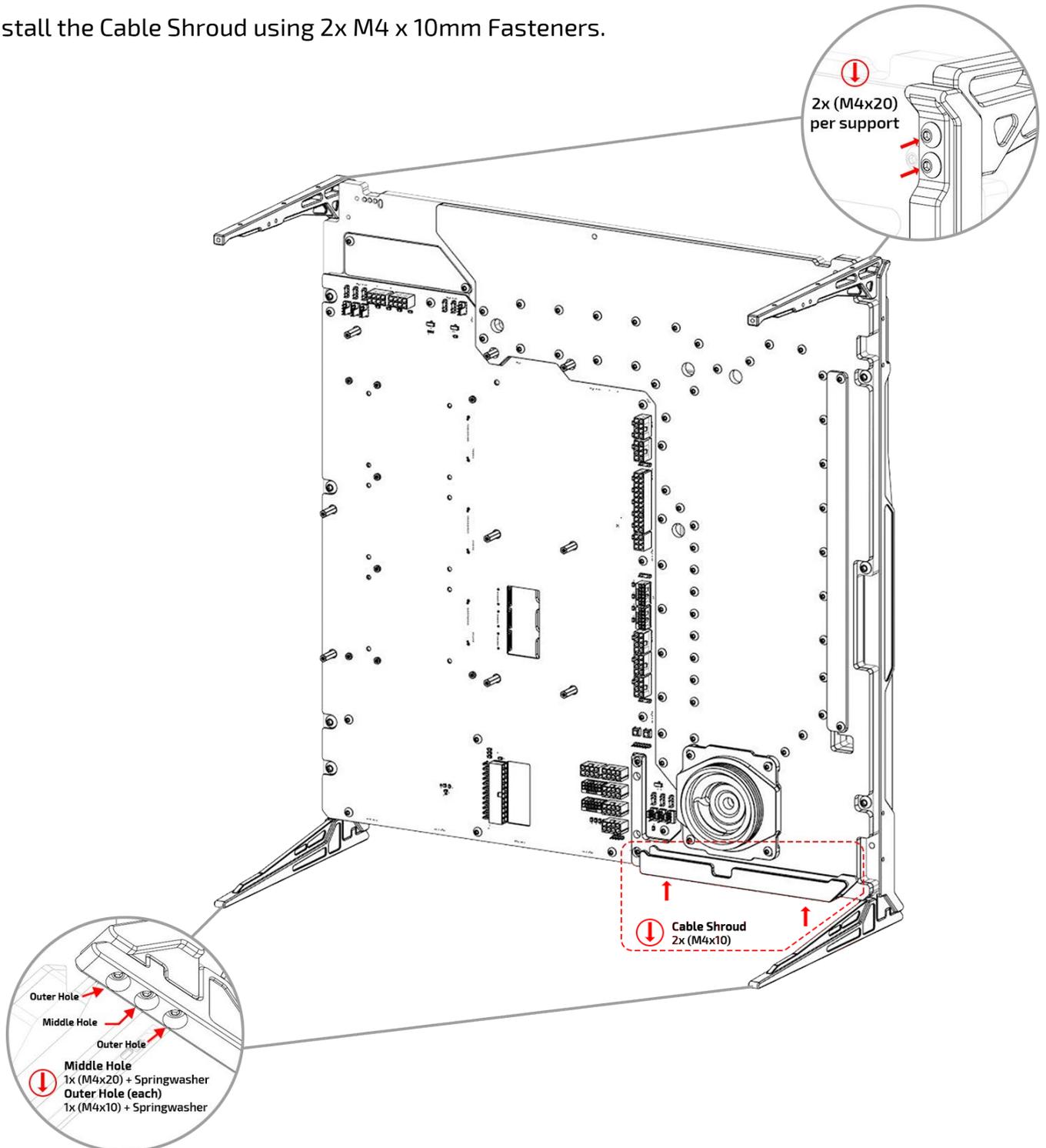
Step 4: Install Feet and Top Supports.

Install the Feet, for each one using a M4 x 20mm fastener with an M4 Spring Washer on the middle hole and 2x M4 x 14mm fasteners with M4 Spring Washers on the outer holes. It is best do this with the distribution plate laying flat and on the edge of a table so that you can easily access the Feet.

Install the Top Supports, for each one using 2x M4 x 20mm Fasteners per support. It is best to do this with the case standing upright on the Feet.

Install the Cable Shroud using 2x M4 x 10mm Fasteners.

2x (M4x20) per support

Cable Shroud 2x (M4x10)

Outer Hole
Middle Hole
Outer Hole
Middle Hole
1x (M4x20) + Springwasher
**Outer Hole (each)**
1x (M4x10) + Springwasher

Step 5: Install LED Diffusors & Radiator Panels.

Attach the Top Cover to one of the Radiator Panels with an LED Diffusor in between using 4x M4 x 10mm fasteners. Then attach the top Radiator Panel using 6 x M4 x 6mm Fasteners.
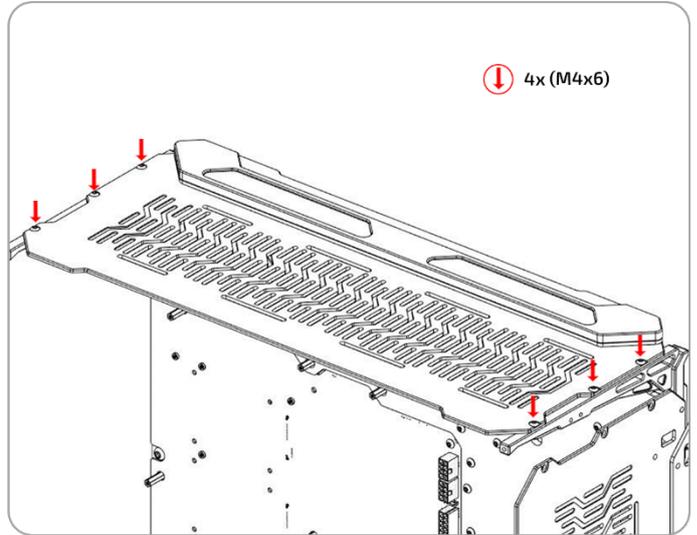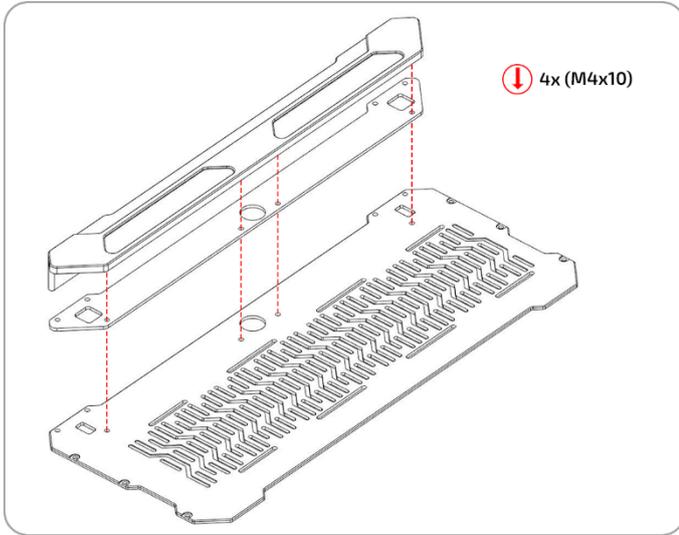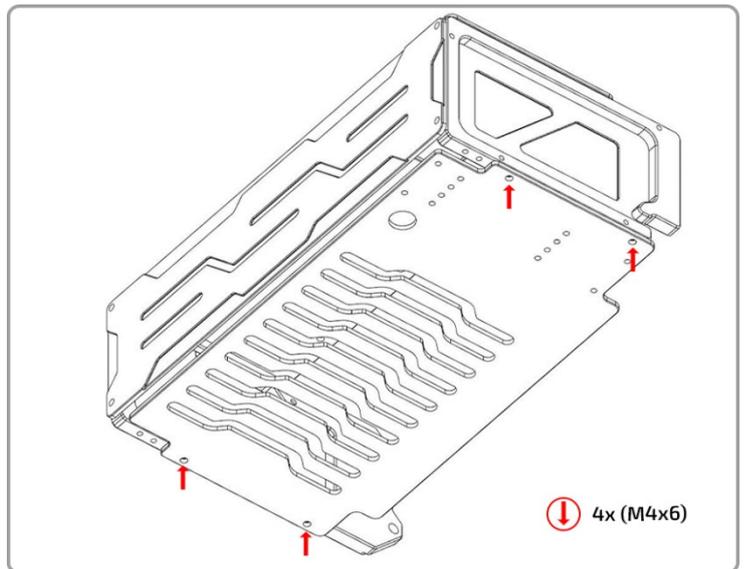

① Attach one of the Radiator Panels and LED Diffusors to the Front Leg using 2x M4 x 10mm fasteners.

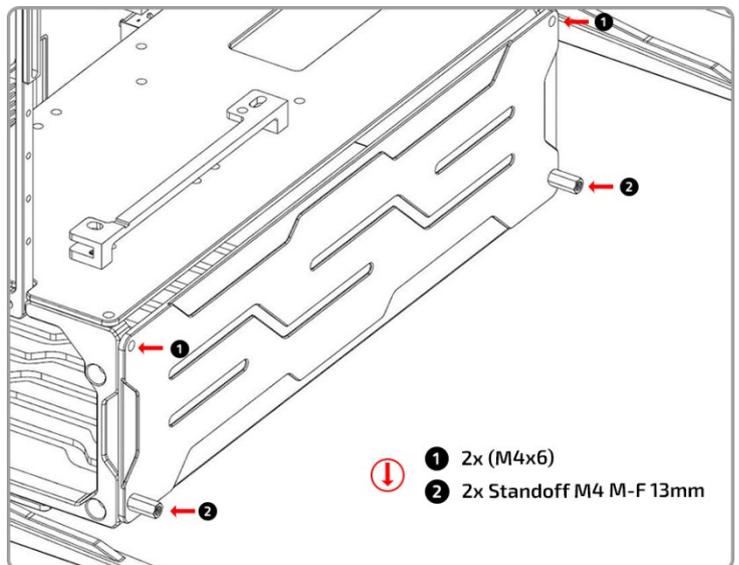② Then attach the Front Cover the Front Leg of the case using 2x M4 x 20mm fasteners.
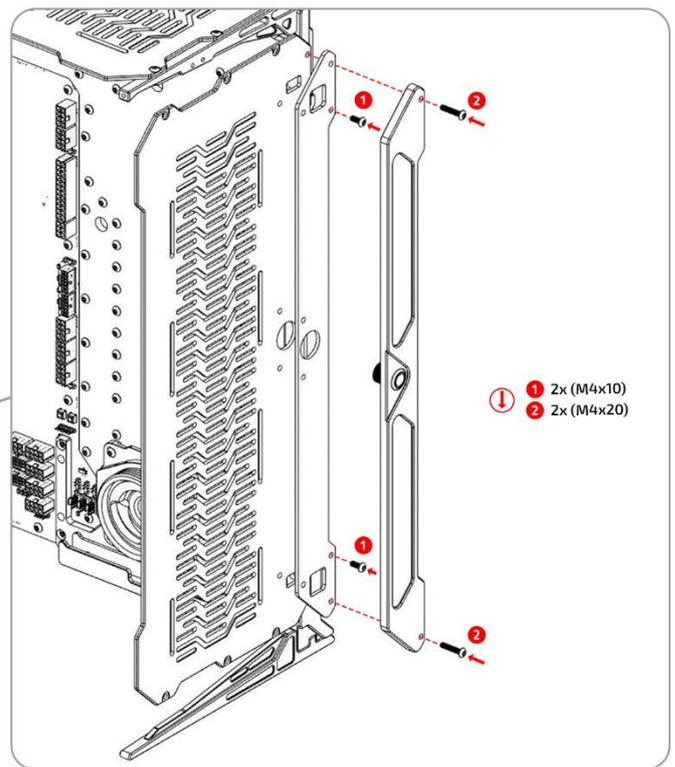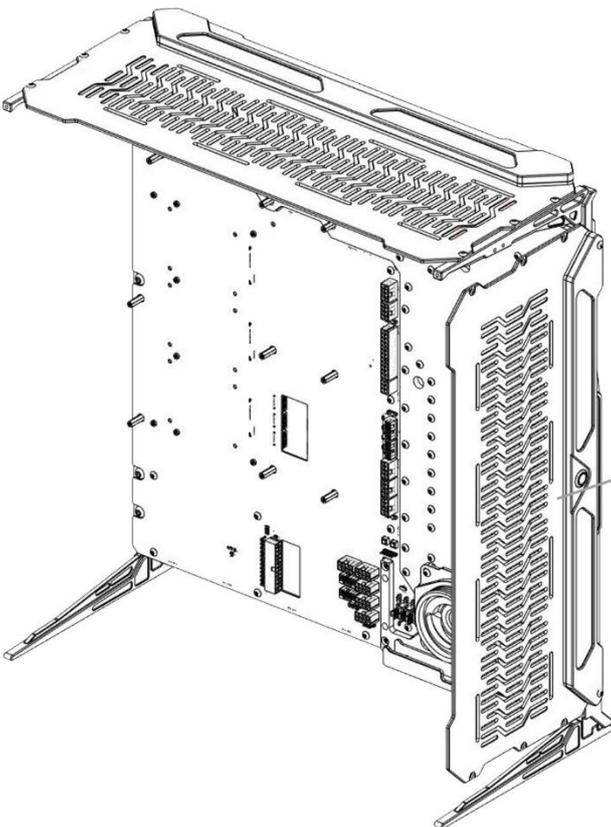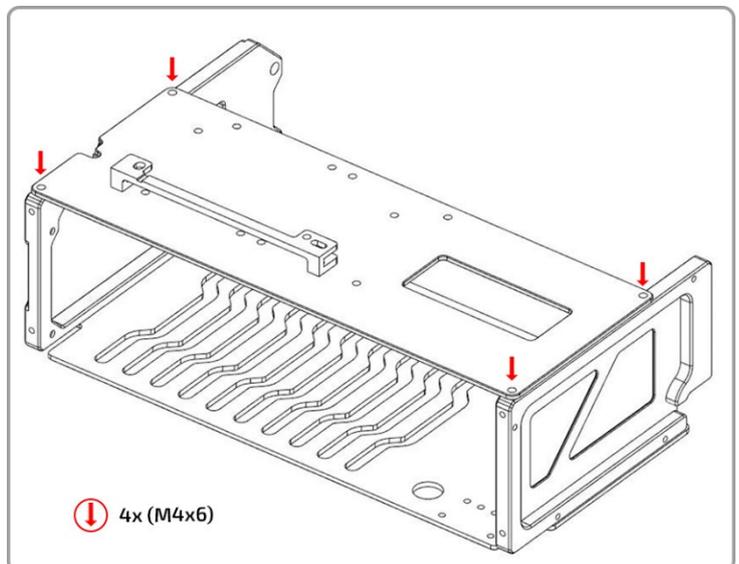
Step 6: Assemble PSU Shroud.

Attach the PSU Bottom Shroud to the PSU Mount and PSU Front Shroud using 4x M4 x 6mm fasteners.

4x (M4x6)

Install the PSU Side Shroud using 2x M4 x 6mm fasteners at the top and 2x Standoff M4 M-F 13mm at the bottom.
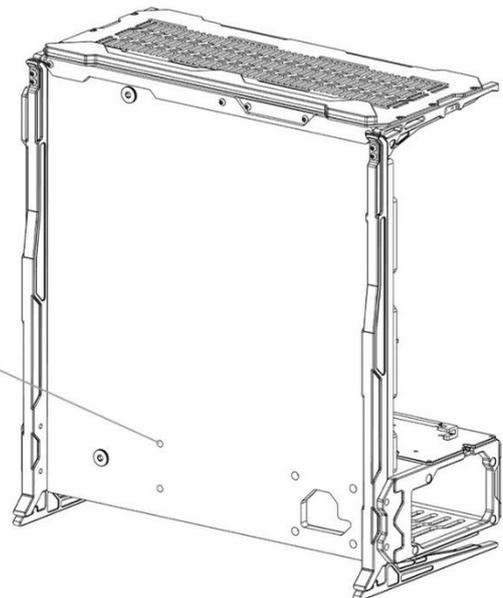

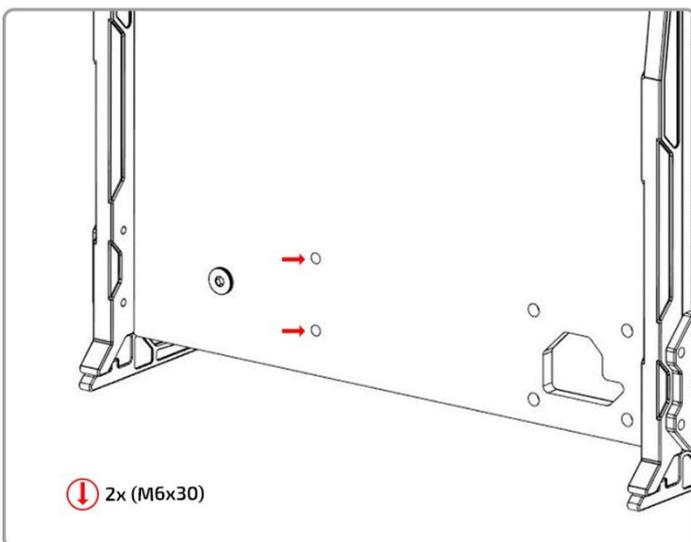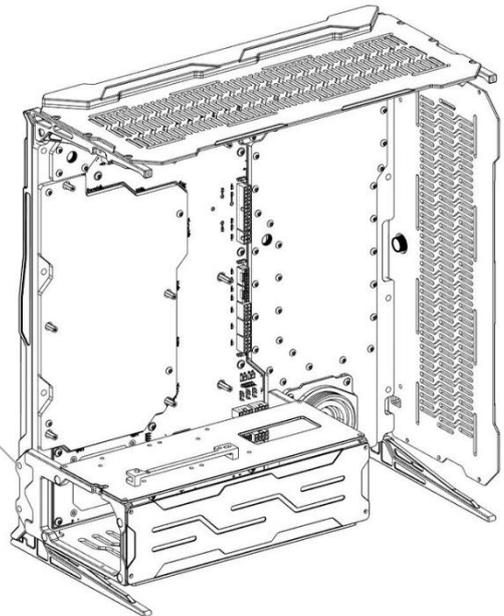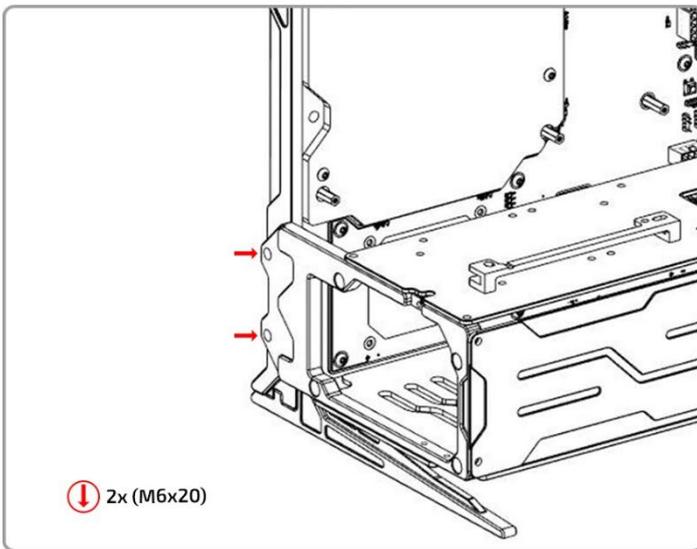1 2x (M4x6)
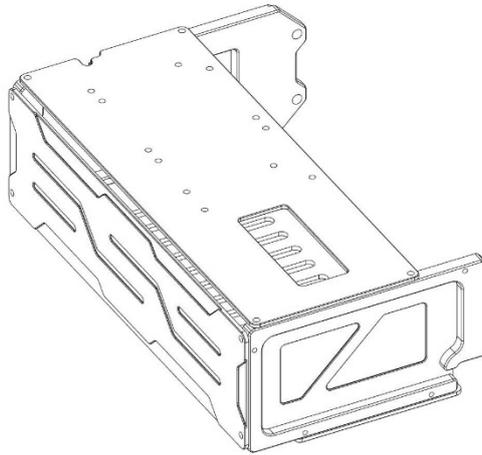2 2x Standoff M4 M-F 13mm

Install the PSU Top Shroud onto the PSU Mount and PSU Front Shroud using 4x M4 x 6mm.


4x (M4x6)

Step 7: Install PSU Shroud.

To install the PSU shroud onto the case, use 2x M6 x 20mm screws at the back and 2x M6 x 30mm screws at the front. The mounting holes are marked in the diagrams below.

2x (M6x20)

2x (M6x30)

Step 8: Install PCIe 4.0 Vertical GPU Mount.

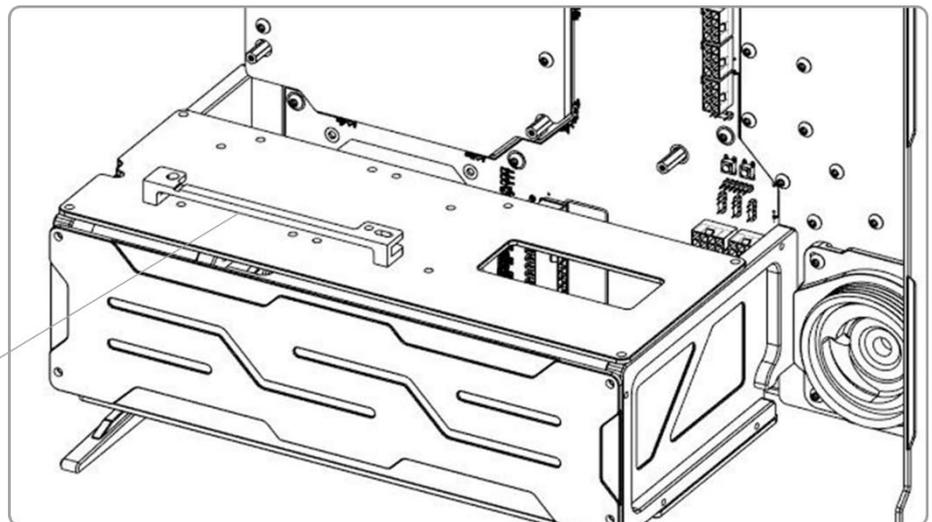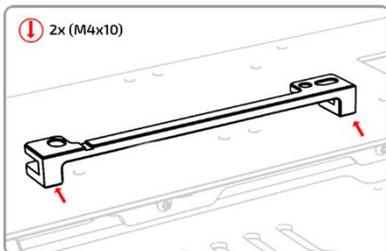**Step 1: Install Riser Cable.**

Install the PCIe Riser Cable (not included). Check you have the correct orientation (see diagram to the right). The cutout side of the Vertical GPU Bracket PCIe 4.0 needs to line up with the protruding plastic cover under the Vertical GPU Riser Cable. Install the Vertical GPU Riser Cable onto the PCIe 4.0 Vertical GPU Bracket using the 2x M3 x 10mm Fasteners, 2x M3 Nuts and 6 x M3 Washers (see the diagram to the right for fastener orientation).

2x (M3x10) + 2x (M3 Nuts) + 6x (M3 Washers)
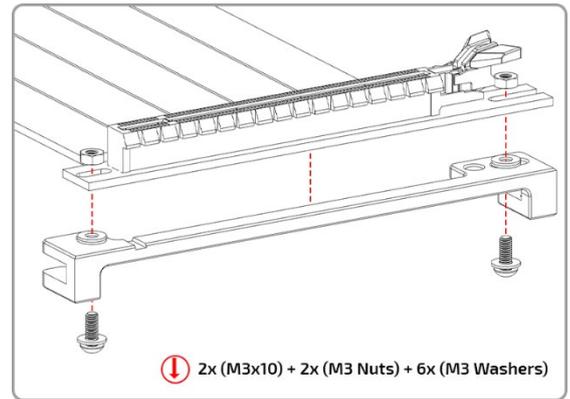
Step 2: Install PCIe 4.0 Vertical GPU Mount.

Remove the PSU Side Panel to gain access into the PSU Shroud. Install the Vertical GPU Bracket PCIe 4.0 to the PSU Top Panel using the 2x M4 x 10mm Fasteners. The fasteners are installed from underneath the PSU Top panel. There are several holes in the PSU Top Panel also for the 2nd Vertical GPU Mount PCIe 4.0 and SSD Mounting so be careful to select the correct mounting holes. Install the Vertical GPU Angle using the x2 6-32 x 0.25" Fasteners. Be careful to select the correct position on the Rear IO Panel so that the angle is at the correct height for your GPU.

Note: You may need to adjust the position of the Riser Cable on the PCIe 4.0 Vertical GPU bracket for correct GPU alignment.

2x (6-32x0.25")

2x (M4x10)

Step 9: Install PCIe 4.0 2ⁿᵈ Vertical GPU Mount.
(This add-on needs to be purchased separately; it is not included with the case).
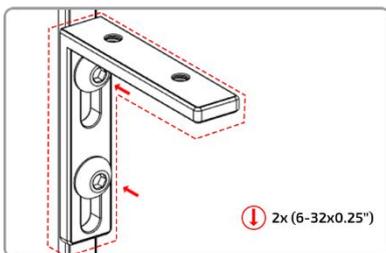
Step 1: Install Riser Cable.

Install the PCIe Riser Cable (not included). Check you have the correct orientation (see diagram to the right). The cutout side of the Vertical GPU Bracket PCIe 4.0 needs to line up with the protruding plastic cover under the Vertical GPU Riser Cable. Install the Vertical GPU Riser Cable onto the PCIe 4.0 Vertical GPU Bracket using the 2x M3 x 10mm Fasteners, 2x M3 Nuts and 6 x M3 Washers (see the diagram to the right for fastener orientation).


2x (M3x10) + 2x (M3 Nuts) + 6x (M3 Washers)
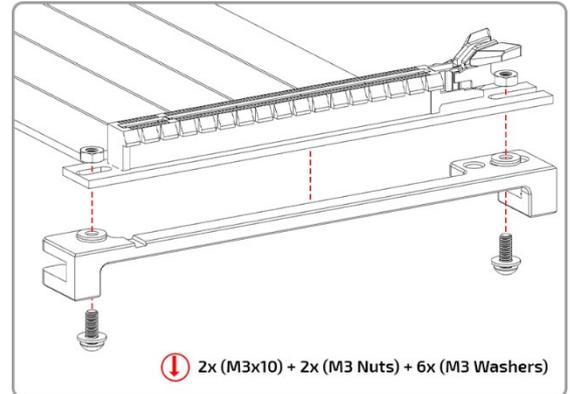
Step 2: Install 2ⁿᵈ PCIe 4.0 Vertical GPU Mount.

Remove the PSU Side Panel to gain access into the PSU Shroud. Install the PCIe 4.0 2ⁿᵈ Vertical GPU Bracket to the PSU Top Panel using the 2x M4 x 10mm Fasteners. The fasteners are installed from underneath the PSU Top panel. There are several holes in the PSU Top Panel also for SSD Mounting so be careful to select the correct mounting holes.Remove the Vertical GPU Angle if it is already installed. When installing the 1ˢᵗ and 2ⁿᵈ Vertical GPU Mounts both angle pieces are installed with the same fasteners at the same time. These fasteners are included with the 2nd Vertical GPU Mount and are not included with the case. Use the 2x 6-32 x 0.5" Fasteners to mount the Vertical GPU Angle and the Vertical GPU 2ⁿᵈ Angle. These are both attached to opposite sides of the Rear IO Panel facing opposite directions. Tighten the 2x 6-32 x 0.5" fasteners and then use the 2x 6-32 Nuts to fix the Vertical GPU Second Angle in position. Be careful to select the correct position on the Rear IO Panel so that the height is correct for your GPU.


2x (6-32x0.25") + 2x (6-32 Nuts)
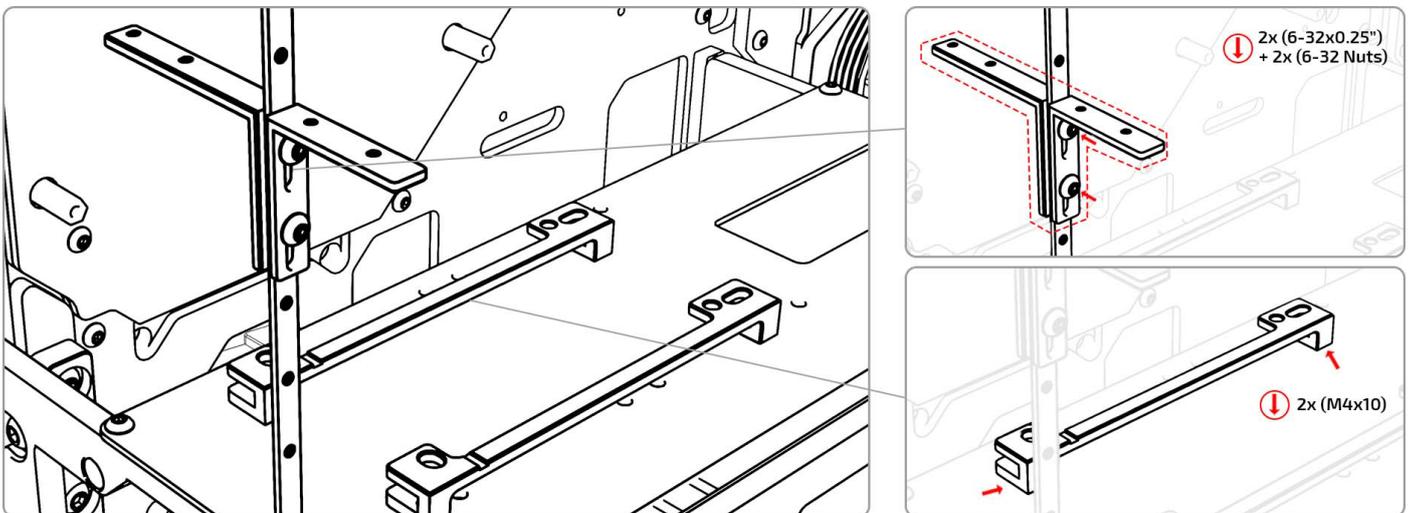
2x (M4x10)

Step 10: Install I/O Panel.

Install 2x M4 x 13mm Stand Offs onto the Top Support and then install the Rear IO Panel using 3x M4 x 8mm fasteners.

1 2x (M4x13) Stand Offs
2 2x (M4x8)

1x (M4x8)
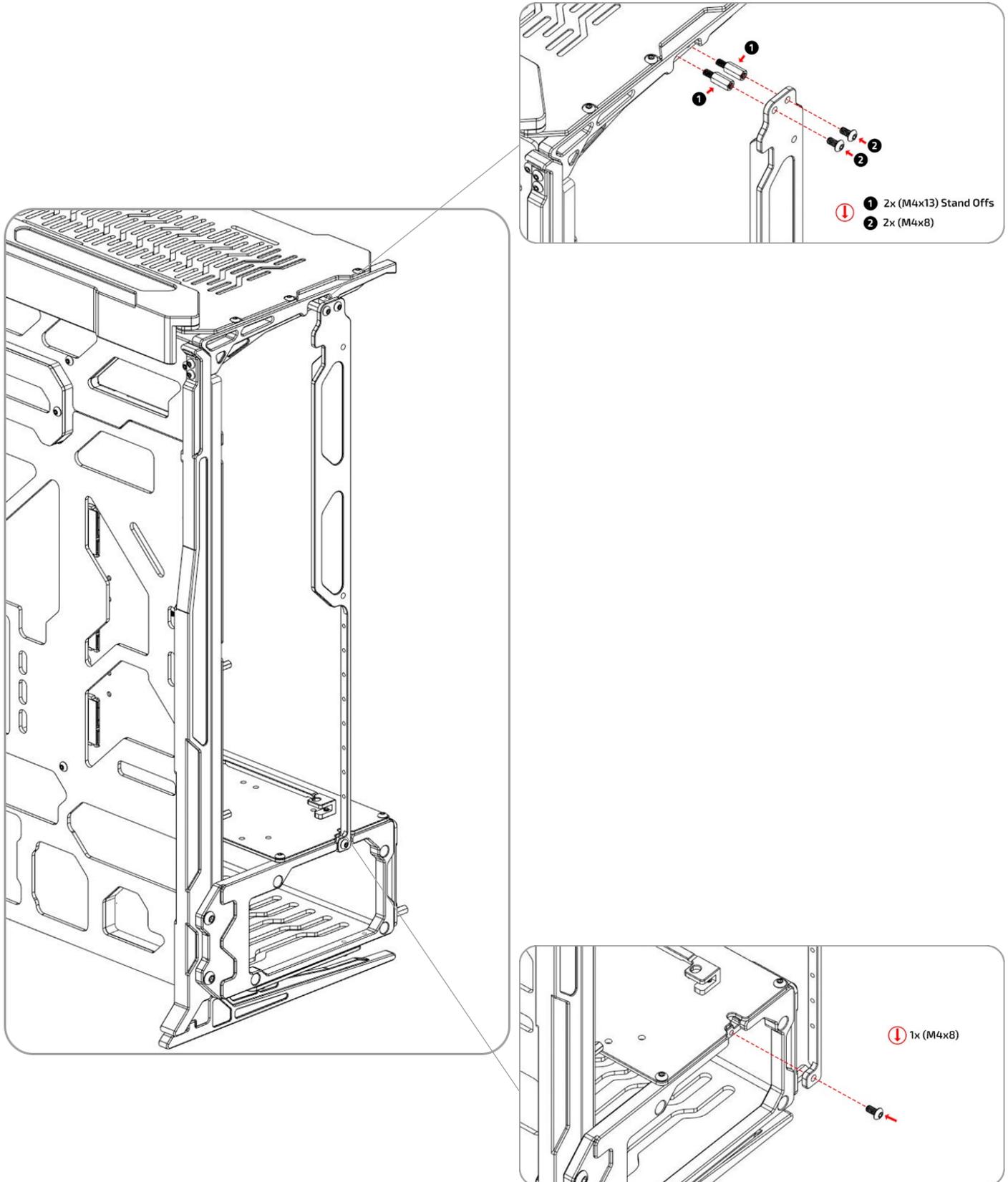
Step 11: 2.5" Drive Installation.

A total of 9 x 2.5" drives can be installed into Spectre Integra Proxima (all versions) and Spectre Integra 3.5.

1) PowerBoard integrated mount x3.
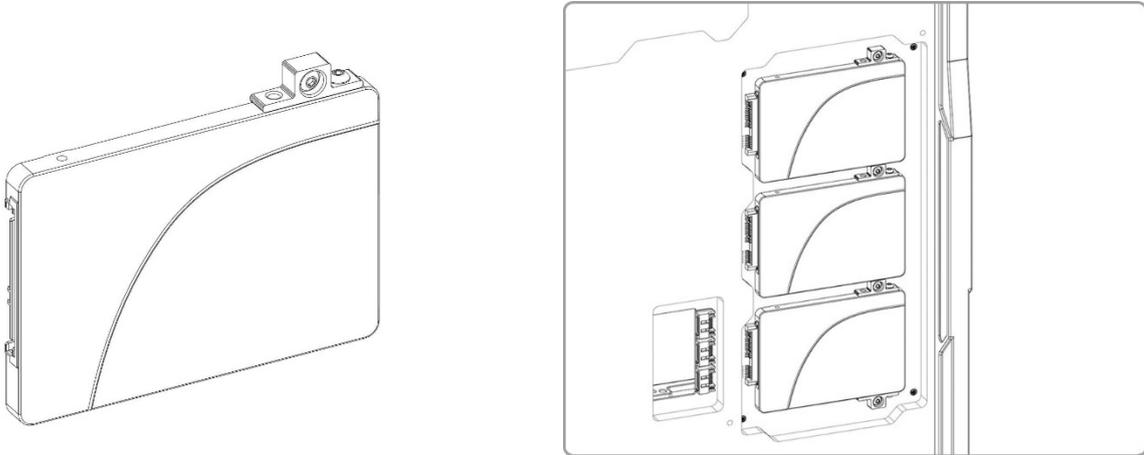
2) PSU Top Shroud. x2 2.5" drives can be installed in this location only if vertical GPU mounts are not being used.

> **ℹ Note**
>
> PSU Top Shroud SSD mounting locations cannot be used with Vertical GPU mounts.

4x (M3x6)

3) PSU Bottom Shroud. 4x 2.5" drives can be installed in this location. If you are using stock PSU cables and a long PSU, it is going to become tight inside of the PSU shroud. In this case a PowerBoard PSU Cable Set is recommended so that all drive positions can be used.

8x (M3x6)
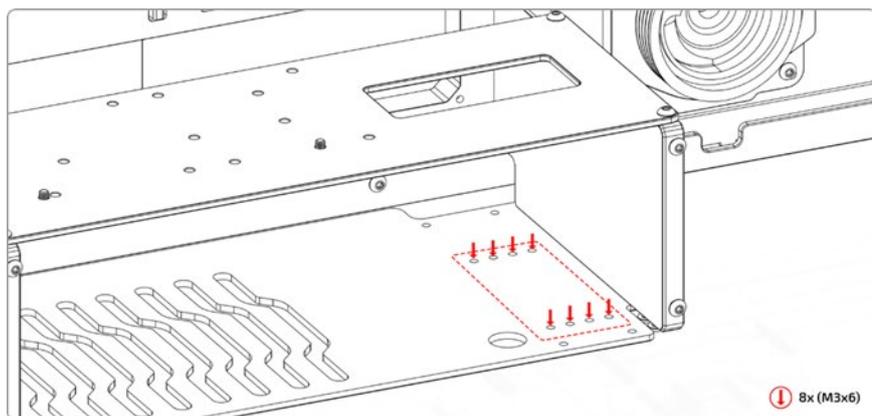
Step 12: Install D5 Pump (Not included).

ⓘ Spectre Integra-M only.

It is easier to do this when the Case or Distribution Plate is horizontal because then you can sustain downward pressure on the pump while tightening the pump cover to prevent the O-ring moving out of position.

Position the O-ring in the D5 Pump Top O-ring Groove, make sure that it is not twisted, kinked, or damaged. Push the pump into the pump top and twist side to side until you feel the O-ring has settled into the O-ring groove. Then tighten the pump cover firmly onto the pump. Position the pump cables where you need to for the best cable routing.
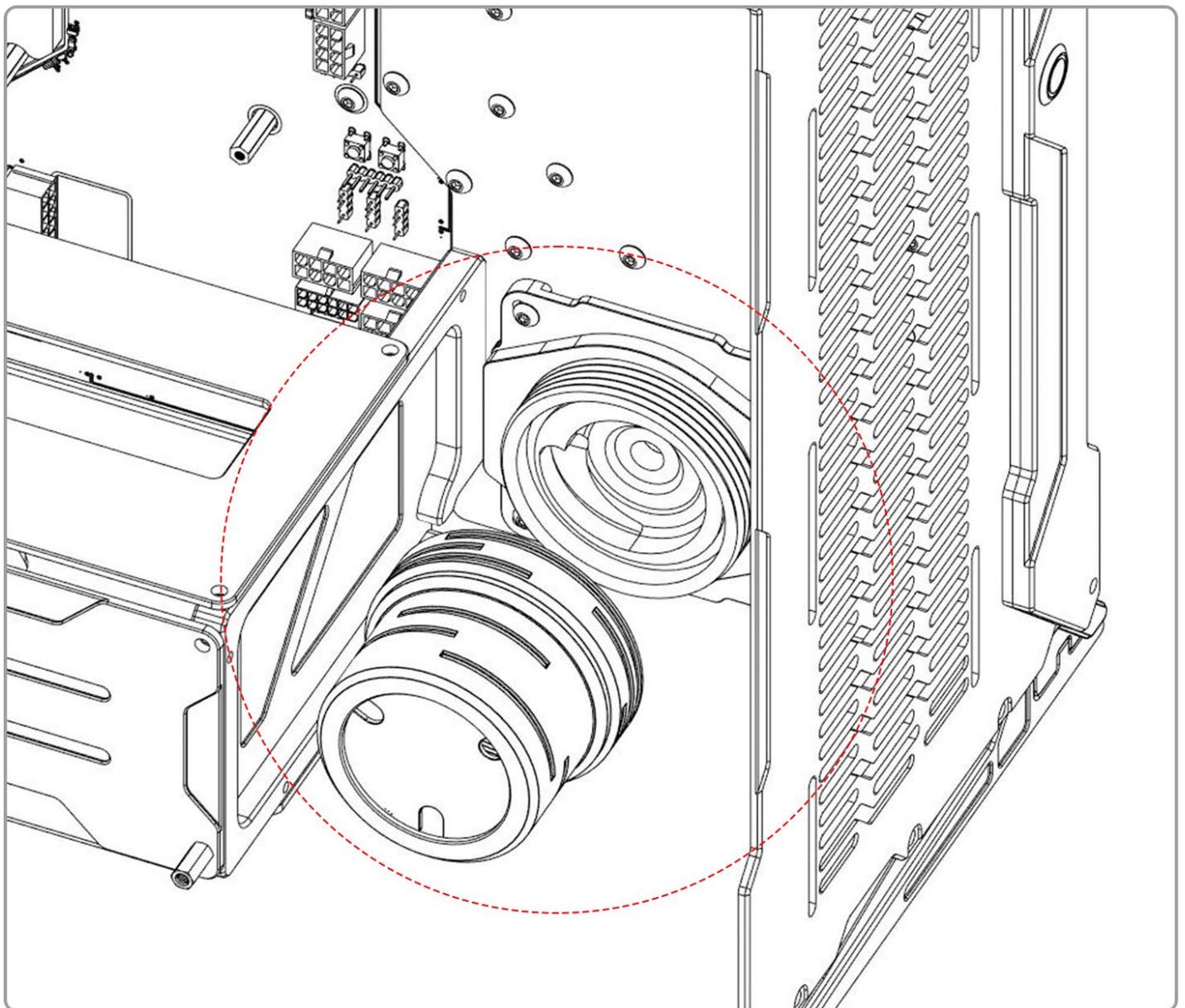
Step 13: Install Side Panel Window.

Install the Side Panel Window using 4x M4 x 10mm Fasteners. Place the Side Panel Window in front of the case, pick up one corner and align it with the first hole. Install the fastener but do not fully tighten it. Then move onto the other side and install the next fastener.

4x (M4x10)
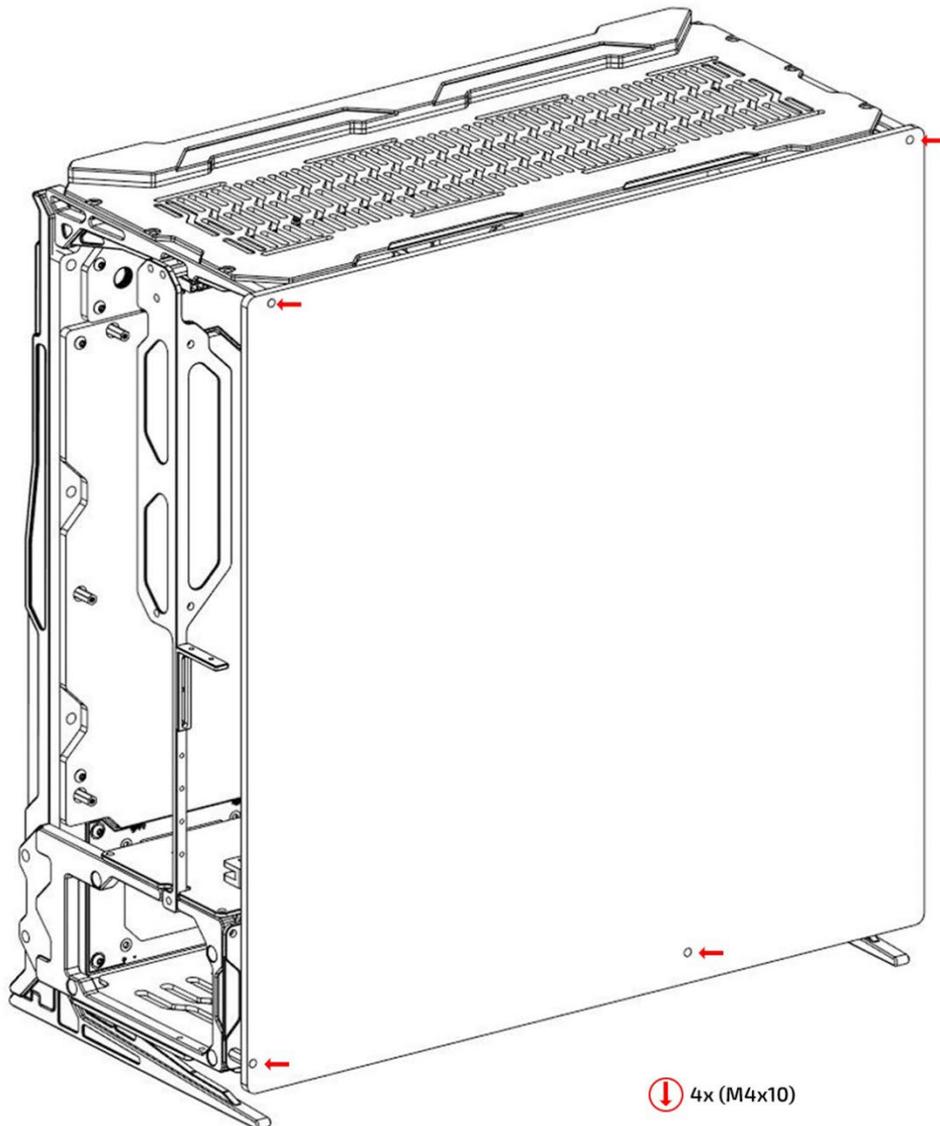
Step 14: Filling & Draining The Loop.

Filling the Loop:
To fill the loop, we strongly recommend a long fill tube. We use a 90-degree fitting with a barb fitting and a 200mm length of soft tube. This prevents spilling and helps to remove the air faster. Spectre Builds will usually take 1.2-1.5L of fluid but allow 2L.

We recommend air pressure testing before filling any loop. Air pressure should not surpass 0.6 bar.

Use an external PSU for your pump or jump start your PSU. Do not boot your system to fill the loop.

Fill the reservoir 100% and run the pump until the reservoir is almost empty (do not run the pump dry). Keep repeating until you have full circulation. Give some time for the final air to come out, it can take 30min to 48hrs depending on your build. Keep the fill tube on until all the air is out and then seal up the reservoir with a stop fitting.
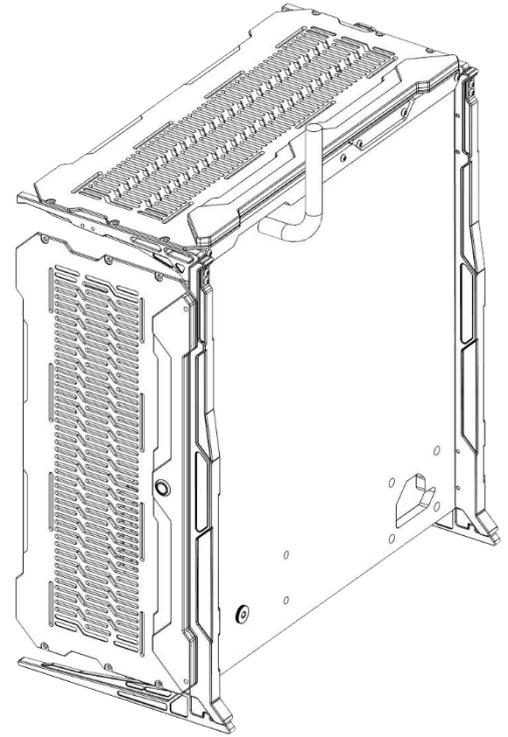
Draining the Loop:

There are various options for drain valves. For Spectre Integra Proxima (All Versions) & Spectre Integra 3.5, it is in quite a visible location around the back of the case, so we suggest something visually appealing. We like to use no spill quick disconnects but any high-quality drain valve will work. No drainage system will ever drain a loop 100%. The only way trapped coolant can be removed is the hard way in any build, dismantling the loop and individually draining each section.

Installing Radiators

The radiator panels have sliding adjustment. Use this to position your radiators so that the ports are optimally aligned with the ports on the Distribution Plate.

Liquid Cooling System Layout
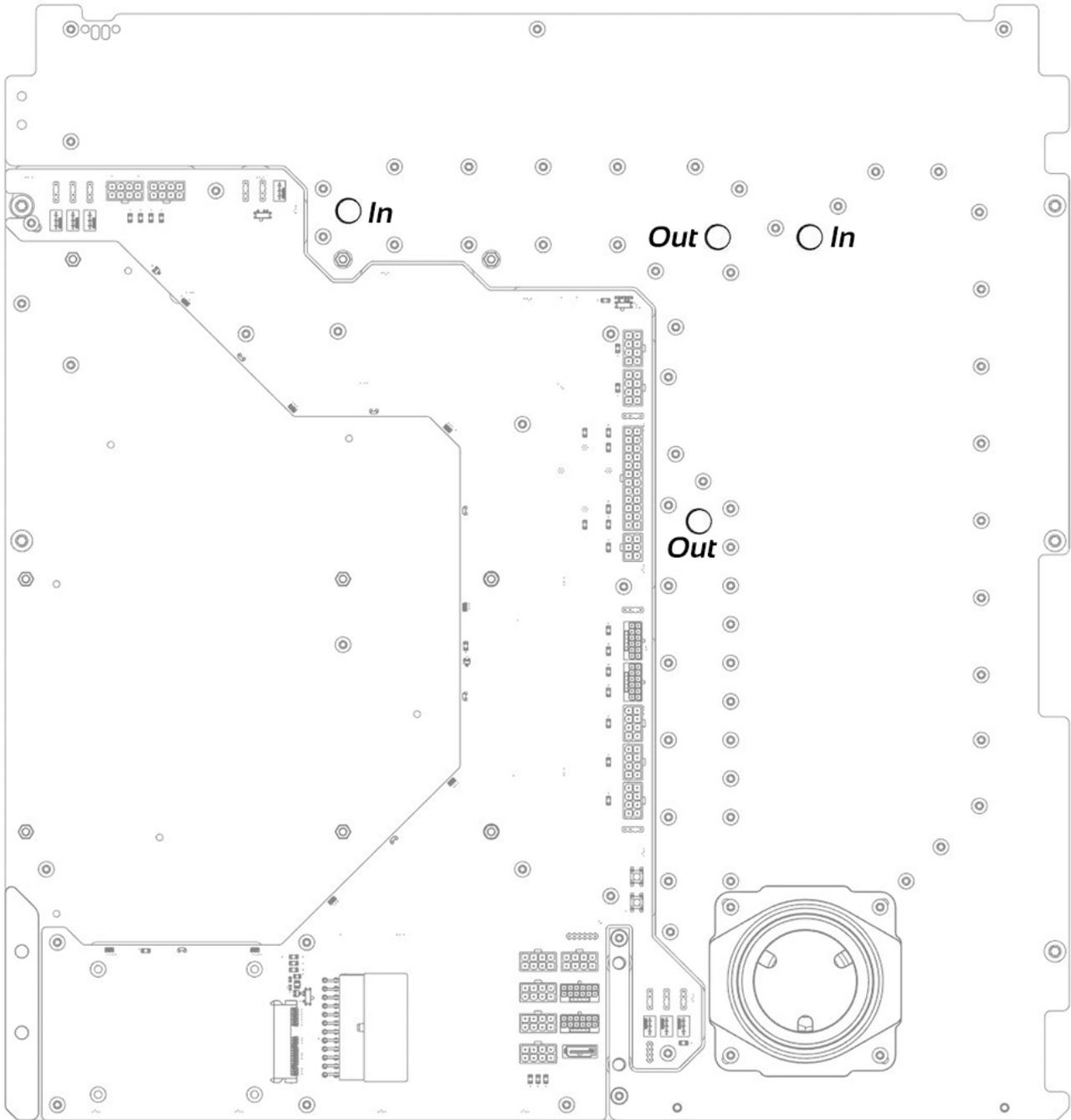
Spectre Integra Proxima (All Versions) & Spectre Integra 3.5 PowerBoard

⚠ *All PowerBoards need PowerBoard Linking Cables.*

PowerBoard PSU Cables:

The stock cables that come with every power supply can be used, plug in as many cables as input connectors are available. Do not use components that have more connectors than Your power supply has cables for. For exa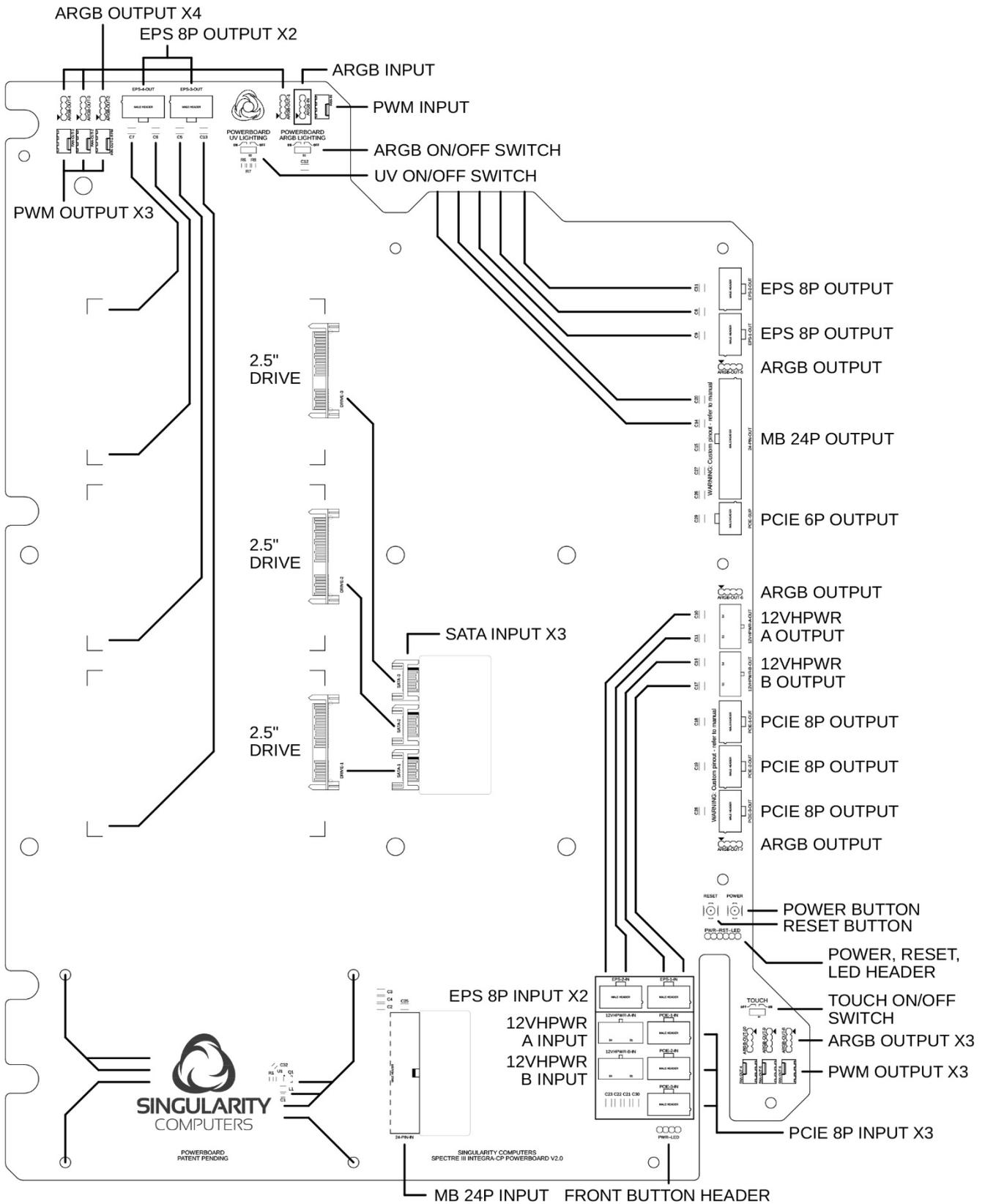mple, if Your power supply comes with a single 8pin EPS (4+4) plug and Your motherboard has 2X 8pin EPS connectors, then a better power supply needs to be used.

Singularity Computers offers custom sleeved and shorter PSU cable kits that are a better fit in the PSU shroud area than stock cables.

PowerBoard Linking Cables:

All Singularity Computers PowerBoards & case with PowerBoards come with a standard set of PowerBoard Linking Cables which includes 24pin MB x1, 8pin EPS x2 and 8pin PCIe x3. The pinout of these Linking cables is mirrored and the lengths are custom to achieve an arch. The connectors are also female on both sides (refers to the pin and not to the connector housing). PWM and ARGB linking cables are also included to connect from your motherboard or controller to the PowerBoard PWM and ARGB inputs. Use our Cable setup guide if making custom Linking cables.

Power Connectors:

The input and output connectors are not wired directly together but they are shared, so if EPS-1-IN is plugged in then any of the EPS outputs can be used, it is not limited to EPS-1-OUT. The same applies to the PCIe inputs, they can be mixed and matched. The exception is the 12VHPWR connectors, as there are communication lines in them where the power supply communicates to the graphics card of how much power it can supply to it, so if the 12VHPWR-A-IN is used on the input side then 12VHPWR-A-OUT must be used on the output side, same applies to 12VHPWR-B. There is a PCIe 6P connector located next to the MB 24P connector for motherboards that have a supplementary PCIe 6P connector for additional power.

ARGB Connectors:

The PowerBoard has built-in ARGB lighting and acts as an ARGB hub. An ARGB source, like a motherboard ARGB header, must be connected to the ARGB-IN header on the PowerBoard. The input header is marked with a white rectangle around it for easier identification. The PowerBoard uses this ARGB signal to light up the built-in LEDs and splits this signal to all ARGB outputs. What signal goes into the input will be displayed on the built-in LEDs and all LED strips attached to the ARGB outputs, in parallel. The PowerBoard does not show up as an individual component in ARGB controlling software, but it can be controlled by controlling the motherboard ARGB header, which will show up in software. The PowerBoard LEDs and headers are powered by the power supply 24pin connection, so they will only light up when the system is turned on, but not when the system is turned off or in stand-by mode. The ARGB headers are conveniently located where they are expected to be used, next to radiator mounts, GPU, and CPU waterblocks and close to Elite kits. Do not plug a 4pin/12V RGB device into the PowerBoard, only 3pin/5V ARGB/DRGB (addressable/digital RGB) devices are compatible.

ARGB On/Off Switch:

This switch connects/disconnects the ARGB control signal from the built-in LEDs on the PowerBoard. When turned ON, the LEDs will immediately light up. When turned OFF, the LEDs will not light up from the next time the system is turned ON from a cold boot but will display the last colour they were displaying before the switch was turned OFF. After turning the switch OFF, turn off the system, wait 5 seconds and turn the system ON again. This switch does not control ARGB headers, only the built-in LEDs on the PowerBoard.

UV On/Off Switch:

This switch turns the built-in UV LEDs on the PowerBoard ON/OFF. It is a live switch, and the UV lighting should immediately turn ON or OFF based on the position of the switch. There is no need to reboot the system.

PWM/Fan Connectors:

The PowerBoard acts as a powered PWM/Fan hub. A PWM source, like a motherboard CPU Fan header, must be connected to the FAN-IN header on the PowerBoard. The PowerBoard shares this PWM signal to all PWM outputs. What signal goes into the input will be the same control signal sent to every fan connected to the PowerBoard. The PowerBoard does not show up as an individual component in fan controlling software, but it can be controlled by controlling the motherboard CPU Fan header, which will show up in software. The PowerBoard PWM headers are powered by the power supply, so there is less strain on the motherboard. Only FAN-1-OUT-RPM monitors the speed of a connected fan which is reported back to the motherboard. If no fan is connected to this header, the motherboard will see zero RPM even if all other headers have fans connected to them, so populate FAN-1-OUT-RPM first with a fan that You would like to monitor the RPM of. The PWM headers are conveniently located where they are expected to be used, close to radiator mounts.

Power, Reset, LED Header:

Connect the motherboard front panel headers to this header to enable functionality of the touch button on the back side of the PowerBoard, the POWER and RESET buttons on the front side and the header for the front panel button on the case. Refer to the motherboard's manual for the pinout of its front panel header:

Connect PWR_BTN (motherboard) with POWER SW cable to PWR (PowerBoard) Polarity matters, although it varies by motherboard maker. If it is wired the wrong way then the system will automatically turn ON and then OFF, repeatedly. It is the same behaviour from holding the power button indefinitely. If this is the case, turn the power supply main switch to OFF and reverse the connector polarity of the POWER SW cable either on the motherboard or on the PowerBoard side.

Connect RESET (motherboard) with RESET SW cable to RST (PowerBoard). +/- Polarity does not matter.

Connect POWER_LED (motherboard) with POWER LED+/- cable to LED (PowerBoard) +/- Polarity does not matter.

FRONT BUTTON HEADER: connect the main power button from the front panel here:
POWER SW cable to PWR (PowerBoard), polarity does not matter.
POWER LED+/- to LED (PowerBoard), polarity does not matter.

Powering on the system:

There are up to 4 ways to turn the system on. The first is the main power button that's installed onto the front of the case. Second is the built-in buttons on the PowerBoard. Third is the touch button on the back side, bottom right corner area of the PowerBoard inside the acrylic cut out, touch the Singularity Computers logo to turn the system on. Fourth is the power button built into the motherboard, it depends on the model whether it has it or not.

SATA Connector:

Connect this SATA input into a SATA output on the motherboard and install a 2.5" drive into the PowerBoard. There is no need to connect a SATA power cable to the 2.5" drive, it is powered directly from the PowerBoard.