SINGULARITYCOMPUTERS

SPECTRE 3.0
ENTERPRISE

Assembly Manual

Revision 1.0

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Introduction

Spectre 3.0 Enterprise is designed for SSI-EEB and SSI-CEB motherboards with a specially designed Distribution Plate and PowerBoard to allow for these form factors. It can fit up to five 360mm radiators, the two internal radiators can be up to 60mm thick and the three external radiators have no thickness limitation. It can also fit a MO-RA3 360 externally. It has a Dual D5 Pump top for two D5 pumps in a single loop. The PowerBoard has been designed for high power output and has capacitors for increased power stability. The case is over engineered for maximum reliability. The case frame is built from CNC machined 6061 billet aluminum. The Distribution Plates are built from CNC machined cast acrylic and uses gaskets instead of O-Rings and dense fastener spacing to handle higher pressure. The case can be used just with the internal two 360mm radiators or the radiators can be scaled up with the addition of the external radiator/s. It comes included with a 1920⁄480 60Hz IPS screen which is mounted on the side of the PSU Shroud.

Features

- Integrated Reservoir, Dual D5 Pump Top, D5 Pump Covers x2, Fill Port, Drain Port, parts of the cooling loop.
- The PowerBoard is a PCB integrating 24pin, EPS, PWM and ARGB Hubs, SATA and Power and Reset Buttons. The Spectre 3.0 Enterprise PowerBoard also has an integrated touch sensing Power Button. The PowerBoard has x15 ARGB LEDs positioned around the external and internal perimeter 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 standardisation of cable lengths and making cable management no longer necessary.
- With the pump top, 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. No cable management for the core component cables thanks to
- 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, reservoir, cables, hubs, less fittings, less tube, no cable combs, or cable management components.
- Each port and connector were positioned based on an average of a vast range of components.
- We did not just develop a case; we also developed all the integrated components. This meant that we could focus more on optimisation than would normally be possible. The integrated loop routes in Spectre 3.0 Enterprise allow for more flow than 16mm tubes. The pump top was designed for D5 pumps maximising 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 point at the lowest point.
- Spectre 3.0 Enterprise fits up to SSI-EEB motherboards and has 8 expansion slots. It is designed to fit the largest and most high-end GPUs, with up to x8 single slot GPUs. For the water-cooling system it can fit 5x 360mm radiators with unlimited thickness and push/pull fans on x3 radiators and 60mm thick with a single set of fans on the other two. The case is

also compatible with the MO-RA3 360. The PowerBoard has been designed for extremely high-power output and includes capacitors for power stability.
- The radiator mounting panels have a large range of adjustment to help with port alignment to the distribution plate.
- Spectre 3.0 Enterprise has 6x 2.5" Drive positions. Two are on the top of the PSU shroud, four inside of the PSU shroud and there is one integrated on the PowerBoard. The two on top of the PSU shroud cannot be used with vertically mounted GPUs

Design & Engineering

We have been building 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. From there we start to build ideas around this function and the aesthetics and everything else follows. The original ideas for our products came from 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 and testing our own products every day.

Manufacturing & Quality

Almost all components of Spectre 3.0 Enterprise are CNC machined from a solid block of material. 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 & Included Items

Water-cooling Integration	Integrated Reservoir, Dual D5 Pump Top, Pump Cover x2, Fill Port, Drain Port, Parts of water-cooling loop. Ports: x6 G1/4" BSPP.1x Fill Port. 1x Drain Port.
Pumps (not included)	Compatible with all D5 pumps.
Pump Covers	Protium 3.0 Black x2.
Connections	24pin x1. 8pin EPS x4. 6pin Supplementary x2. 12VHPWR x2.
Hubs	PWM: x6. ARGB: x9.
LEDs	x20 Integrated ARGB 90-degree LEDs and x15 UV 90-degree LEDs facing around the internal and 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. Touch sensing Power Button. Extra Power and Reset Buttons.
Screen	1920x480 60Hz IPS (Cables are included).
Cables	PWM Female to Female 50cm Black Sleeved x1. ARGB Female to Female 50cm Black Sleeved x1. Touch Power Button Cables: Power, Reset, LED +/- Black 20cm. Screen cables: Mini HDMI to HDMI Black 1m (Signal). USB-A to USB Micro-B 0.9m (Power).
LED strips	x2 50cm ARGB LED Strips with 50cm cables.
Accessories	Hex Keys: M3: x1. M4: x1. M6: x1. Stop Fittings: x2. 5v ARGB LED Strip 50cm: x2.
Motherboard Form Factor	SSI EEB, SSI CEB, XL-ATX, EATX, ATX, Mini-DTX, Mini-ITX.
Expansion Slots	x8.
Case Form Factor	Mid Tower.
Package Dimensions	L: 640mm W: 620mm H: 110mm (Case is flat packed and requires partial assembly).
Package Weight	20kg.
Case Dimensions	L: 545mm H: 595mm W: 254mm.
Weight	18kg.
Storage	6x 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.
Radiators	360mm x5. x2 internally and x2 mounted externally to the rear panel. Internal radiators are limited to 60mm thick with a single set of 25mm fans or push/pull fans with 40mm radiators. External radiators have no thickness limitation and push/pull can be used. The case is also compatible with the MO-RA3 360.
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.

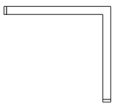
Vertical GPU Included Items	 Vertical GPU Angle	 Vertical GPU Bracket

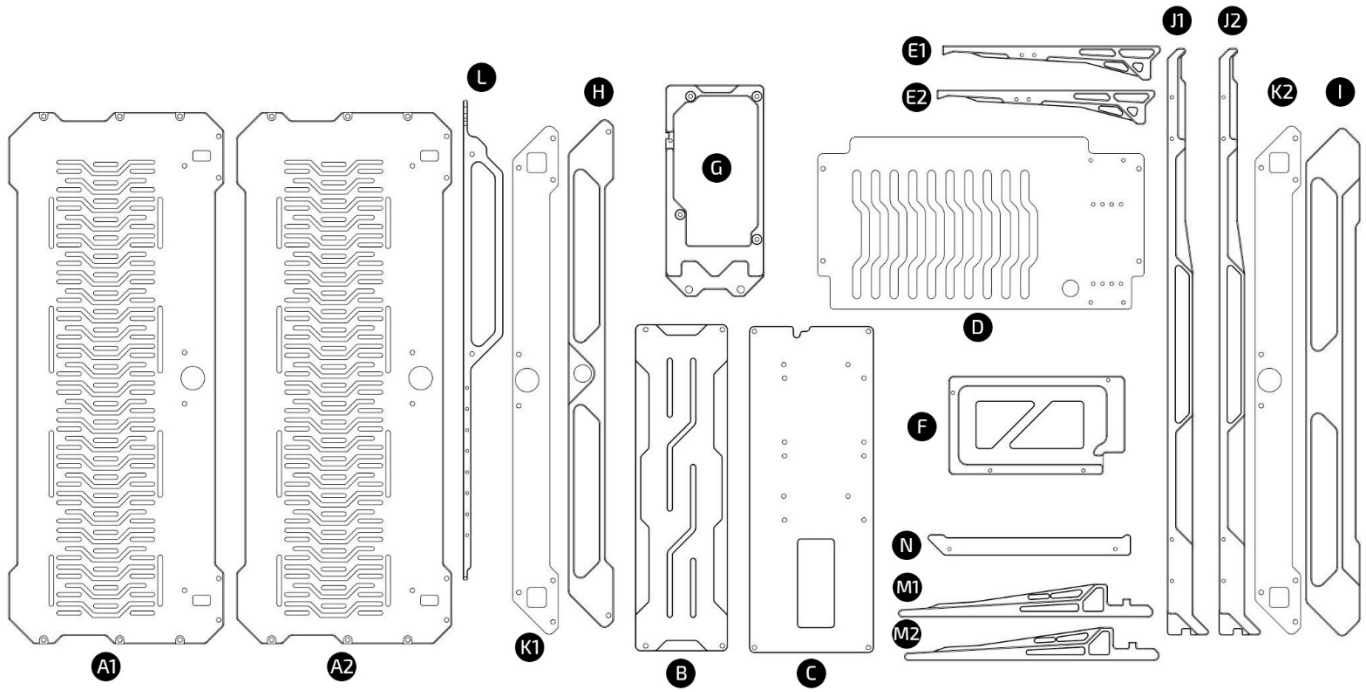
Table of Fasteners & Panels

Fasteners

Type	Quantity
6-32 Thumbscrew	8
M4 x 20mm	6
M4 x 16mm	2
M4 x 10mm	24
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	4
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 3.0 Enterprise 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

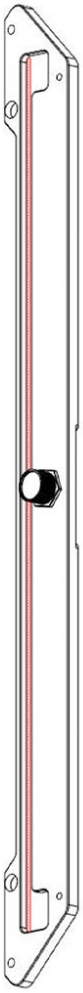
Assembly Note

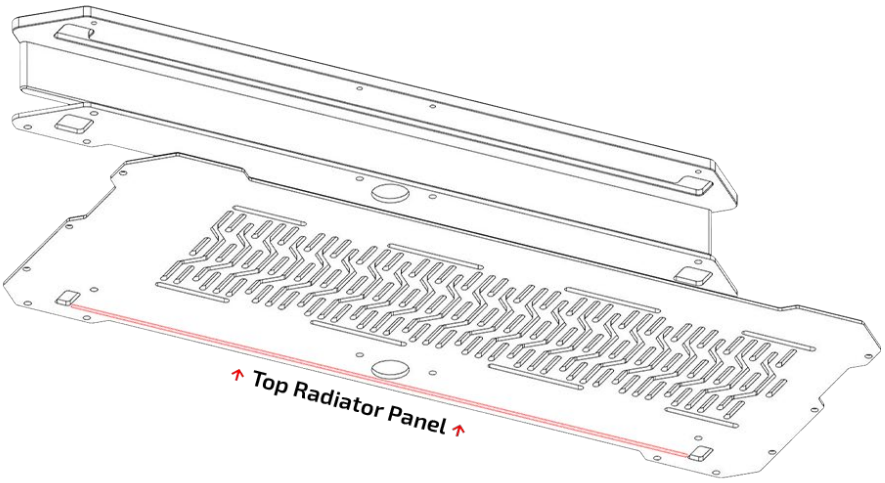
Spectre is built from thick and strong CNC Machined aluminum components with tight tolerances. There is no flex in the metal parts like there is on other cases. Due to this we have had to build tolerances into all the mounting holes on Spectre. If something does not align then loosen all related fasteners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

Step 1: Install ARGB 50cm LED Strips.

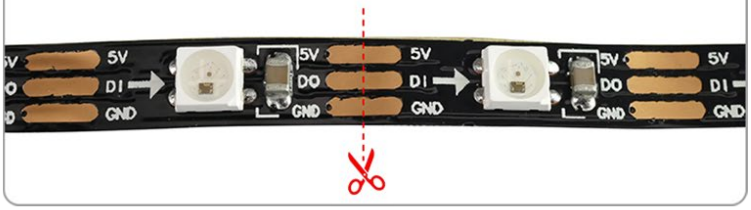
Remove the adhesive covers on the LED strips and stick them onto the positions marked in the diagrams below. Make sure to put the cables in the correct orientation for the best cable management, which depends where you plan on connecting them in your build. There should be one LED strip installed onto 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 Spectre LED Strips each have 30 LEDs before they are cut.



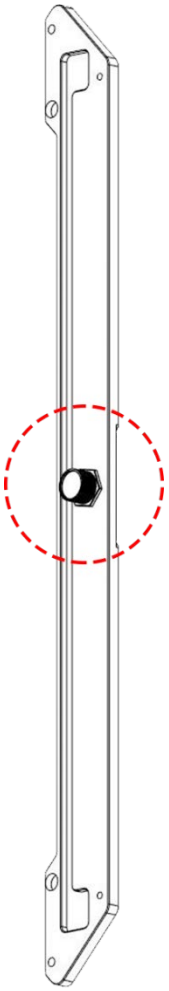


Cut LED Strips on the sections marked in the diagram below.



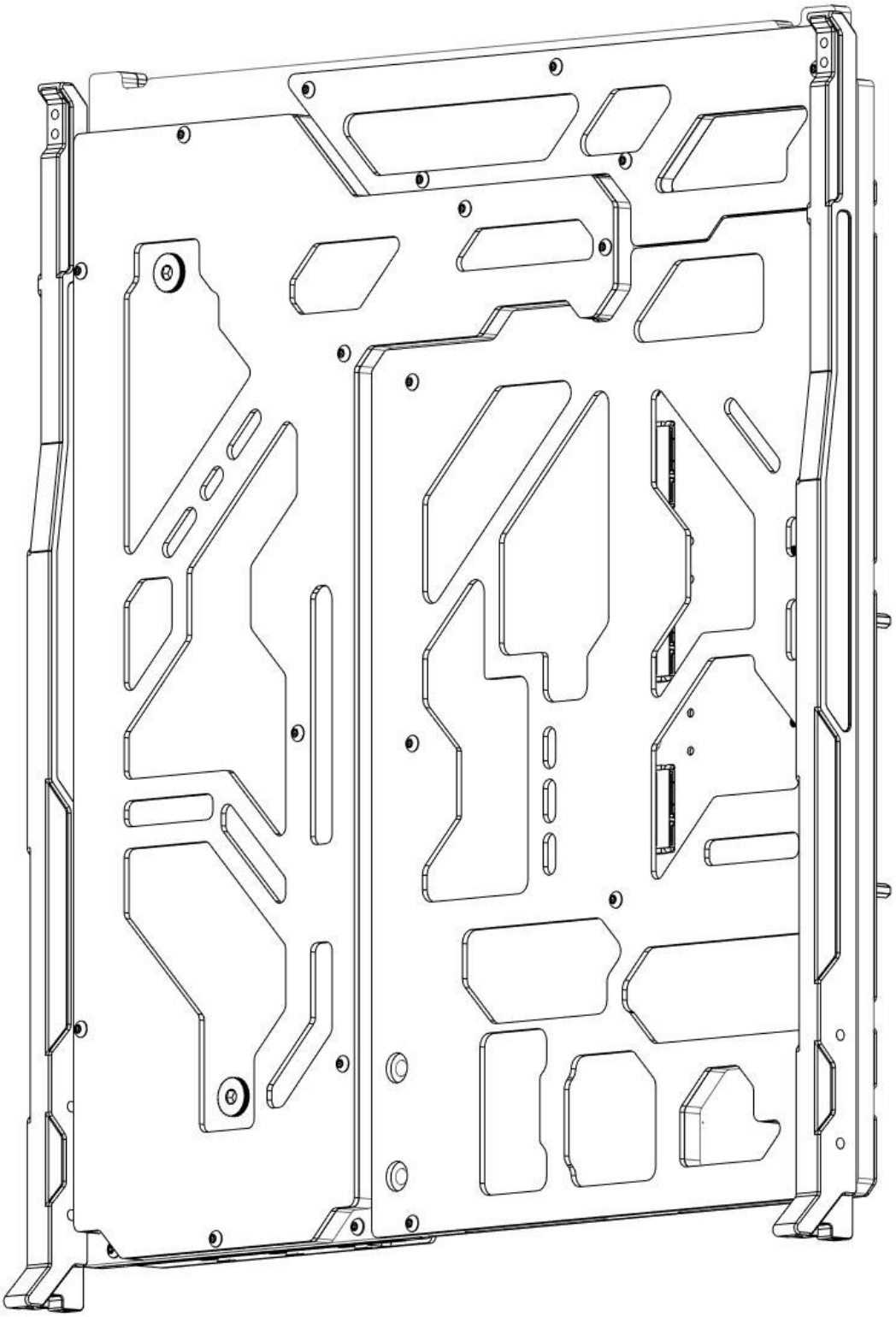
Step 2: Install Power Button.

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 3: 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.

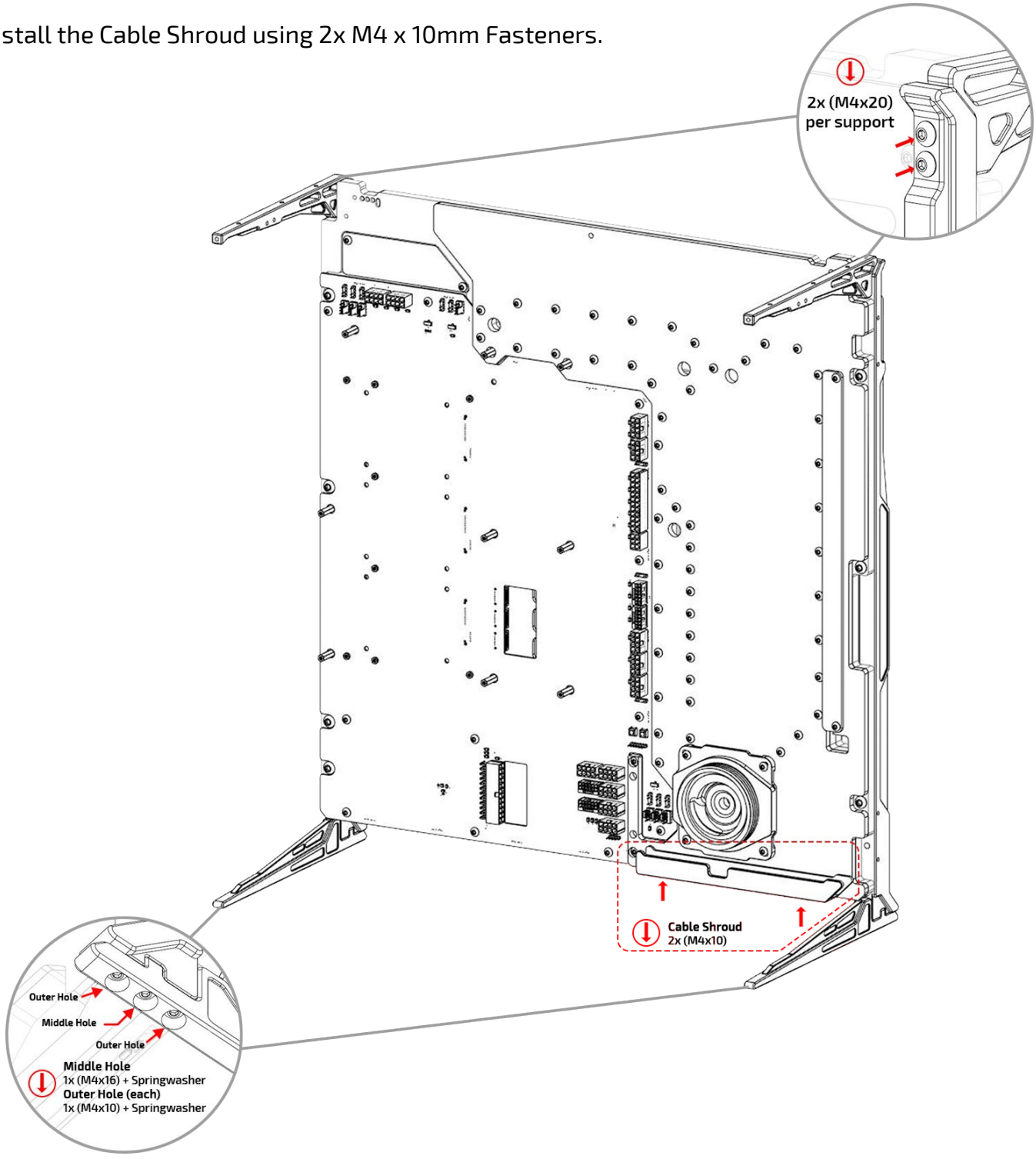


Step 4: Install Feet and Top Supports.

Install the Feet, for each one using a M4 x 16mm fastener with an M4 Spring Washer on the middle hole and 2x M4 x 10mm 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.

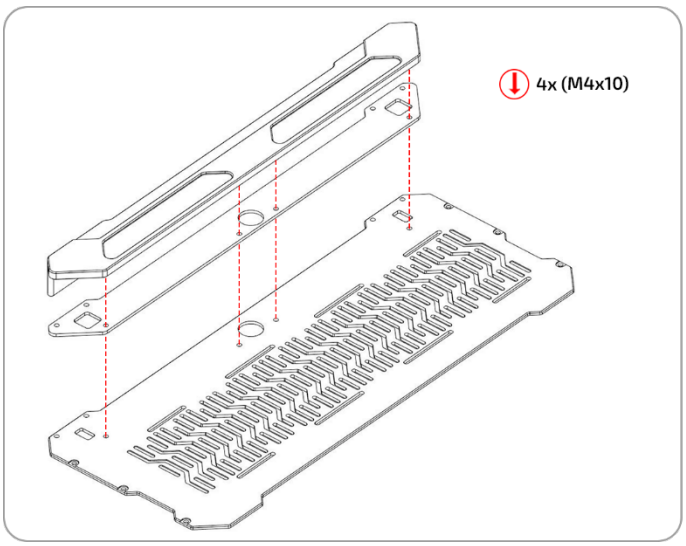
Install the Top Supports, for each one using 2x M4 x 20mm Fasteners per support. It is best to do this with the case standing upright on the Fee.

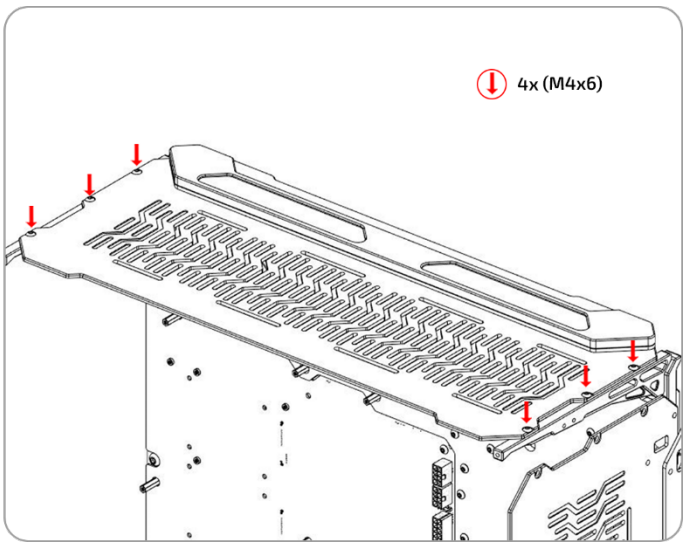
Install the Cable Shroud using 2x M4 x 10mm Fasteners.



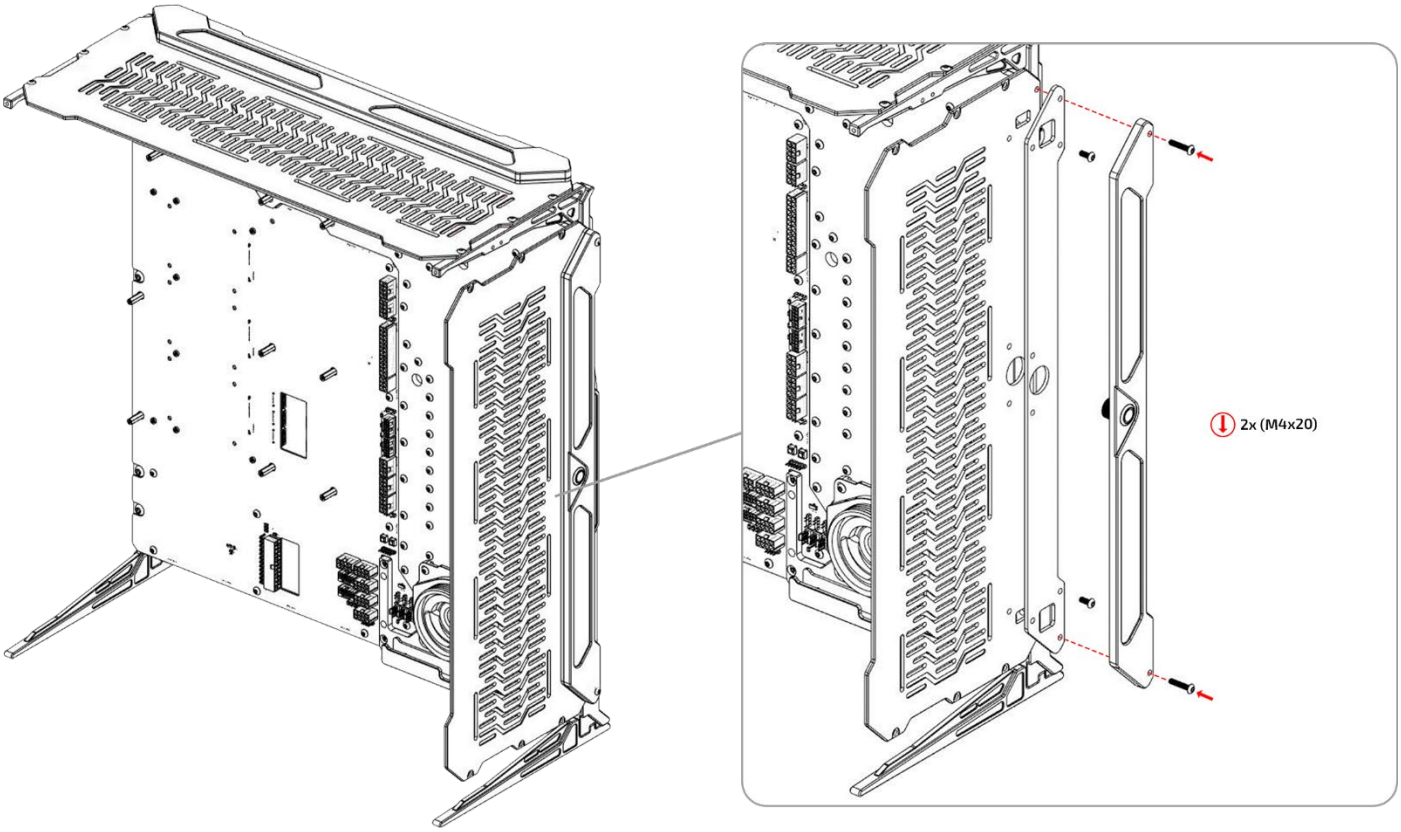
Step 5: Install LED Diffusors & Radiator Panels.

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.



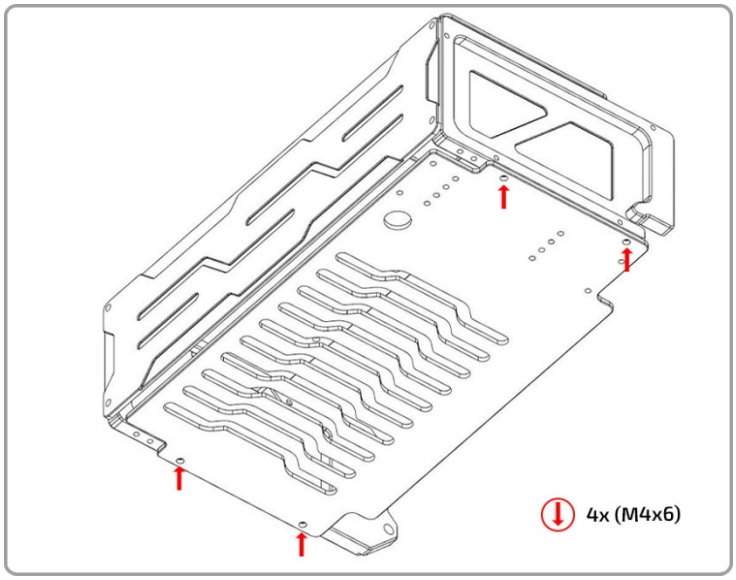


Attach the Front Cover to one of the Radiator Panels with an LED Diffusor in between and attach the assembly to the front Leg of the case using 2x M4 x 20mm fasteners.

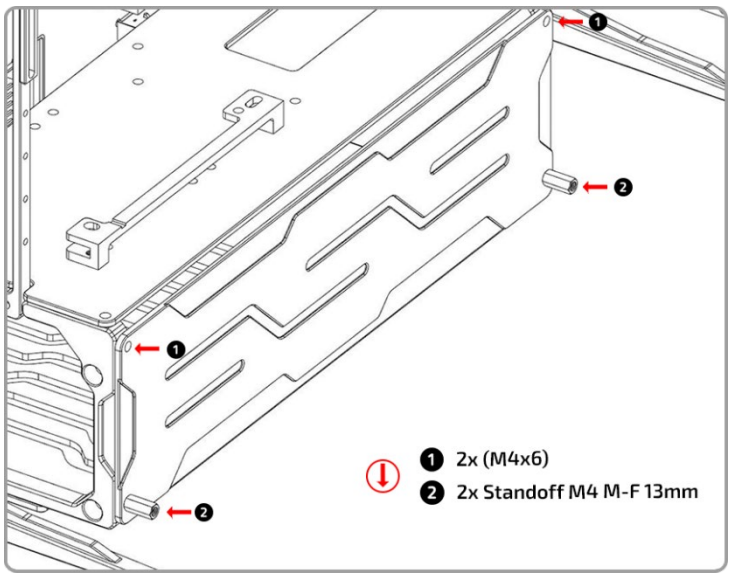


Step 6: Assemble PSU Shroud.

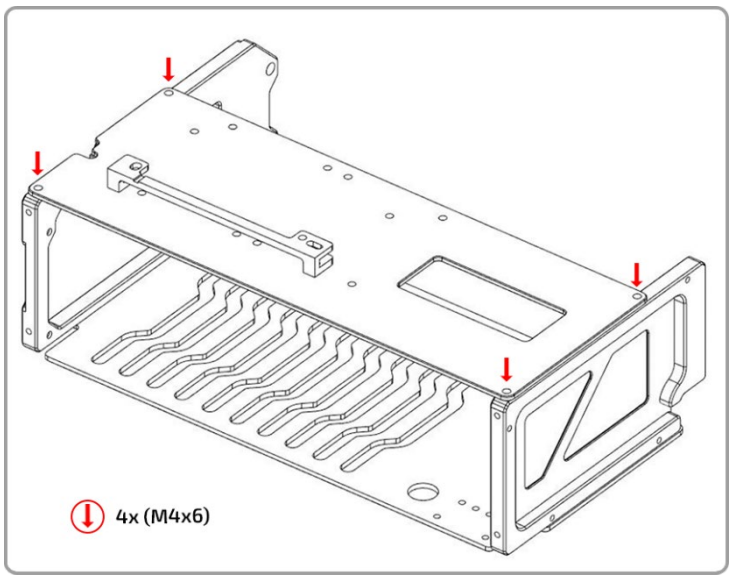
Attach the PSU Bottom Shroud to the PSU Mount and PSU Front Shroud using 4x M4 x 6mm fasteners.



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

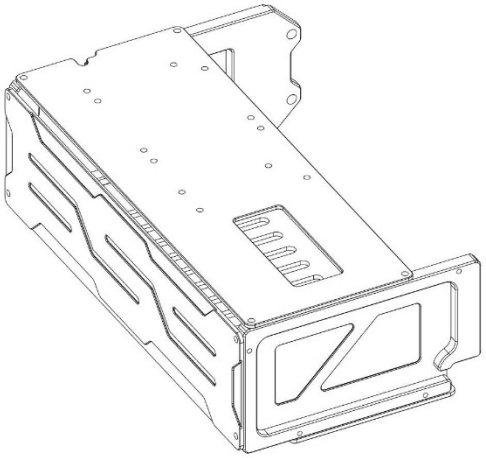


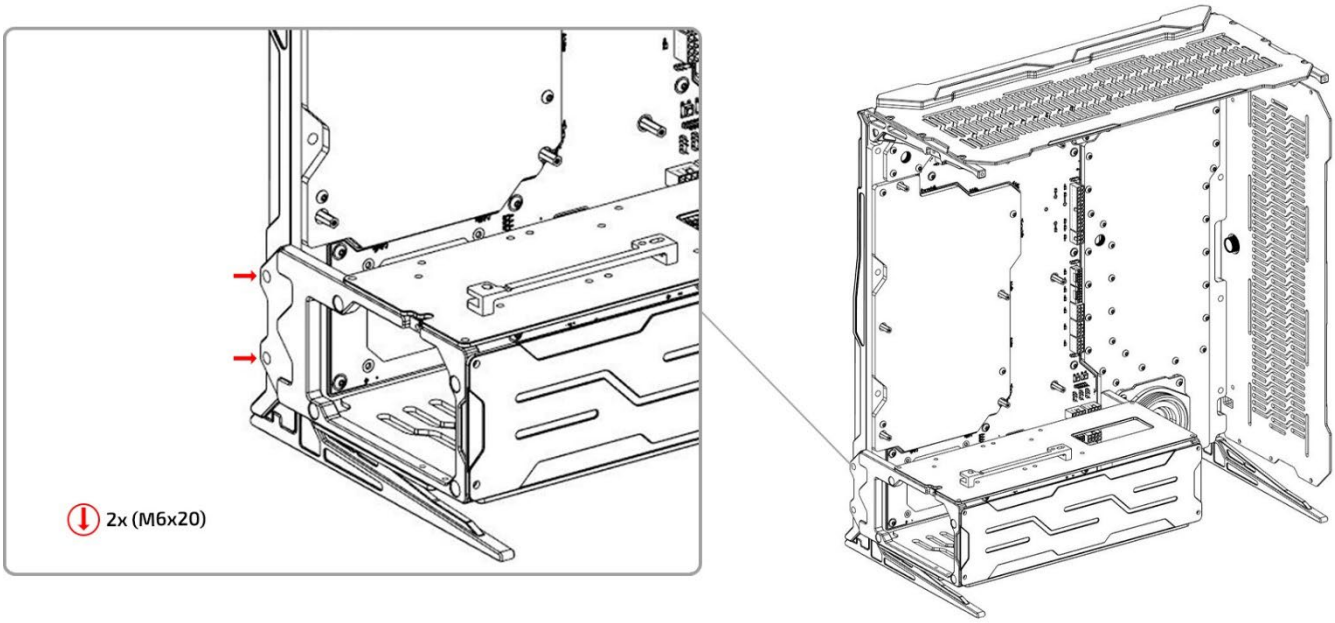
Install the PSU Top Shroud onto the PSU Mount and PSU Front Shroud using 4x M4 x 6mm.

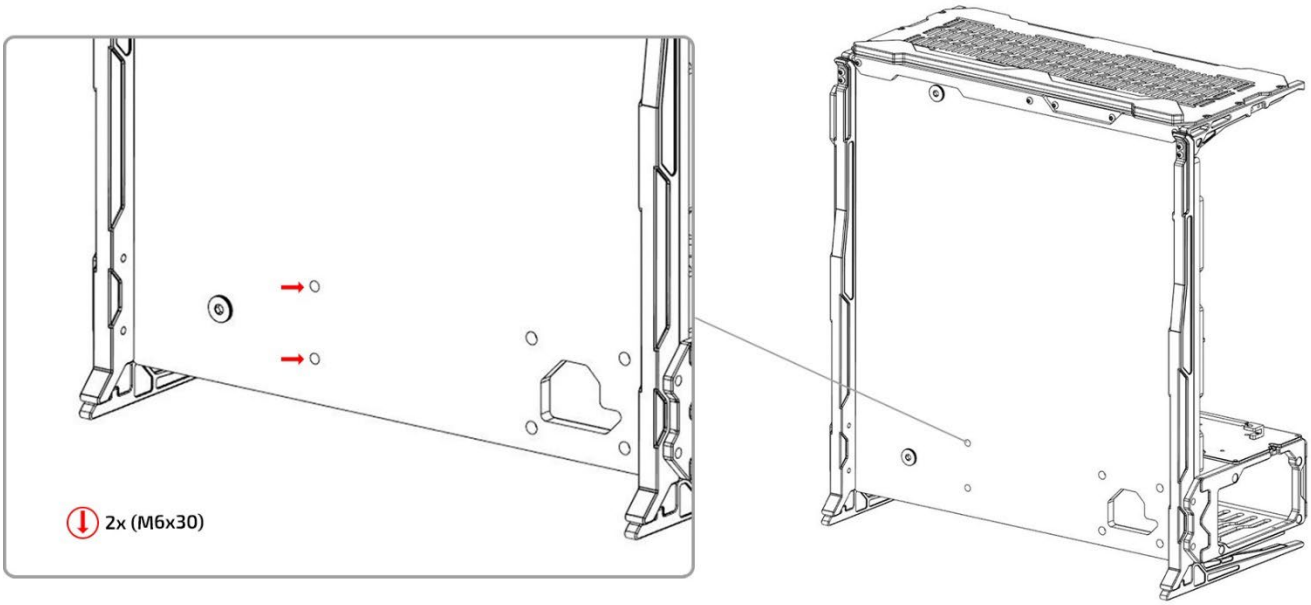


Step 7: Install PSU Shroud.

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.



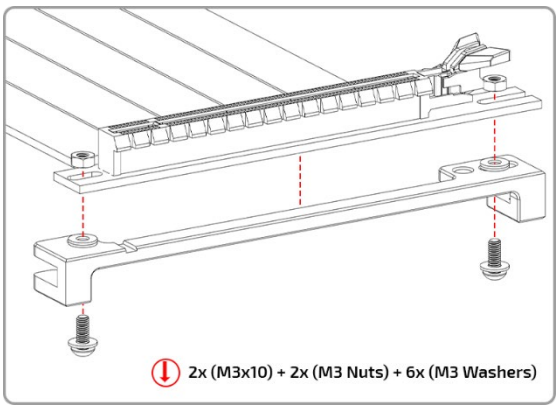




Step 8: Install PCIe 4.0 Vertical GPU Mount.

Step 1: Install Riser Cable.

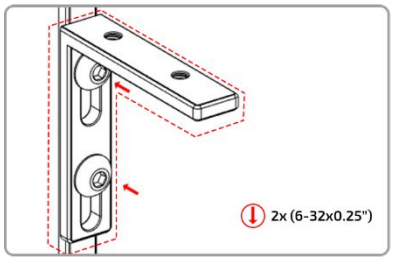
Install the PCIe Riser Cable (not included). Check you have the correct orientation (see diagram to the right). The cutout side of the Vertical GPU Bracket PCIe 4.0 needs to line up with the protruding plastic cover under the Vertical GPU Riser Cable. Install the Vertical GPU Riser Cable onto the PCIe 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).

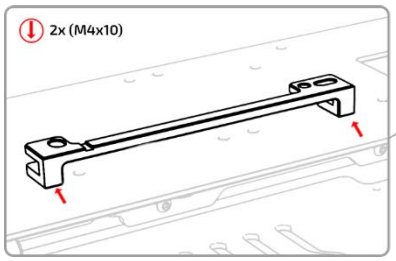


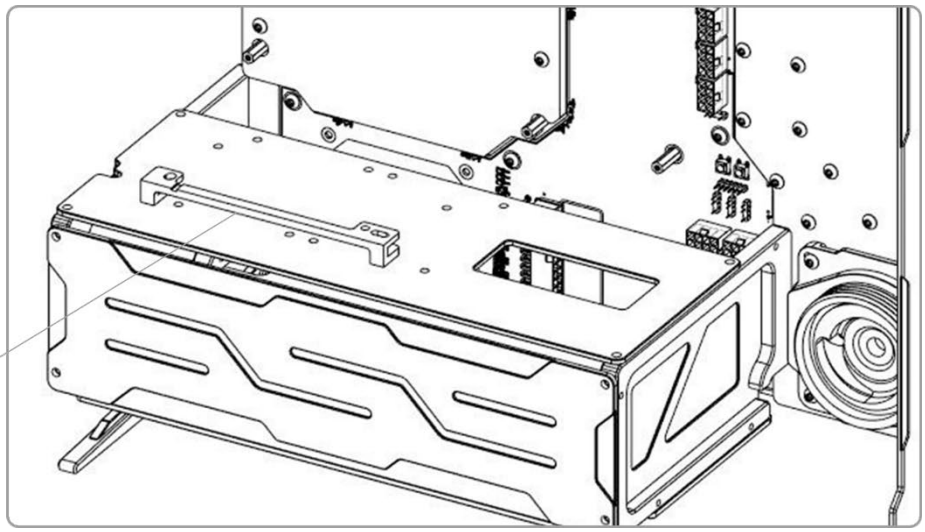
Step 2: Install PCIe 4.0 Vertical GPU Mount.

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.





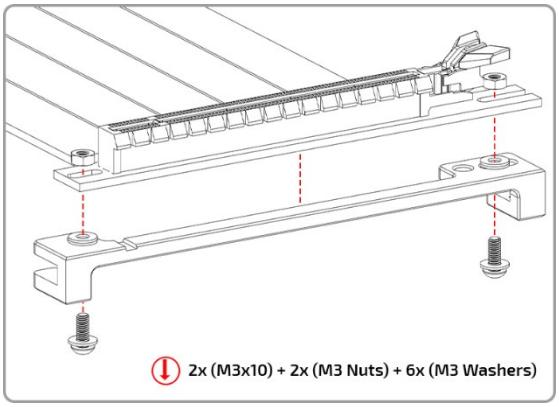


Step 9: Install PCIe 4.0 2nd Vertical GPU Mount.

(This add-on needs to be purchased separately; it is not included with the case).

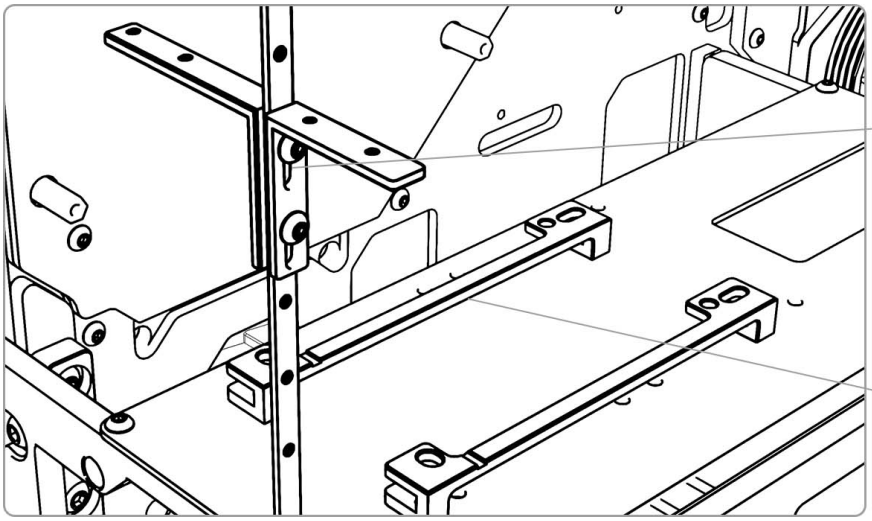
Step 1: Install Riser Cable.

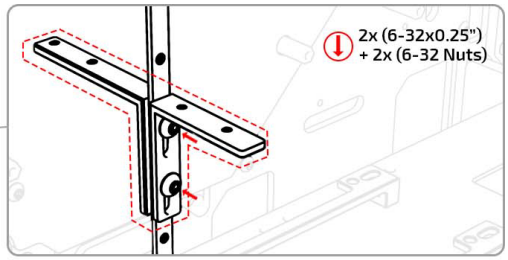
Install the PCIe Riser Cable (not included). Check you have the correct orientation (see diagram to the right). The cutout side of the Vertical GPU Bracket PCIe 4.0 needs to line up with the protruding plastic cover under the Vertical GPU Riser Cable. Install the Vertical GPU Riser Cable onto the PCIe 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).

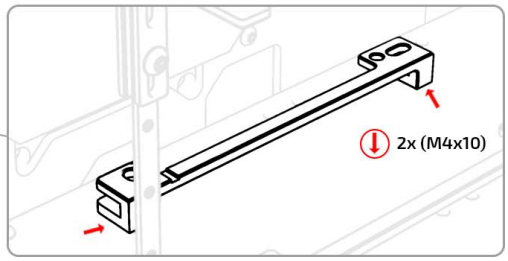


Step 2: Install 2nd PCIe 4.0 Vertical GPU Mount.

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.

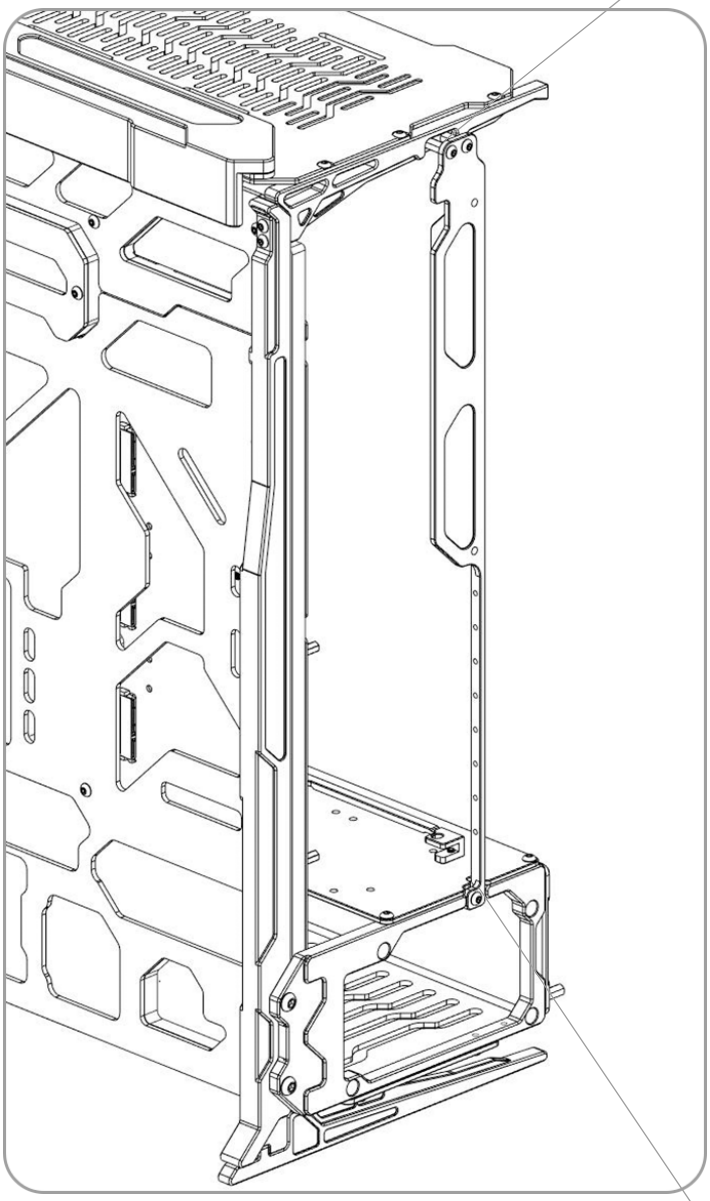


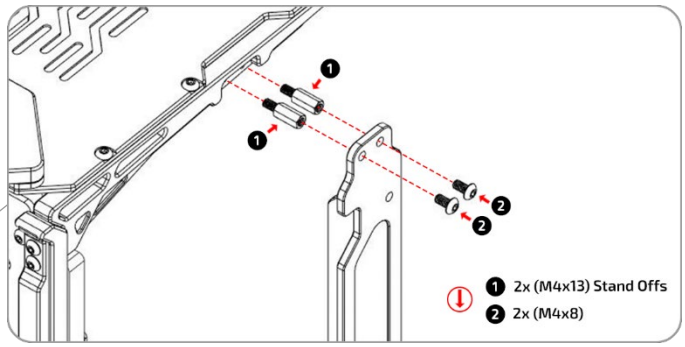


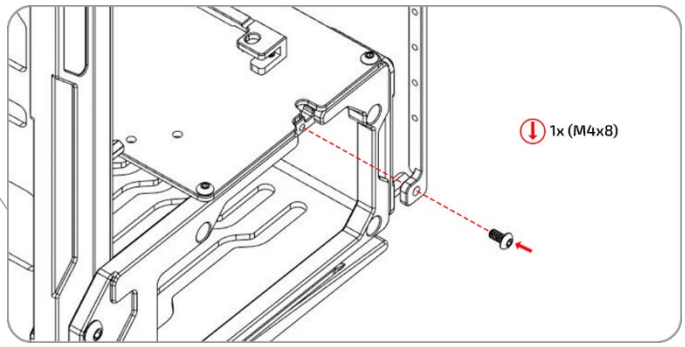


Step 10: Install I/O Panel.

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

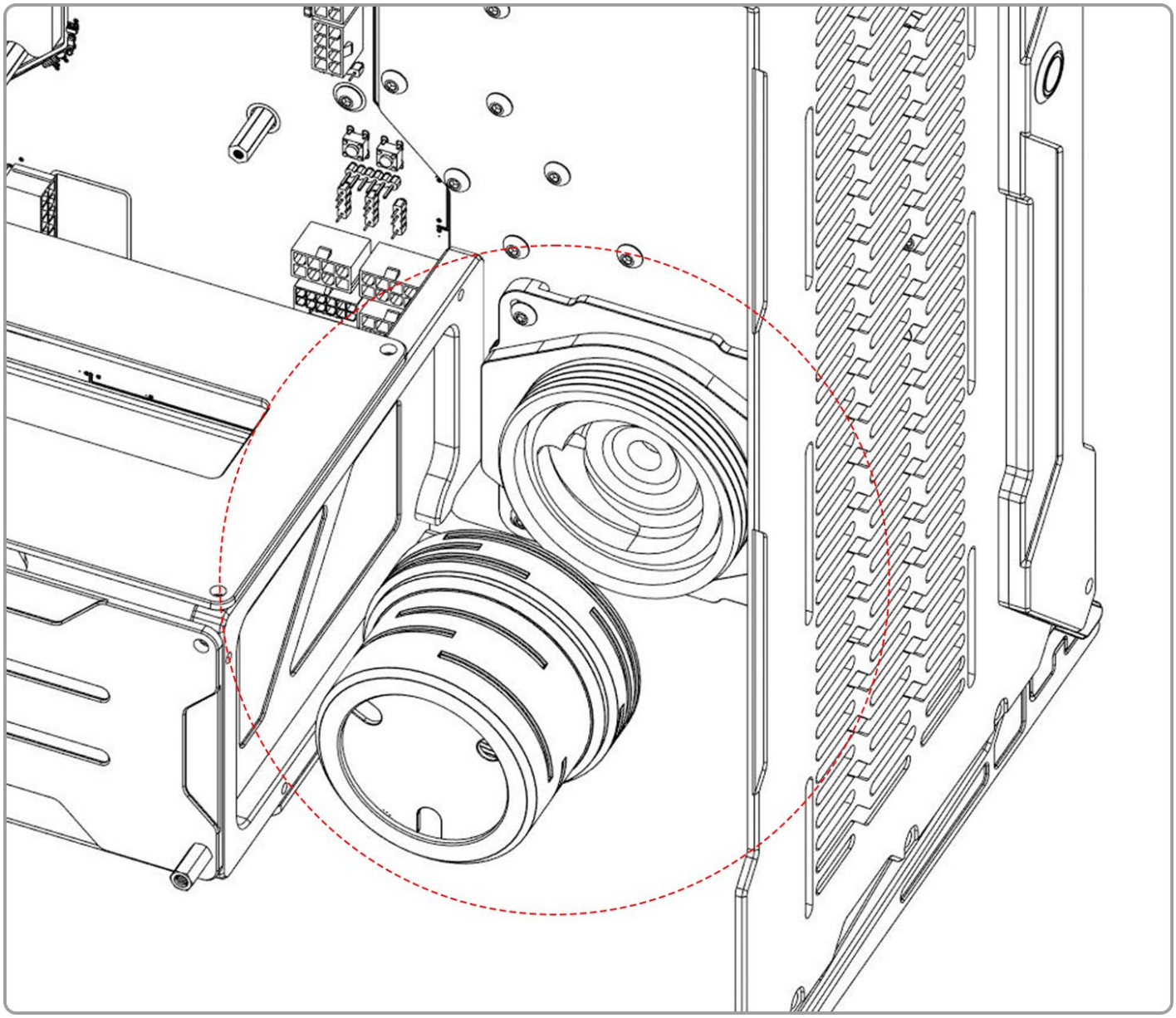






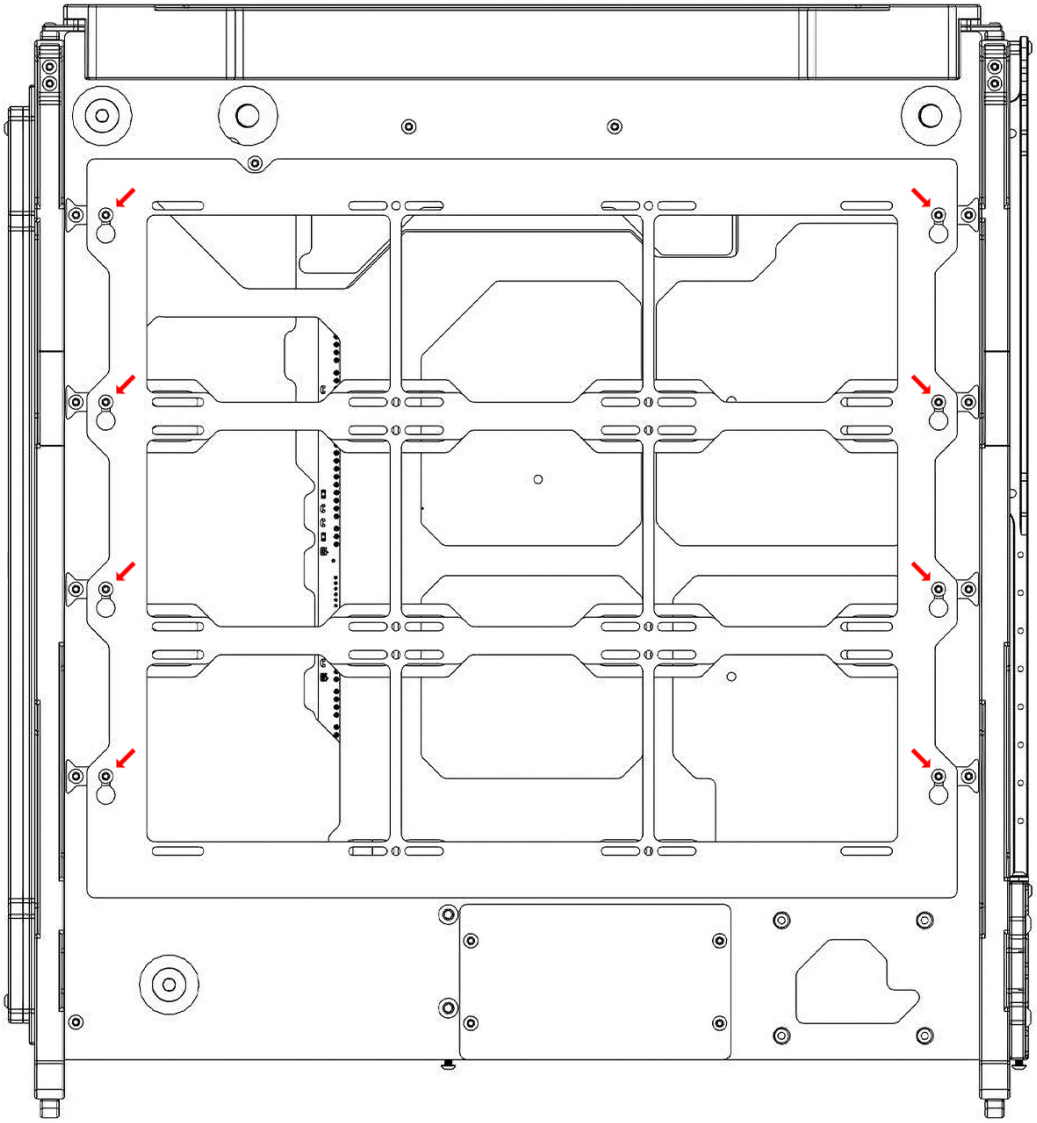
Step 11: Install D5 Pump (Not included).

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.



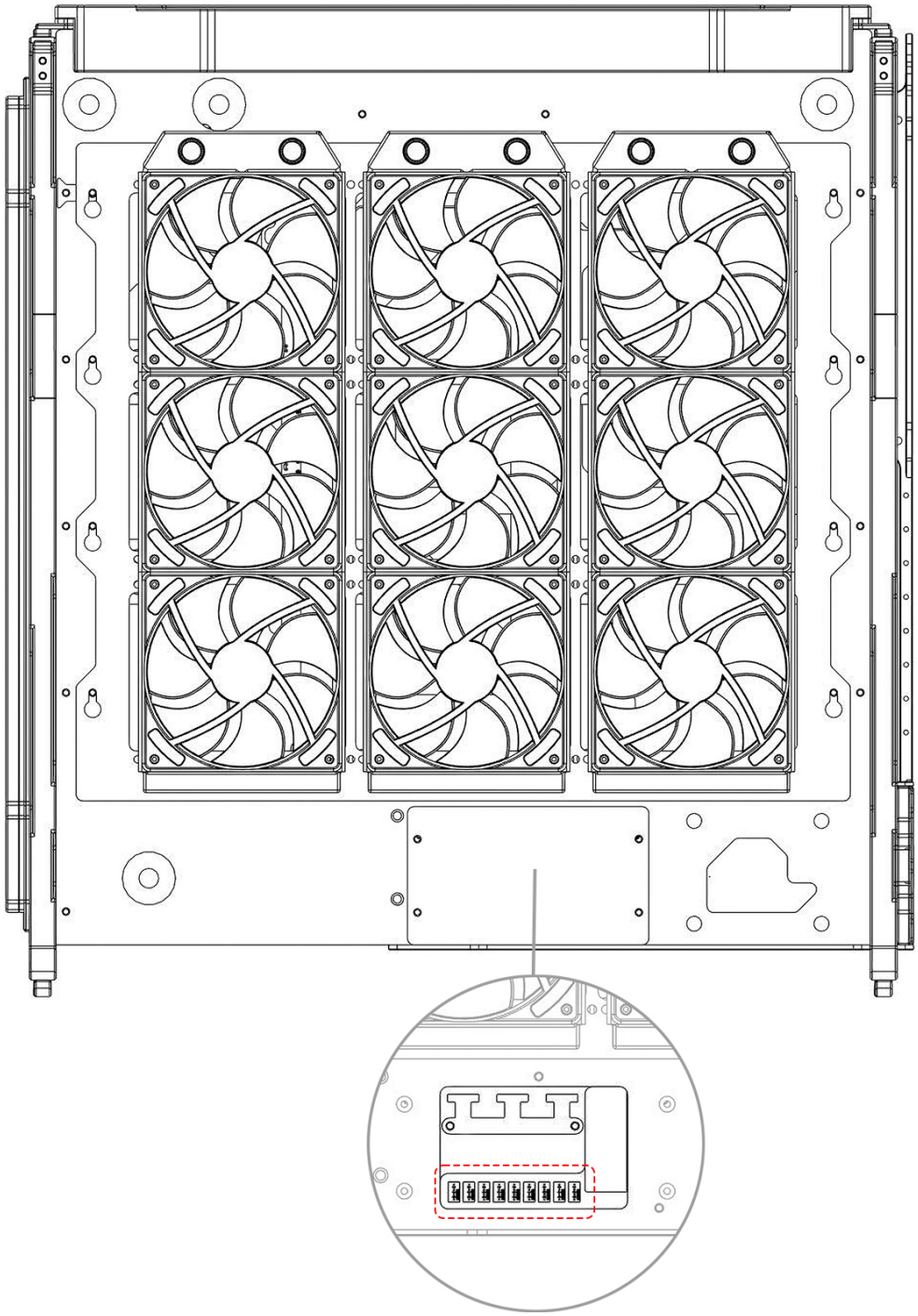
Step 12: Install Rear Radiator(s).

Remove the Radiator Mounting Panel from the case by loosening the 8 fasteners marked in the diagram below then sliding the panel up to remove it. The Radiator Mounting Panel can then be attached to the radiators and fans. It is compatible with any 360mm radiator and the MO-RA 360. The included 360mm grills can be optionally installed onto the fans or radiator to improve the aesthetics.



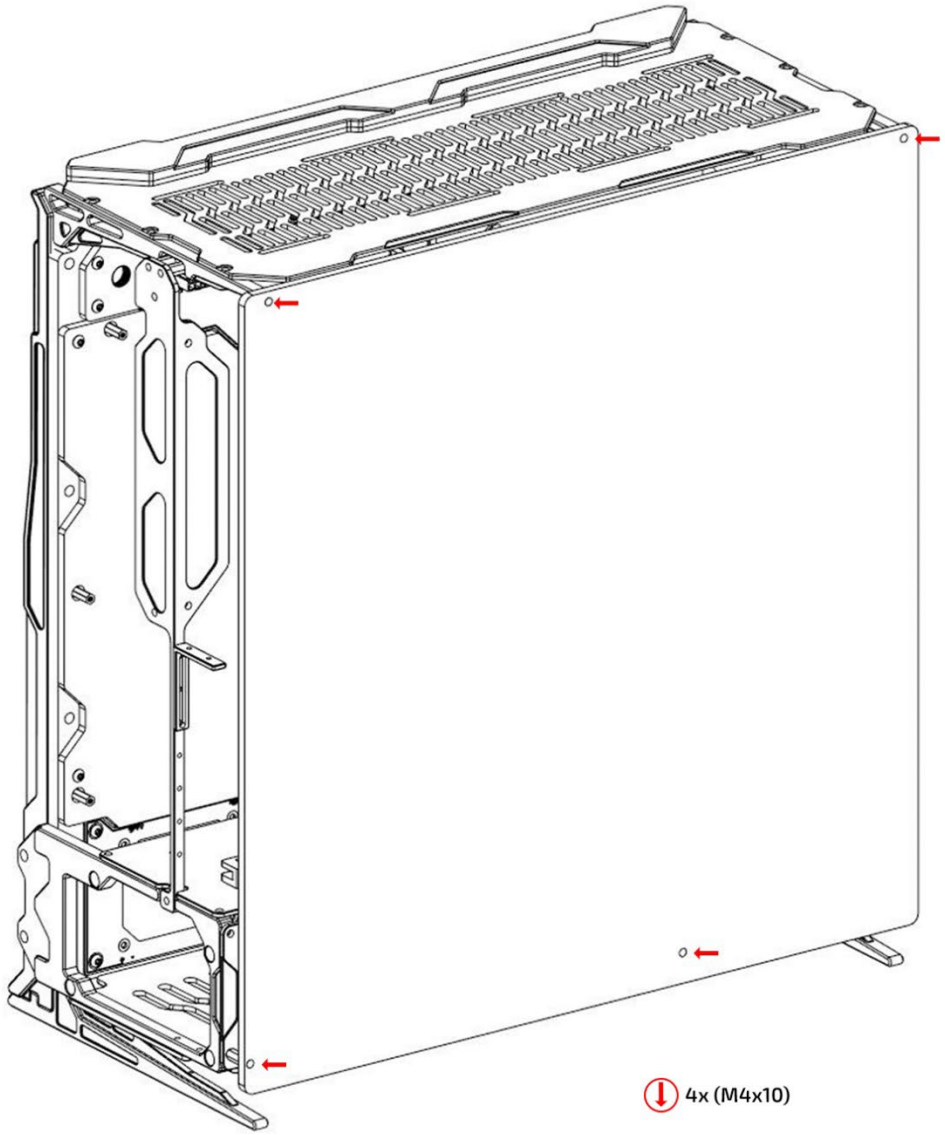
Step 13: Attach Rear Radiator Fans.

There is a PWM hub on the back of the PowerBoard with 9 PWM connections for all of the rear radiator fans. They can be connected in the area marked in the diagram below. The cover will need to be removed first and then can be replaced afterwards to cover up the connections and cables.



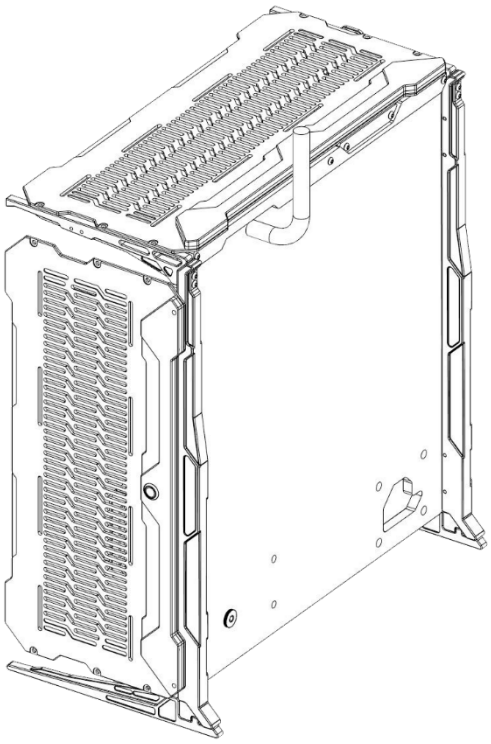
Step 14: Install Side Panel Window.

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.



Step 15: 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.

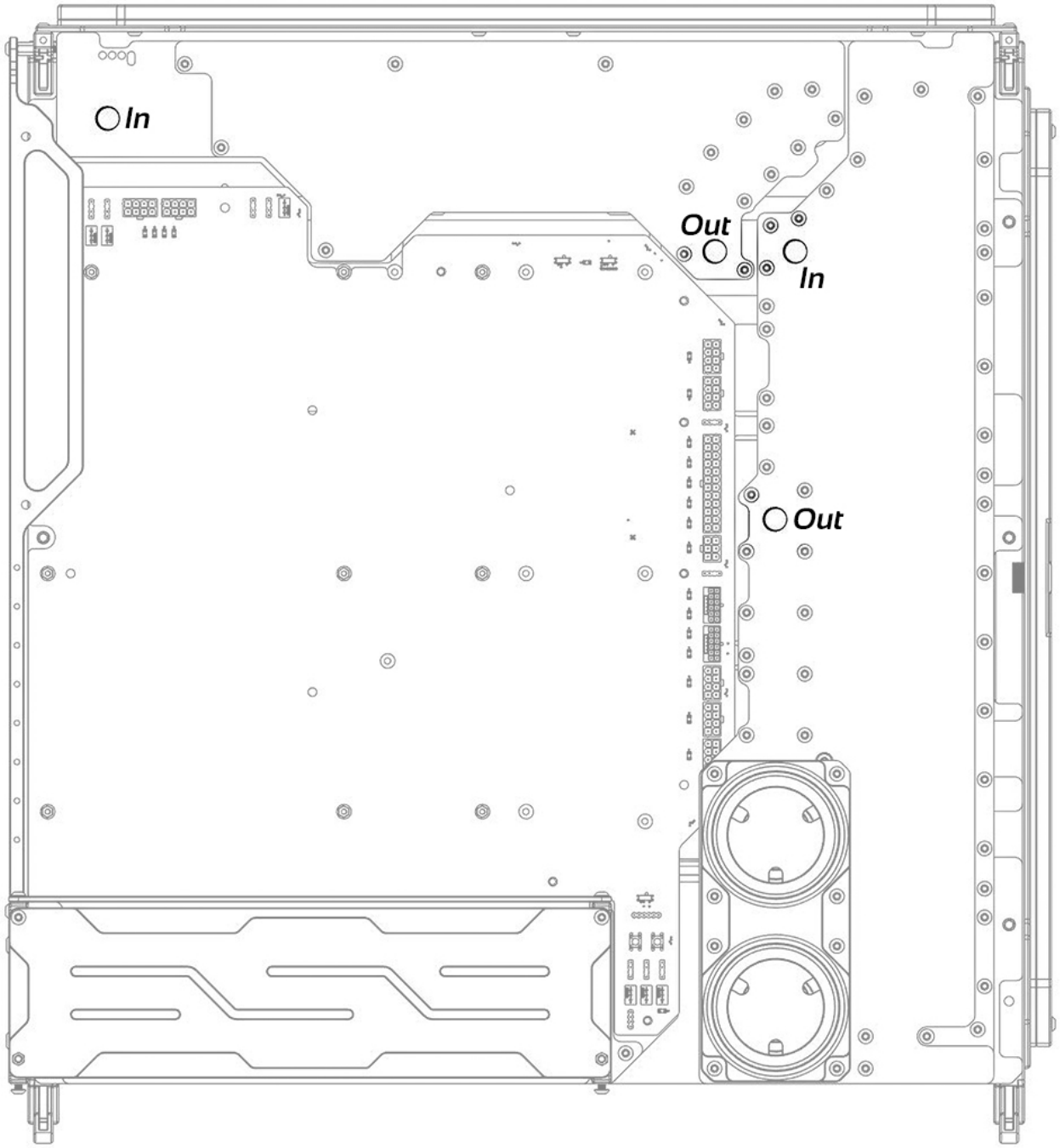


Draining the Loop:
There are various options for drain valves. For Spectre 3.0 Enterprise, it is in quite a visible location around the back of the case, so we suggest something visually appealing. We like to use no spill quick disconnects but any high-quality drain valve will work. No drainage system 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.

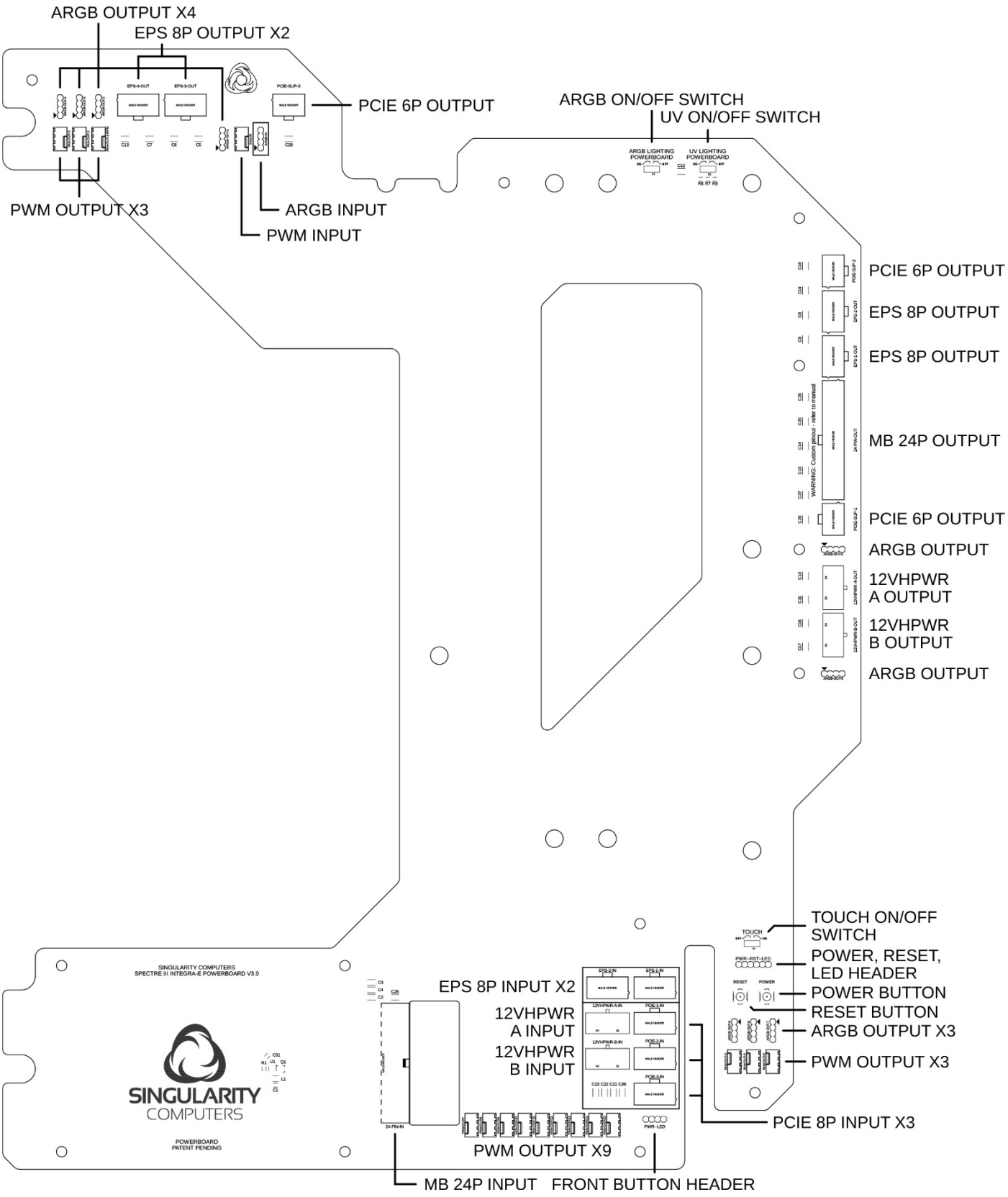
Installing Radiators

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 3.0 Enterprise 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 example, 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.