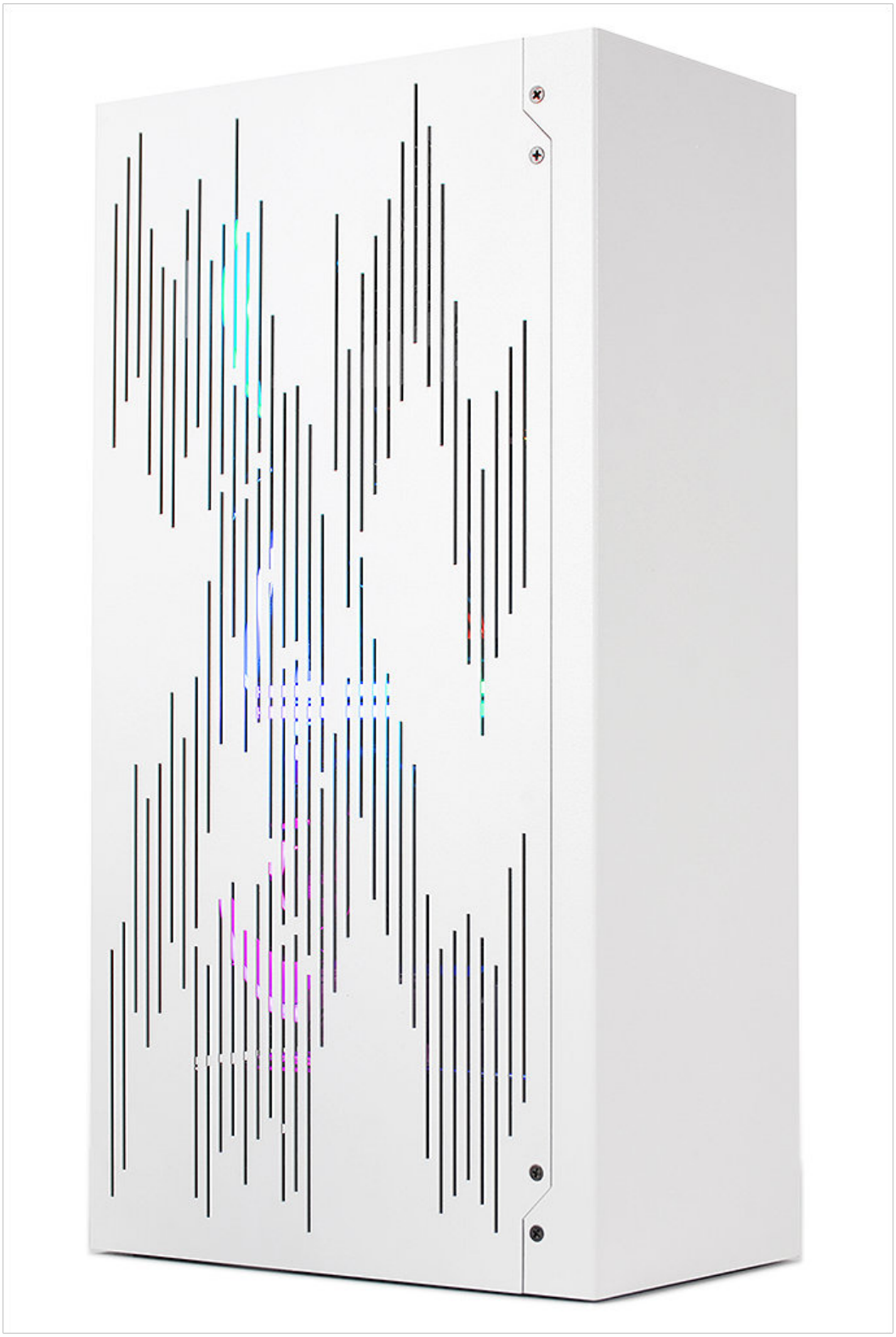


SV590

Vertical Mini-ITX PC Case - Build Guide

SLIGER

SCREWS

The SV590 comes with a total of 5 different screws.

For the purposes of this guide we will assign a unique color to each of the screws, signifying their locations through out this guide.

GREEN M3 x 6mm PAN HEAD
Securing PCIe Cards

PINK M3 x 8mm FLAT HEAD
Power Cord

RED M3 x 5mm FLAT HEAD
Power Cord Mount Bracket
SSDs / SSD brackets

VIOLET 6-32 x 1/4” HEX HEAD
Motherboard
Power Supplies

BLUE 6-32 x 1/4” FLAT HEAD
Side Panels
Case Frame Assembly
3.5” Hard Drives
Base Plate (Optional)

TOOL-LESS END CAPS

The SV590s top and bottom covers feature tool-less removal via ball-stud mounting points. This feature allows for convenient access to your motherboard and PCIe card IO ports regardless of case orientation.

The top and bottom panels can also be reversed onto either end of the case, allowing the “cable cubby” side to face up or down.

Note: these panel may be very tight on the first few times on/off!

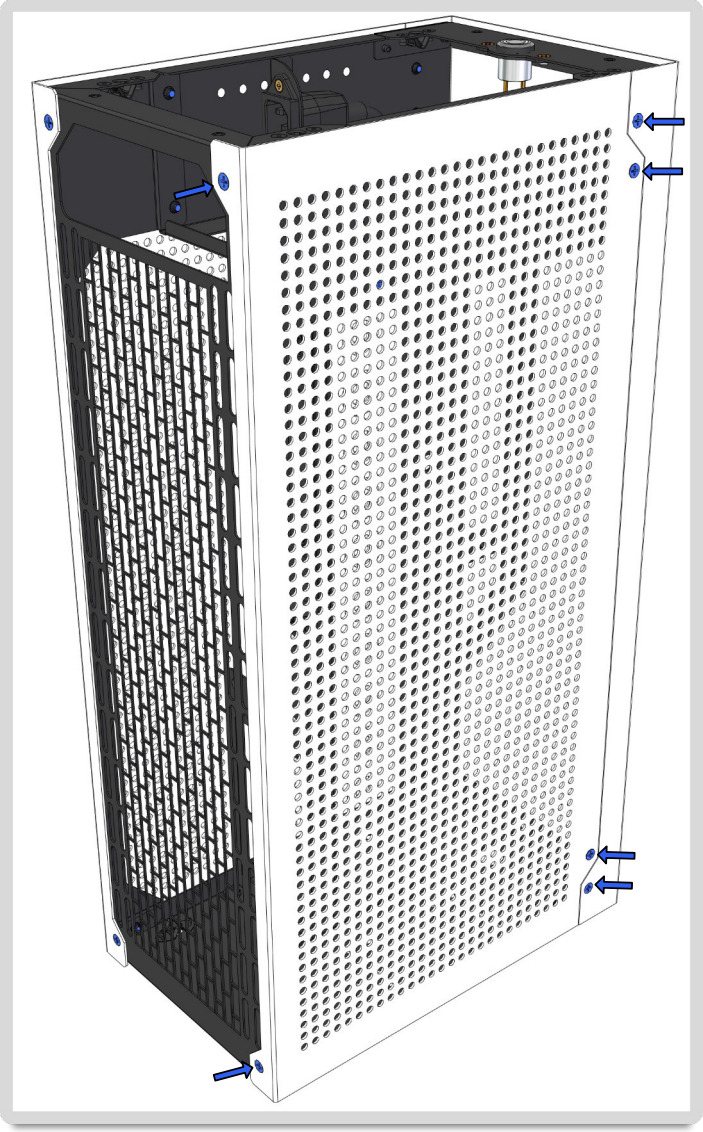
SIDE PANELS

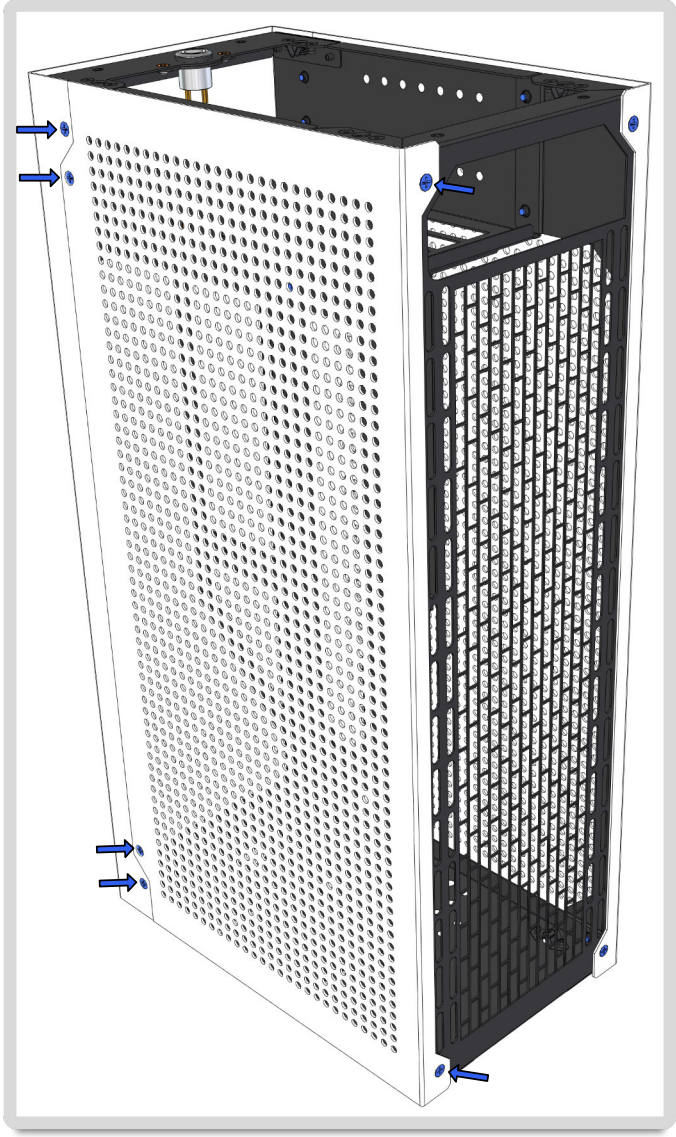
Panels on the SV590 are attached via a total of **12x 6-32 X 1/4” FLAT HEAD**.

Four per panel with three panels total (front panel + two side panels).

A **Phillips #2** size screw driver is required for these screws.

(Screw driver tip should match size of cut in the screw. If you use an undersized driver you risk stripping the screw head!)



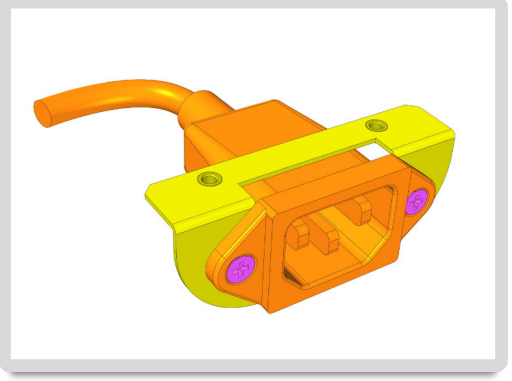


CASE FRAME

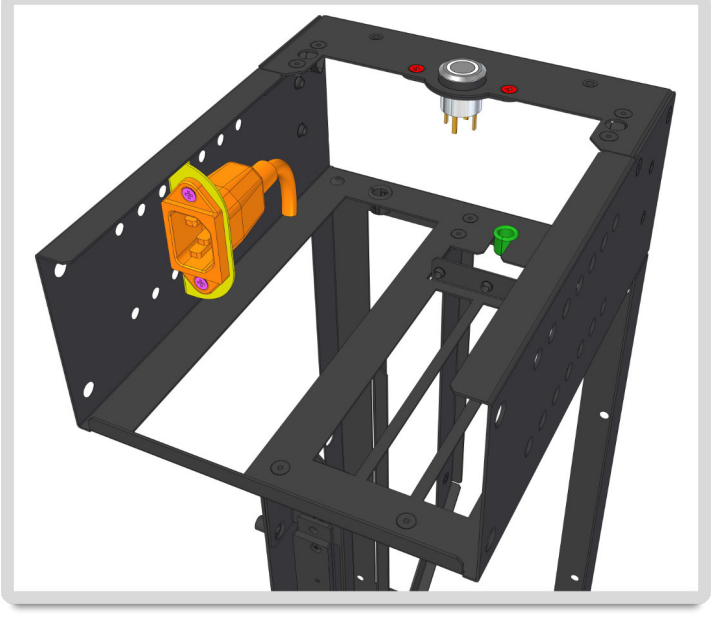
The rear radiator mount bracket of the SV590 frame is held on by **6x 6-32 X 1/4" FLAT HEAD** screws; two on each side of the cable cubby, and one on each side at the opposite end of the case.

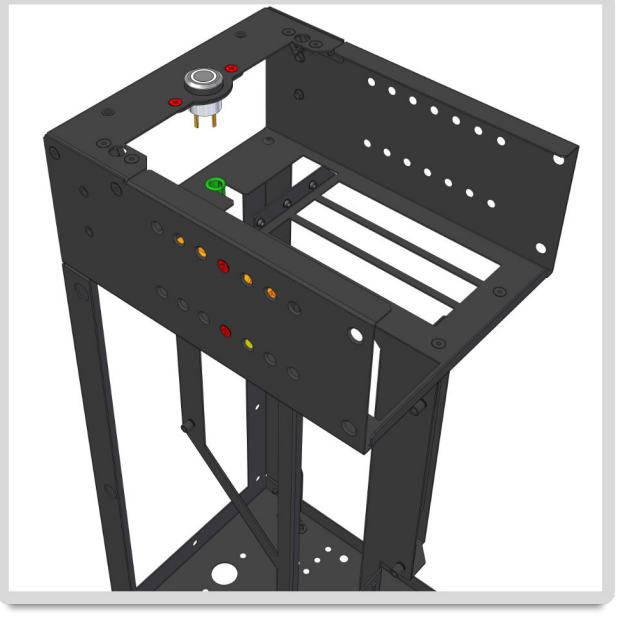
POWER CORD

The SV590 includes an internal power cord extension, protective grommet, and mount bracket for routing the power supply inlet into the"cable cubby" of the case frame. Clip the **Cable Grommet** onto the power cord before you install it into the case. Then run the cord through the cutout located above the PCIe card tab cutout, and finally slide the grommet into position as shown below.

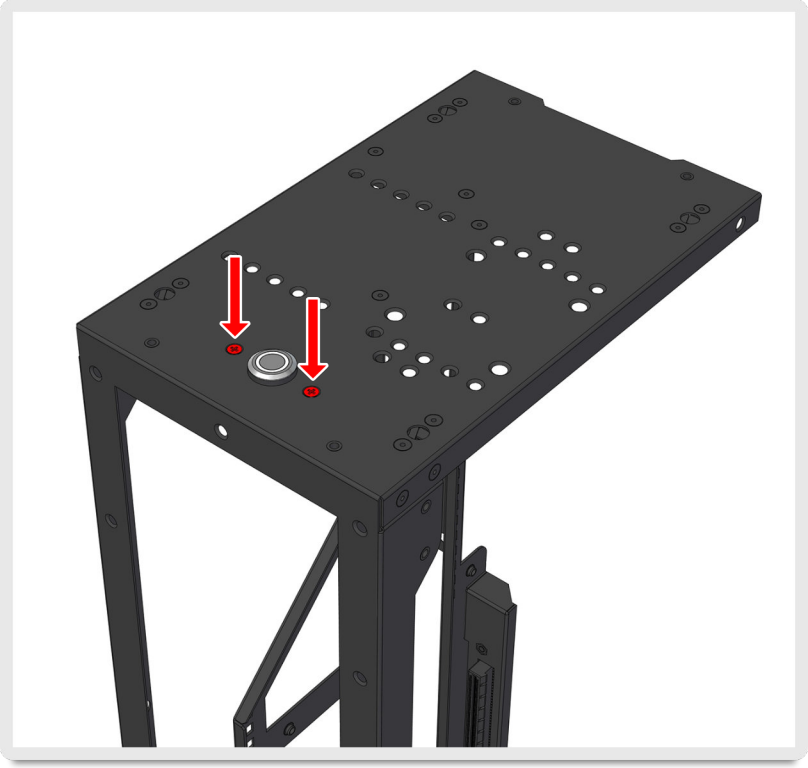


The power cord extension is then installed into the mount bracket with **2x M3 x 8mm FLAT HEAD** screws. After that, the power cord and bracket should be attached and the power should be routed through the grommet. It may be attached to the case frame via **2x M3 x 5mm FLAT HEAD** screws at any of the viable mount locations. The bracket can be positioned to where it least obstructs the motherboard or GPU ports. Make sure to point the open end of the inlet towards the rear of the case!





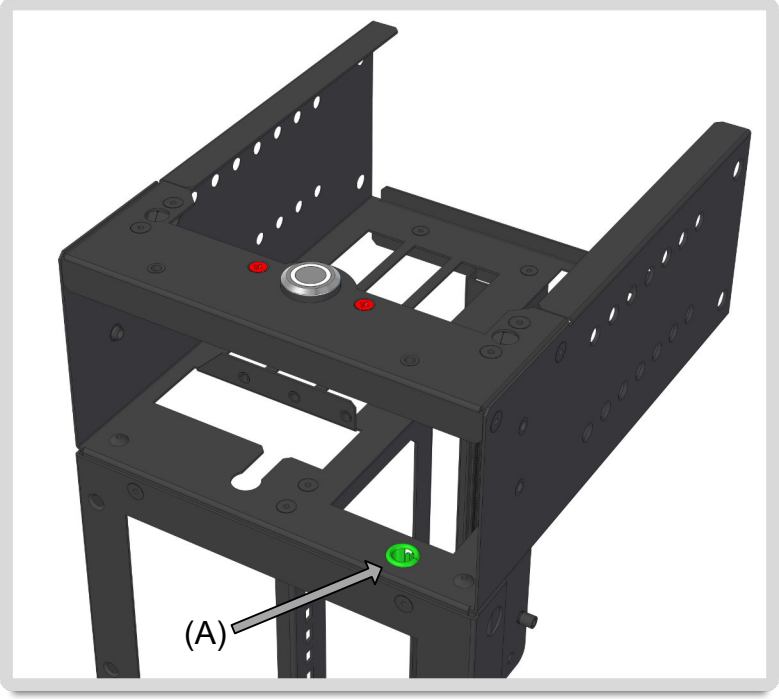
POWER BUTTON



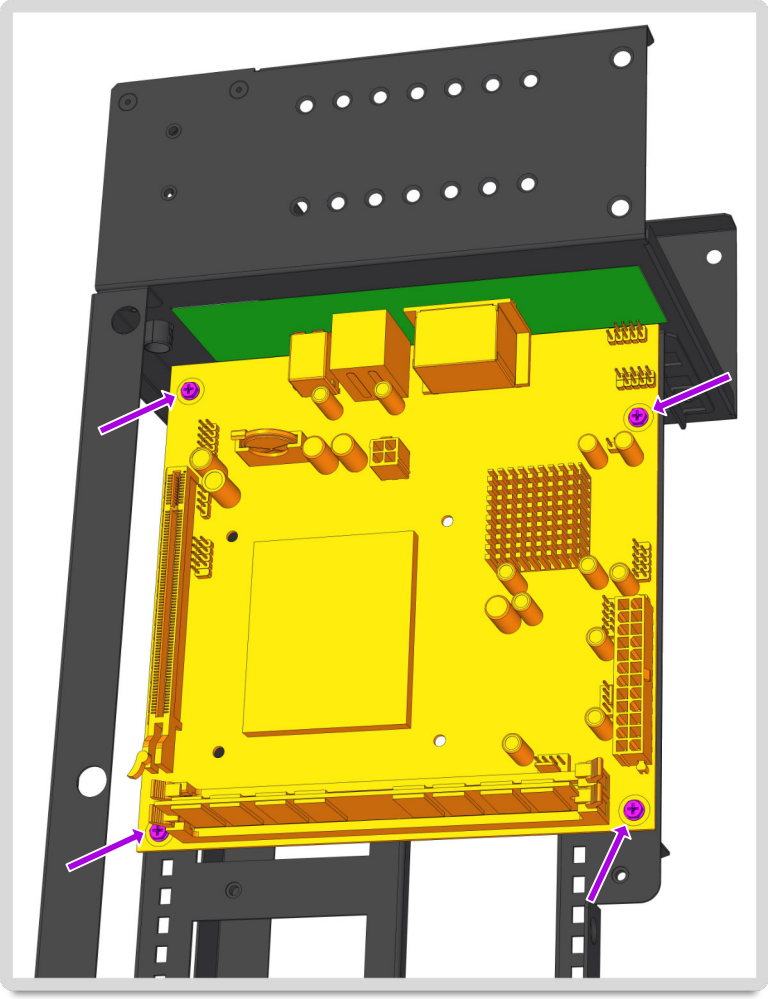
New for V2 of the SV590 is the ability to mount the power button to either end of the case frame.

With V2, the power button is attached to a small bracket which can be relocated to either mounting position. This bracket is secured to either end of the case with **2x M3 x 5mm FLAT HEAD** screws.

When the power button is mounted on the “cable cubby” end of the case frame you will need to pass the button cable & connectors through the hole and grommet located next to the motherboard IO Shield cutout (A).



MOTHERBOARD



Don’t forget to **install the power cord and your IO shield first**!

Some CPU coolers may require a back plate installed before installing the motherboard into the case.

It is advised to also check that any M.2 mounts on the back of the motherboard have drives installed before mounting the motherboard.

Once the **IO shield** and power cord with grommet are properly installed, the motherboard can now be mounted using **4x 6-32 x 1/4” HEX HEAD** screws.

*A Phillips #2 screw driver with a **minimum 3” shaft length** is recommended for installing these screws. Both of the screws on the PCIe slot side of the motherboard have pass-through holes in the case frame to allow the screw driver and screw to pass through and be screwed in straight.*

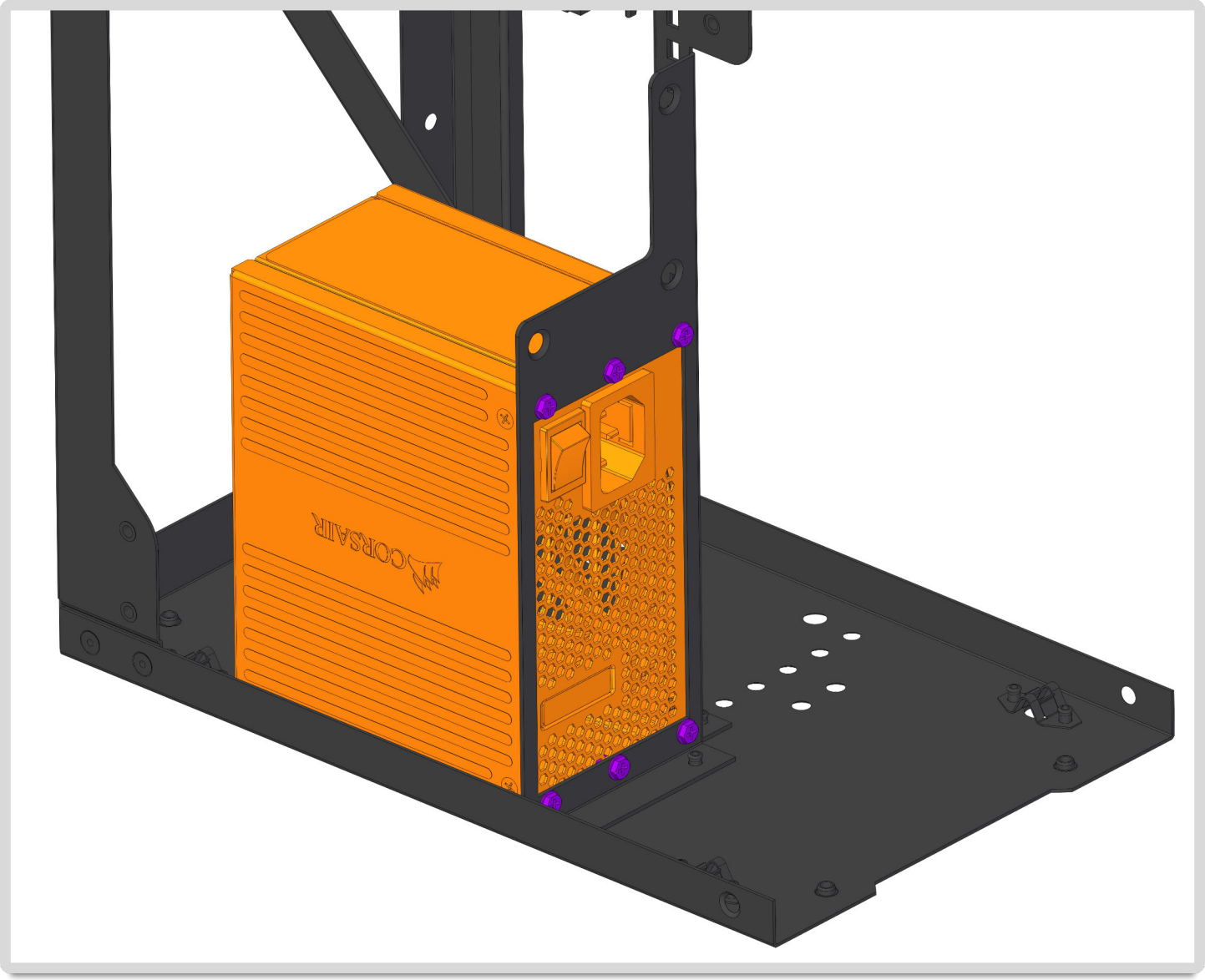
Additional installation instructions for your CPU, CPU cooler, RAM, etc. are covered by your motherboard or coolers respective user manual.

POWER SUPPLY

NOTE: The fan on the power supply is recommended to be positioned with the fan side pointed towards the center spine of the case. This orientation will result in better overall system temperatures and lower noise.

Once positioned, the SFX PSU can be attached to the PSU Mounting Bracket with *up to* **6x** of the included **6-32 x 1/4" HEX HEAD** screws.

Note: that not all SFX Power Supplies have all 6x screw holes as shown.



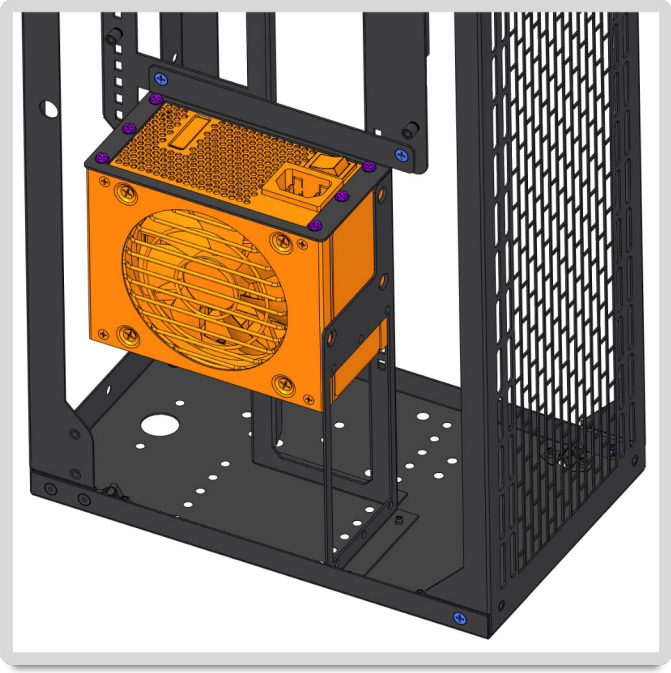
POWER SUPPLY CONT.

Note: The fan on the power supply is recommended to be positioned with the fan side pointed towards the center spine of the case. This orientation will result in better overall system temperatures and lower noise.

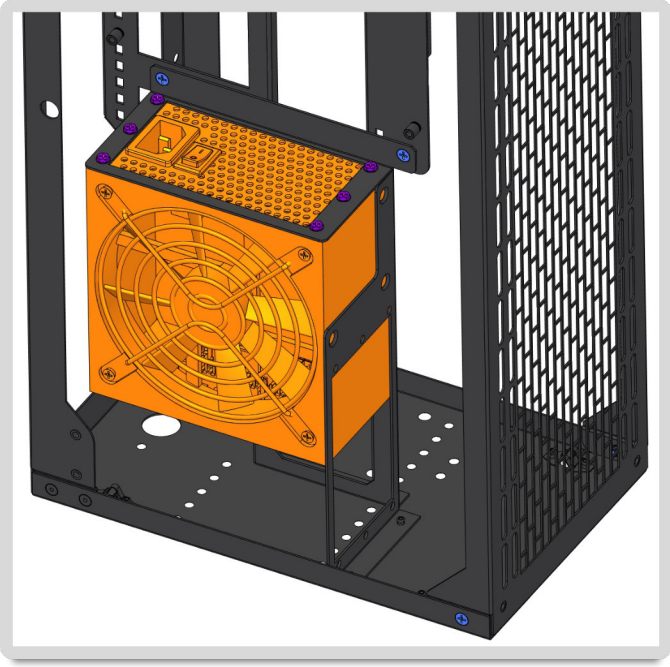
Once positioned, PSU alternative mounting bracket can be attached to the chassis with **2x 6-32 X 1/4" FLAT HEAD** screws.
Then an SFX or SFX-L PSU can be attached to the alternative mounting bracket with *up to* **6x** of the included **6-32 x 1/4" HEX HEAD** screws.

Note: that not all SFX Power Supplies have all 6x screw holes as shown.

SFX with alternative PSU Bracket



SFX-L with alternative PSU Bracket



SSDs and HDDs

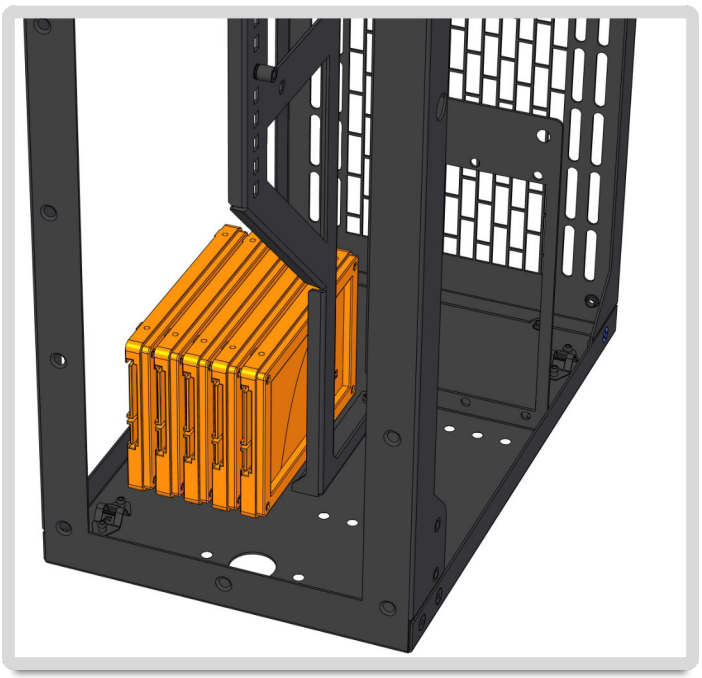
This is our **RECOMMENED** SSD layout on the front rail of the chassis. **4x** 2.5" SSDs can be installed with **2x M3 x 5mm FLAT HEAD** screws per drive.

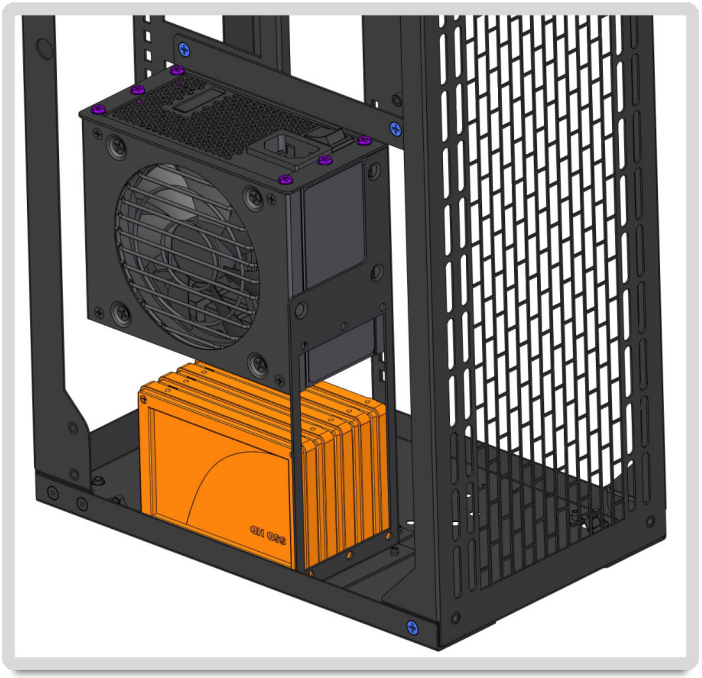
Note: The lower 2 SSDs can NOT be used when you have DDC Pump mounted.

SSD and HDDs

Our SV590 has multiple 3.5" HDD and 2.5" SSD mounting locations.

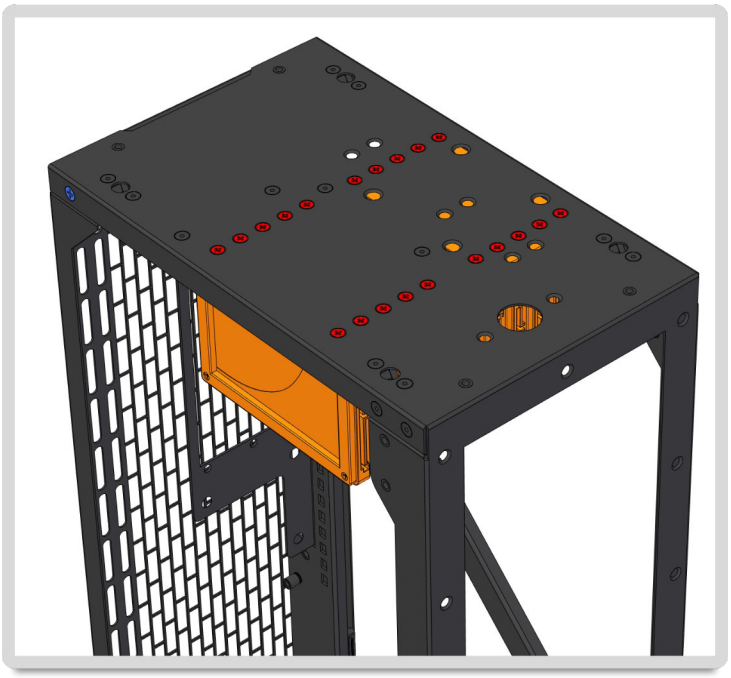
Shown below are various HDD and SSD configurations.





(A)

Note : Can fit up to 5 SSD drives under the PSU **ONLY** if an SFX PSU is mounted to the alternative PSU mounting bracket (**A**). *Will **not** work with a SFX-L PSU*

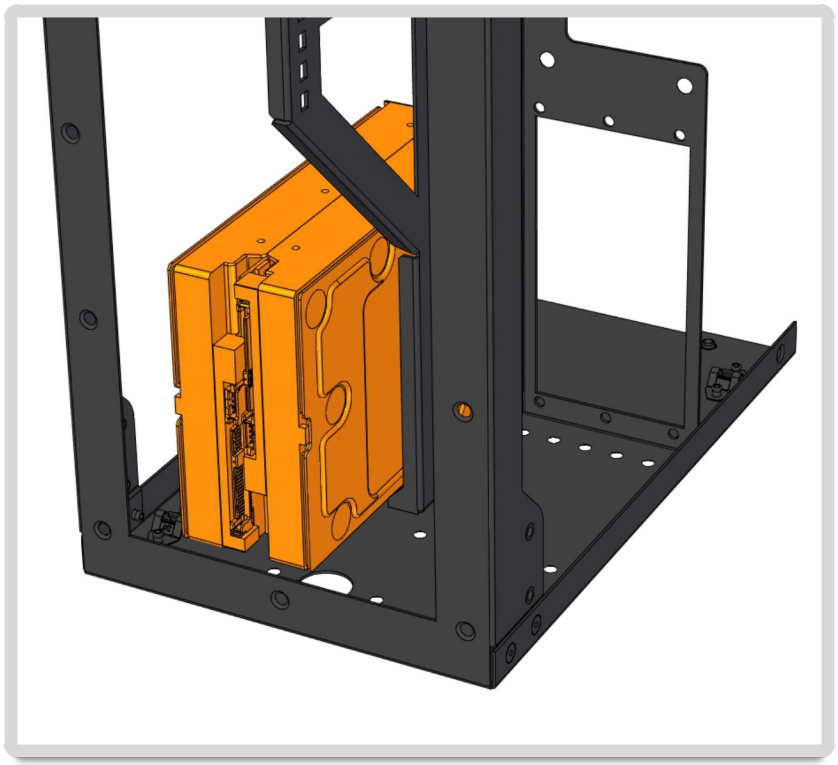


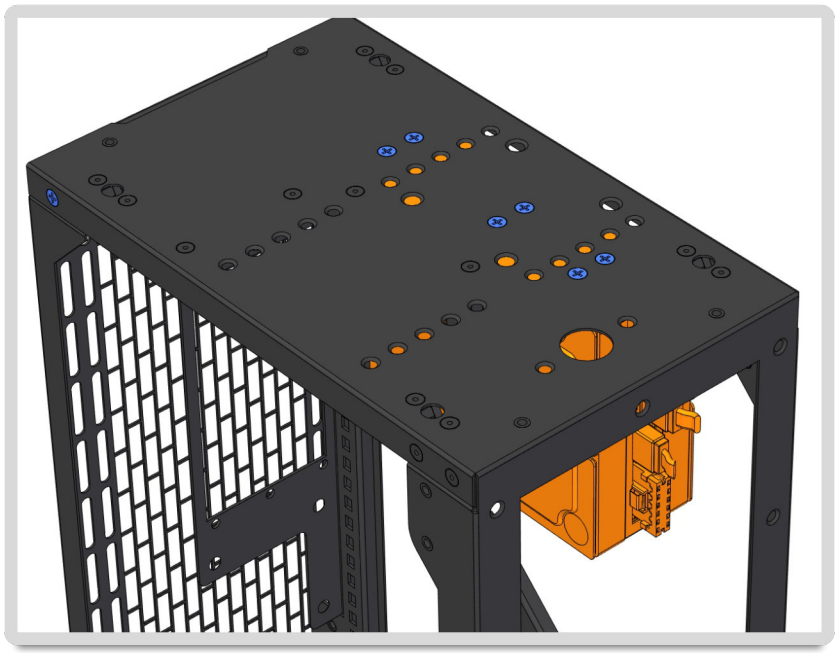
For any of the bottom-of-case SSD mounts the SATA power and SATA data cable must face away from the radiator & fans. Each 2.5" SSD on the bottom of the case is mounted via **2x M3 x 5mm FLAT HEAD** screws into the side of the respective 2.5" SSD.

SSDs and HDDs (cont)

2x 3.5” Hard Drive Disks

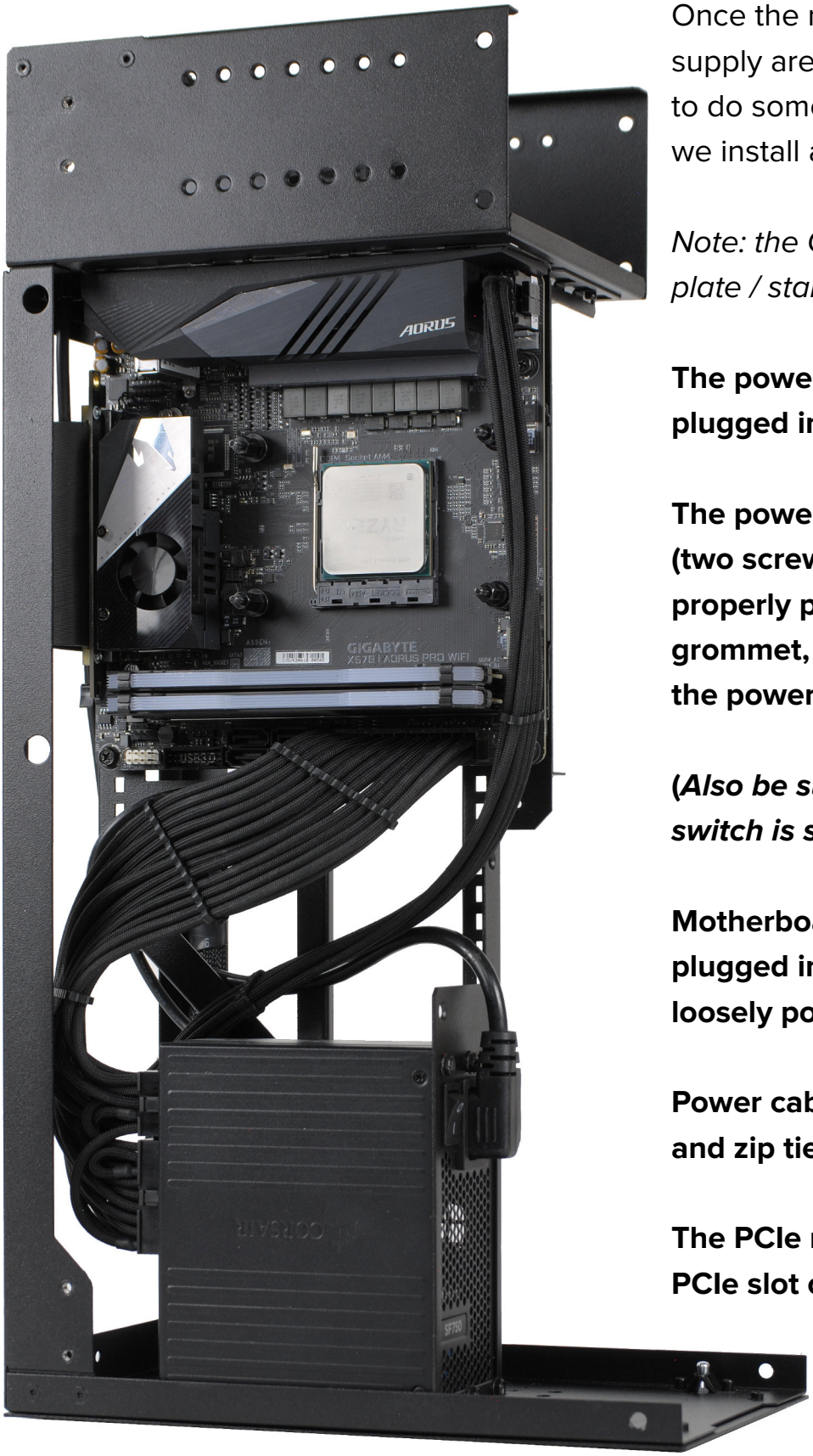
Note: 3.5" HDD limits the maximum **GPU length to 290mm**





3.5” Hard Drive Disks should be mounted with **2x** **6-32 X 1/4” FLAT HEAD** screws.

CABLE MANAGEMENT



Once the motherboard and power supply are mounted, it is recommended to do some cable management before we install any radiators or PCIe cards.

Note: the CPU and cooler mount back plate / standoffs are installed.

The power switch/LED is routed and plugged into the motherboard.

The power cord is mounted at top (two screws in counter sinks) and properly passed through the grommet, and routed to the inlet on the power supply.

(*Also be sure to check that your PSU switch is set to on!*)

Motherboard power cables are plugged in, and GPU power cables are loosely positioned.

Power cables are loosely managed and zip tied.

The PCIe riser is plugged into the PCIe slot on the motherboard.

GPU MOUNTING

We recommend installing the GPU after installing the radiator as the case will be slightly more rigid.
Additionally this method allows access to the fan screws for ease of installing fan guards, reversing fan airflow, etc.

Process of installing the GPU is same it would be on a standard PC case, just on a PCIe riser. Slide the card into position, push down into the slot, and then secure the PCIe card bracket with the **M3 x 6mm PAN HEAD** screws.

If your GPU only has a 2-slot wide PCIe bracket. The SV590 **includes** a single-color matched slot cover.

240mm / 120mm AIO

ALL FANS MUST BE SET TO EXHAUST OUT THE REAR OF THE CASE

If fans are installed as intake you will cause your power supply and GPU to run at high temperatures, which may cause part failures.

The compact design of the SV590 limits the ways in which dual AIO setups can be installed.

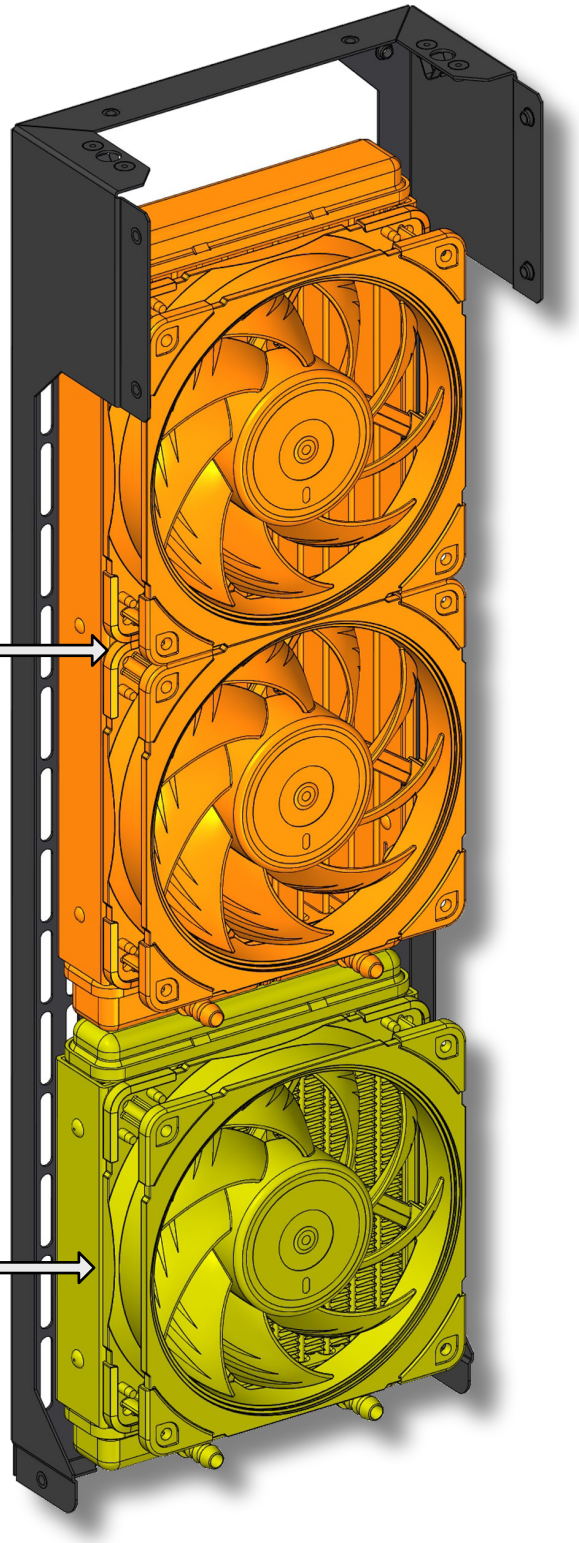
The 240mm AIO **(A)** at left, shown in orange, must be mounted above the 120mm AIO with the radiator hoses facing **downward**.

The 120mm AIO **(B)** must be mounted below the 240mm AIO, with the 120mm AIO hoses able to be oriented to the **top** or **bottom** of the case.

If the 240mm AIO hoses are mounted to the top, you will not be able to screw the case together - as the hoses will hit the motherboard and/or GPU.

Conversely, if the AIOs are mounted as shown, the hoses will come out where there is additional free space next to the power supply / below the GPU/PCIe cards.

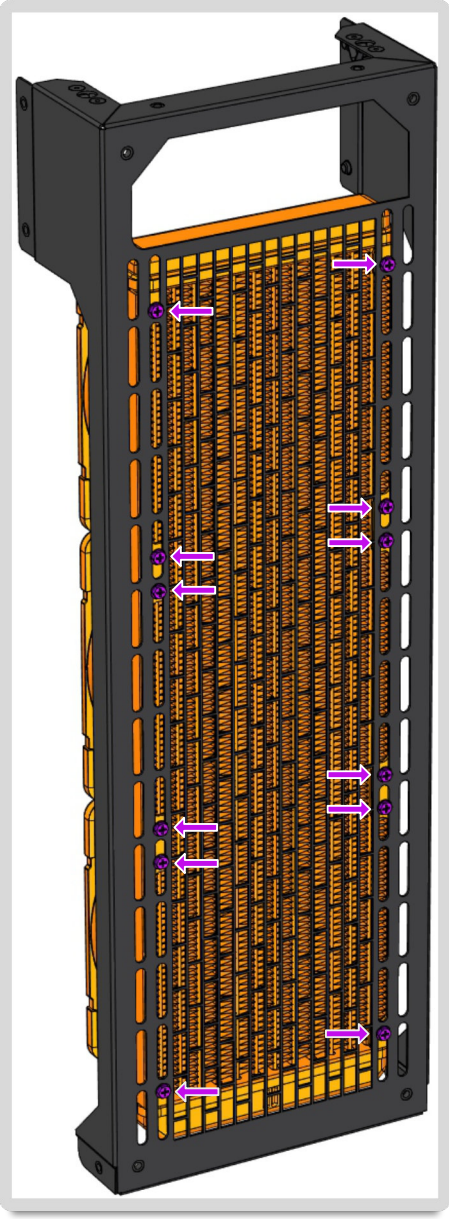
If your AIOs do not include mounting screws, please use the **6-32 x 1/4” HEX HEAD** screws provided with the case.



360mm AIO

ALL FANS MUST BE SET TO EXHAUST OUT THE REAR OF THE CASE, If fans are installed as intake you will cause your power supply and GPU to run at higher temperatures.

If the 360mm radiator hoses are mounted to the top, you will not be able to screw the case closed as the hoses will collide with the motherboard and/or GPU PCIe riser bracket. Conversely, if the AIO is mounted as shown to the bottom of the case, the hoses will not have interference issues due to free space around the power supply and below the GPU. If your AIOs did not include mounting screws, please use the **6-32 x 1/4” HEX HEAD** screws provided with the case.



CASE REASSEMBLY

To attach the AIO/radiator, the back panel must be reinstalled from disassembly on page 5 in this guide. The rear radiator mount bracket to the SV590 frame is held on by **6x 6-32 x 1/4" FLAT HEAD** screws.

We recommend plugging in your fan headers / fan splitters before screwing the rear radiator bracket back onto the case frame.

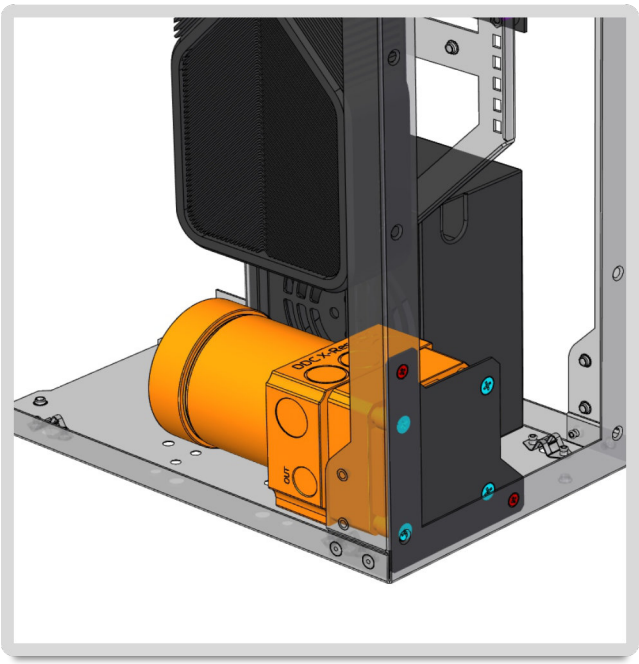
It is also recommended to try various positions of the CPU AIO pump block to best fit the hoses as lengths can vary.

With the radiator/AIO in position your case should look like the example to the right, minus your GPU and any 2.5” SSD / 3.5” HDDs.

DDC PUMP RESERVOIR

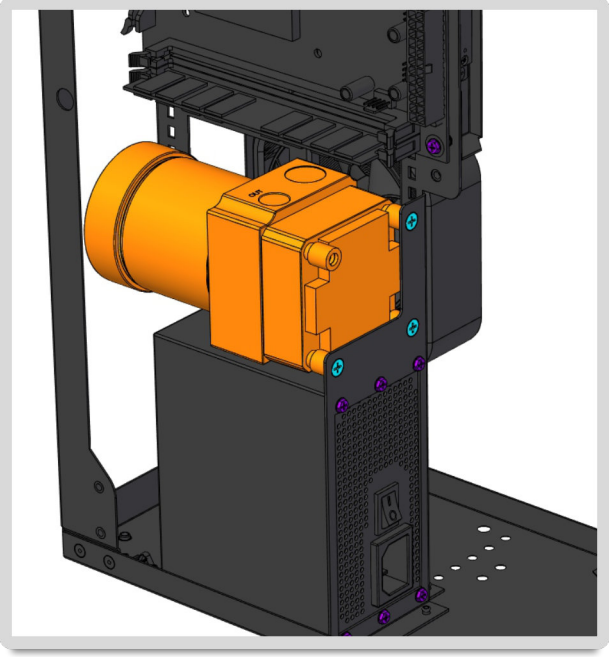
The SV590 has multiple DDC Pump / Reservoir mounting locations which are shown below

Location 1



DDC Pump attached to bracket with **4x** **M4 x 5mm FLAT HEAD** screws and then whole assembly attached to the chassis with **2x** **M3 x 5mm FLAT HEAD** screws.

Location 2



DDC Pump attached to the chassis above the PSU with **3x** **M4 x 5mm FLAT HEAD** screws.

DDC Pump attached to the chassis below GPU with **4x** **M4 x 5mm FLAT HEAD** screws.

NOTE: This mounting location limits the GPU card length. Be sure to double check your measurements. 390mm - (Total height of Pump/Res. in mm) = Max GPU Length.

Location 3