

# WINTER ONE V12

## User Guide

Revision 9

Last updated on 25 May 2021



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# Fasteners

Count	Thread	Length [mm]	Type	Image
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2 - 2 Spacer 

13 M3x0.5 5 CSK 

3 M3x0.5 8 CSK 

8 M3x0.5 12 CSK 

6 M3x0.5 5 PAN 

2 M3x0.5 8 PAN 

Drive Cage				
Count	Thread	Length [mm]	Type	Image
20	M3x0.5	4	PAN	

Pump Bracket				
Count	Thread	Length [mm]	Type	Image
2	M3x0.5	10	CSK	

## Required Tools

Philips No. 1 



# Cable Lengths

## SFX Power Supply

Cable	Destination	Length [mm]
24 Pin ATX	Motherboard <b>[a]</b>	120
8 Pin EPS	Motherboard <b>[b]</b>	290
8 Pin PCIE → GPU	Graphics Card <b>[c]</b>	200
6 Pin → Sata/Molex	Pump Bracket	140
6 Pin → Sata/Molex	Drive Cage	120 inc. 4x SATA at interval of 20
PCIE Riser (Double Reverse)	Motherboard / GPU	175
C13 to C14 Connector	Power Supply	300

## SFX-L Power Supply

Cable	Destination	Length [mm]
24 Pin ATX	Motherboard <b>[a]</b>	110
8 Pin EPS	Motherboard <b>[b]</b>	280
8 Pin PCIE → GPU	Graphics Card <b>[c]</b>	220
6 Pin → Sata/Molex	Pump Bracket	140
6 Pin → Sata/Molex	Drive Cage	120 inc. 4x SATA at interval of 20
PCIE Riser (Double Reverse)	Motherboard / GPU	175
C13 to C14 Connector	Power Supply	300



Cable Lengths are determined by measuring and averaging the 4 middle wires for each connector, and assuming a 10mm / 90° bend radius.

a. 24-pin cable requires an additional 50mm if the power supply is rotated placing the 24-pin connector further from the motherboard.

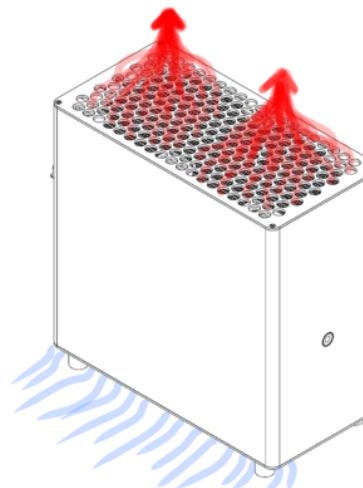
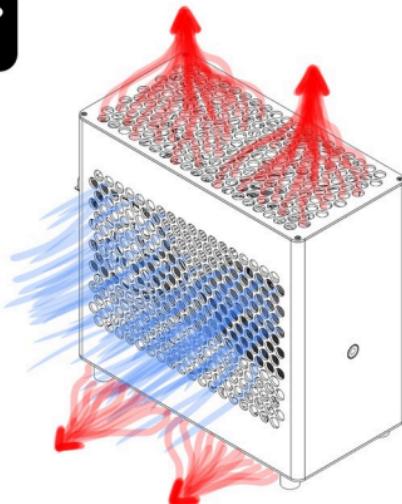
b. 8-pin EPS length provided assumes you will attach the cable to the spine, and then run it along the edge of the motherboard.

c. GPU cable length assumes GPU power is in line with GPU connector. For short or very long cards, please add up to 70mm to cable length.



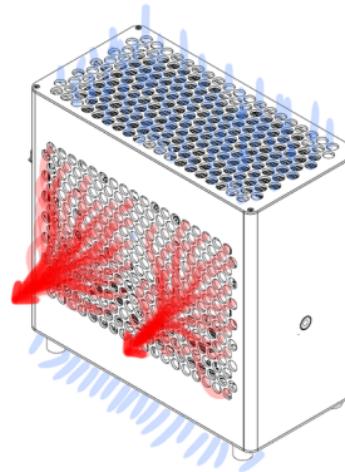
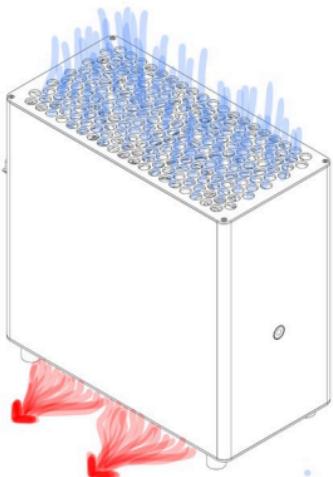
# Airflow & Cooling Guide

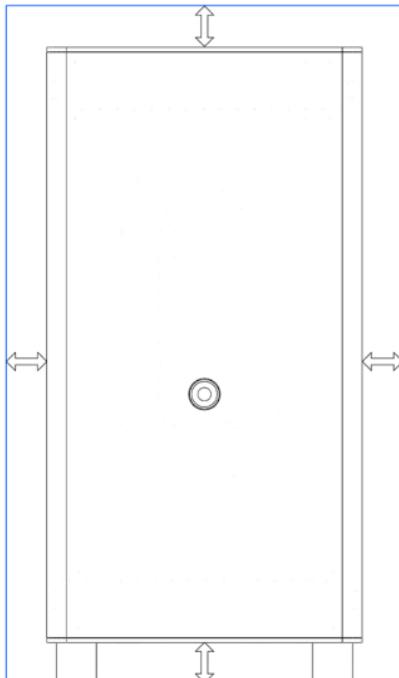
Recommended airflow configurations for Winter One





## Not recommended airflow configurations for Winter One



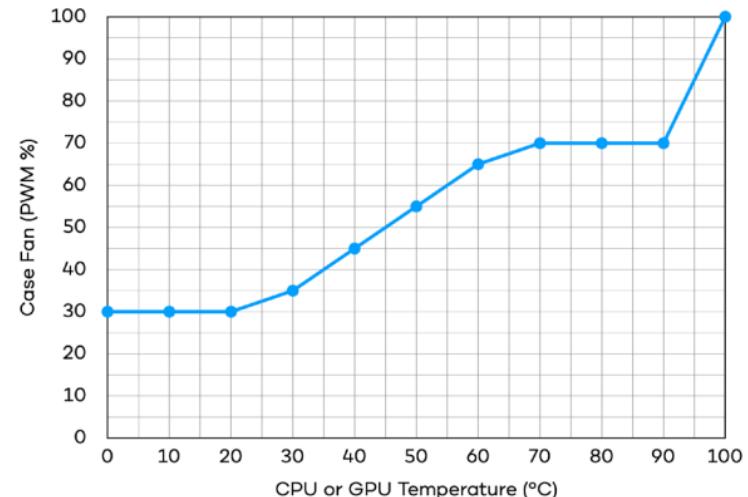


For adequate ventilation and optimal thermal performance, leave a *minimum* of 2 cm on all sides of Winter One.

A good general fan curve for air cooling Winter One (balanced noise and cooling).

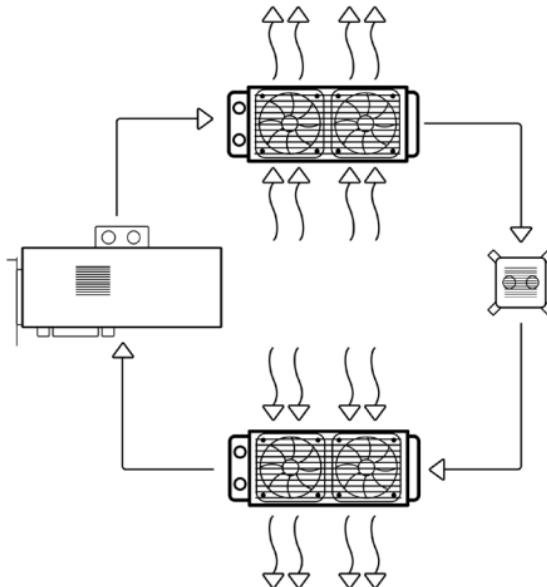
For liquid cooling, set fans to maintain a coolant temperature between 35-45 °C and set a constant pump speed.

Winter One Air Cooled Fan Curve

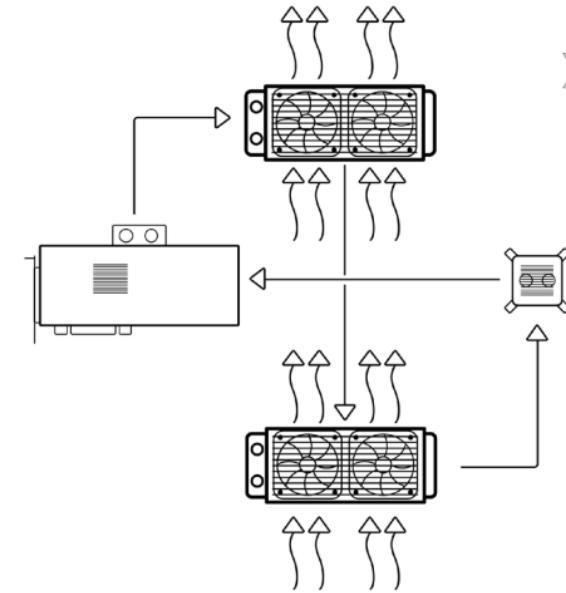




If your case airflow is bottom → top, plan your loop as shown on the right, so coolant flows through the radiators from top → bottom. Having the air and water flowing in opposite directions maximizes  $\Delta T$  at every point in the loop.

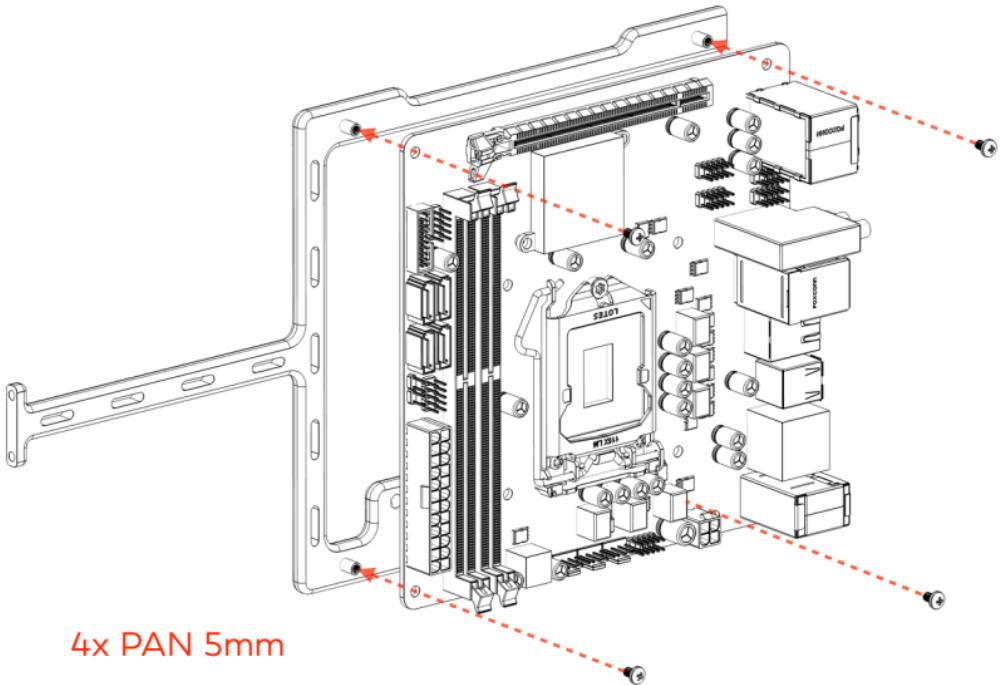


If your case is set up for all-exhaust flow, plan your loop as shown on the left. The CPU and GPU should both receive cool water from a radiator in the loop. This will make an extra 1-2 °C difference in cooling—especially at lower pump speeds—when each radiator has an independent supply of ambient air.

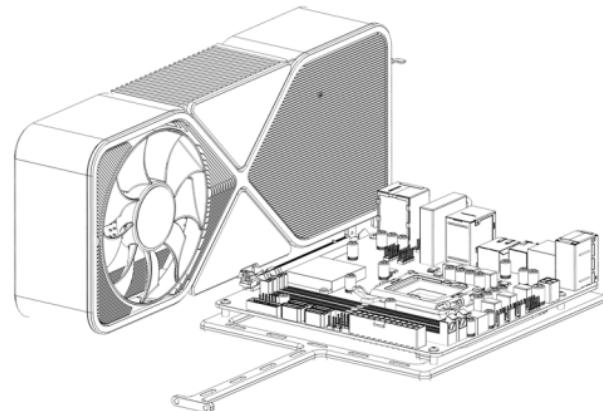
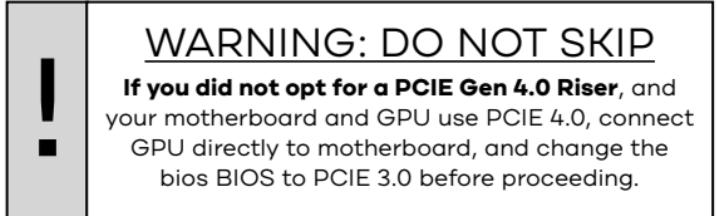


# Air Cooling Build Instructions

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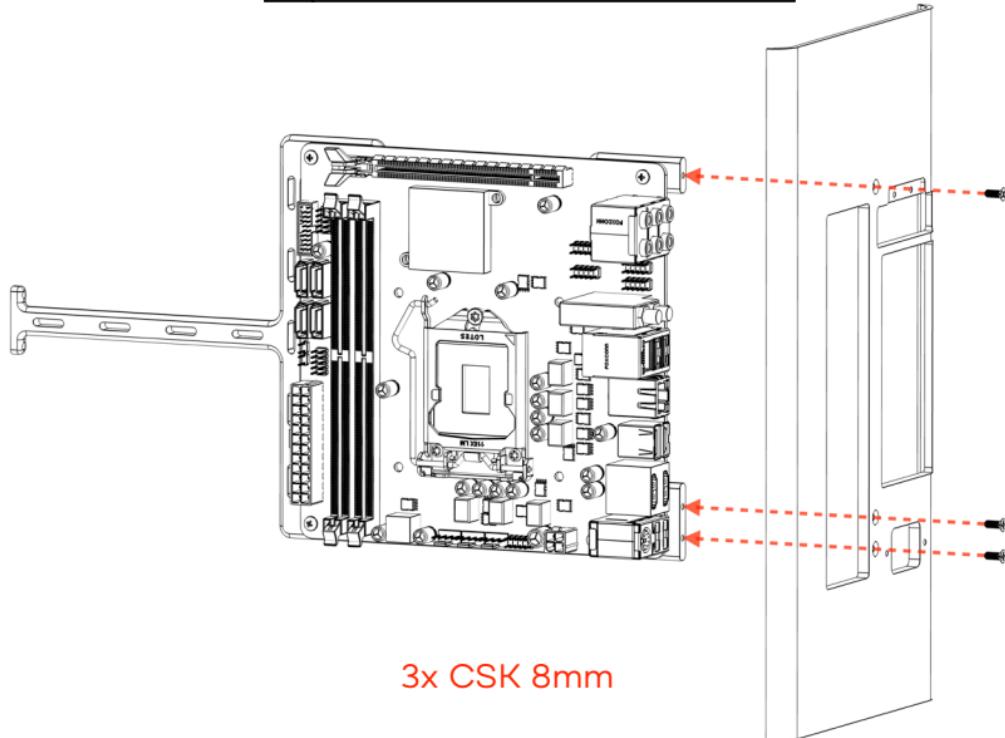


4x PAN 5mm

3



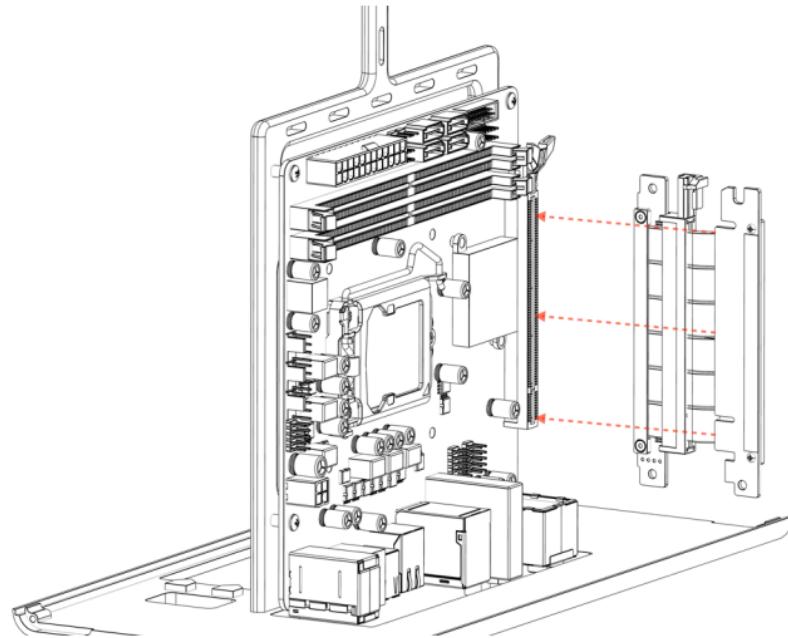
You can leave cables from the previous step plugged into the motherboard.



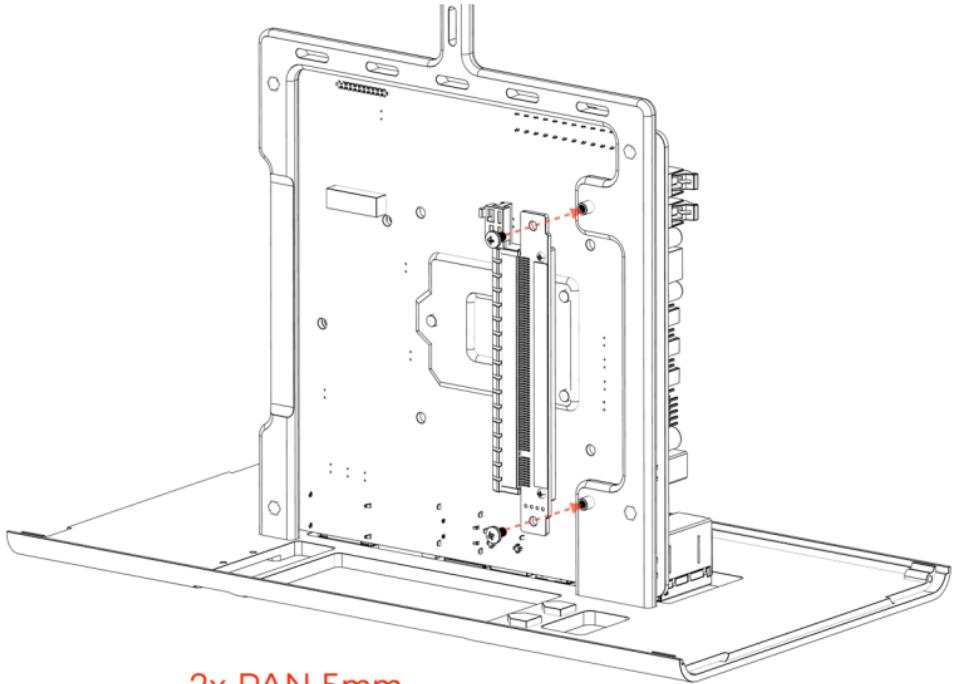
4



Socket the CPU and attach the heat sink, RAM, M.2 drives, and plug in all motherboard power cables before attaching the riser.

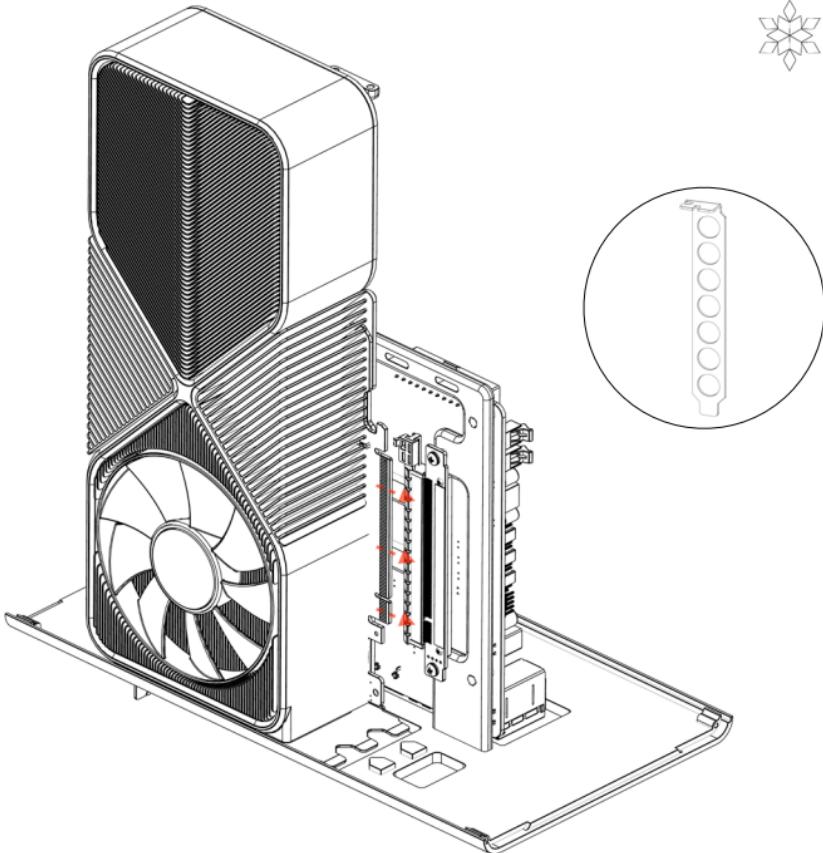


5



2x PAN 5mm

6

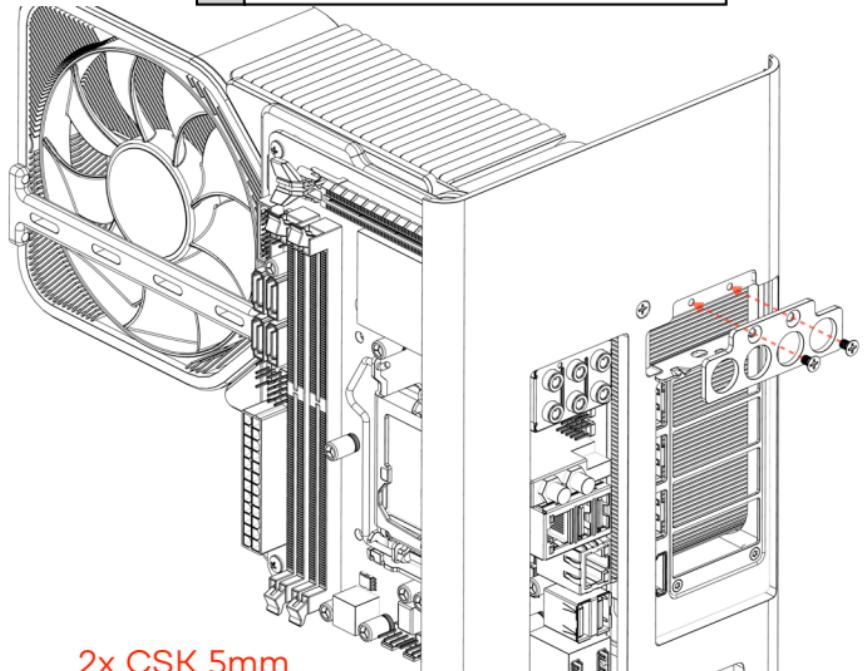


Air Cooling | 12

7



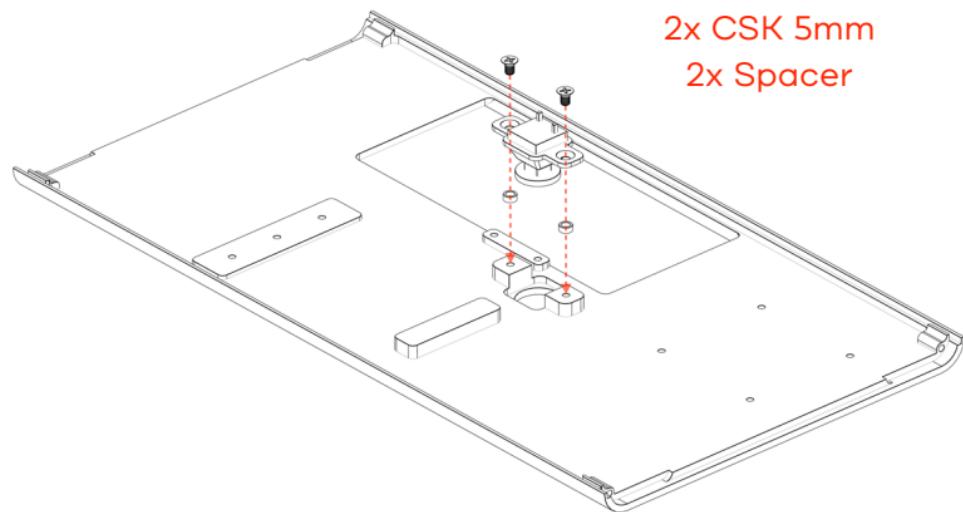
Once the bracket is secured, plug in the GPU power cable(s).



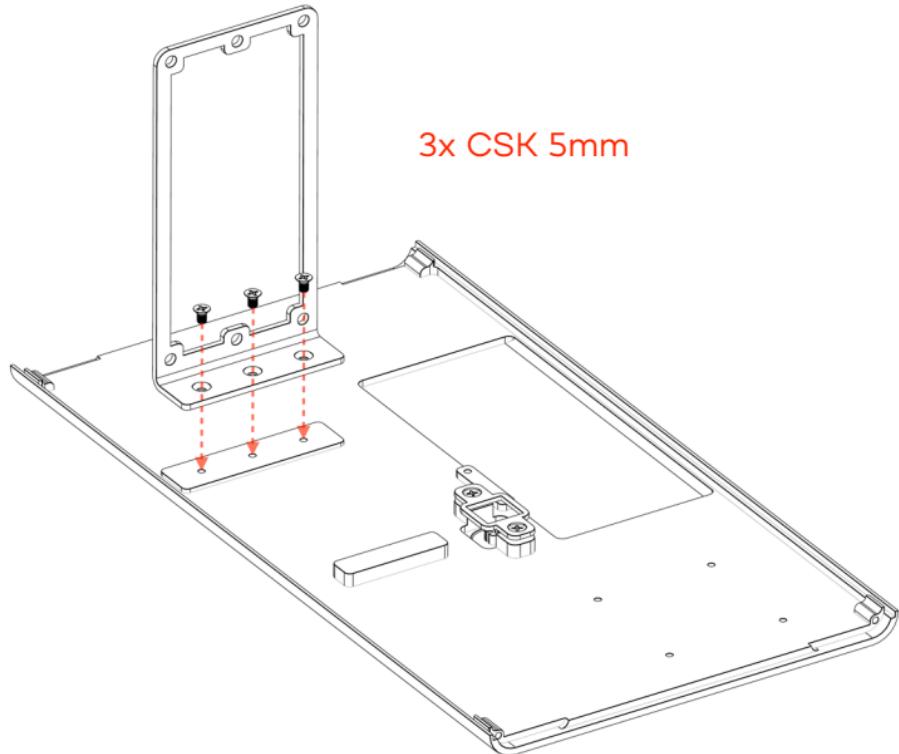
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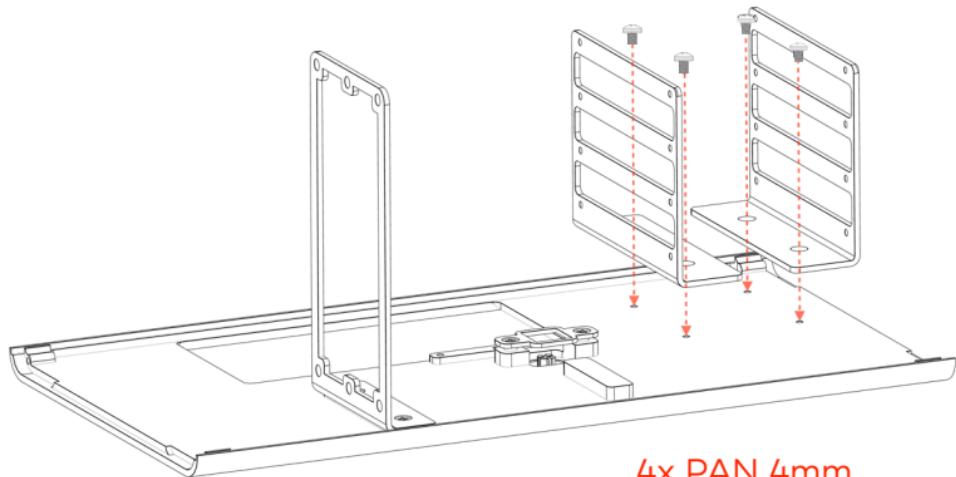
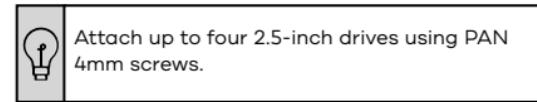
Orient the switch so the connector pins are further from the raised rectangular bar, and closer to the spine and hollowed GPU area.



9



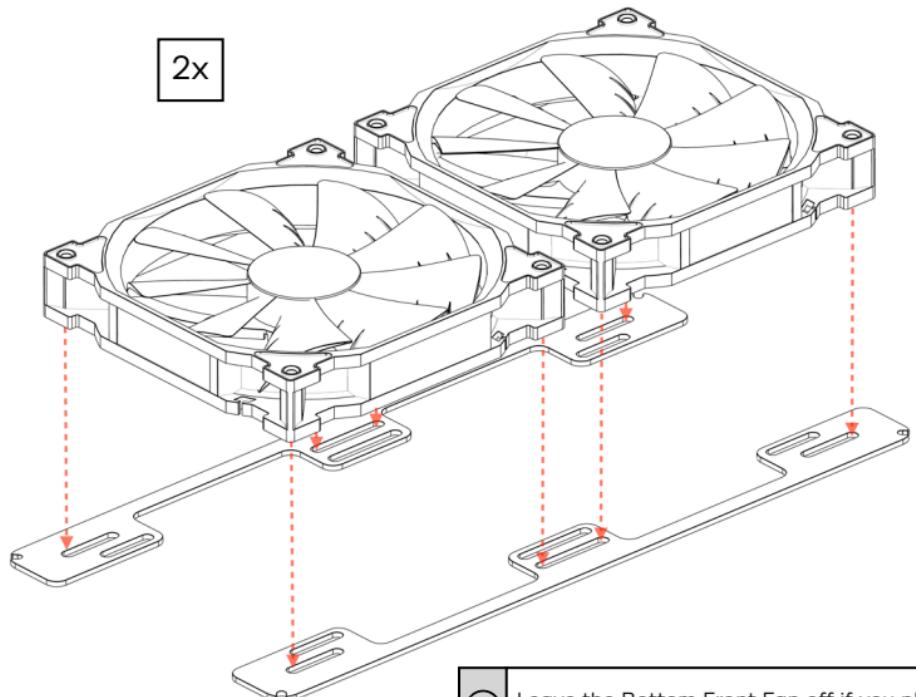
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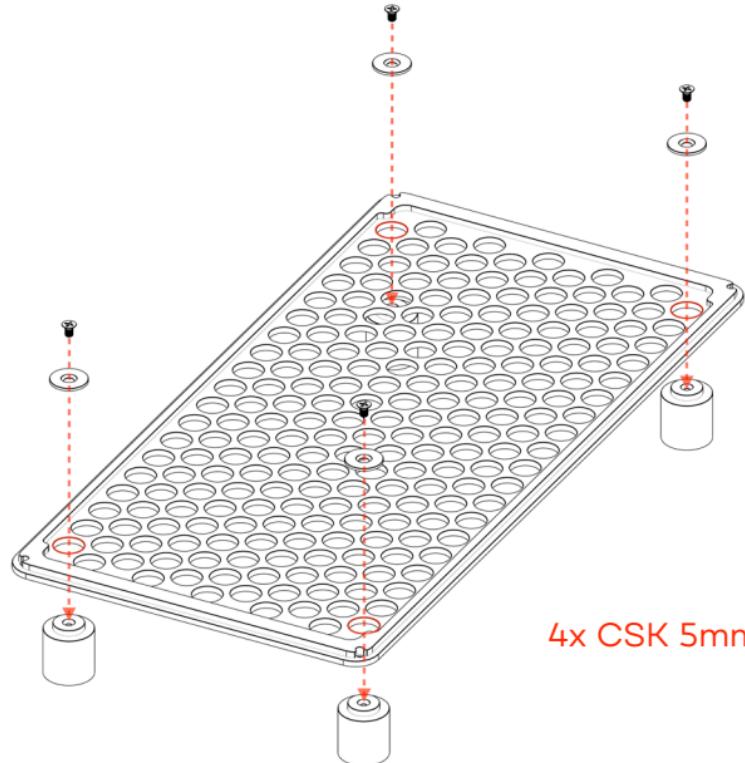
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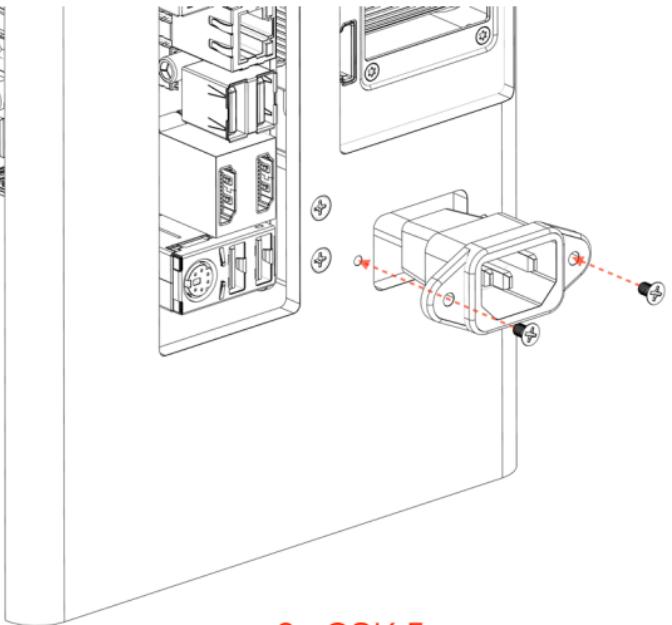
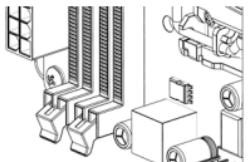
Holes towards the outside are for 140mm mounts, and holes towards the inside are for 120mm mounts.



12

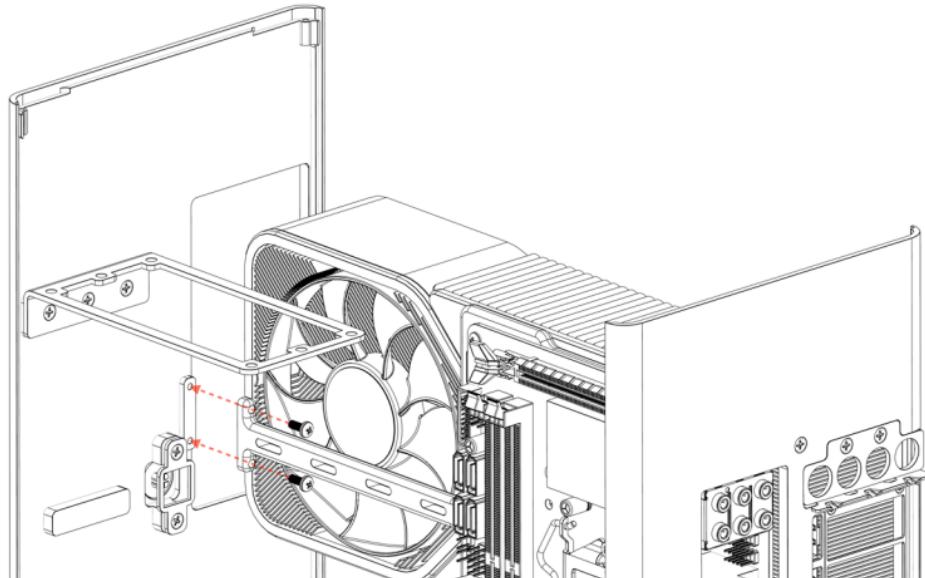


13



2x CSK 5mm

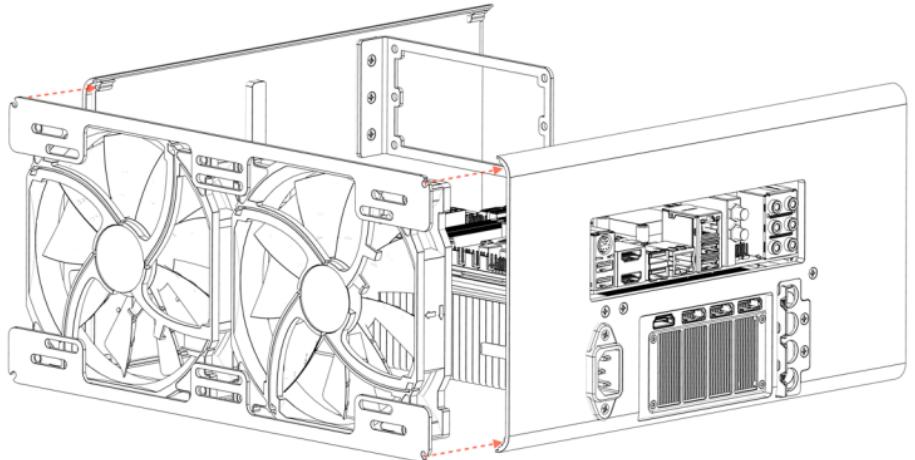
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2x PAN 8mm



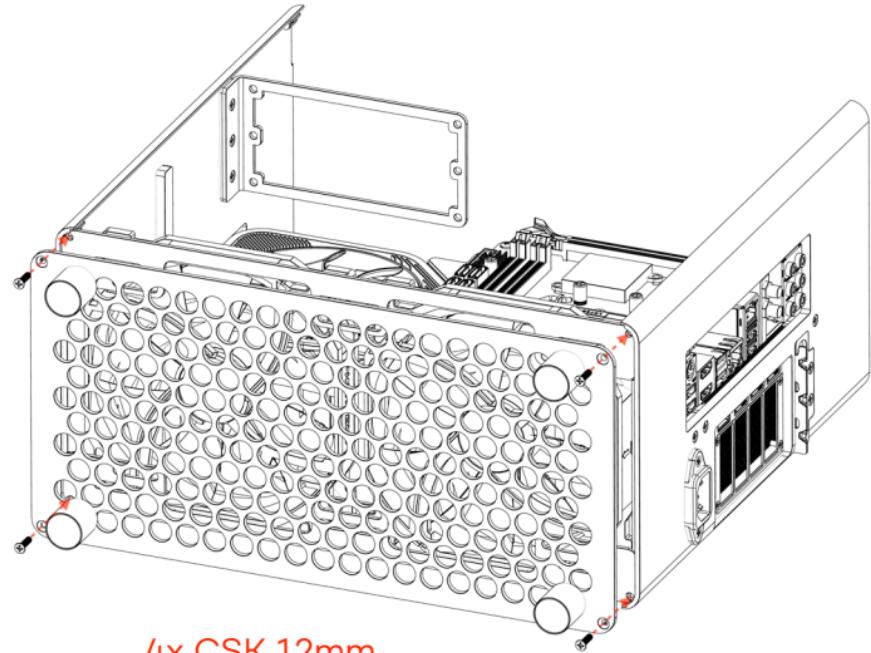
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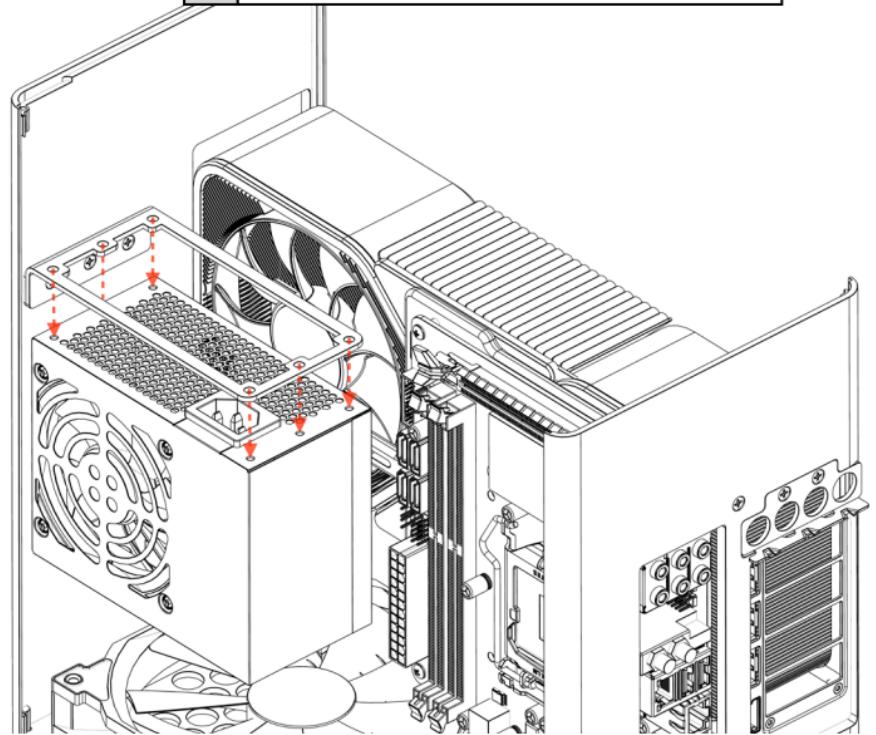
Tighten the screws in an "X" pattern.



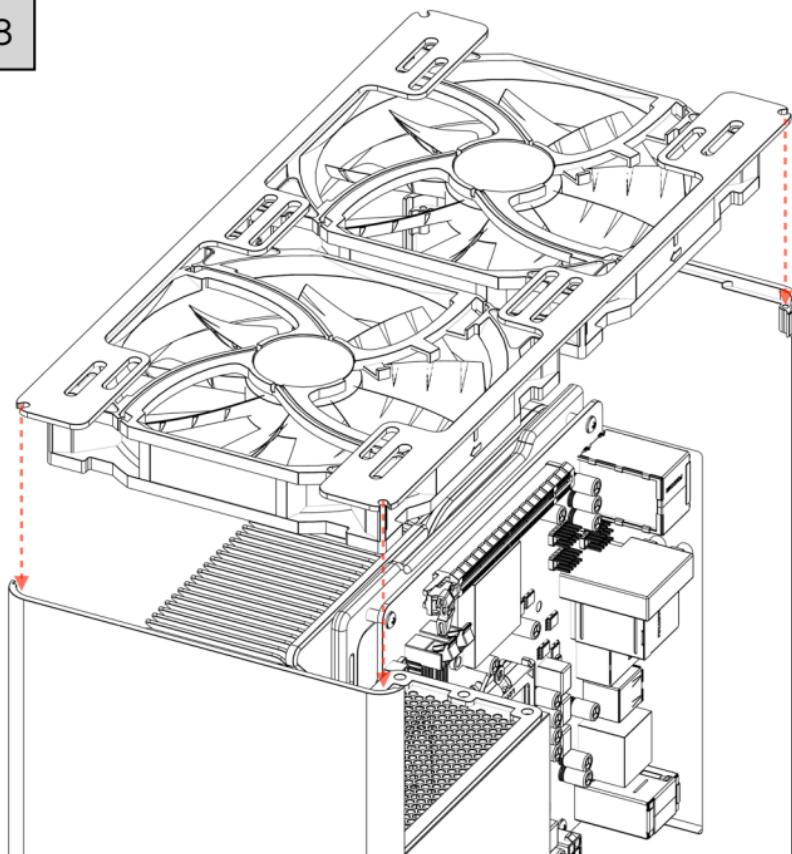
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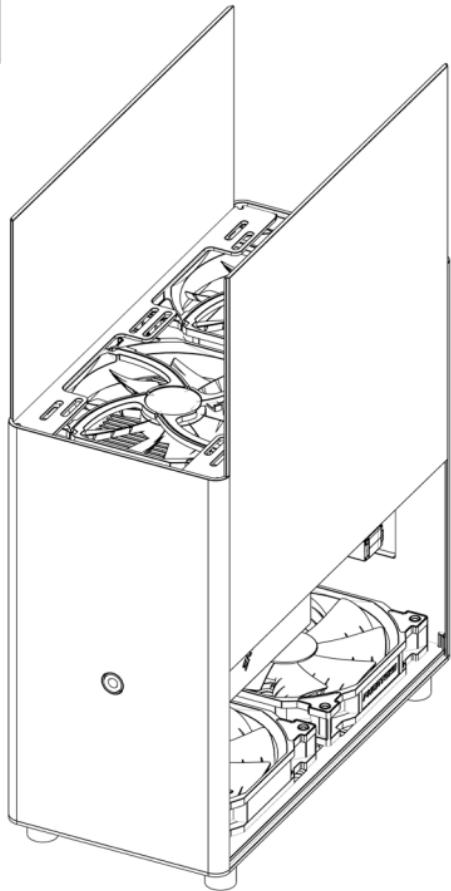
Route and secure cables **before** mounting the power supply. The PSU fan should face outwards for perforated panels, and inwards for solid panels.



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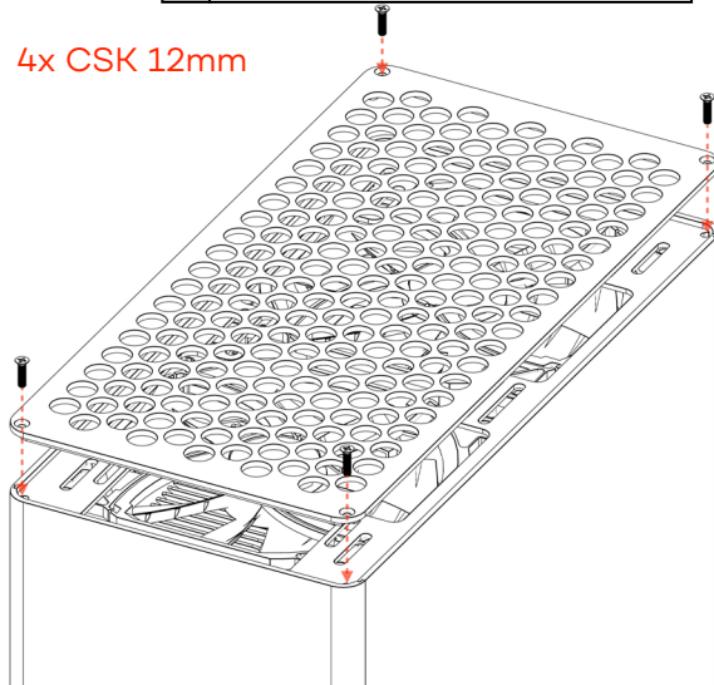


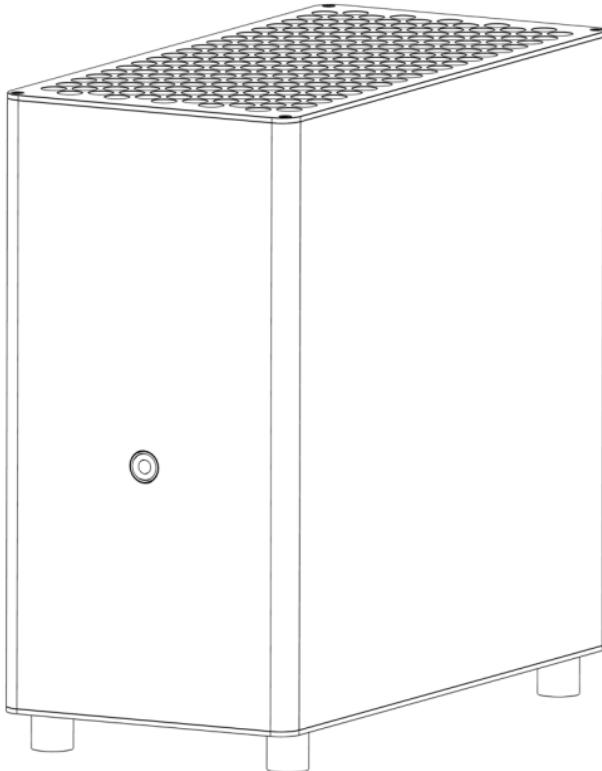
20



Tighten the screws in an "X" pattern.

4x CSK 12mm





### Share Your Build

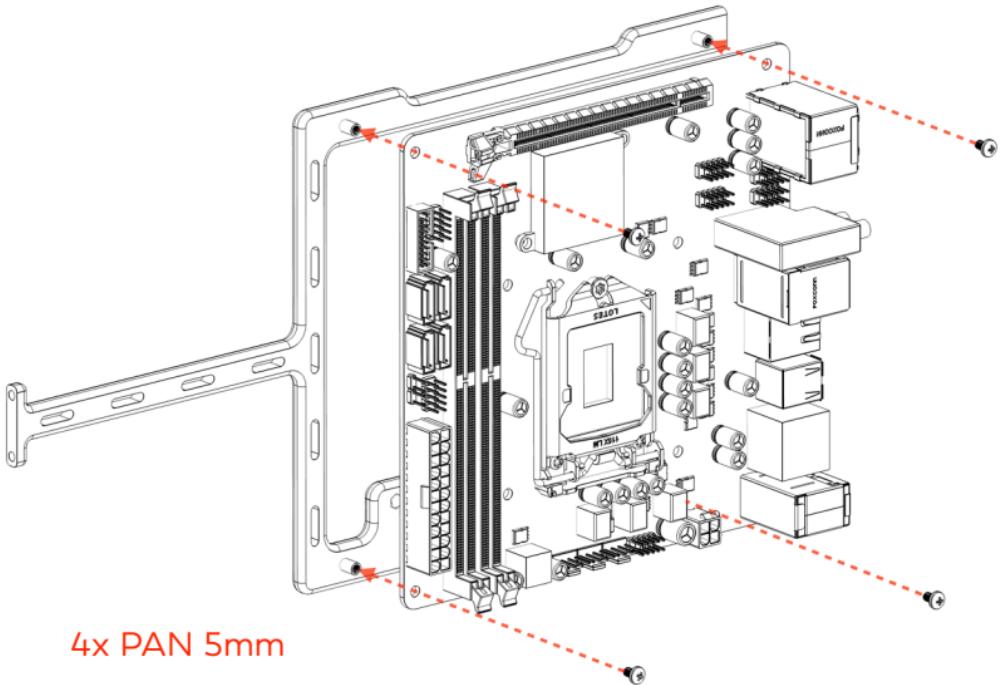
Go to [http://winterdesign.co/  
community](http://winterdesign.co/community) to share your build and  
have it featured on our website.\*

\*subject to our approval

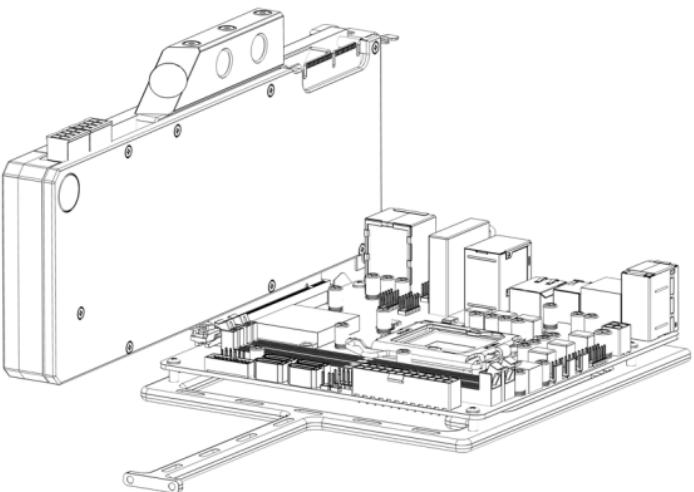
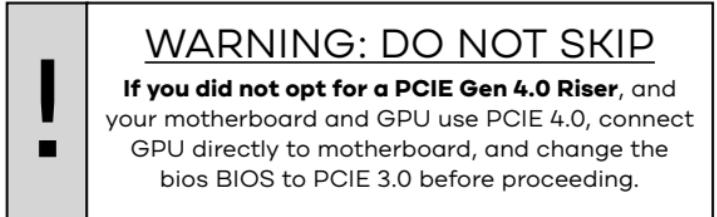


# Water Cooling Build Instructions

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2

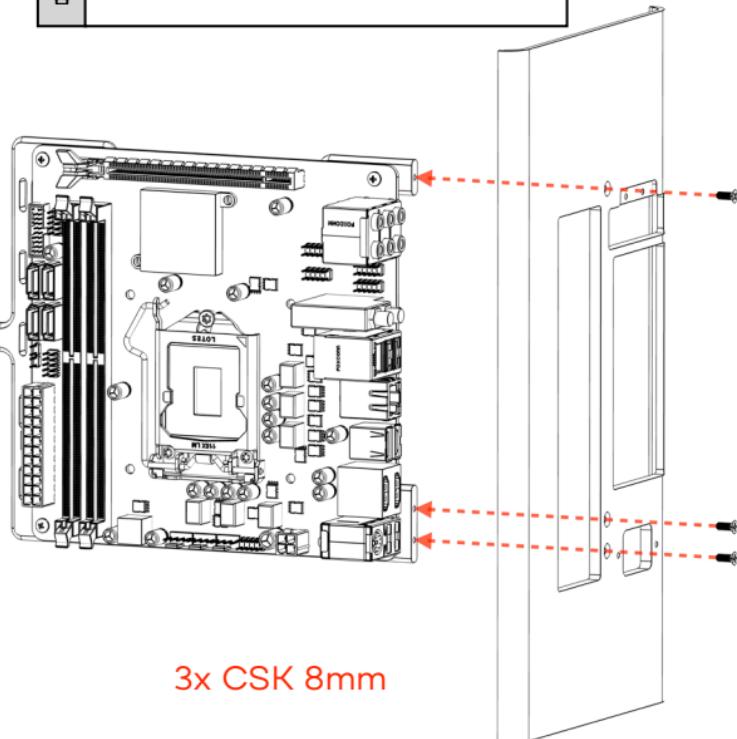


4x PAN 5mm

3



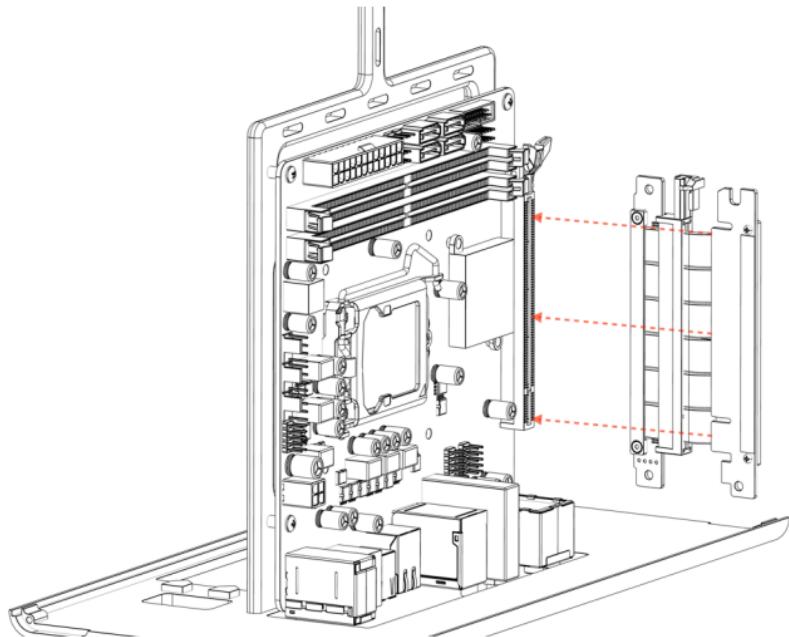
You can leave the cables from the previous step plugged into the motherboard.



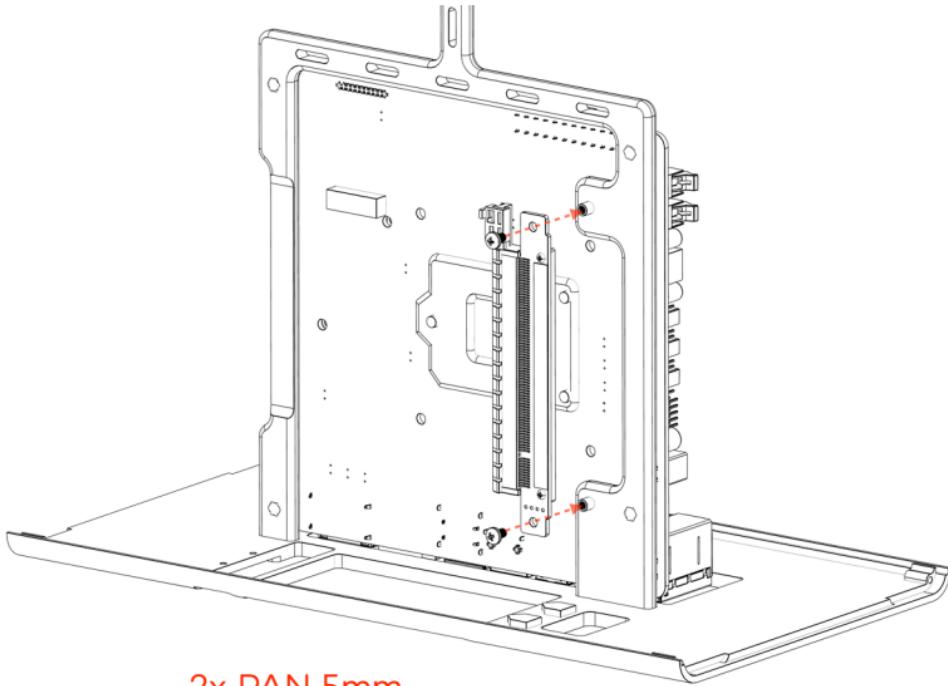
4



Socket the CPU and attach the heat sink, RAM, M.2 drives, and plug in all motherboard power cables before attaching the riser.

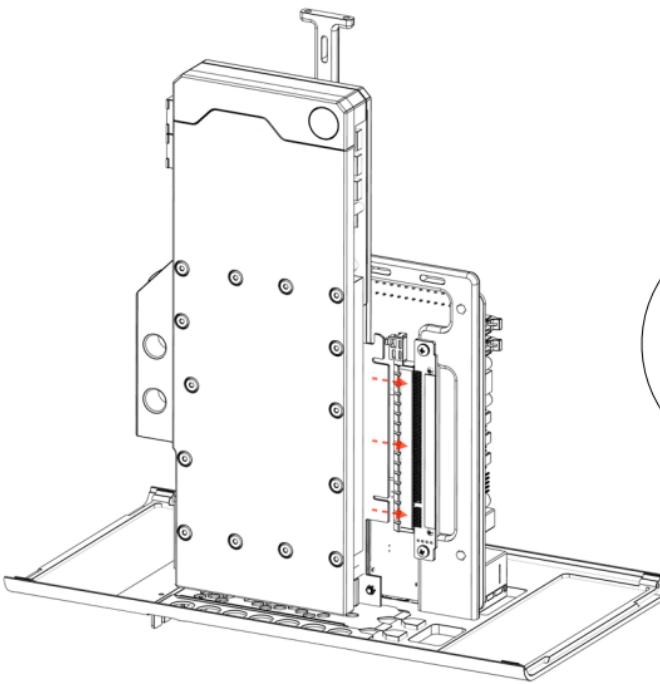


5



2x PAN 5mm

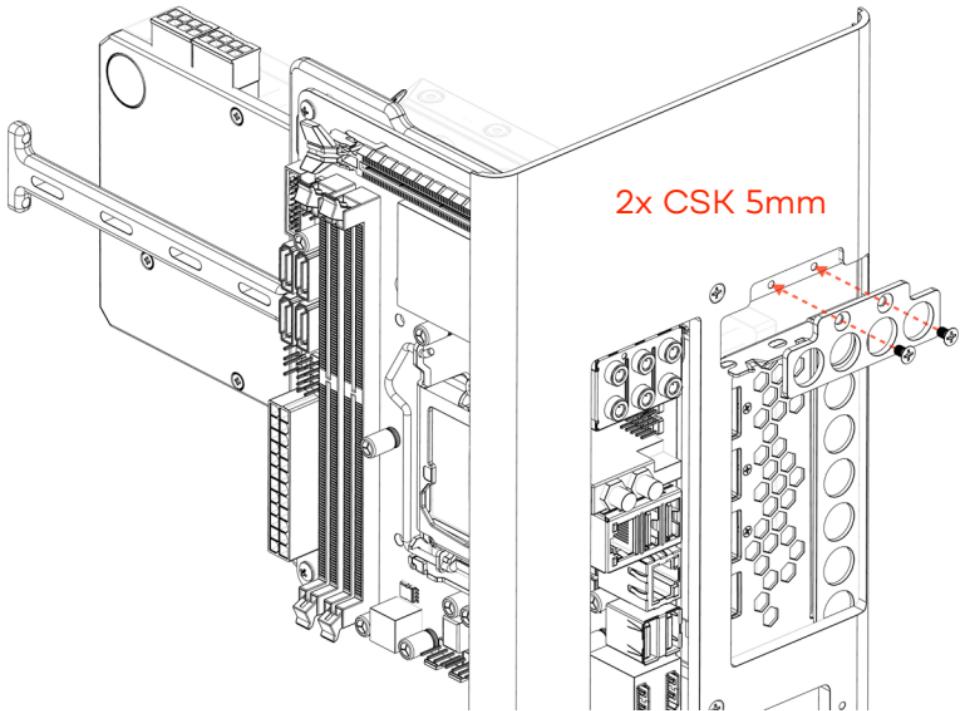
6



This is a good time to plug in all cables and route them to where the PSU will go. Use velcro or zip ties to secure cables to the spine.



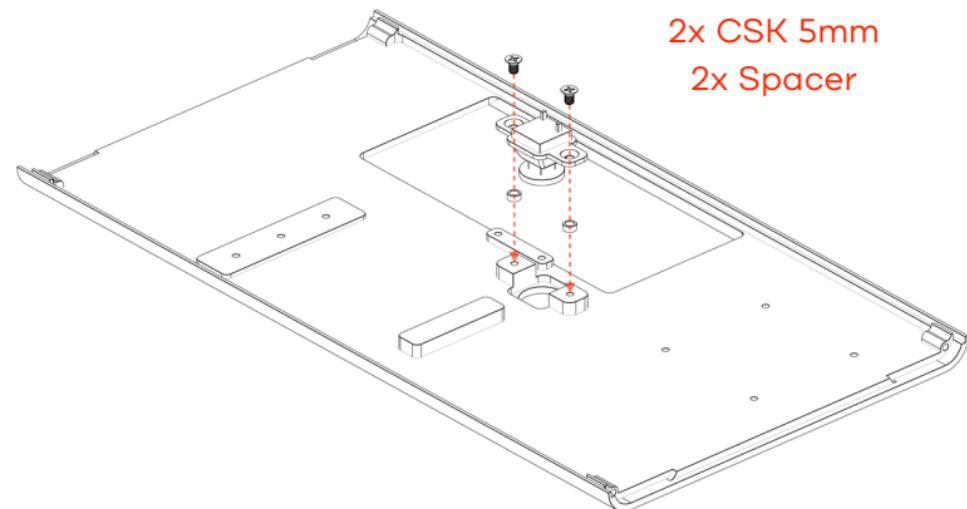
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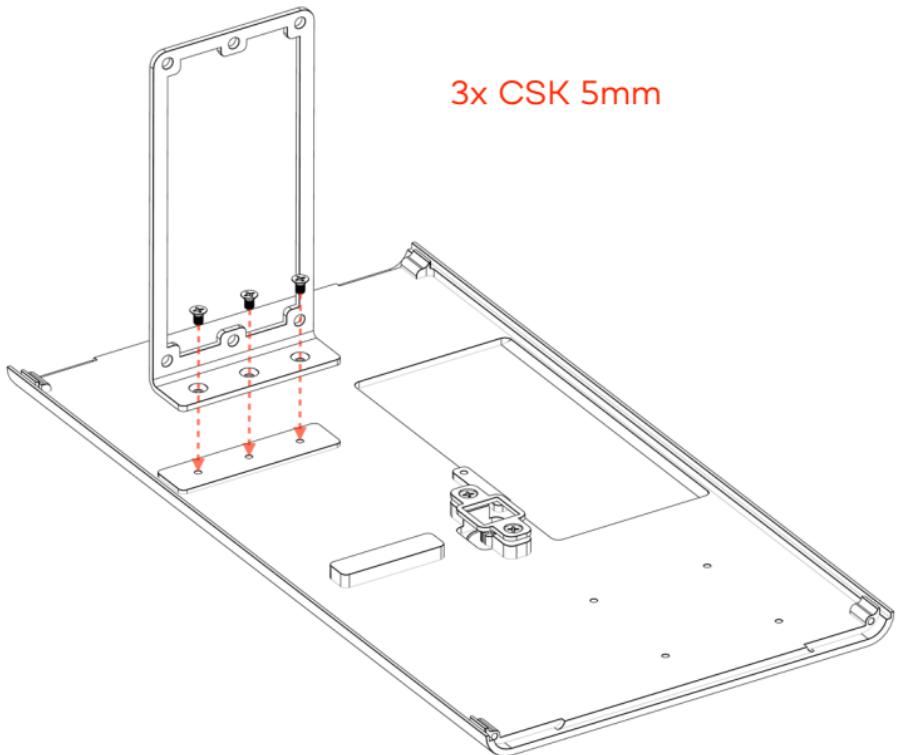
Orient the switch so the connector pins are further from the raised rectangular bar, and closer to the spine and hollowed GPU area.



9



PSU bracket may be flipped 180° if fittings require clearance. Recommended for SFX PSU's only (reduces clearance underneath)

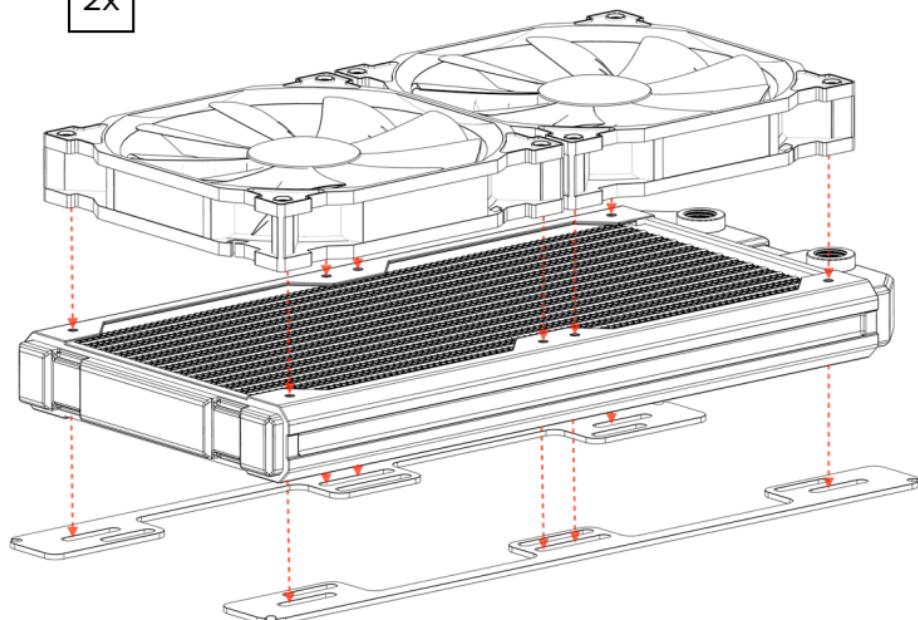


10

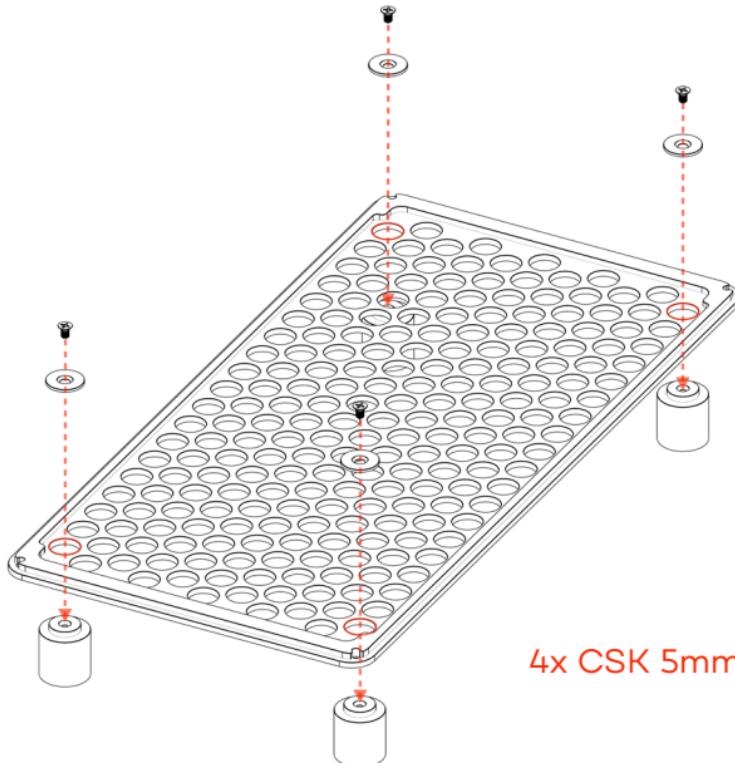
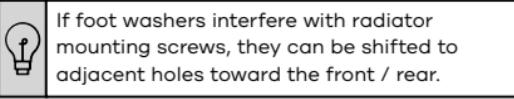


Tabs face inward. 140mm mounts to the outside, and 120mm mounts to the inside.

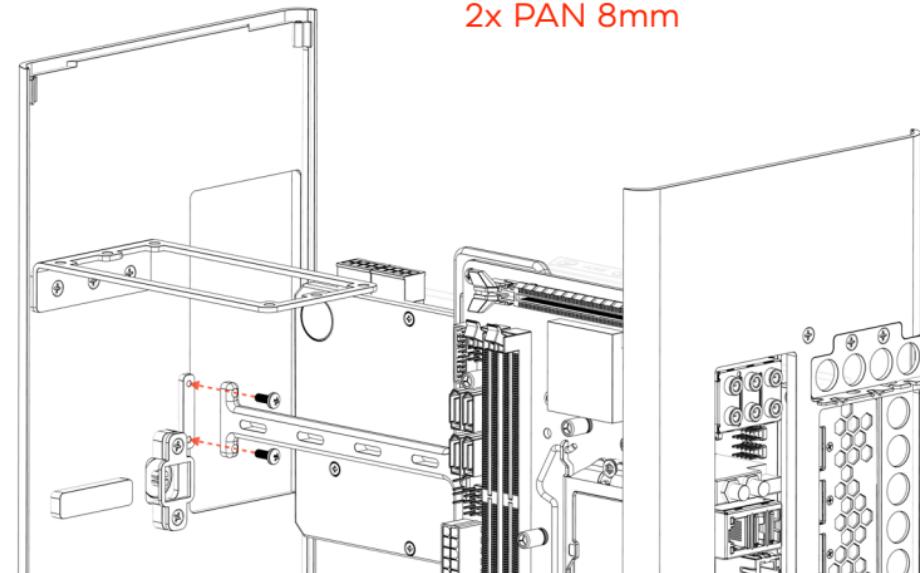
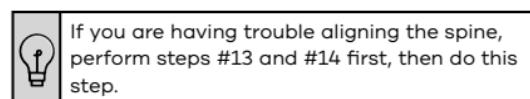
2x



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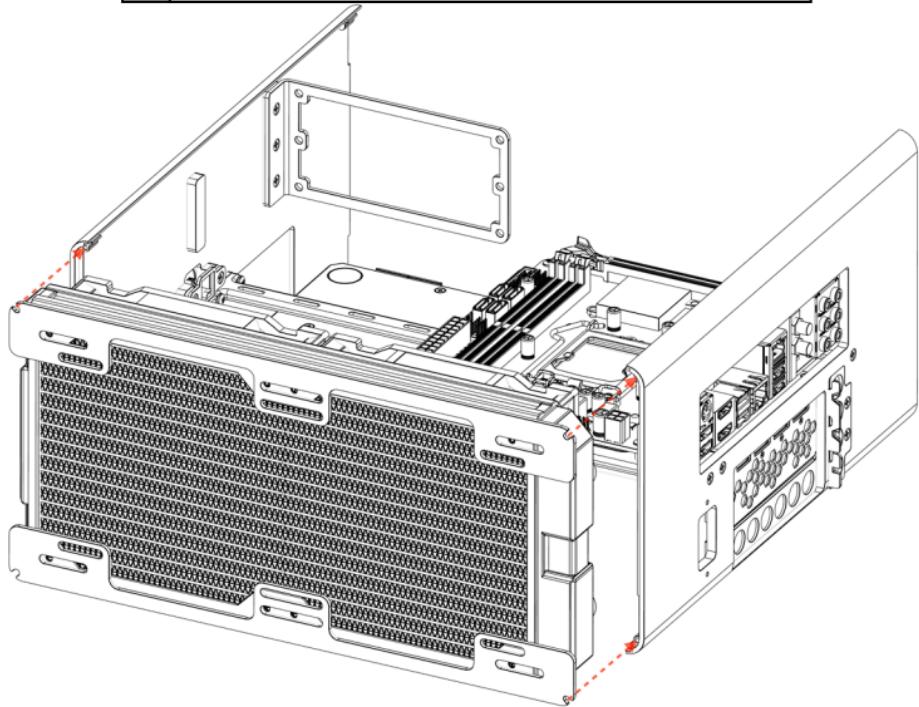
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13



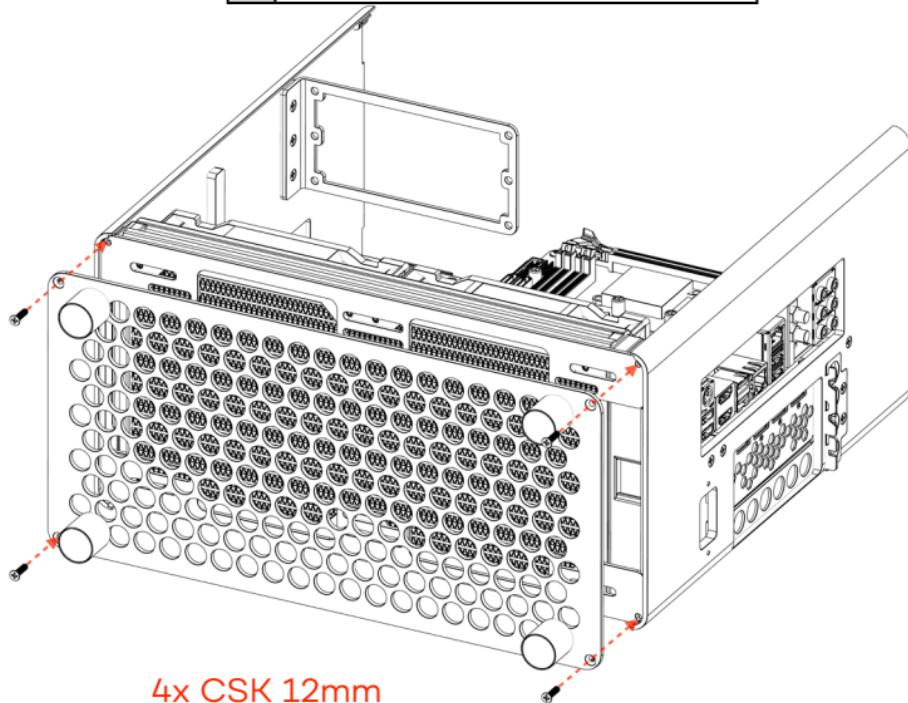
This is a good time to add fittings to the bottom radiator, and check that they clear the power cable. Typically, you will need a 90° rotary and a 90° Koolance LP fitting.



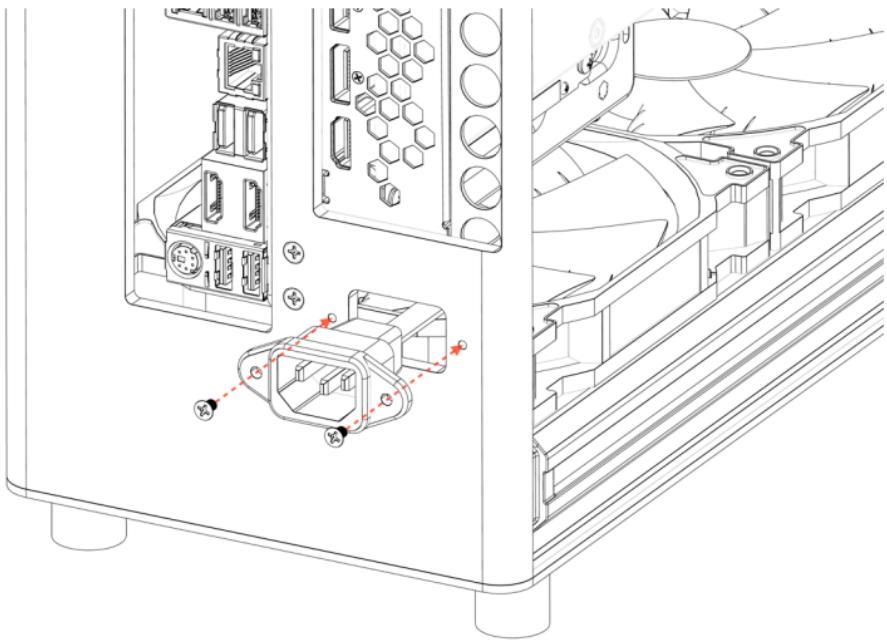
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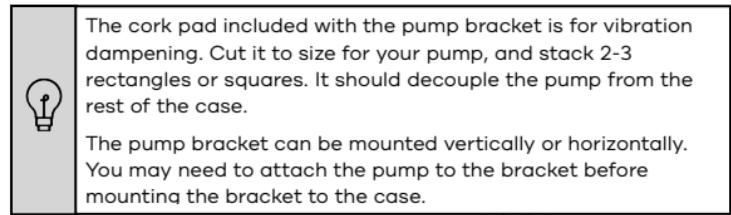
Tighten the screws in an "X" pattern.



15



16



2x CSK 5mm

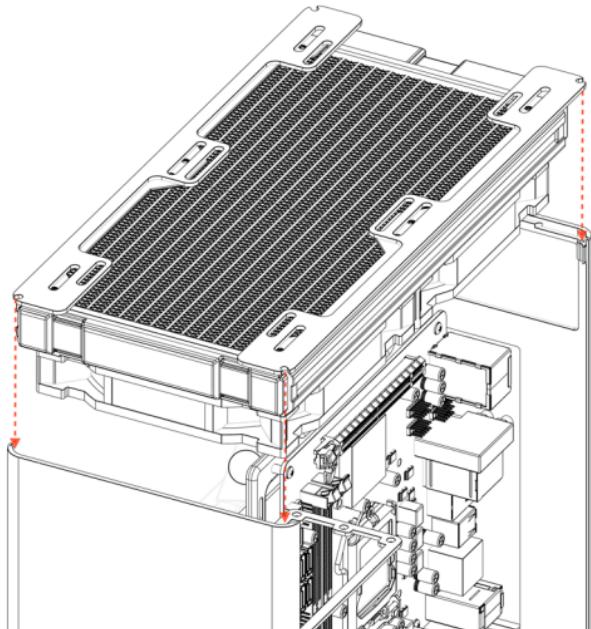
2x CSK 8mm

17



Cut and size all tubing at this time. You can mount the top plate to secure the top fan / radiator mounting strips for this process.

NOTE: You will need to remove the top radiator to mount the PSU. If your tubing doesn't allow for this, consider routing everything, and not connecting that portion of the loop until after the PSU is in place.



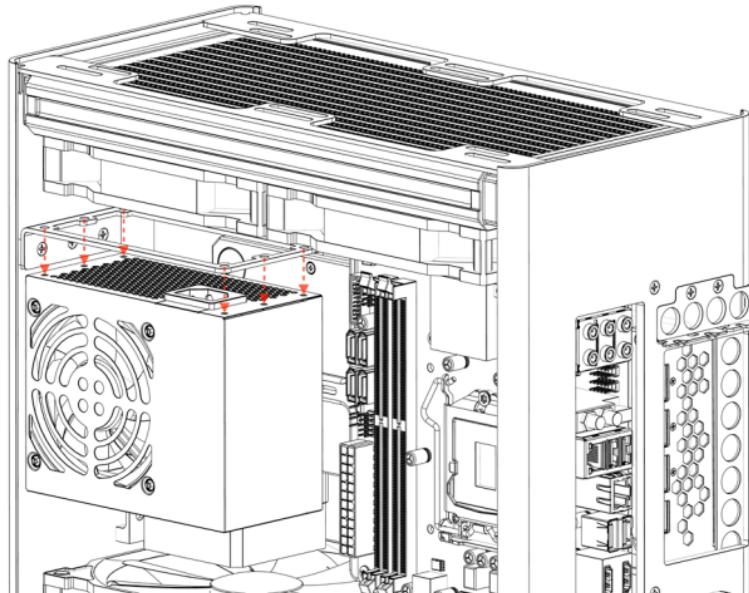
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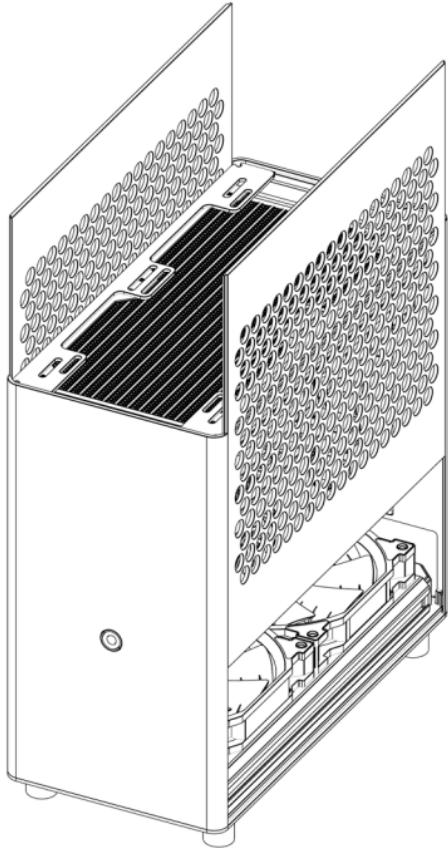
The PSU fan should face outwards for perforated panels, and inwards for solid panels.

Finish routing all tubing and connect the loop at this time. Remember to test for leaks, then fill your loop.

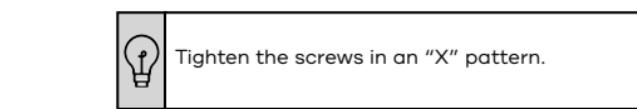
It is recommended to use an external PSU and pump / res combo + QDCs to fill the loop, for added safety.



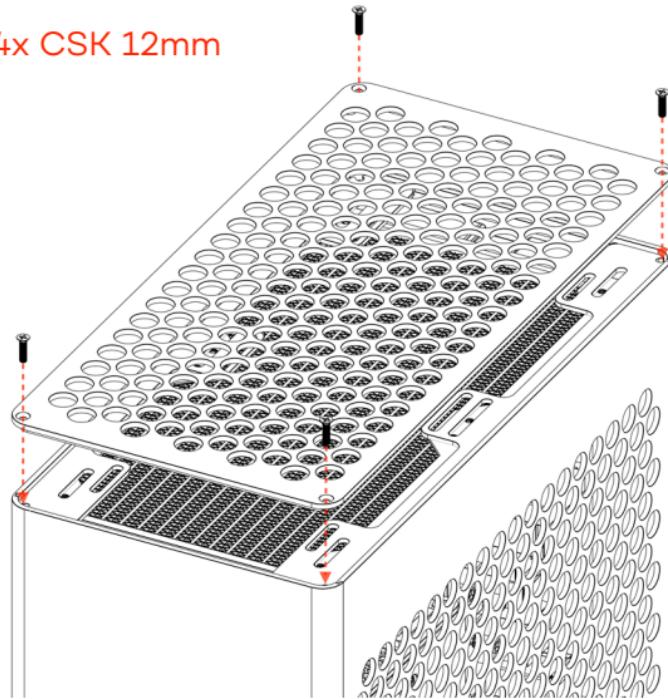
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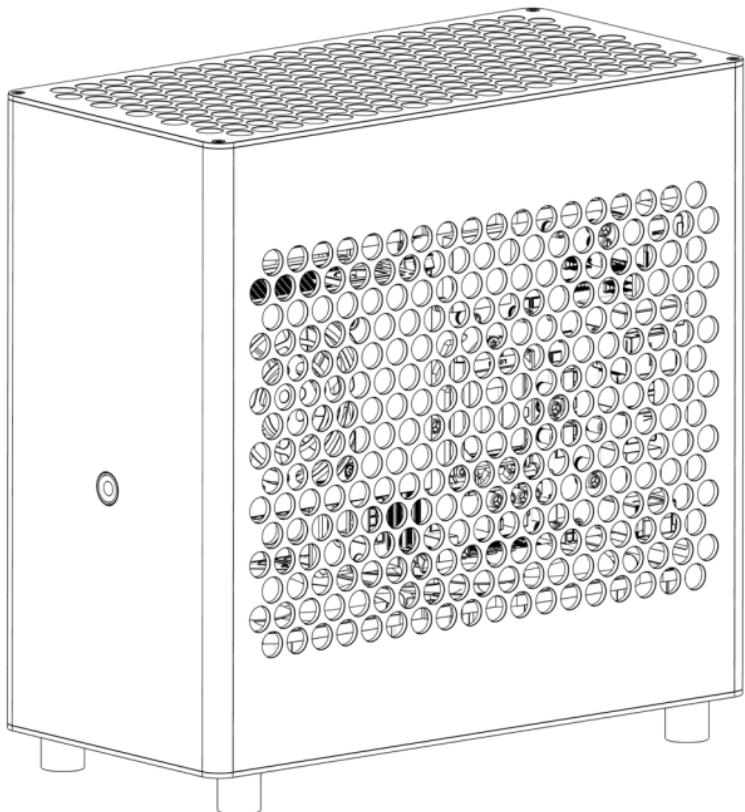


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4x CSK 12mm







**Share Your Build**  
Go to [http://winterdesign.co/  
community](http://winterdesign.co/community) to share your build and  
have it featured on our website.\*

\*subject to our approval



# Warranty

Winter Design products should last more than a decade when treated with care. Winter One is covered with a 10-year limited warranty from the date of shipping. We automatically register you for the this warranty at the time of purchase. Need help? Visit <http://www.winterdesign.co/support>.

## Covered

- Manufacturing defects
- Shipping damage
- Missing parts
- Incorrect parts

## Not Covered

- Normal wear
- General abuse
- Product misuse
- Damage to non-case parts
- Damage from modifications
- Scratches from improper care



The remainder of the warranty is transferrable if the case is sold. To transfer a warranty, the buyer and seller must contact us, and we will guide you through the next steps.



# Disclaimers

Winter One's large holes facilitate excellent cooling but may be a hazard for children or pets. If this is a concern, please use solid panels, and keep the system out of reach of pets and children.

Winter Design will not be responsible or liable for any harm that comes from irresponsible use of its products.

Winter Design will not be responsible or liable for damages caused to your computer components from overclocking or liquid cooling. Both have inherent risks, and the user agrees to take the necessary precautions.

Winter Design products are designed in the United States and manufactured globally. Manufacturing partners and locations can change as we manage our supply chain.