DB1

Before we get into this super exciting user guide, we would just like to share a few words of appreciation .....
In a market dominated by generic designs, marketing fads and RGB lighting, we are on a mission to create products that are not just different for the sake of it, but incorporate quality materials, superior finishing, and innovate at every level. These qualities are not easily conveyed in an industry preoccupied with specs, numbers and flashing lights, so your choice shows an appreciation and understanding of what makes our products different, and we sincerely thank you for that.

We genuinely do our best to ensure that all our products are manufactured to the highest quality and finish we can achieve. If anything falls short of your expectations or you have any questions that are not covered in this user guide, please do not hesitate to get in touch with us online. We respond to every question or comment and your feedback is a critical part of our ongoing product development and of course our commitment to offer you the best service possible.

From everyone in the team, we hope that you have a great experience with this product :)

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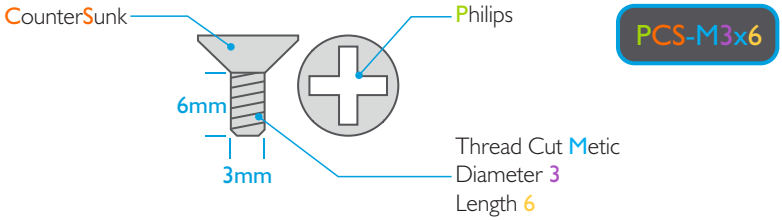
Introduction to Assembling Your Case

It's not rocket science, but our cases can be slightly more challenging to assemble because we don't follow the typical mass production oriented design but instead try to offer greater flexibility and designs that break the mould. This greater flexibility does however mean component locations are not fixed and therefore overlaps and conflicts can occur, so a bit of extra planning is suggested. It's also important to note that this guide will only show a 'standard' build, but there are many alternative layouts and configurations possible. We do not provide a detailed explanation on any of the advanced options because it does require you to be confident with modding and being able to figure things out for yourself. To avoid frustration, please take the time to read the user guide and become familiar with the product and assembly procedure. Additional information and help is also available on our website or by contacting our support team.

Several different screws will be utilized in the assembly so the user guide indicates which screws should be used and their corresponding fixing location. Screws are defined by head type, e.g. 'Philips countersunk' and by thread and length e.g. 'M3x6', and will be labelled accordingly, e.g. PCS-M3x6. For the standard assembly you will only need a Philips screwdriver, but if you plan on a more advanced build such as flipping the motherboard orientation, you will also require a Hex screwdriver, both 2 and 2.5mm are suggested (depending on what needs to be disassembled)



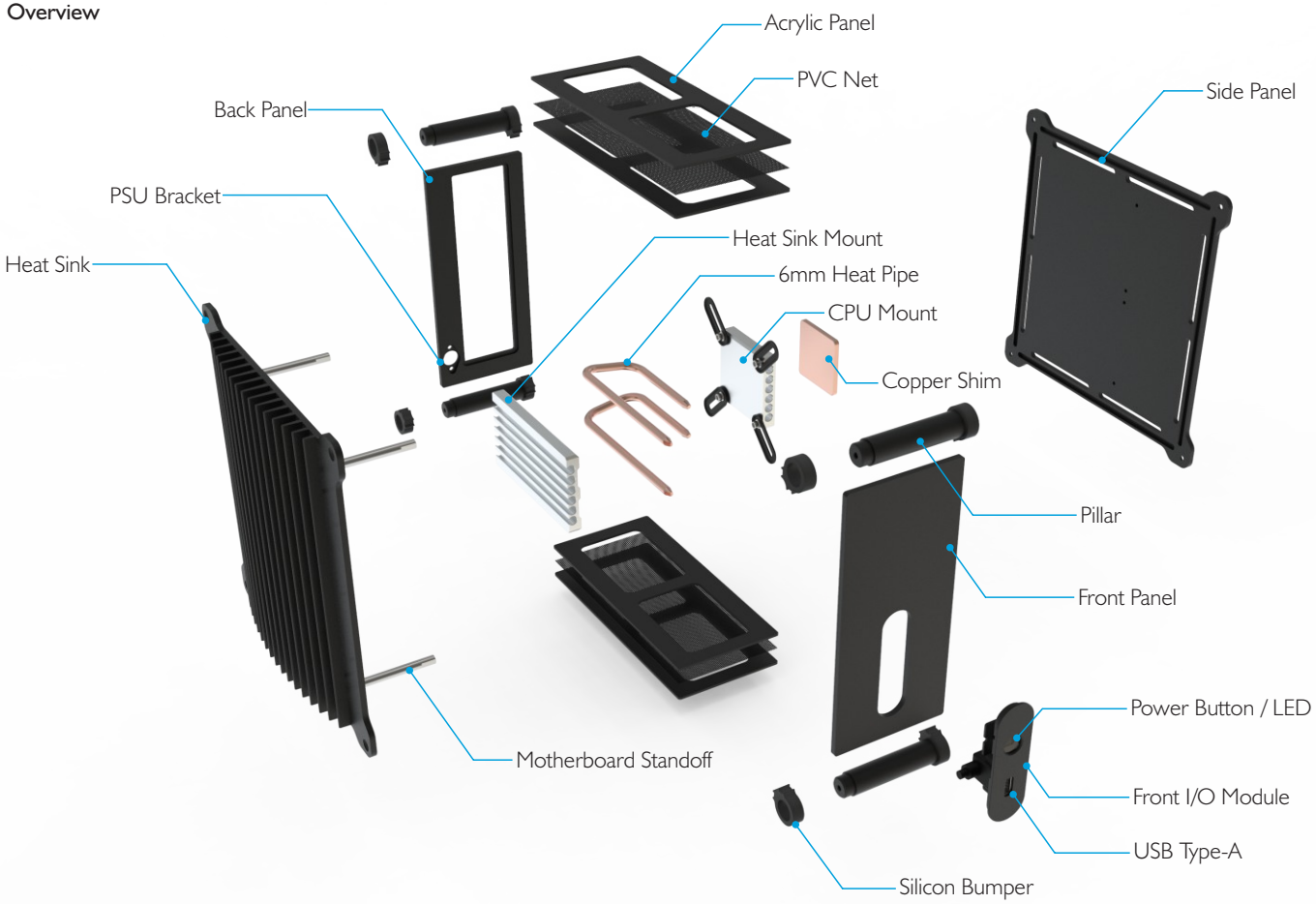
Specification

Form Factor: SFF Mini Tower
Motherboard Support: Mini-ITX
PSU Support: Nano/Pico[*1]
CPU TDP Cooling: 45W
PCIe Support: None
Fan Support: None
Drive Support: 1 x 2.5" + m.2[*2]

Front Port: USB Type-A 3.0[*2]
Dimensions: 222 x 222 x 101mm
Volume: 4.98ℓ
Primary Material: AL 6063
Finish: Sandblast / Anodised
Colour Options: Silver or Black
Weight: 1.8kg

[*1] 5.5mm DC jack or 4PIN DIN
[*2] Determined by the motherboard used
[*3] Modular, can be replaced with optional Type-C

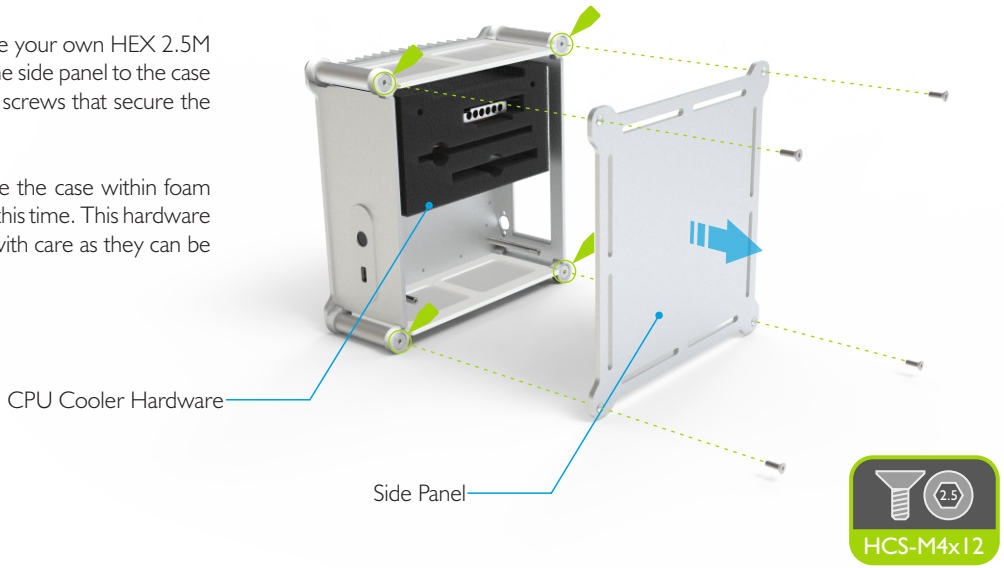
Overview

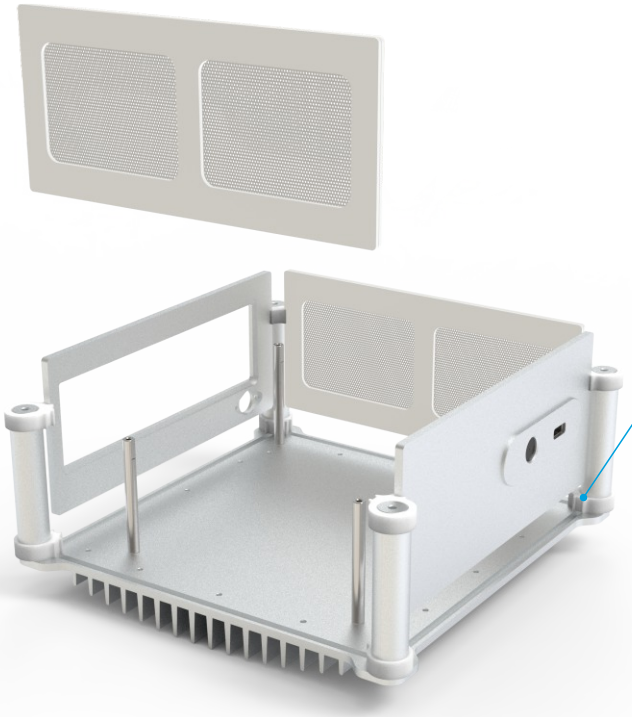


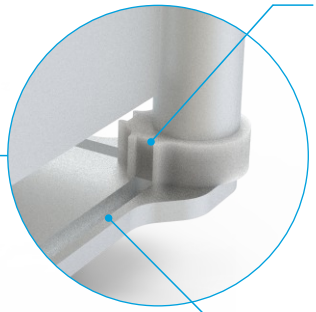
Remove the Side Panel

Using the provided HEX Allen key (or if you have your own HEX 2.5M screwdriver), remove the 4 screws that secure the side panel to the case pillars. Note that you dont need to remove the screws that secure the pillars to the heat sink side of the case.

The CPU cooler hardware will be located inside the case within foam packing for protection and should be removed at this time. This hardware includes the heat pipes, so please handle them with care as they can be easily deformed or damaged.







Remove Other Panels

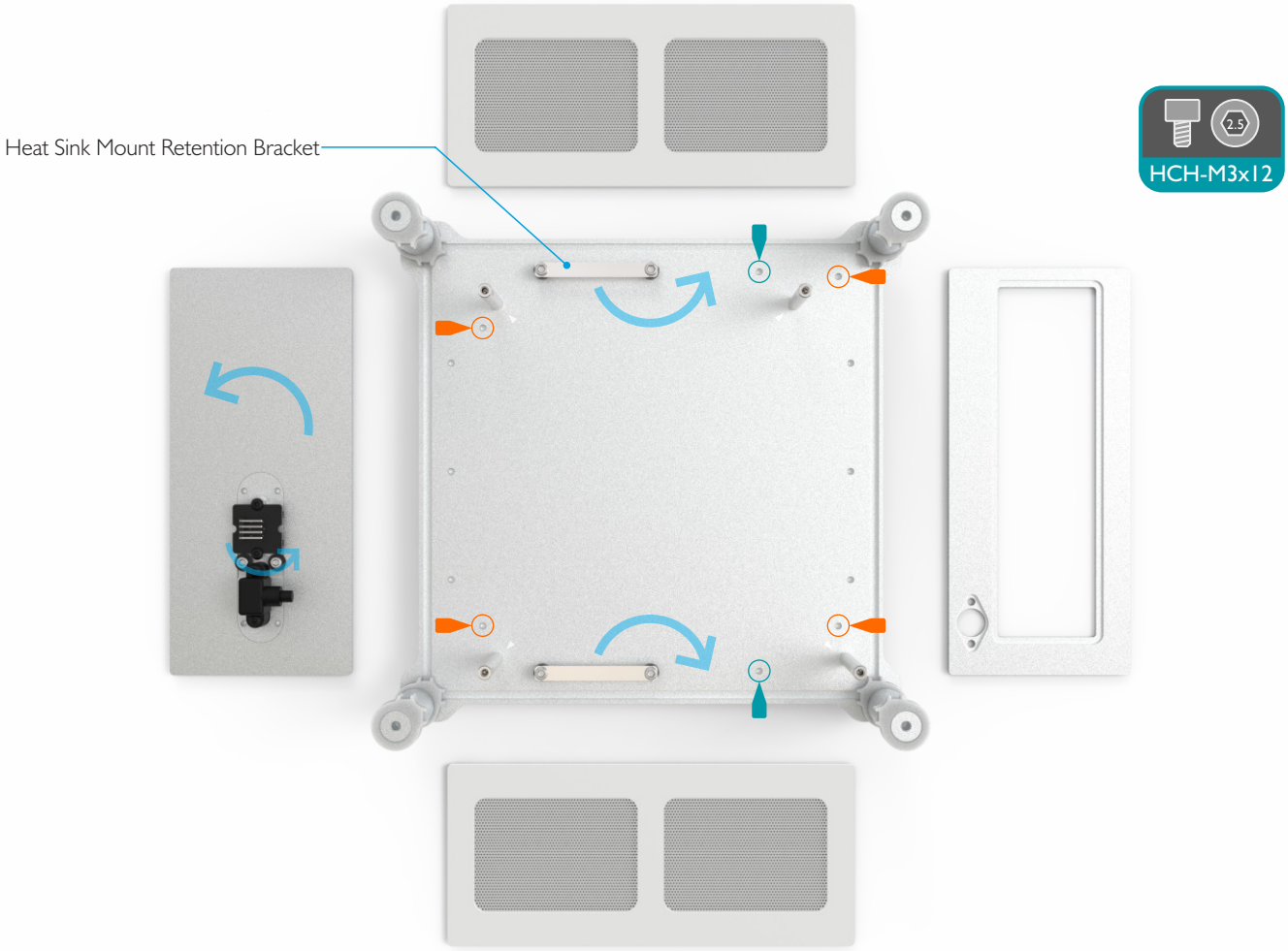
With the side panel off, all the other panels can be easily removed by sliding them away from the heat sink. Note that there are slots cut along the edge of the heat sink (also on the side panel) that the panels fit into and that the silicon bumpers have tabs that also support the panels and secure them in place. This is important to note as the panels must line up and fit back into these slots when being replaced.

With all the panels removed, it will be easy to install the motherboard and cooling hardware into the case.

Alternative Motherboard Orientation and Heat Sink Mount Position

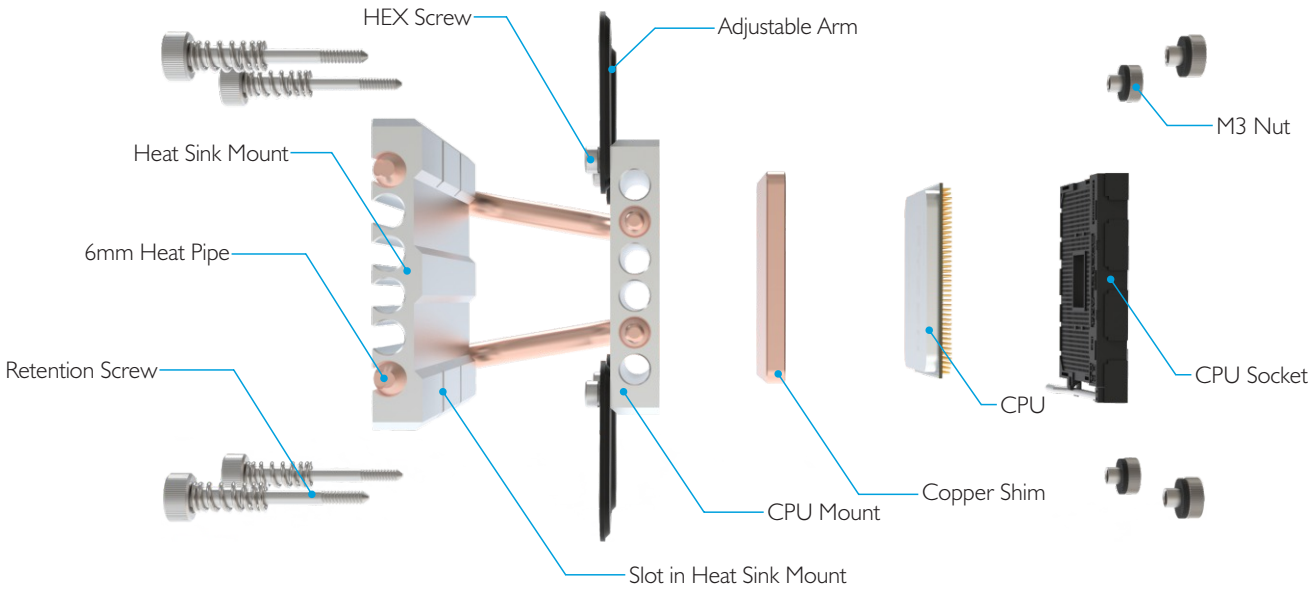
As the DB1 is symmetrical, the internals can be rotated 90 degrees to allow for an alternative motherboard orientation. This can be useful in situations where the heat sink fin direction must be rotated 90 degrees in relation to the front panel for optimising cooling with different case placement. This is done by removing the motherboard standoffs from the default installed location (marked on the heat sink with an arrow), to the alternative location indicated on the image below. The motherboard orientation is independent of being able to rotate the front panel to allow for alternative I/O module location relative to the top/bottom of the case and the I/O module can also be rotated for preferred USB / button orientation.

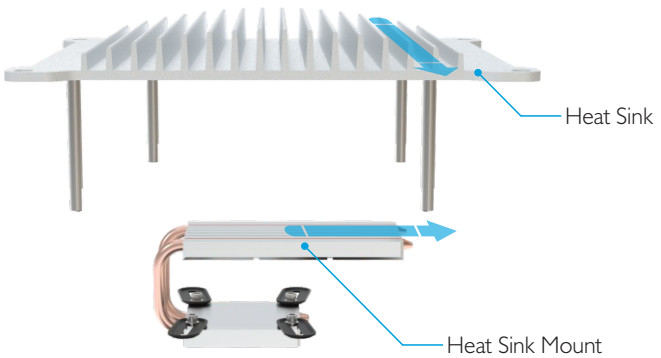
Another adjustment that can be made is the position of the heat sink mount retention brackets. For most motherboards, placement towards the front of the case is optimal for applying pressure on the mount, however with thin-itx layouts, having the retention brackets towards the back of the case will allow for better pressure as the mount will be flipped. Note that only the outer screw and spacer need to be moved as the bracket will pivot on the centre screw.

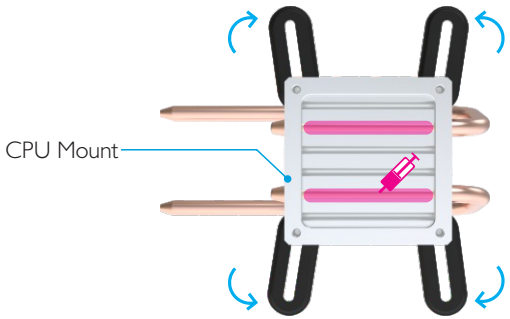


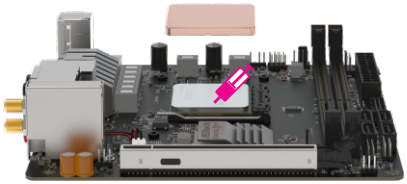
CPU Cooling Hardware Overview

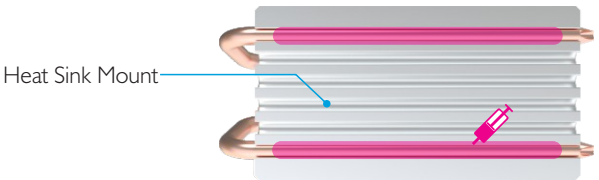
Below is a diagram showing how the various elements of the CPU cooler assembly fit together. We recommended performing a test fit of the entire cooler assembly to the motherboard and heat sink before applying any thermal paste. The CPU mount comes with the adjustable arms pre-fitted but will require adjustment to align them with the CPU cooler mounting holes on the motherboard which varies depending on socket type. Our retention screws are M3, so if your motherboard already has a backplate with that thread, you won't need to install the supplied M3 nuts to the back of the motherboard. The rest of the parts are individual packed for protection and should be assembled as shown. For optimal cooling performance, the heat pipes must run perpendicular to the heat sink fins. It is also critical to apply thermal paste to every contact junction in the path of heat transfer from the CPU to heat sink.











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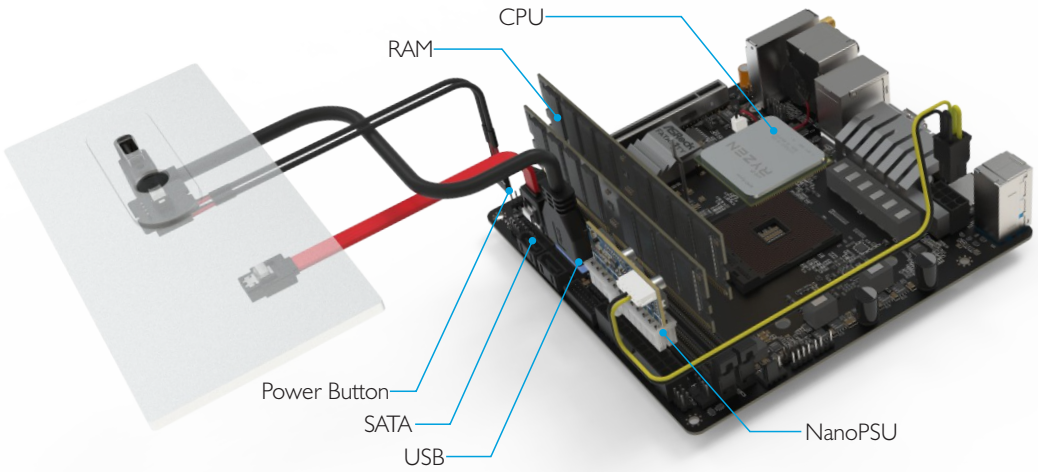
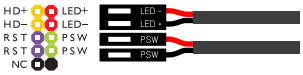
Install ALL Components & Cables to the Motherboard

As the motherboard fits directly to the heat sink and there is limited clearance, its important to fit EVERYTHING to the motherboard first. Begin by installing the typical components such as CPU and RAM, then connect the Nano PSU and cables such as the power button / LED, USB and SATA if installing a drive. If using an m.2 which is located on this side of motherboard, that should also be installed now.

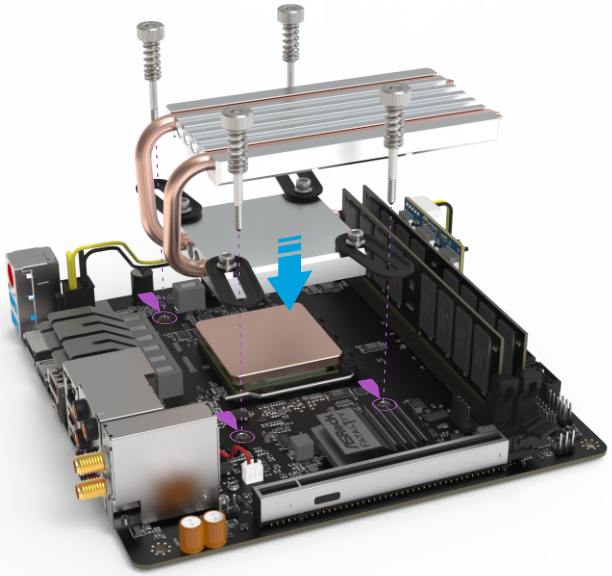


Example Front Panel Header



Install Cooler Hardware

With the hardware fitted, move the cables out of the way and apply thermal paste to the CPU IHS then place the copper shim centrally on the IHS. Next, apply thermal paste along the exposed surfaces of the heat pipes in the CPU mount. Don't apply any to the heat sink mount yet. Carefully lower the CPU mount assembly onto the copper shim ensuring it has the correct orientation relative to the heat sink fins and that it sits correctly on the copper shim. Secure the cooler assembly to the motherboard using the retention screws giving each one a turn in rotation so that even pressure is applied and ensuring the screw are not over tightened.

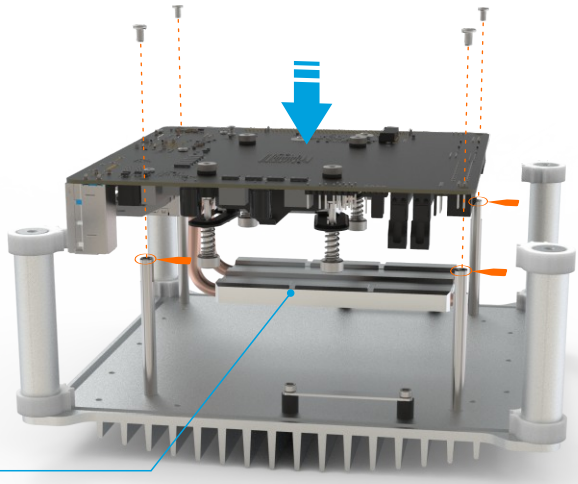


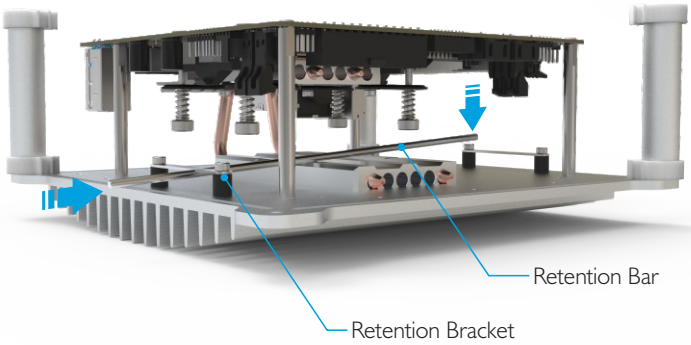
IMPORTANT NOTICE

Do not forget to apply thermal paste to all the locations shown in the cooler assembly overview. Failing to do so will result in poor heat transfer, high temperatures and potential damage to the CPU.

Fit the Motherboard to the Heat Sink

With the cooler assembly now fitted to the motherboard, apply thermal paste to the exposed heat pipe area along the heat sink mount, then carefully lower the motherboard onto the heat sink, aligning it with the 4 standoffs. Secure the motherboard to the standoffs using M3 screws supplied.



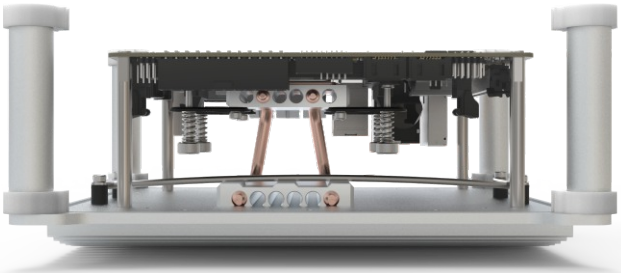


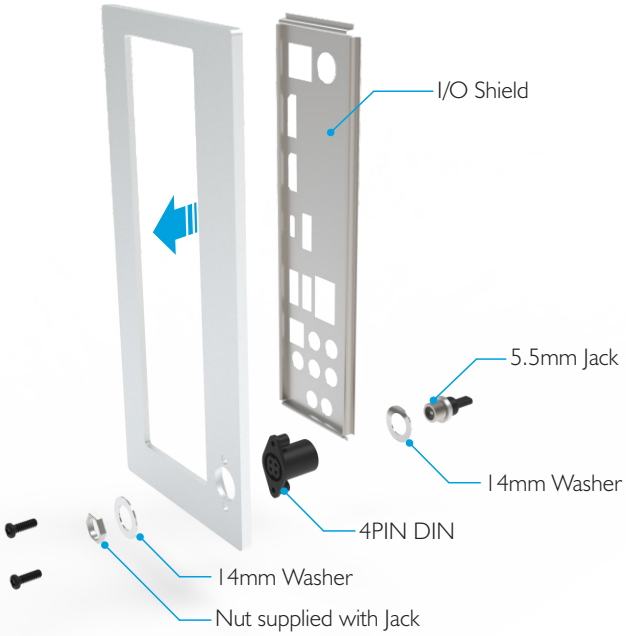
Install the Heat Sink Mount Retention Bar

The final step in completing the CPU cooler assembly is fitting the retention bar. This is used to apply pressure to the heat sink mount so that there is good contact between the heat pipes and the heat sink.

To install the bar, slide it from the side of the case under the retention bracket closest to the heat sink mount until it almost reaches the bracket on the other side. The bar should also be position along the heat sink mount in the slot furthest away from where the heat pipes enter. Apply pressure to the top of the bar so that it bends and slide it under the retention bracket. When correctly position, it will be evenly spaced at both ends.

When installed correctly, the heat sink mount will be flat against the heat sink when inspected from all sides. It is normal for the retention bar to be curved as it applies force against the mount. If the mount is not parallel to the heat sink, it should be adjusted to ensure the heat pipes are making good contact with the heat sink.





Fit the I/O Shield and DC Jack

Before replacing the back panel to the case, install the I/O shield supplied with your motherboard onto the panel. It should be installed onto the recessed side and will snap into place, just check the correct orientation as there are two possibilities.

The DB1 supports both 5.5mm and 4PIN DIN type DC jacks, so depending on which Nano power supply you install, the procedure will differ slightly.

When using a 5.5mm jack, you will need to use 2 x 14mm washers supplied with the DB1, one on each side of the back panel to reduce the opening size. The 5.5mm jack will fit through those washers and is then secured with the included nut.

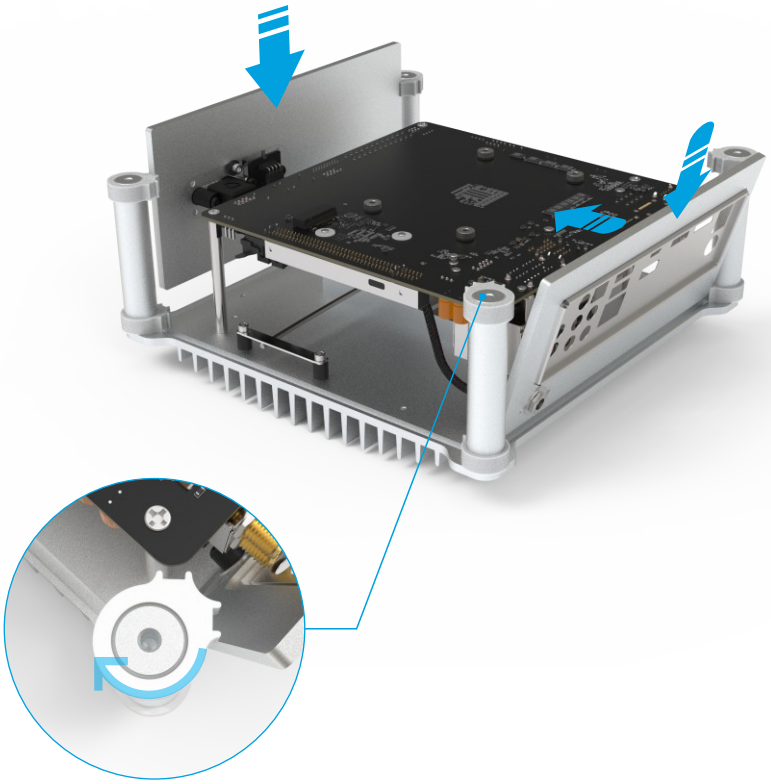
If the PSU has a compatible 4PIN DIN jack, this will be secured directly to the back panel using the 2 holes either side of the socket. Note that these screws should be supplied with the PSU.

Replace the Front & Back Panels

Replacing the front panel is relatively simple, just ensure the USB and power switch cables are routed into the case whilst sliding the panel between the bumper tabs and into the slot in the heat sink.

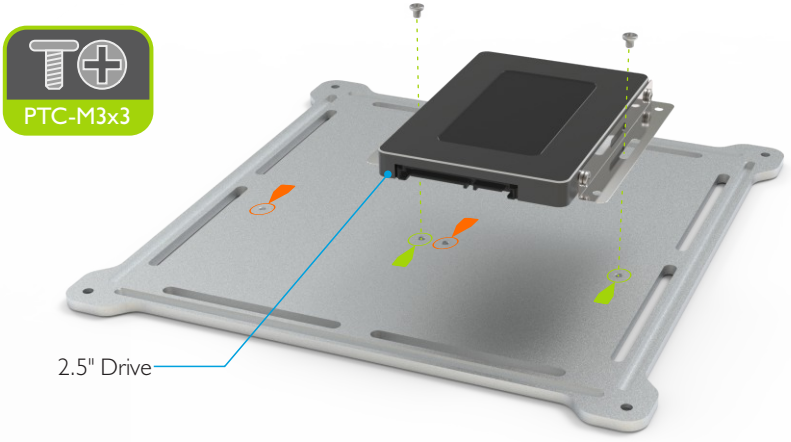
As the rear panel has the I/O shield installed, it will require being installed at an angle in order to clear the motherboard ports. This can be made easier by rotating the bumper at the top of each pillar so that tabs don't interfere, then once the lower edge of the back panel is in place, moving the top edge into place, then rotating the bumpers back to the original orientation. If this also proves difficult, you can remove the upper bumpers completely, then replace once the back panel is in place.

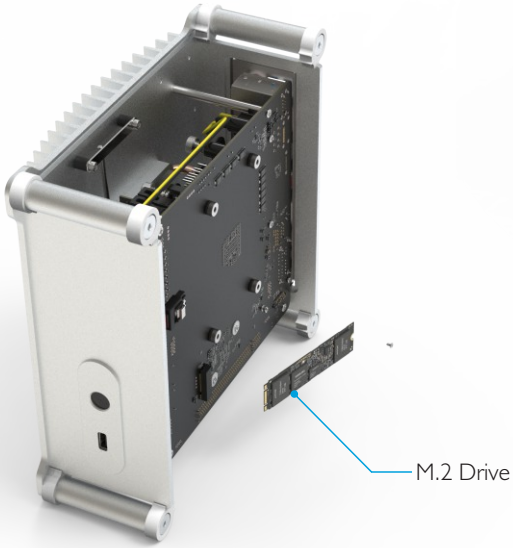
If you still find it difficult to install, you can simply remove one or both of the pillars from the heat sink which will greatly reduce any interference in fitting the back panel.



Installing a 2.5" Drive

The DB1 can accommodate a single 2.5" drive which is mounted to the side panel using the included brackets. There are 2 possible screw position and as the side panel is symmetrical, the combination of location and rotation allows for optimal placement. It is recommended to position the drive away from the back of the CPU to avoid excess heat and of course it using a motherboard with an m.2 drive, away from that. There is no need to connect the cables until just before closing the case.





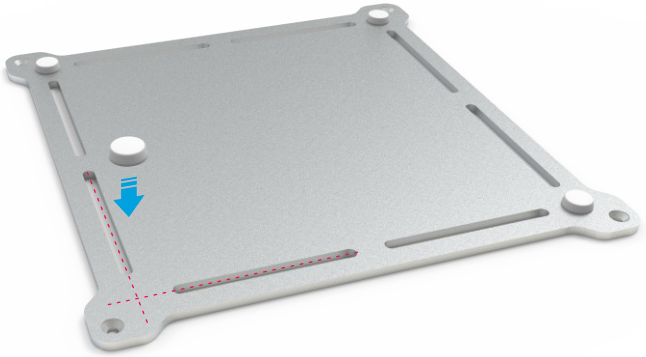
M.2 Drive Installation

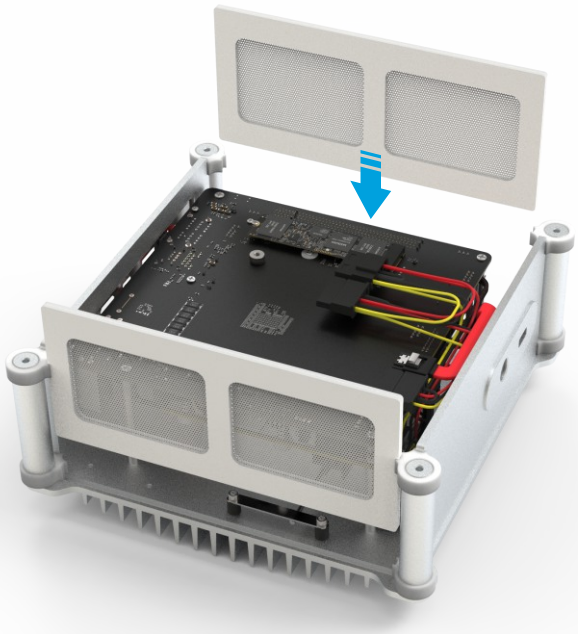
Depending on the motherboard feature set and layout the m.2 socket location will vary but if located on the back, it will be easily accessible and should be installed now before replacing the side panel. Please refer to the motherboard user guide for more detail on installing the drive.

Rubber Pads for Horizontal Case Orientation

If you plan on using the DB1 in the horizontal orientation, a set of 4 rubber pads is supplied that should be fitted to the side panel (which becomes the bottom panel).

The pads are self-adhesive, simply peel the protective backing and stick them directly to the outside of the panel. There is no specific location, but towards the outer edges will provide more stability. If placing the case on an uneven surface, try using 3 feet instead of 4 to overcome that issue.





Replace the Acrylic Panels

The panels consist of two identical acrylic sheets and a single PVC NET that is sandwiched between them. The acrylic sheets may have a different finish on each side so you can choose which is preferred (gloss or matt) but it makes no difference to the assembly which is used.

Ensure there are no cables in the way then slide the acrylic panels between the bumper tabs and into the slots on the heat sink.

IMPORTANT NOTICE

Passively cooled products can get hot to the touch, especially when running at high loads for extended periods. This is a normal part of their operation and they have been tested to run safely under these conditions, but please take their operational temperature into consideration when positioning and handling them.

Final Check and Replacing the Side Panel

With the case now fully assembled, take one final look to make sure everything has been correctly assembled. If you are using a 2.5" drive, now is the time to connect the data and power cables to the drive.

Replace the side panel to the case ensuring the edges of all the other panels go into the slots along the edge of the side panel.

Once the side panel sits flush against all the pillars, replace the M4 screws to secure the side panel to the case.

The system is now fully built and ready for connecting power and peripherals.

As with all fanless systems, when positioning your case, please consider an area out of direct sunlight, with adequate natural airflow and a moderate ambient room temperature.