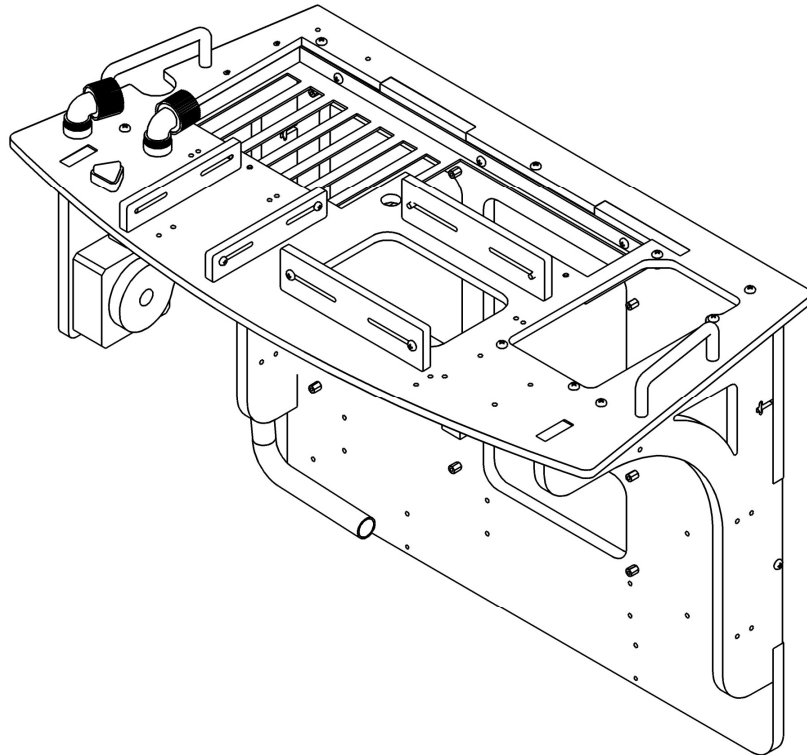




Aquarium DIY Kit EATX Version 4

Assembly Instructions Version 1.0

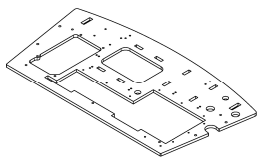


*****WARNING*****

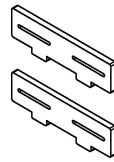
Submerging your hardware in mineral oil will void your warranty. Do this project only at your own risk. Puget Systems is not liable for any hardware problems or damage to your personal property. Mineral oil is very difficult, if not impossible to clean from your components once they are submerged.

Please be sure to inspect your aquarium parts for shipping damage before installation. In particular, we recommend filling the acrylic tank with water and checking for leaks before proceeding.

Included Components



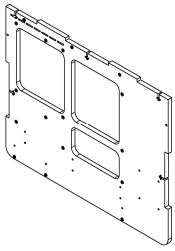
Acrylic Top



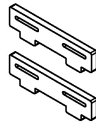
Acrylic 3.5" HD Mount



2x Panel Mount Barb/Socket



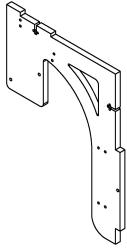
Acrylic Back



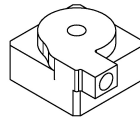
Acrylic 2.5" HD Mount



Straight Nozzle



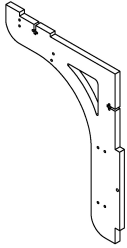
Acrylic Side- Left



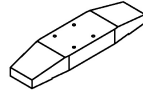
Swiftech MCP35X Pump



4x Swivel Angled Nozzle



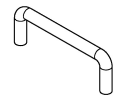
Acrylic Side- Right



2x Radiator Stand



Power Switch



2x 3" Wire Handle



5' Tubing (1/2" Diameter)



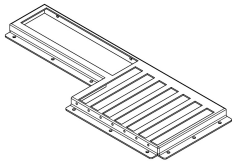
1.625" Tubing (1/2" Diameter)



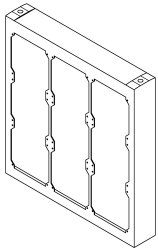
PCI SATA & Power Bracket



Power/HDD LEDs



7 Slot IO Shield



Watercool Radiator



12 Gallon Aquarium Tank



Power Cord

	Quantity	Size	Use
	4	7/8" - No. 6-32	Side to Back Assembly
	5	3/4" - No. 6-32	Side/Back to Top Assembly
	2	5/8" - No. 6-32	Pump Mount
	8	3/8" - No. 6-32	PSU & 3.5" HD Mount
	12	5/16" - No. 6-32	IO Shield Mount
	7	3/16" - No. 6-32	PCI Card Retention
	9	No. 6-32 Nut	Acrylic Assembly
	4	1/2" - No. 8-32	3" Handle Mount
	4	10mm - M3x0.5	2.5" HD Mount
	16	6mm - M3x0.5	Motherboard Screw
	16	1/4" Standoff	Motherboard Mount

Needed Tools



Phillips Screwdriver



Scissors
(to cut tubing)



Adjustable Wrench
(nozzle/barb mounting)



Slip Joint Pliers
(nozzle/barb mounting)

Recommended Tools



Angled Screwdriver
(for hard to reach screws)



5mm Socket Driver
(for motherboard standoffs)

Other Items You May Need

Mineral Oil

Available at your local hardware store, farm supply store, or vet clinic. We actually recommend using your local vet! Mineral oil from a veterinarian will be medical grade, ensuring the highest purity.

Aquarium Rocks

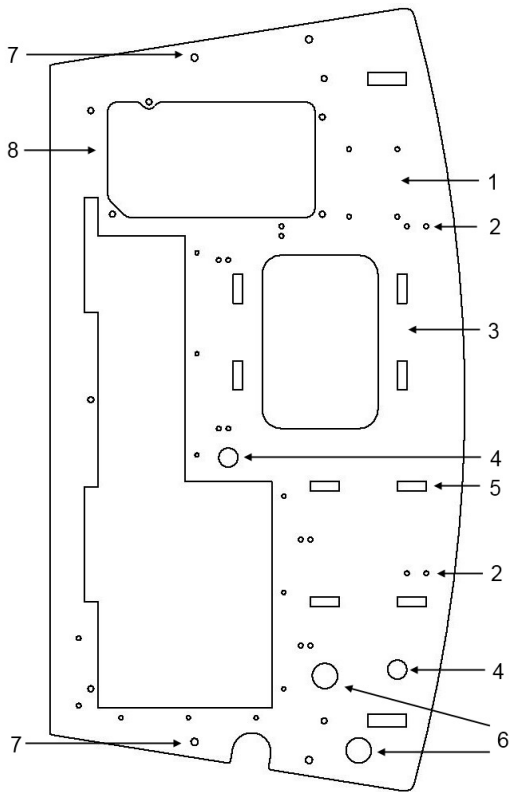
Available at your local pet store, aquarium rocks come in various colors and types. These rocks can be a cheap way to really make your computer look like an aquarium! **TIP:** Wash your rocks before putting them in the aquarium! They are often covered in dust and other particles, which can cause your aquarium to look cloudy. Put them in a towel, and rinse them off in a sink, then spread them out and allow them time to thoroughly dry before adding them to your aquarium.

Bubble Bar, Tubing, Pump, and Flow Valve

Also available at your local pet store, bubbles are an essential add-on! We recommend a 6 inch bar, and recommend washing it as recommended for the rocks. The flow valve is necessary as we've found it very convenient to be able to control the flow of air. The valve also provides a convenient joint at which you can disconnect your air tubing if you need to work on or move the system.

Cleaning Supplies and Tools

Mineral oil is messy! Make sure you have the following items on hand: a funnel for cleanly filling the system, paper towels to clean up spills and clean your hands, and orange clean to help make cleanup easier.



1) CC Inverter Mount

These 4 holes allow you to secure a CC inverter box to the tray using zip ties (not provided)

2) CC Light Tube Mount

These 4 holes allow you to secure a CC light tube to the tray using zip ties (not provided)

3) 3.5" Hard Drive Mount

These holes allow you to mount a standard 3.5in. hard drive using the provided hard drive standoffs.

4) 1/2" Power Switch

This hole allows you to mount a 1/2in. power switch.

5) 2.5in. Hard Drive Mount

These holes allow you to mount a standard 2.5in. SSD or hard drive using the provided hard drive standoffs.

6) Barb Pass-Through

These holes allow for the installation of two pass-through barbs to connect to an external radiator.

7) 3in. Handle Mount

These holes allow for the mounting of any standard 3in. cabinet handles.

8) ATX PSU Mount

These holes allow for the mounting of a standard ATX PSU.

Tips:

Test your hardware before submerging.

The last thing you want is to find out you have a bad stick of memory once it is already covered in oil! Make sure to test everything thoroughly -- it will save you a lot of headache in the future.

Do NOT power on the pump until it is filled with oil.

The pump **will** burn out if there is no liquid to provide resistance and cooling. If you need to test the system once installed but before filled, simply unplug the pump before powering the system on.

Do not over-tighten the screws.

Acrylic will crack if the screws are over-tightened. You want the screws to be tightened until they are just a little beyond snug.

Ensure your cooling is adequate.

The aquarium tank will develop cracks if exposed to too high of temperatures. Make sure your radiator has adequate airflow to keep your aquarium running cool.

Do not overfill the aquarium.

Mineral oil will expand slightly as it heats up, so be sure to only fill the aquarium to within an inch or two of the top. You should also avoid filling the aquarium to the point that the motherboard ports (keyboard, LAN, etc.) are submerged to help prevent the oil from wicking along the cables.

Keyboard/Mouse

Mineral oil will wick along any cables it comes into contact with. Due to the potential mess this may cause, we recommend using wireless devices whenever possible.

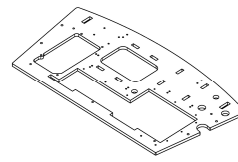
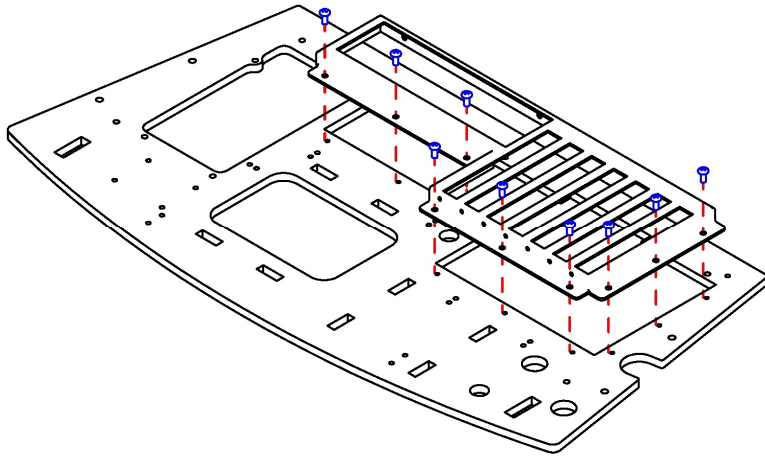
Power Supply

While removing the cover from the power supply may give your aquarium computer the look you want, even an unpowered power supply is extremely dangerous. The capacitors in a power supply can hold incredible amounts of power for very long periods of time. **Use extreme caution** when handling an exposed power supply! Removal of the power supply cover often also means the removal of the cooling fan. Some power supplies will not power on without a fan connected so be sure to test your power supply before installing it in your aquarium.

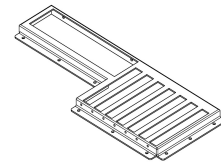
CPU Cooler

The best CPU cooler for an aquarium PC will have fins aligned vertically when the system is complete. This will allow convection to effectively circulate the oil through the cooler. The fan is not needed, but we have always elected to keep it installed to help circulate the oil. The fans will not burn out due to being in the oil, but will spin at a much lower RPM.

Step 1:



Acrylic Top



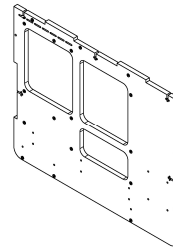
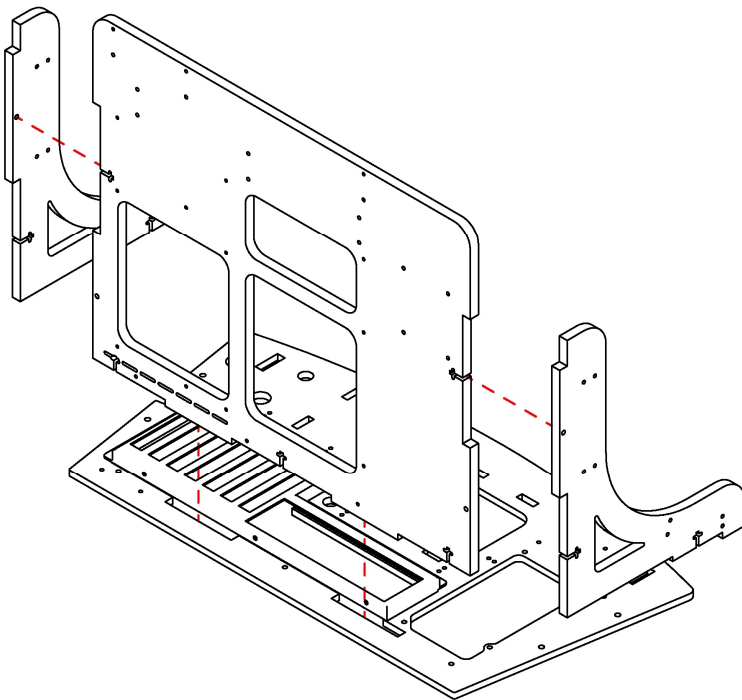
7 Slot IO Shield



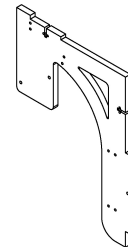
x9 5/16" - No. 6-32 IO Shield Mount

- Place the top panel upside-down on a clean, soft surface.
- Position the IO shield over the mounting holes and secure with 9 screws.

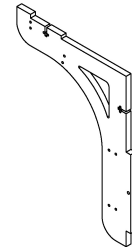
Step 2:



Acrylic Back



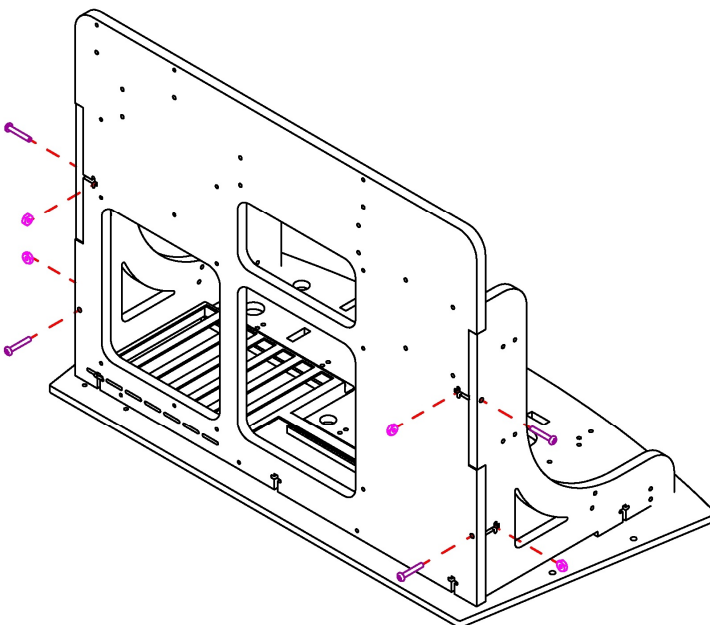
Acrylic Side-Left



Acrylic Side-Right

- Rotate the top panel so that the bottom of the IO shield is facing you
- Fit together the back and side panels.
- Fit the back and side panels into the notches below the IO shield in the top panel.

Step 3:



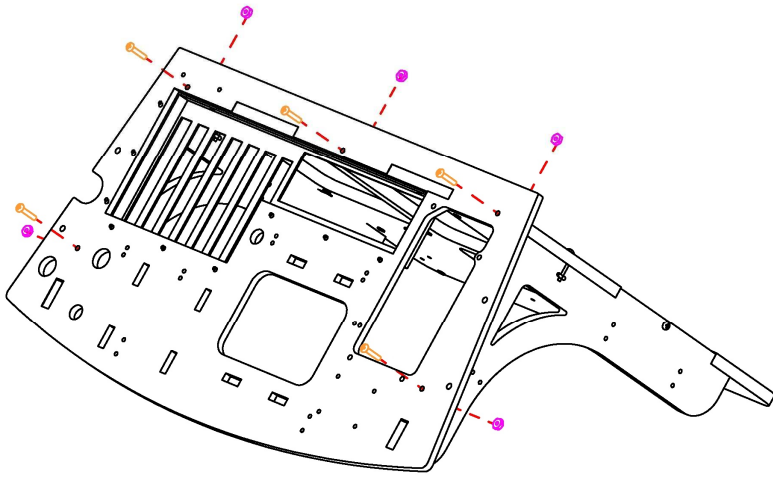
x4 7/8" - No. 6-32 Side to Back Assembly





x4 No. 6-32 Acrylic Assembly

- Secure the side panels to the back using the 4 screws and nuts.

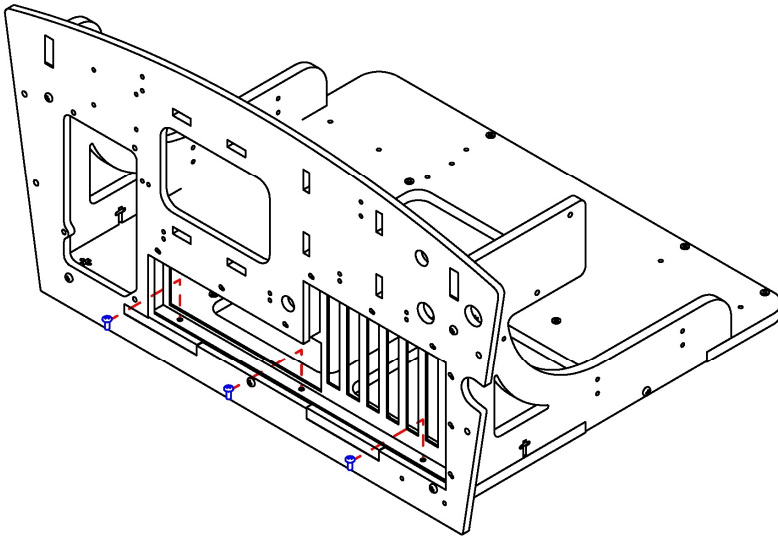
Step 4:




- | | | | |
|---|----|-----------------|---------------------------|
|  | x5 | 3/4" - No. 6-32 | Side/Back to Top Assembly |
|  | x5 | No. 6-32 | Acrylic Assembly |

- Flip the tray over so it rests face down with the top facing you.
- Secure the back and side panels to the top using the screws and nuts.

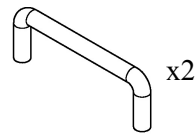
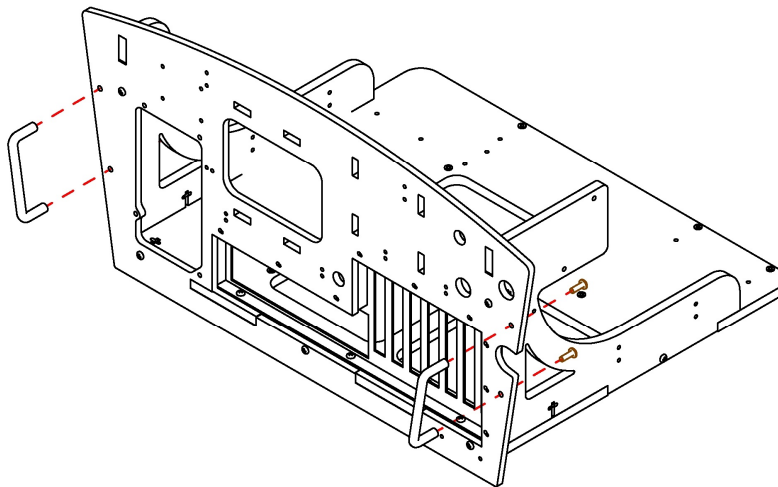
Step 5:




- | | | | |
|---|----|------------------|-----------------|
|  | x3 | 5/16" - No. 6-32 | IO Shield Mount |
|---|----|------------------|-----------------|

- Flip the tray over so that it rests back down with the top facing you.
- Secure the IO shield to the back using the remaining 3 IO shield mount screws.

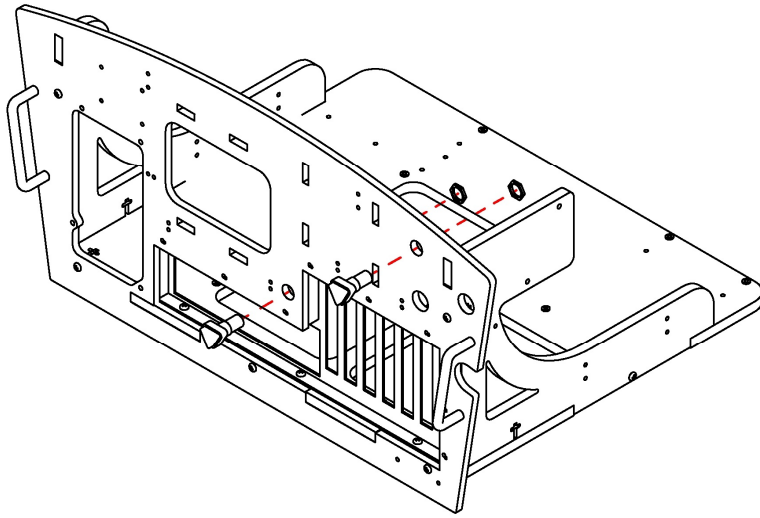
Step 6:



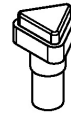
3" Wire Handle

- | | | | |
|---|----|-----------------|-----------------|
|  | x4 | 1/2" - No. 8-32 | 3" Handle Mount |
|---|----|-----------------|-----------------|

- Secure the 3" wire handles to the top panel using 2 screws each.

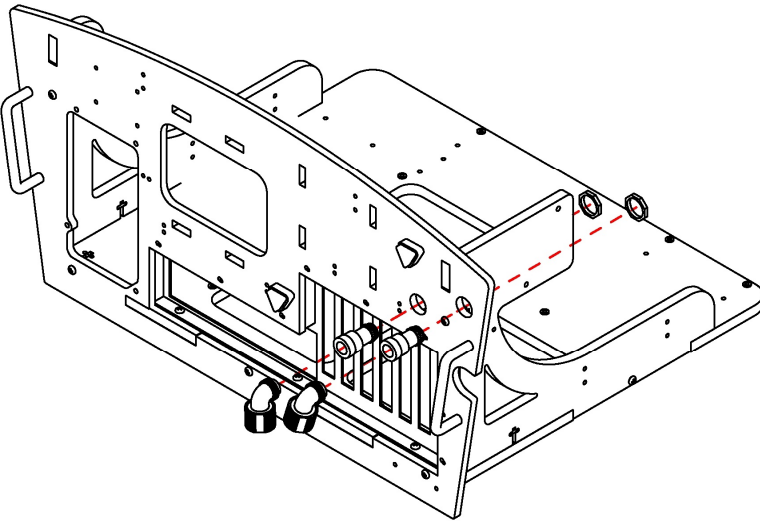


Step 7:



Power Switch

- Install the power switch in either of the two locations depending on user preference using the nut that comes with the power switch.



Step 8:



x2

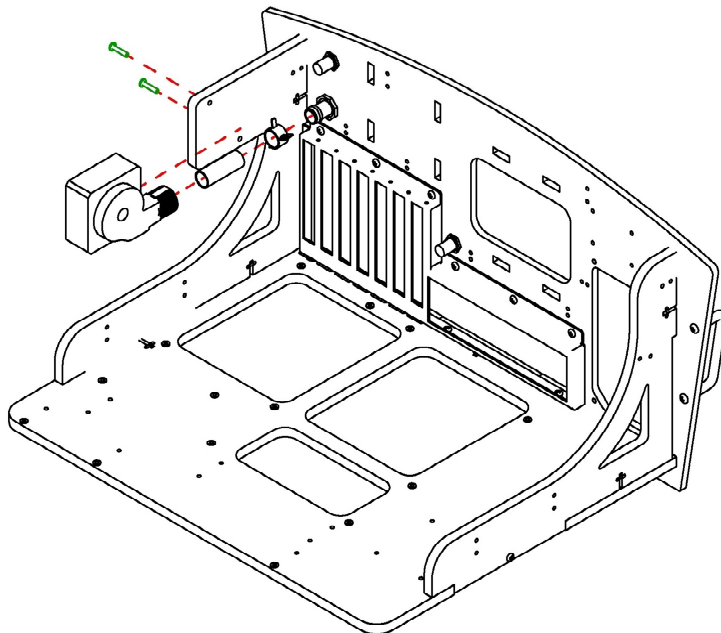


x2

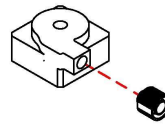
*Panel Mount
Barb/Socket*

*Swivel Angled
Nozzle*

- Install the swivel angled nozzles into the panel mount barb/sockets.
- Install the panel mount barb/sockets into the top panel using the nuts that come with the panel mount barb/sockets.



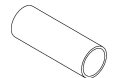
Step 9:



*Swiftech
MCP35X Pump*



*Straight
Nozzle*



1.625" Tubing

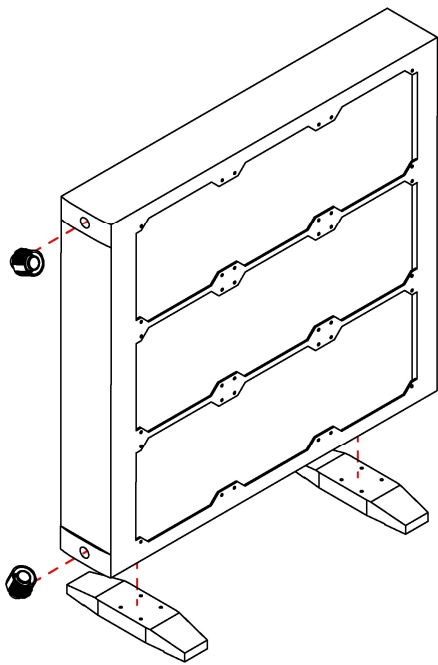


x2

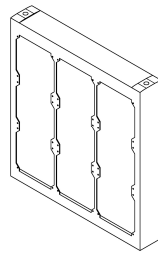
5/8" - No. 6-32

Pump Mount

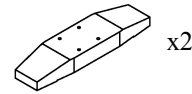
- Install the straight nozzle into the pump.
- Secure the 1.625" tube between the pump and the panel mount barb/socket (using the collars/tube clamps that come with the nozzles).
- Secure the pump using the two screws.



Step 10:



Watercool Radiator

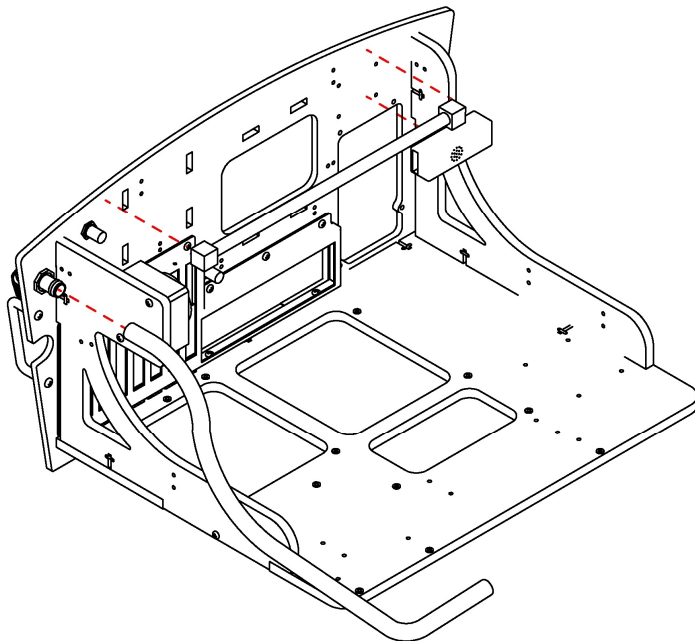


Radiator Stand



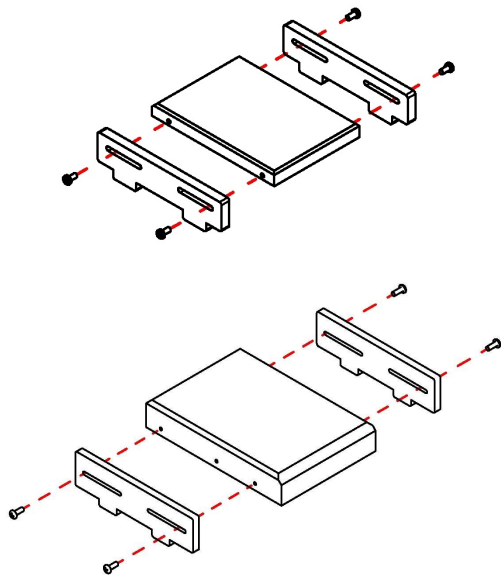
Swivel Angled Nozzle

- Install the radiator stands onto the radiator.
- Install the swivel angled nozzles onto the radiator.
- Once acrylic tray is installed into the aquarium, connect the barbs from the radiator to the barbs located on the top panel of the acrylic tray.

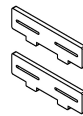


Step 11 (optional):

- Secure CCFL lights and power modules to the top panel using zip ties.
- If a directed oil exhaust is desired, install tubing onto the remaining panel mount barb/socket and route to the desired exhaust location.
- Quick disconnects should be connected as close as possible to the angled barbs on the top panel. Ideally they should be positioned right above the IO panel.





Step 12:



Acrylic 3.5" HD Mount



Acrylic 2.5" HD Mount

- | | | | |
|---|----|-----------------|---------------------|
|  | x4 | 3/8" - No. 6-32 | PSU & 3.5" HD Mount |
|  | x4 | 10mm - M3x0.5 | 2.5" HD Mount |

- Install hard drive into the appropriate tray using the correct sized screws.
- Once the acrylic tray is installed in the aquarium, fit the drive mounts into the appropriate cutouts.