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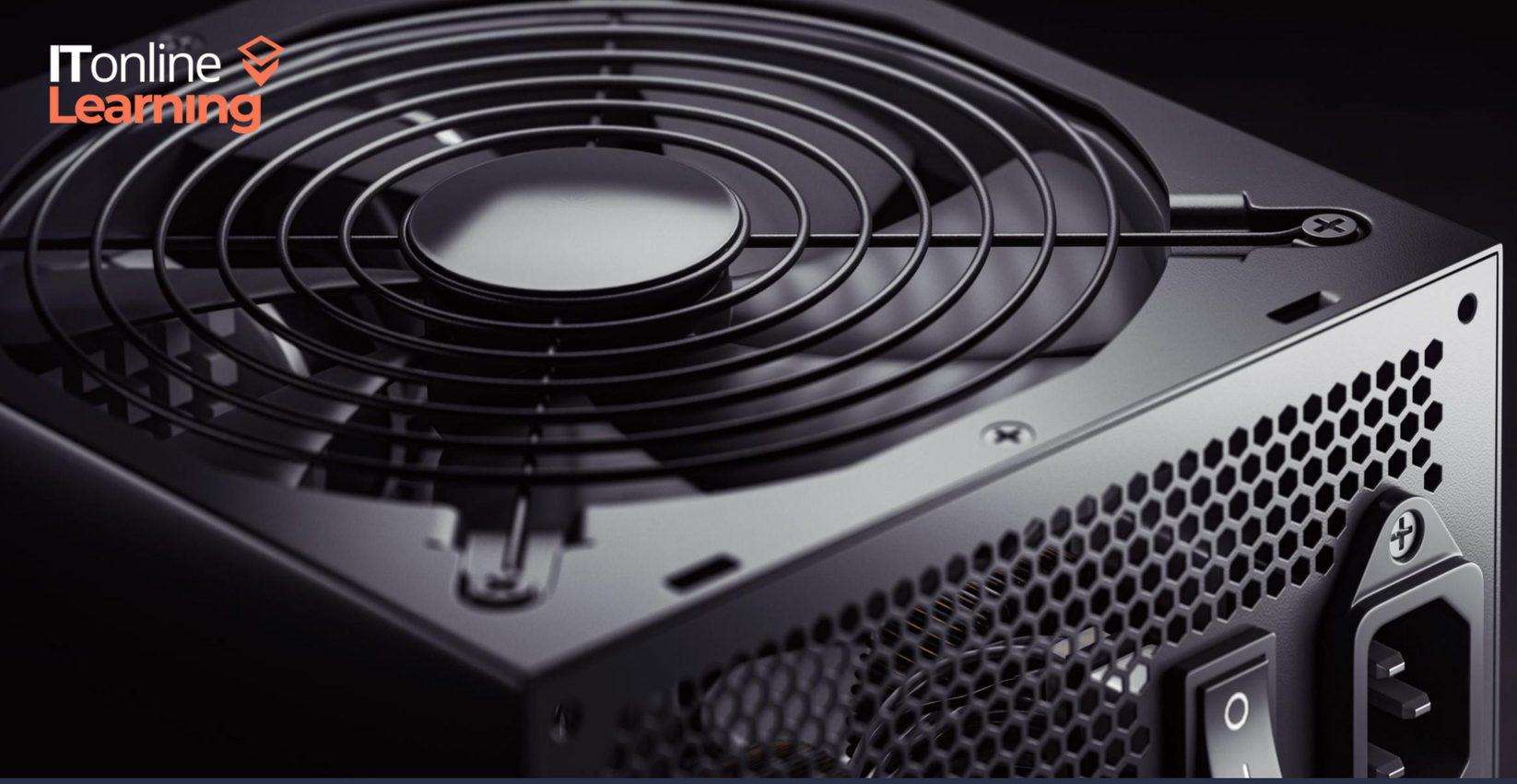

THE POWER SUPPLY

Prepared & presented by

Jerry Naidoo

The PSU

- Responsible for powering a computer
- Metal box found in a corner of the case (top or bottom)
- Contains power-cord receptacle and cooling fan
- Typically has integrated connectors

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The Back of the PSU

- **ATX Power Supply**
  (adheres to ATX form factor specifications)
- **Power switch**
  (turns PSU on and off)
- **Voltage selector switch**
  (toggle input voltage between 115 or 230 volts)
- **Airholes or a fan**
  (cool the PSU)
- **Power (C14) connector**
  (electricity comes in here from the power cord usually at 230 volt AC power)

- ***A main function of the PSU***: *convert the main AC to low voltage required to power a computer's components*

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Wires & Connectors

- Converted DC power flows out of the wire bundle
- Number of components is not based on the number of connectors
- Power supplies use a power rating called watts (maximum power output)
- Identify your power needs by adding wattage requirements for each component you need to power
- If connected components draw more power than the PSU can handle, they will shut off

Cooling the Power Supply

- Fan helps to cool the PSU
- Aids in thermal management
- Fan pulls hot air out of computer case

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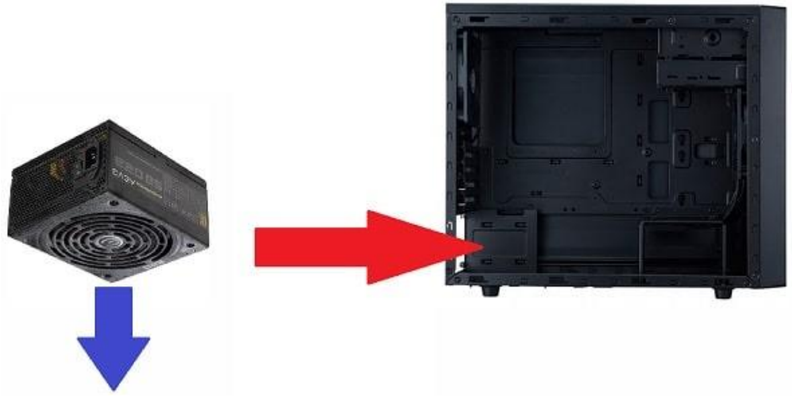
Installing a Power Supply



Step 1: Mounting Location

- Ground yourself
- Locate where the power supply can be mounted within the case

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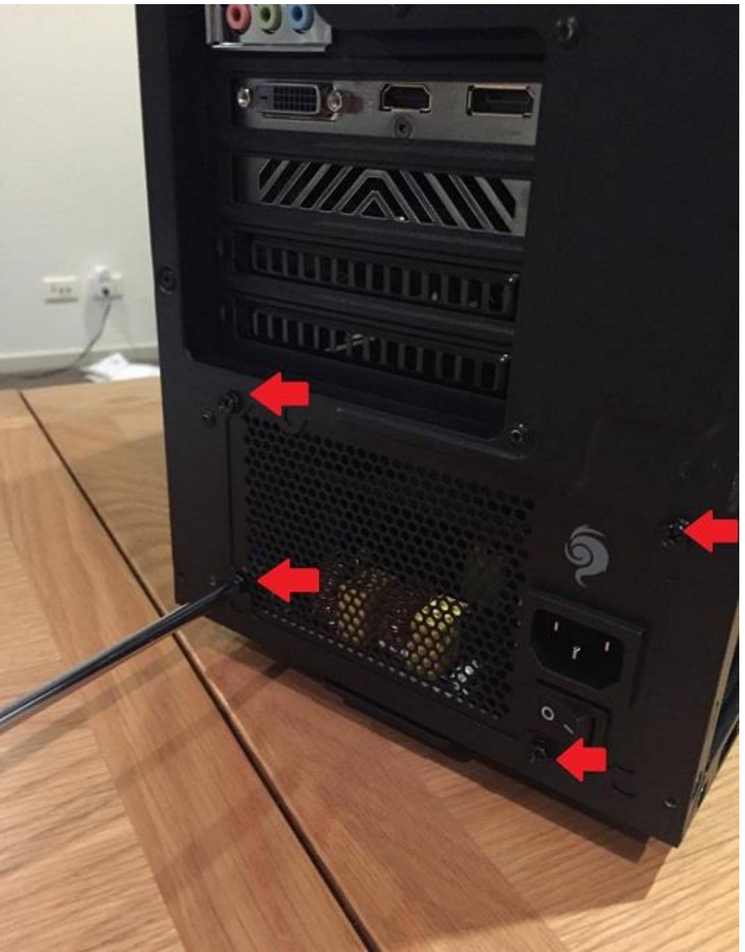
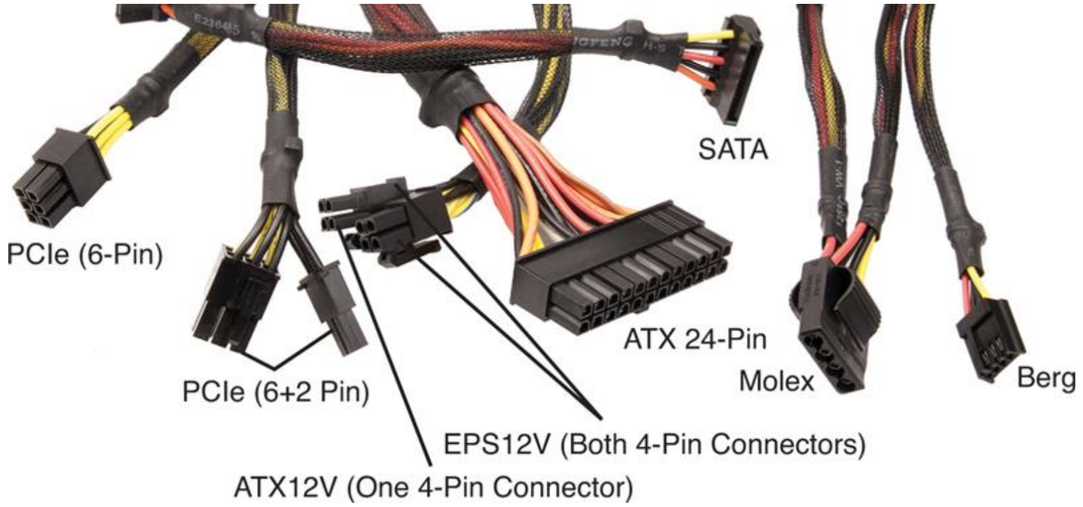
Installing a Power Supply



Step 2: Secure the PSU

- Line up screw holes & screw them in firmly
- Install relevant power connectors into the motherboard (*20+4 connector, 4+4 pin CPU connector & SATA power connectors*)



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Summary

Power supplies

- Convert AC power to DC power
- Provide 12, 5 and 3 volts of DC power to components
- Aid in thermal management.

Always know exactly how much power the components in your computer will require.

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Quiz: The Power Supply

1. You need to replace the power supply in your home desktop computer. Which of the following specifications are most likely to affect your power supply choice? ***(Select three)***

a. Input voltage
b. Output wattage
c. Output voltage
d. Form factor
e. Type and number of connectors

2. You have a desktop computer that uses a 250-watt power supply. You recently added 4 new hard disk drives to the system, and it has spontaneously shut down. Which of the following would ***most likely*** rectify this issue?

a. Upgrade to a power supply that provides more volts
b. Use the switch on the power supply to switch from 115 VAC to 230 VAC
c. Upgrade to smaller capacity hard drives
d. Upgrade to a power supply that provides more watts.

3. Which of the following power supply ratings best describes the rating used to determine this?

a. AC voltage rating
b. DC voltage rating
c. Resistance rating
d. Watt rating

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