

Lab 3.3.4: The Computer Case & Power Supply

Estimated time: 45 Minutes

Objective

In this lab, identify the type of computer case to be used, the form factor of the unit, and voltage selector switch on the power supply. The inventory of all the components that will be installed in the computer case will be discussed. Finally, motherboard standoffs will be installed to prepare the case for the installation of the motherboard.

Equipment

The following equipment is required for this exercise:

- ESD wrist strap
- Tool kit and screws
- Computer case with power supply
- Motherboard standoffs and screws
- Motherboard & Manual
- Devices that will not be installed yet, but are referenced:
 - CD-ROM, Sound Card, Modem, NIC, RAM, Hard Drive with IDE Cable, Floppy Drive with Cable, Mouse, Keyboard, Monitor

Scenario

You are assembling a personal computer for a friend, and are ready to prepare the case for the installation of the motherboard.

Procedures

Wear the anti-static wrist strap during the entire installation process. One end should be looped snugly around the wrist, with the other end attached to an unpainted metallic part of the computer case. This will prevent electrostatic discharge, which can be extremely hazardous to the computer's sensitive devices.

Step 1

The first step in the assembly process is to create an inventory of all computer components that will be installed into the computer.

Lay out the computer components that will be used in this chapter's labs.

Gather all the information necessary to fill out the inventory sheet below.

Computer Identification	Name: _____ Number: _____
Case	Number of 3.5" bays _____ 5.25" bays _____ Manufacturer: _____
Motherboard	Manufacturer: _____ Model: _____ Bus Speed _____ MHz Form Factor _____ AT _____ ATX Chipset Manufacturer: _____ Model: _____ BIOS Manufacturer: _____ Version: _____ Does the CPU use a socket or a slot? _____ How many CPU socket/slots are there? _____ How many ISA slots are there? _____ How many PCI slots are there? _____ How many EIDE connectors are there? _____ How many floppy connectors are there? _____ How many serial ports are there? _____ How many parallel ports are there? _____ Is there an AGP slot? _____ How many USB ports are there? _____ How many other ports or slots are there? _____ What kind(s) are they? _____
CPU	Manufacturer: _____ Model: _____ Speed _____ MHz
Memory	_____ 30-pin SIMMs _____ 72-pin SIMMs _____ 168-pin DIMMs _____ 160 pin RIMMs _____ 184-pin RIMMs _____ Others: _____ How many memory slots are there? _____ What is the fastest type of memory supported? _____ What is the maximum memory supported? _____
Hard Drive	Manufacturer: _____ Model: _____ Size _____ Cylinders _____ Heads _____ SPT _____ Interface Type _____ IDE _____ SCSI
CD-ROM	Manufacturer: _____ Model: _____ Speed: _____ Interface Type _____ IDE _____ SCSI

Floppy Disk Drive	Manufacturer: _____
Monitor	Manufacturer: _____ Model Number: _____
Video Card	Manufacturer: _____ Model: _____ Memory _____ MB ISA _____ PCI _____ On Board _____
Sound Card	Manufacturer: _____ Model: _____ ISA _____ PCI _____ On Board _____
Mouse	Type _____ PS/2 _____ Serial _____ USB
Keyboard	Connector _____ 5-pin DIN or _____ 6-pin mini DIN _____ USB (Make sure it matches the connector on your Motherboard).
Power Supply	AT _____ ATX _____ Other _____ Power Supply Wattage _____

Step 2

Examine the screws that will be used for the case.

Are the screws Phillips, Flathead, Posidriver, or Torx? _____

Examine the computer case. Is it an AT or ATX case? _____

Briefly describe the difference between an AT and an ATX case:

Is the case a desktop, mini-tower, mid-tower, or a full tower?

Step 3

Most computer cases come complete with a power supply. Not all cases are built for the US market and therefore may not be set for the correct voltage. Look in the back of the case for the voltage selector switch. If in the US, make sure the switch is set to 115 volts. Adhere to the local power requirements when selecting the voltage for the power supply.

Step 4

Power supplies are rated by wattage, which is usually between 250 and 300 watts. What is the power supply rating for the case? _____

Step 5

Attach the motherboard standoffs to the case. Standoffs are small pegs made of a non-conductive material that help avoid short circuits by preventing the motherboard from touching the case. Look at the holes on motherboard to help place the standoffs in the proper locations.

Troubleshooting

An equipment list can help solve problems before they start. If there is an item missing, it will allow you to find it before the job is half done.

Reflection

Were you able to fill out all areas of the inventory list? _____

Explain any difficulties with the installation.
