CPADS HW Activity I – Due 9/6

“Let's Get It Together!”

The goal of this first activity is to become familiar with the parts of a motherboard and install the motherboard in the case.

**1. Motherboard Identification**

The first step to assembling a PC is to identify the motherboard and determine what capabilities it has by locating the various connectors we covered in class. Not all motherboards will have all the connectors and they may be in different locations and have different colors depending on the manufacturer. It is *important* to determine the manufacturer and model of the motherboard, as often we may not have the manual or driver CD that came with it (plus I always want to get the most recent drivers that usually are not on the CD but available from the manufacturer's web site).

* Complete as much of the following table as possible for your particular motherboard **WITHOUT USING THE INTERNET** (leave anything not recognized or not present blank for the time being).

Motherboard Specs

Manufacturer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Model \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Chipset (Northbridge/PCH)\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Supported CPU's \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Memory type/max \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Form factor \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*I/O Slots – give number available and example component attached there*

PCIe x16 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

PCIe x1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

PCI \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

IDE \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

SATA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Floppy \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Power (# pins and size) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

*External Ports – give number and example component attached there*

PS/2 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

USB 2.0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

USB 3.0 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

eSATA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

LAN \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

IEEE 1394 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

VGA \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

DVI \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Audio \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Other \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

* Check with the instructor to obtain manual and kit with components. Fill in any missing info in the above tables.

**2. POST Your PC**

Now that you have identified the motherboard it’s time to verify that it operates correctly. You will need some of the components from your kit. Your kit should contain:

* CD/DVD Drive
* 128 GB Solid-State Drive (SSD)
* Video Card
* 2 RAM (memory) Sticks
* 2 SATA Data Cables
* 2.5” to 3.5” Mounting Bracket with screws (for SSD)
* 1 PCIe Power Cable
* 2 SATA Power Cable

The motherboard and processor have already been installed in the case for you. To verify that the motherboard operates correctly you will install the **MINIMUM** number of components necessary to power on your PC and run the Power-On Self Test (POST).

First, attach *all* the power cables in the appropriate connectors on the motherboard. Next, install a single stick of RAM. Finally, install your video card and the power cable for the video card. **ASK THE INSTRUCTOR** if you have **ANY** questions.

Connect your partially assembled PC to external power and a monitor. Power it up. You should see a variety of logos and messages appear on your monitor. This is the POST that your machine will perform every time it is turned on.

On the line below, write the last line of output generated by the POST.

POST Output: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_