

## Practical: 5

**Aim:** To assemble a complete desktop computer system.

The following steps are used for assembling desktop computer:

### Step 1: Procuring Parts



figure 5.1 component

First you will need to buy the parts necessary to build the computer.

1. Processor (CPU)
2. Computer Case
3. Optical Drive (DVD RW and SATA capable)
4. Memory (RAM)
5. Power Supply
6. SATA Cables
7. Motherboard (SATA Capable)
8. Processor Fan
9. Case Fan
10. Hard Drive (SATA Capable)
11. Assortment of case and drive screws

**Step 2: Gather Tools and Supplies**

figure 5.2

1. Screwdriver (for slotted and Phillips head screws)
2. Wire cutters and strippers
3. Needle-nosed pliers
4. Utility knife
5. Small flashlight
6. Adjustable wrench
7. Small container to hold screws
8. Heat sink compound
9. Grounding Strap

**Step 3: Open the Case**

figure 5.3

Open the computer case by removing the side panels. Find the screws that hold the side panels in place and remove them (shown in figure 3 circled in red).

#### Step 4: Prepare the Case for Assembly



figure 5.4

#### Step 5: Ground Yourself

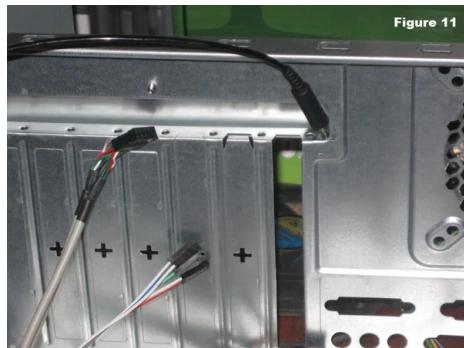


figure 5.5

Put the grounding strap on your wrist and connect the other end to the computer case. If your strap is not equipped with a clip to hook to the case, find a place to wedge against the metal. This will prevent any buildup of static electricity on your body from damaging the computer components.

#### Step 6: Install Motherboard



figure 5.6

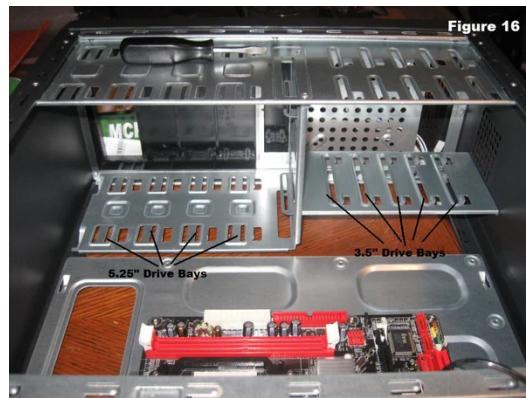
**Step 7: Install Hard Drive**

figure 5.7

The hard drive is the device that stores all of your data. It is 3.5" wide and needs to be mounted so that you can gain access to the cable connections on the back. If that is not possible you may need to connect cables before you install the drive.

**Step 8: Install Optical Drive**

figure 5.8

The optical drive is 5.25" wide and is installed in the drive bay that we removed the cover from in a previous step. Cable access considerations apply to this drive also.

### Step 9: Install the CPU



figure 5.9

The CPU is the brain of the computer. It is installed on the motherboard in the socket shown in figure.

### Step 10: Install RAM

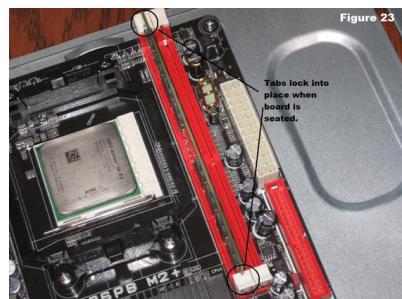


figure 5.10

The RAM is the temporary memory location that the processor works from. Permanently stored data is pulled from disks and stored in RAM while the processor works with it.

### Step 11: Install the CPU Fan

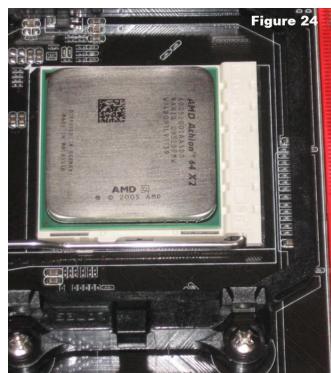


figure 5.11

The CPU fan is really a combination of a heat sink and fan together. The unit draws heat away from the CPU .

### Step 12: Install Case Fan

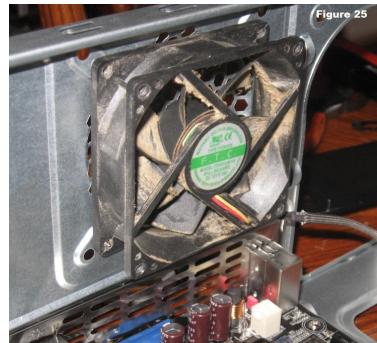


figure 5.12

### Step 13: Install Power Supply



figure 5.13

### Step 14: Connect Cables



figure 5.14

With all of the components installed in the case, the jungle of wires can be daunting. It is important to consult the motherboard manual in order to make sure proper connections are made. There are two kinds of connections, power and data.

**Step 15: Wrap-up**



figure 5.15

Finally, our computer is assembled.