

Lab 2.3.6: Identifying RAM and RAM Sockets

Estimated time: 40 Minutes

Objective

This lab will focus on the identification of various types of RAM and RAM sockets.

Equipment

The following equipment is required for this exercise:

- A functioning computer system and the proper tools to remove the computer's cover.
- Manual for the motherboard used in the computer.
- (Optional) RAM Tester. If you are unsure of the operation of the RAM tester, ask the instructor for further instruction.

Scenario

Fred would like to upgrade the amount of RAM in his PC, but he is not sure how to locate it or how to determine how much RAM is installed. Help him determine what he has so he can figure out how much more to buy.

Procedure

Random Access Memory (RAM) is memory used by the CPU to store open files and active applications temporarily. RAM is volatile, meaning that any information stored in it is lost when powered-down. RAM comes in small expansion board forms with varying numbers of edge connectors. The RAM "sticks" are made in 30, 72, 168, or 184 pin configurations. They are referred to as SIMMs or DIMMs, depending on the chip density. Many times, the only information to be gained visually is the manufacturer's name. This is why a quality RAM tester is a critical piece of diagnostic equipment for PC repair shops.

Observe proper care concerning power supplies and ESD

Step 1

Boot the system and record the POST amount of RAM. _____

Step 2

Shut down your system and follow all the safety steps in removing the computer's cover.

Step 3

After gaining access to the motherboard, note the position of the RAM slots and whether they are in use, making notes in your journal.

SLOT TYPE:	
TOTAL NUMBER OF SLOTS:	
NUMBER OF SLOTS OPEN:	
TOTAL RAM CAPACITY	

Step 4

Record the information about the installed RAM “sticks” in the table below.

MANUFACTURER:	
TYPE:	
CAPACITY: (each)	
SPEED:	
TOTAL CAPACITY INSTALLED:	
POSITION:	

Step 5

Refer to the motherboard manual or search the Internet for the type and range of RAM chips that can be installed on this computer.

Step 6

If there are two “sticks” of RAM installed, remove one of your RAM “sticks”, noting the location and orientation of the stick.

Step 7

Put the cover of the computer back on the computer and plug in the power cords. Restart the computer system. Note the POST-test RAM amount. _____

Step 8

Shut down the system and follow all the safety steps in removing the computer’s cover.

Step 9

Reinstall the RAM stick that was removed in Step 6.

Step 10

Put the cover of the computer back on the computer and plug in the power cords. Restart the computer system. Note the POST-test RAM Amount. _____

Step 11

Reflect in your journal about any special considerations you should be aware of as you install the RAM memory.

Attach copies of any additional research material used in completing this worksheet before handing in this assignment.

Troubleshooting

Take *extreme caution* when working with RAM. ESD is one of the most common problems when working on computers. Make sure you have an anti-static wrist-strap on at all times and that you are properly grounded. The chips on a RAM module are built for 3.3 volts. If a static discharge is large enough for you to see a spark, it is 3000 volts.

Reflection

Did you use an anti-static wrist-strap the entire time you were working with RAM modules?

What other types of RAM are there besides the type installed in the PC you worked on?
