

Final Test

Building and Understanding Your Own Computer

This is an optional test. It is a test of your knowledge of computers from this course. First, fill in the answers you are sure of. Then, check your notes. After that, check the web site mentioned in class for the answers. You will learn by this research if you forgot from class. Open book is acceptable. If you complete the test and pass at 95%, you may bring the test to Gene at the store or mail with a SASE and receive a "Certificate of Achievement"

What is the difference between an "open architecture" computer and a proprietary computer?

Main components are interchangeable with open architecture, proprietary components are specific to that manufacturer.

Name the main parts of a computer system:

Monitor, Computer Box, Keyboard, Mouse, Surge Protector, Printer

Name the main parts inside the computer:

Power Supply, Motherboard, Floppy Drive, Hard Drive, CD ROM Drive, Expansion Cards

Name the main parts of the motherboard:

CPU Chip, BIOS, Memory, CMOS, Battery, Chipset, Slots, Power Connector

What is the BIOS?

Basic In Out System, the first set of instructions that are carried out when the computer is first turned on

What is the purpose of CMOS?

Stores configuration of the computer incl date, time, amount of memory, number of floppy drives, parameters of hard drive

What are important features of motherboards to look at in selecting one?

Which CPU it supports, which chipset it uses, size or footprint

CPU's are available in 2 types from manufacturers. What are they?

OEM and Boxed

What are the 2 main manufacturers of CPU chips?

Intel, AMD

List the processor evolution:

8088, 80286, 386, 386SX, 486, 486SX, Pentium, Pentium II, Celeron, PIII, P4

What is the range of speeds for a Pentium I computer?

60 mhz to 233 mhz

What is the difference between a Pentium and Pentium MMX computer?

MMX adds 50 some additional instructions that enhances multimedia

What ports does a computer have?

Keyboard, mouse, serial, parallel, display, power

What destroys computer components easily? What should be done to protect the modem?

Static electricity, surges

Modem needs surge protection just as much as power protection

Name 3 more pitfalls in building your own computer:

Wrong connections, incompatible parts, forgetting to turn power off when inserting cards, memory or CPU, bending a CPU pin

Plugging in the keyboard, PS2 mouse, floppy or hard drive, or expansion card with power already turned on does what?

It will damage the motherboard, drives, or card

List the 3 main voltages that a computer power supply delivers:

5v 12v 3v

What is the difference between an AT, ATX, and proprietary case?

Case configuration: AT is old, ATX is new standard, proprietary is specific size/connections

What controllers were placed on the motherboard that were not normally on a 286, 386, or 486?

Hard drive, floppy drive, serial & parallel ports (so plug and play can control them)

What controllers are not desirable on a motherboard and list 2 reasons why?

Display, modem - replaced easily when necessary & changing of features

What problem was "Plug and Play" supposed to solve?

Eliminating need to change jumpers because users claimed they were too hard to understand

What is the difference between system memory and storage memory?

Operating system, programs, data stored on hard drive when power is off and what's needed loaded into sys memory when computing

What is the difference between a "Bit" and a "Byte" ?

Bit is a zero or one; a byte is group of 8 bits

What is hexadecimal used for?

System of counting used by programmers: 0,1,2,3,4,5,6,7,8,9,A,B,C,D,E,F

Where do you see it as a computer user?

Error messages

What is conventional memory?

First 640K of memory

What is extended memory?

Memory above 1 MB

How much extended memory does a computer have?

As much as the manufacturer and user installs, typically 32m, 64m, 128, 256m

What are Upper Memory Blocks?

Memory between 640K and 1 MB reserved for system devices that require it

What type of memory does a standard Pentium computer use?

72 pin fast page or EDO SIMMs

How many memory modules does a Pentium use to make a bank?

2 72 pin modules

What other factor should you be aware of in selecting memory for a computer such as Dell, Gateway, IBM, Compaq, etc?

Many of these use proprietary modules – standard modules won't work.

What type of memory does a Pentium II/III/ Celeron use?

SDRAM PC66, PC100, PC133 depending on speed

How many modules make up a bank in the above?

Only 1 normally

What is the difference between PC66, PC100, PC133 memory and where is each used?

Speed PC66 used for early PII and Celerons, PC100 for PII above 350 mhz, PC133 for most PIII above 600 mhz

What type of memory does a Pentium 4 use?

SDRAM PC133 or DDR modules

What type of socket does a Pentium II/III use to plug in the CPU chip?

Socket 470 or Slot 1

A Pentium 4 uses what "socket" for the CPU?

Socket 423 or 478 depending on which series CPU is used

How many hard drives can be connected to an IDE controller?

Only 2

How are each drive designated on the controller?

Master and Slave

How many hard drive controllers are normally found on a motherboard?

Usually 2

List other devices that can be connected to a HDC?

Another hard drive, IDE Zip drive, CDROM-DVD-CDRW drives

How many pins does the cable and connector have for the floppy drive?

34 pins

How many pins does the cable and connector have for an IDE hard drive?

40 pins

What designates pin 1 of the cable or connector?

Accentuated red or blue stripe

How many pins does a SCSI device use?

50 or 68 pins

Why would you use SCSI in a computer?

To use SCSI devices or more devices than IDE provides

What happens if you connect the cable backwards or miss a row or column of pins?

Device won't work and it and the controller will probably be destroyed

If you have a hard drive, a CD Rom drive, a CD Writer, and an internal Zip drive and need to add a hard drive, what is your best option?

Add extra IDE controller or use USB hard drive

What is required to make an Ultra 66 hard drive work that a standard EIDE drive doesn't use (2 important things)?

Controller must support Ultra 66 and an Ultra 66 cable must be used

List the types of expansion slots used in computers including the earlier computers.

ISA 8 & 16 bit, VLB, PCI, AGP

What is your best choice of expansion slots for a video card?

AGP

What expansion slots are found on the newest computers?

PCI and AGP

What is a serial port normally used for?

Mouse and Modem

What is a parallel port normally used for?

Printer

What is a USB port normally used for?

Scanner, Printer, Camera media

What is a Firewire port normally used for?

Digital Video and sometimes hard drives

What speeds do a USB port work at?

1.5 mhz, 12 mhz, 480 mhz

What speeds does a Firewire port work at?

400 mhz

What are IRQ's?

Interrupt channels between devices and the processor to get the attention of the processor to notify it that information is coming

How many COM Ports does a computer have?

Usually 1 or 2 as the manufacturer provides. Some new Compaq computers do not have any external Com ports.

What address and IRQ is normally used for Com 1? Com 2 ?

3F8 and IRQ 4 Com 2 is 2F8 and IRQ 3

What address and IRQ is normally used for LPT 1 ?

378 and IRQ 7

What IRQ's are normally available in a computer (not being used)?

9, 10, 11

What are the 3 popular resolutions that a computer might use?

640 by 480, 800 by 600, 1024 by 768

What is the minimum color mode a computer normally needs to be in?

256 colors

What is required to make a display card operate in different modes?

Display driver

What 3 drivers are normally required to make most computers operational?

Display, modem, sound

What is a NIC and why would you have one in your home computer?

Network Interface Card: home network, cable modem, DSL modem

If you are not interested in music, why would you want a sound card in your computer?

Sound effects notify you of events and sometimes directions

What was the main reason Microsoft told users they needed to upgrade from Windows 3.1 to Windows 95?

Improved and more stable

What was the main reason Microsoft told users they needed to upgrade from Windows 95 to 98? From 98 to 98SE?/

Improved and more stable – same each time

What feature did Microsoft try to hide in Windows Me?

DOS access

What is the major difference between Windows 95/98 and Windows NT?

Security and NT didn't have plug and play

What big feature did Windows 2000 add from NT?

Plug and Play

What are the steps to preparing a hard drive, including what the manufacturer does? (in order)

Low level format, partitioning, high level format, installing system

What is the smallest number of partitions you can have on a hard drive?

1

What is an extended partition? What is a logical drive?

The second partition. Drive letter assignments on the extended partition

What is the difference between FAT 16, FAT32, NTFS?

Directory structure. FAT 32 improved size of partition and gave better cluster sizes. NTFS is proprietary to NT

What 3 files are required to make your computer boot to the "C" Prompt?

IO.SYS MSDOS.SYS Command.Com

What additionally and specifically is required to access your CD ROM drive?

2 drivers: OAKCDROM.SYS or equivalent plus MSCDEX.EXE

Why is it recommended (2 reasons) to place CAB files on your hard drive before running setup?

Installation is faster and Windows can easily access them without the CD whenever there is a configuration change

How do you install Windows 98 without the "Certificate of Authenticity" serial number?

You don't !

If Windows gets corrupted, what steps are recommended to repair it?

Replace corrupted or missing files, reinstall Windows on top, Reinstall Windows clean

Using a scratched installation CD can cause what problems?

Corrupt installation files and even the registry

Why is a scratched music CD usable and a scratched data CD not usable?

Missing notes are not heard. Missing data can corrupt or change the whole program

Where do computer virus' come from?

Created by programmer and passed by email or on disks

What 3 things are required to protect yourself from virus'?

Install Virus Protection, Keep it updated weekly, Keep it turned on

What does a virus do to your computer? (list at least 3)

Corrupts programs and data, causes inconvenience, corrupts boot sector

List 4 good backup devices: _ZIP_ _JAZ_ _ORB_ _CDRW_ Why is backing up to a second hard drive the worst possible method?

If on line, it can get the same virus that gets to the first drive – failure of the first drive can corrupt the second drive

Why do you need to back up?

Hard drives fail, virus' cause data loss, human error can cause data loss

What exactly should you backup?

Data you create and image of your hard drive so you can quickly restore Operating system, all drivers, configuration, programs