

Chapter 1

First Look at Computer Parts and Tools

Reviewing the Basics

1. Which is faster, a Hi-Speed USB port or a SuperSpeed USB port?

SuperSpeed USB is faster than Hi-Speed USB

2. What type of output does a S/PDIF port provide?

High quality sound to an audio system

3. List five types of video ports.

VGA, S-Video, DVI, HDMI, DisplayPort video ports

4. What is the purpose of an expansion slot on a motherboard?

An expansion slot on a motherboard is used for an expansion card, which provides a port or other function that is not provided by the motherboard.

5. What should be the setting for a dual-voltage selector switch on a power supply when using the computer in the United States?

Set the switch to 115 volts

6. What unit of measure is used to describe the amount of work a surge suppressor can do before it stops protecting the circuit from an electrical surge?

Joule

7. Hot wires in home wiring are normally colored ____ and ground wires in computers are normally colored ____.

Black, black

8. What is the difference between a transformer and a rectifier? Which are found in a PC power supply?

A rectifier is a device that converts alternating current to direct current. A transformer is a device that changes the ratio of current to voltage. A computer power supply functions as both.

9. What device can you use to make sure a computer is protected against power surges?

A surge suppressor

10. A power supply receives 120 volts of ____ power from a wall outlet and converts it to 3.3, 5, and 12 volts of ____ power.

AC, DC

11. Why is a power supply dangerous even after the power is disconnected?

Capacitors inside a PC power supply create the even flow of current needed by the PC. Capacitors maintain their charge long after current is no longer present, which is why the inside of a power supply can be dangerous even when power is disconnected.

12. Which two tools can a PC support technician use when taking apart a computer to best protect computer components against ESD?

Ground bracelet and antistatic gloves

13. What is the purpose of a POST diagnostic card?

To report errors at POST

14. What are the three purposes accomplished by the motherboard BIOS?

System BIOS manages essential devices, startup BIOS starts the computer, and BIOS setup is used to configure the motherboard

15. How is the best way to determine if a cable inside a computer is a data and instruction cable or a power cable?

Follow the cable from its source to its destination

16. What technology standard provides for up to four drives installed in a system?

PATA (parallel ATA), also called EIDE (enhanced integrated drive electronics) or IDE

17. How many pins does the P1 connector have that uses the ATX Version 2.2 standard?

24

18. What device might require extra power so that it uses the 12V 6-pin power connector? In what two locations might you find the connector?

A PCI Express video card. The connector might be located on the video card or on the motherboard.

19. What is the purpose of the 4-pin auxiliary connector on a motherboard?

To provide extra voltage or power for a processor

20. What is the purpose of the 4-pin Molex connector?

To power IDE (PATA) drives

Thinking Critically

1. You purchase a new computer system that does not have wireless capability, and then you decide that you want to use a wireless connection to the Internet. What are the least expensive ways (pick two) to upgrade your system to wireless?
 - a. Trade in the computer for another computer that has wireless installed

- b. Purchase a second computer that has wireless
- c. Purchase a wireless expansion card and install it in your system
- d. Purchase a USB wireless adapter and connect it to your PC by way of a USB port

Answers: c. Purchase a wireless expansion card and install it in your system, and d. Purchase a USB wireless adapter and connect it to your PC by way of a USB port

2. How much power is consumed by a load drawing 5 A with 120 V across it?

600 watts

3. When working on a computer, which of the following best protects against ESD? Why?
- a. Always touch the computer case before touching a circuit board inside the case
 - b. Always wear a ground bracelet clipped to the side of the case
 - c. Always sit a computer on an antistatic mat when working on it
 - d. Always work on a computer in a room without carpet

Answer: b. Always wear a ground bracelet clipped to the side of the case

4. When troubleshooting a computer hardware problem, which tool might help with each of the following problems?
- a. You suspect the network port on a computer is not functioning.
 - b. The system fails at the beginning of the boot and nothing appears on the screen.
 - c. A hard drive is not working and you suspect the Molex power connector from the power supply might be the source of the problem.

Answers: a. Loopback plug, b. POST diagnostic card, c. Multimeter