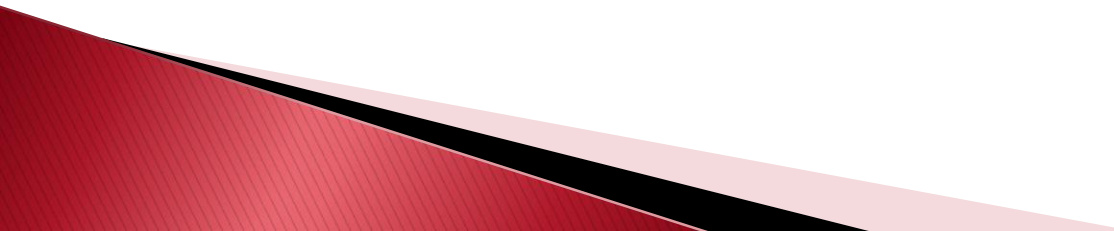


Appendix A



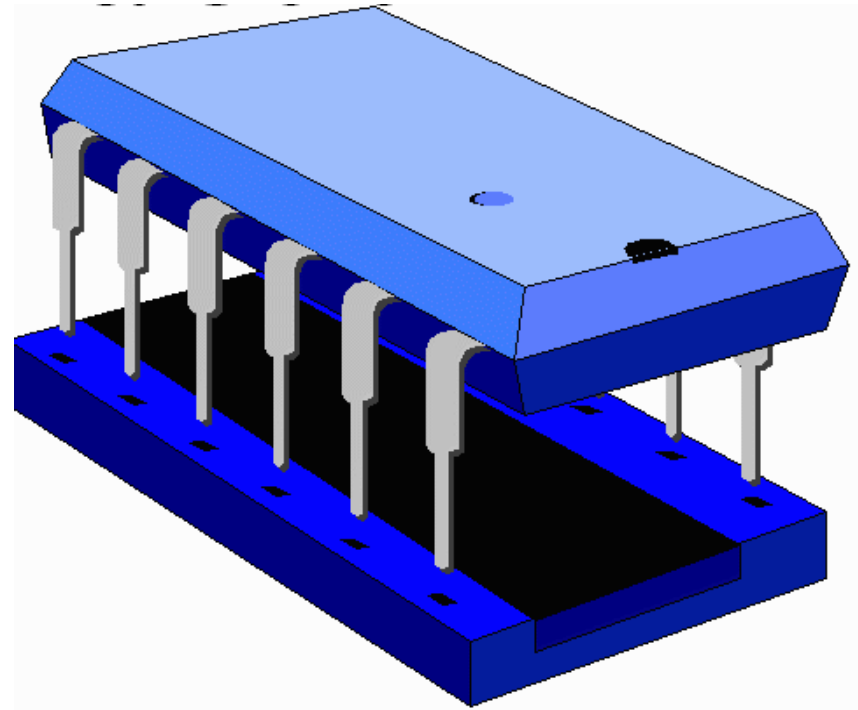
Hardware Basics

What you need to know to:

- Criteria to consider when purchasing a computer
 - How to recommend a computer for work
 - What is best for you?
- 

Hardware is:

- ▶ Physical items
- ▶ Digital circuits
- ▶ Assists in the input/processing/output & storage activities of an information system



HARDWARE BASICS

► Hardware components include:

1. Central processing unit (CPU)
2. Primary storage
3. Secondary storage
4. Input devices
5. Output devices
6. Communication devices



Criteria when buying a machine?

1. ****Speed**
2. ****Storage**
3. ****Image Quality**
4. ****Typical Uses**
5. **Weight**
6. **Battery Life**

Measurements

▶ Speed:

- **GigaHertz*** (Billions of Cycles per second)
- Dual Core

▶ Storage

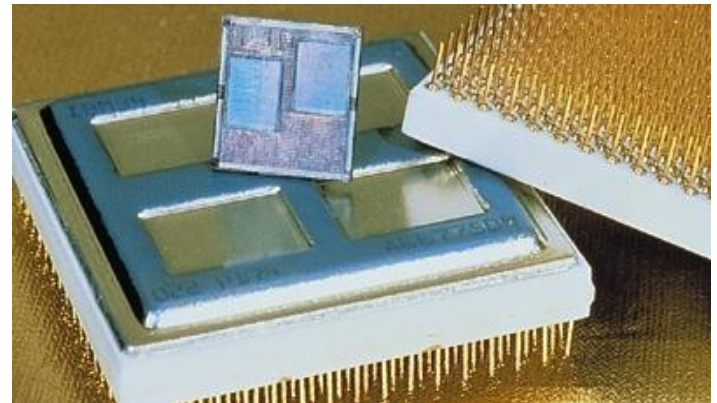
- **TeraBytes*** (Trillion of bytes)

▶ Image Quality

- **Pixels** (Mega Pixels for most smart phones)

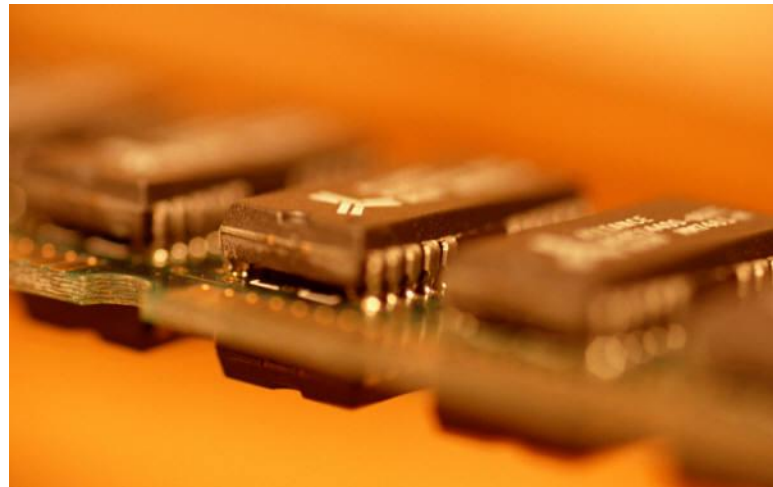
Central Processing Unit (CPU) – Speed and Usages

- ▶ Brains of the machine – executes the commands
 - Math
 - Logic
- ▶ Clock Speed – **GigaHertz** (cycles per second)
- ▶ **MultiCore** Processing
 - Multiple CPU's that process commands simultaneously
 - Play Music
 - Watch Videos
 - Camera Operations



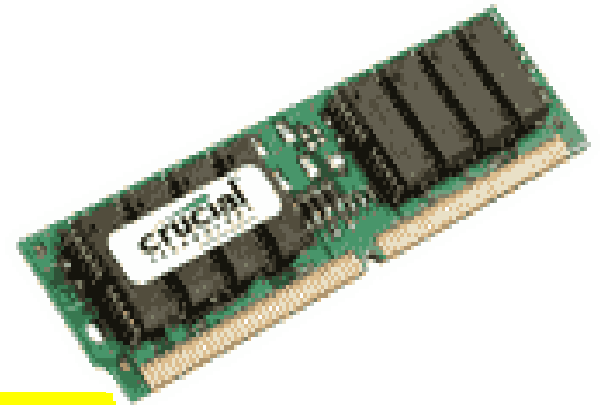
Primary Storage

- ▶ **Primary storage** – The computer's main memory, which consists of the random access memory (RAM*), cache memory, and the read-only memory (ROM) that is directly accessible to the CPU



Short Term Storage

–Impacts Speed



- ▶ **RAM (Random Access Memory)**
 - Temporary store commands and data (think mailboxes)
 - Measurement: **GigaBytes**

- ▶ **CACHE (pronounced cash)**
 - Guesses next action and places close to CPU

Cameras / Monitors

- ▶ Pixels (resolution) how many per inch
- ▶ Dot Pitch (distance between the centers of the pixels)

Output Devices – Printers

- ▶ PPM (Pages per Minute)
- ▶ DPI (Dots per Inch)
- ▶ Dot Matrix
- ▶ Ink Jet
- ▶ Laser



Computer Systems

What types are best ?

Types of Single User Systems

Factor	Tablets	Notebooks	Thin Client	Desktop	Work Station
Cost	\$200/ \$1500	\$300/ \$2500	\$250/ \$1000	\$300/ \$2000	\$4000/ \$40,000
CPU Speed	> 2 GHz	> 4 GHz	> 200 MHz	> 4 GHz	> 8 GHz
Typical Uses	Entertainment	Mobile Computing	Enter data	Productivity Software	CAD, Engineering

Typical Smart Phone Criteria

- ▶ Diagonal Measurement
 - 6.8" – 6.1"
- ▶ Camera
 - 24 to 50 MP (Rear)
 - 12 MP (Selfie)
- ▶ Storage
 - 128 GB to 1 TB
- ▶ Weight
 - 6.0 ounces
- ▶ Water Resistant
 - 6 meters up to 30 minutes