

Lab 1

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FireWire vs USB

FireWire and USB are two standards for connecting devices. Firewire is less common and does not require a PC to act as the host.

FireWire	USB
800 Mbps	480 Mbps (2.0), 5Gbps (3.0)
Peer-to-Peer	Needs PC Host
Up to 33 Volt output	Up to 5 Volt output
Up to 15' Cable	Up to 16' Cable

Costs of Memory

Type of Memory	Cost	Cost/GB
RAM	16GB for \$34	\$2.125
SSD	512GB for \$120	\$0.23
SATA	500GB for \$20	\$0.04

Source: newegg.com

CSEL Configuration of an IDE Bus

CSEL or cable select configuration is where the 'master' hard drive is the one plugged into the master connector on the motherboard, without needing to set jumpers.

Binary MAC Address to Hex

0000 0000 0000 0100 0111 0110 1011 1010 1100 0010 0011 0001 => 000476BAC231

IP Address vs MAC Address

IP is user configured, whereas the MAC address is set on the Network Interface Card. MAC address is used on LANs and IP is used on the Internet.

TCP Sequence Number and Acknowledge Numbers

The sequence number indicates where the current data belongs in the entire data stream. The acknowledgement number is the next packet that the receiver is expecting, which indicates that previous packets have been received.

ARP

ARP (Address Request Protocol) is a standard that computers on the same LAN use to discover each other's MAC addresses. It involves broadcasting a signal with destination MAC address all 1's, requesting the computer with a certain IP address; every computer will get this message and the computer with matching IP address will respond.