



***SiS Dual DDR333 Pentium 4 Chipset***  
***SiS655/963***

Silicon Integrated Systems Corp.  
Integrated Product Division  
Dec, 2002



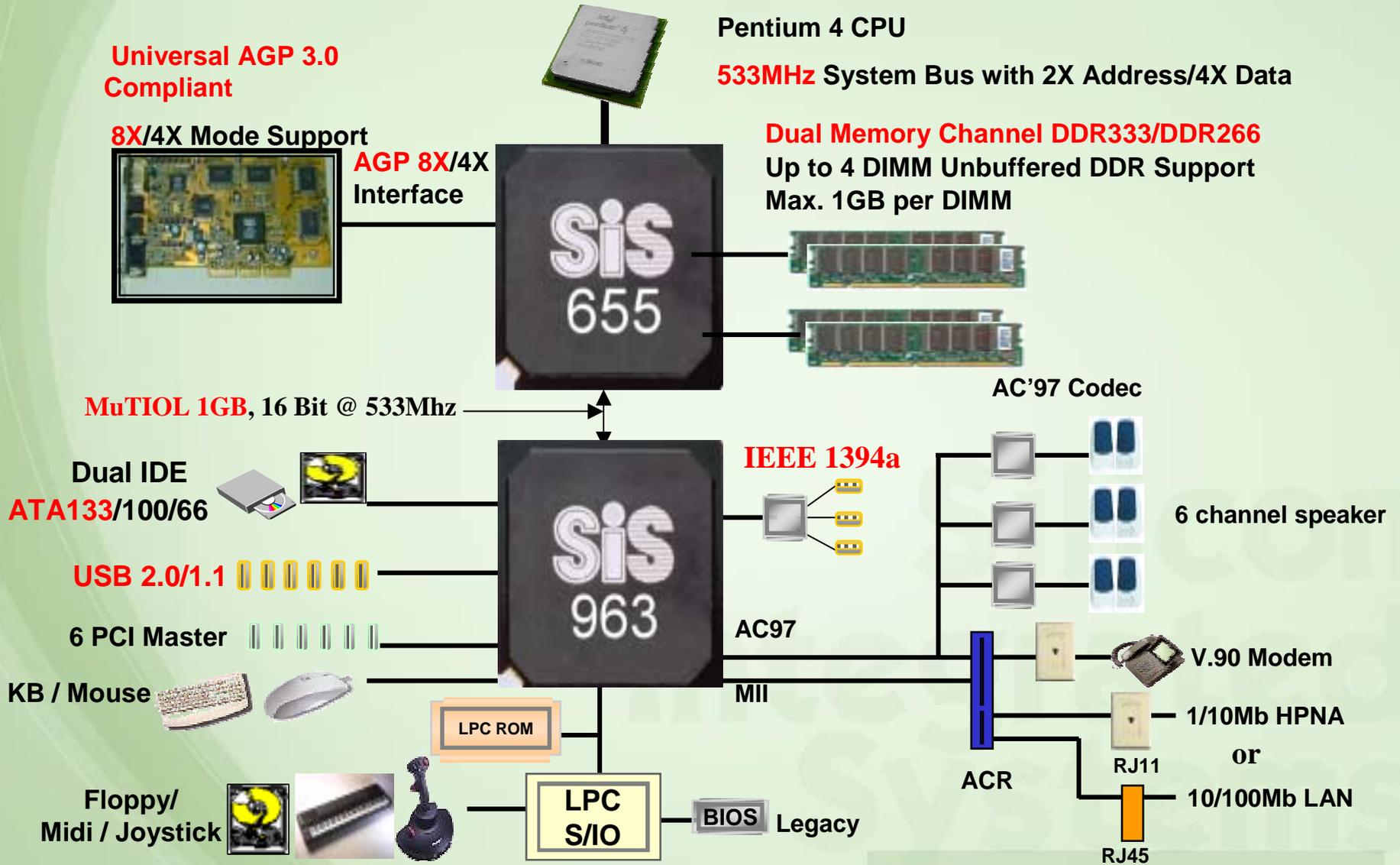
# Agenda

- **System Architecture and Key Feature**
- **Dual Memory Controller**
- **USB2.0 and IEEE1394a**
- **Advantages of SiS655**

Silicon  
Integrated  
Systems



# SiS655/963- P4 Dual DDR333 Chipset

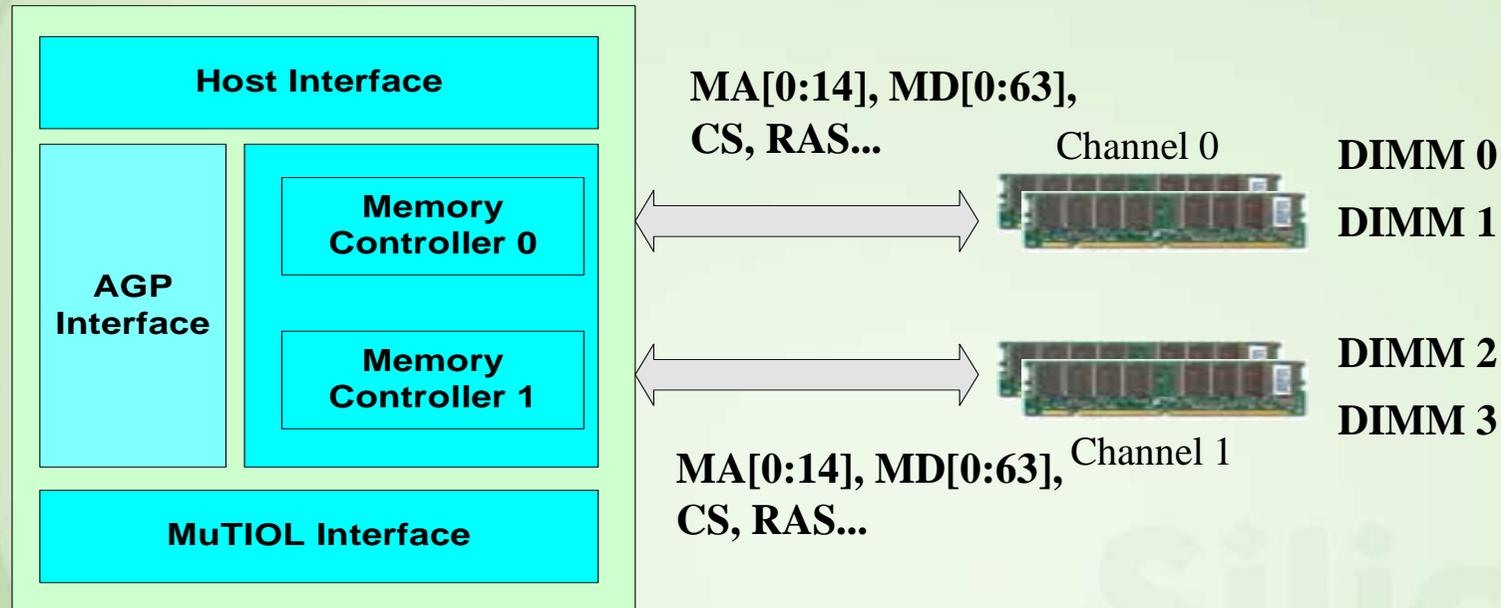


-- PC2001 Compliant --



# Dual Memory Controller Overview

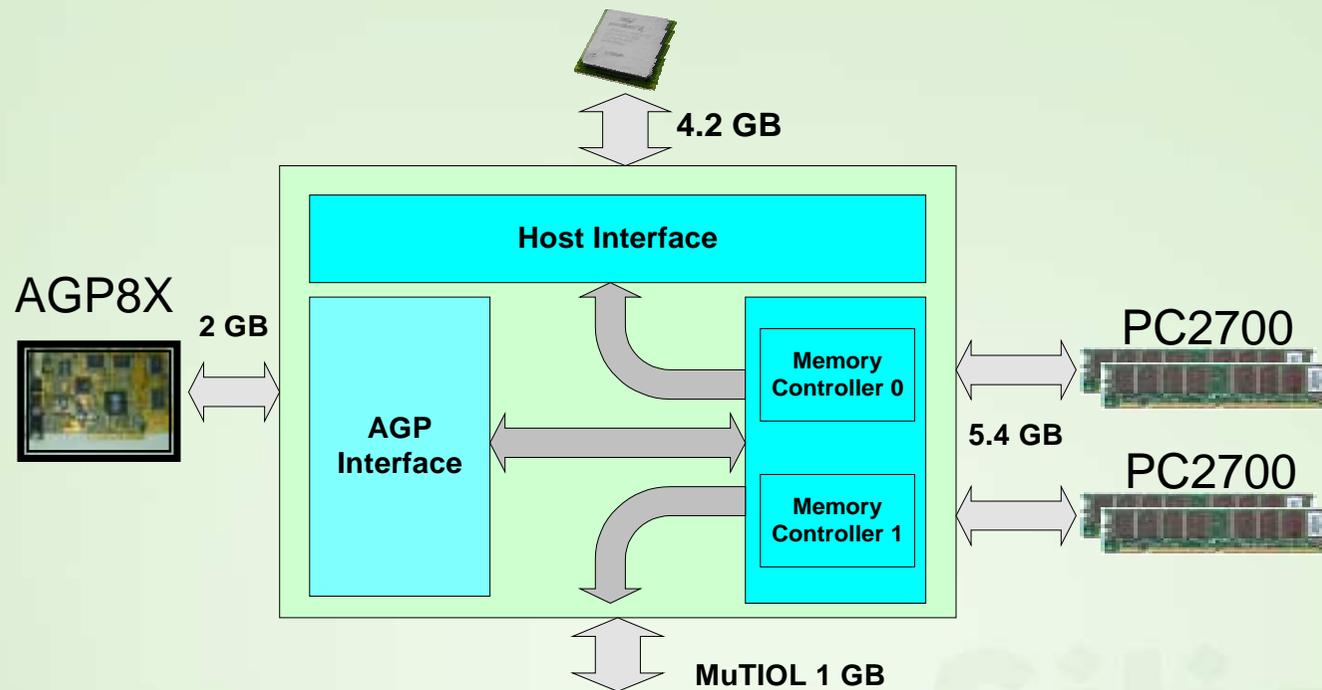
## - SiS655



- Independent MA, MD, and control signals for each channel
- Support 128bit mode, Concurrent Dual64bit mode and Legacy single 64 bit mode.
- Auto Configuration for flexible DIMM combination Support



## Dual Memory Controller Advantage- SiS655

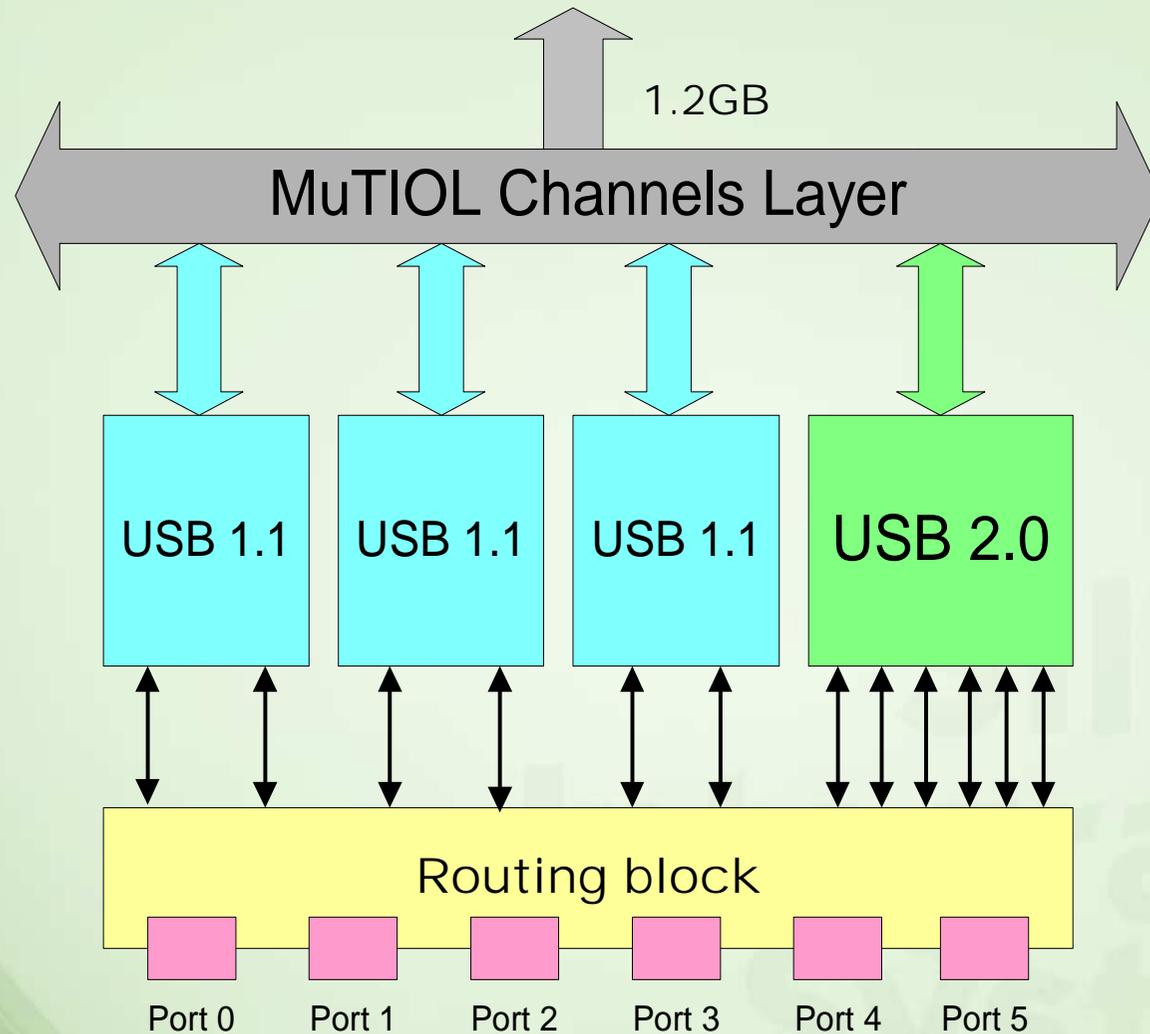


- Double memory bandwidth up to 5.4 GB @ 128bit mode and 2x64 bit mode
- 2x64bit mode provides no DIMM type and size limit for enabling Dual channel advantage.
- Simply enable dual channel advantage and upgrade the performance at inexpensive way



# SiS963 -- USB2.0/1.1

Make USB Migration Smooth

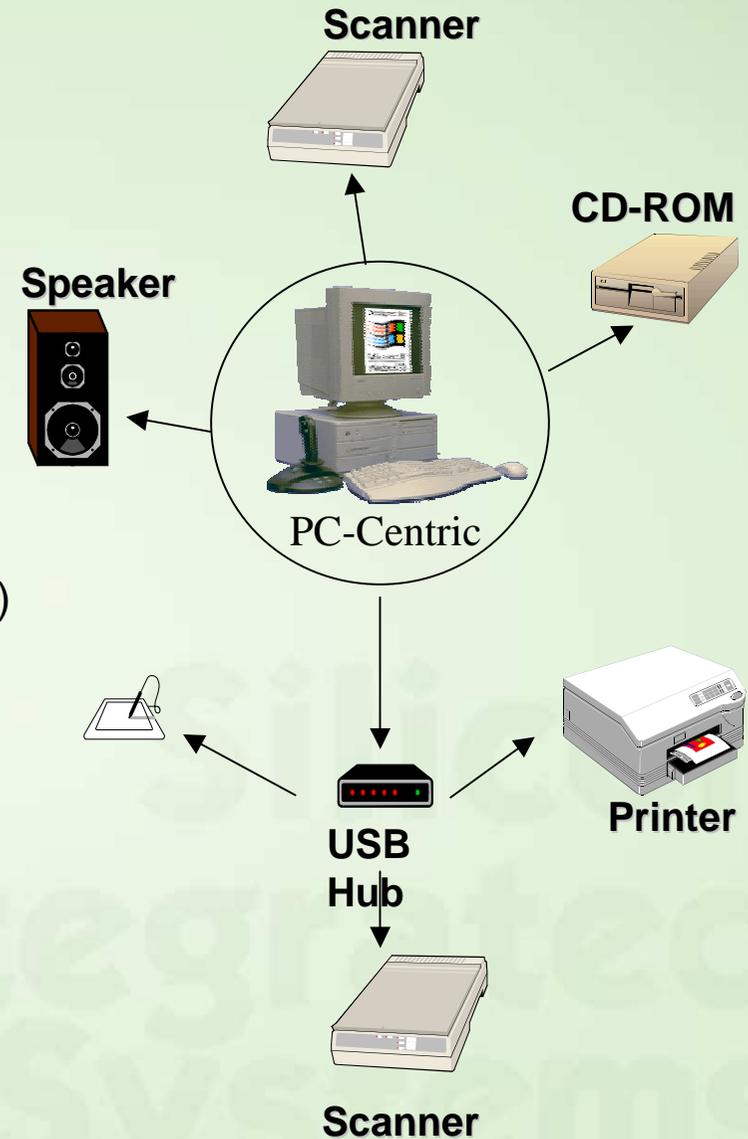


Dynamic Switching to USB1.1 or USB2.0, depends on Devices



# USB2.0 - What it is?

- **Support PC-centric connection to High Speed and High Performance PC Peripherals.**
  - Support High Speed Device @480 Mb/s bandwidth = 40 times faster than USB1.1
- **Fully Backward Compatible w/ USB 1.1**
  - Support USB 1.1 Full Speed Devices (12Mb/s) and USB 1.1 Low Speed Devices (1.5Mb/s)
- **Working w/ the existing USB 1.1 connectors and cables**
  - No new connectors and cables are required.





# What USB2.0 Devices Available?

## USB 2.0 CD-ROM/DVD-ROM



Addonics Tech.  
ACOM

## USB 2.0 CD-R/RW



Plextor, SONY  
Fujitsu, Yamaha..

## USB 2.0 CCD/Camera



AME, Opteon

## USB 2.0 MO Driver



Fujitsu..



## USB 2.0 Scanner



Epson, Microtek

## USB 2.0 Flash card Reader



Datafab System...

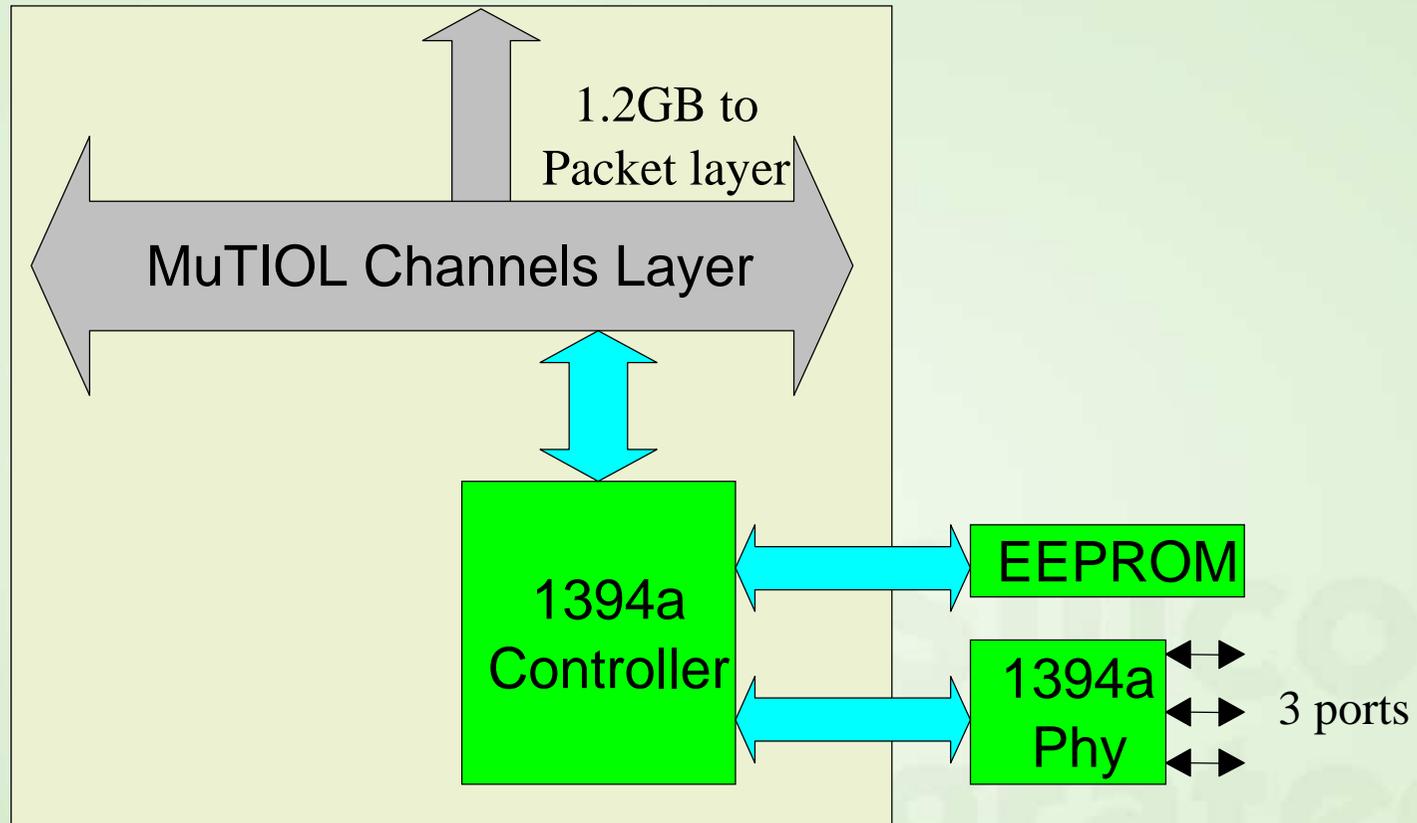
## USB 2.0 HDD



Maxtor, Fujitsu..



## SiS963- IEEE1394a

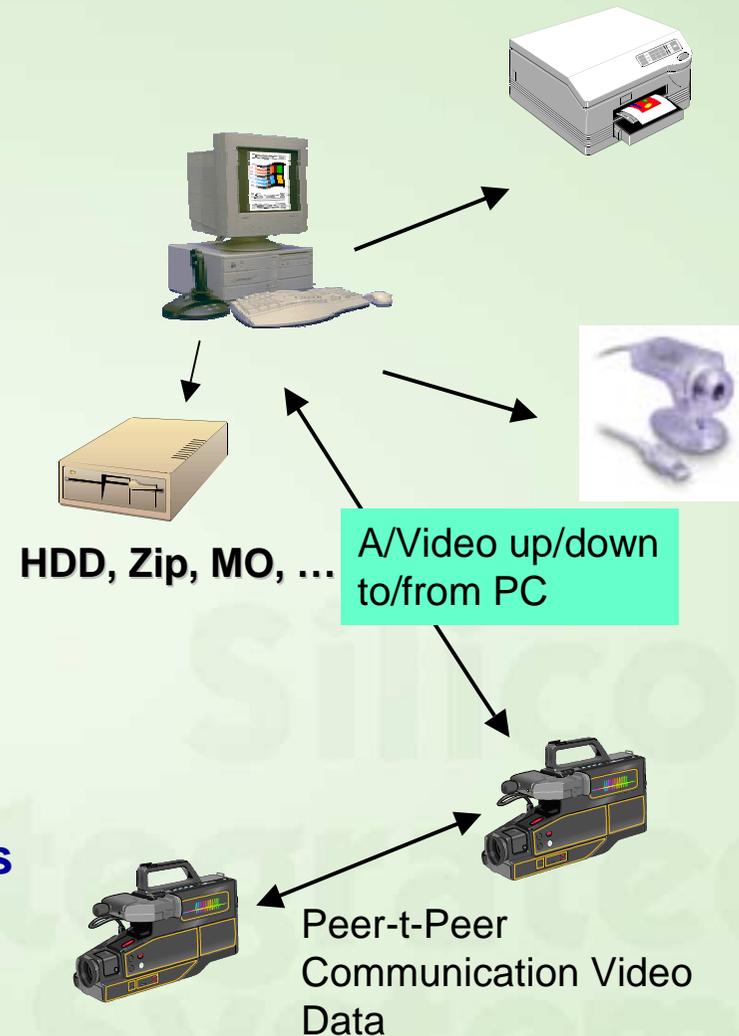


- Store 1394 Organizationally Unique Identifier (OUI/OUA) Information in EEPROM
- Share single EEPROM for both IEEE1394a OUI and LAN Mac Address information



## IEEE1394a--What it is?

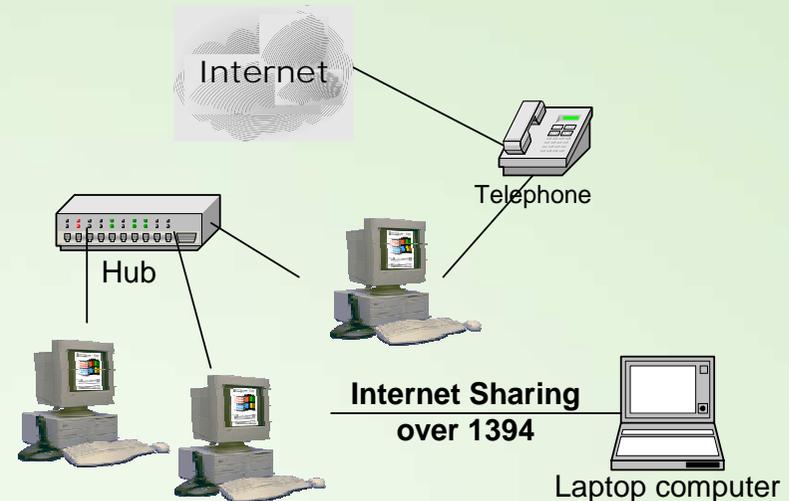
- Addressing Interconnection of Both PC Peripherals and Consumer Electronics.
- High Speed Bus Operating at data transfer rate of 100Mbps to 400 Mbps, depending on cable type
- Support Peer-to-peer communication
- Support TCP/IP Networking Capability
- Support Isochronous and asynchronous data transfer



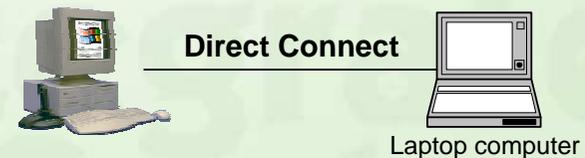


# 1394 TCP/IP Networking – IP over 1394

- With “IP over 1394” Support to Enabling Internet Access Sharing among Networked PCs
- With “IP over 1394” Support to Direct Connect PCs by 1394 Ports w/o Additional Hardware and Drivers
- Native “IP over 1394” Support in Windows Me and Windows XP



Or





# What 1394a Devices Available?

## PC Peripherals and Consumer Electronics

### 1394 HDD



IOMEGA, LaCie  
VST Tech. ...

### 1394 DV/D8



SONY, JVC, Sharp  
Panasonic, Canon

### 1394 MO



Fujitsu



### 1394 MD Recorder



Kenwood

### 1394 Scanner



Epson, UMAX..

### 1394 Music Synthesizer



Fujitsu

### 1394 CD-R/RW



SONY, IOMEGA



# The Advantages of SiS655

- **Host Interface**
  - Support Intel Pentium 4 CPU
  - **533MHz system bus** w/ 2X Address and 4X Data Rate and bandwidth of up to 4.2GB/s
  - 12 Outstanding Transactions support
  - Quasi-Synchronous/Asynchronous Host/DRAM Timing support
  - Support 2M/4M/8M/16M TSEG SMRAM
  - Support Dynamic Bus Inversion.
- **DRAM Controller**
  - Integrated Dual Memory Controller w/ 128bit mode and 64bitx2 concurrent access mode support
  - DDR333/DDR266Support
  - Support Up to 4 un-buffer Double-sided DIMM
  - Max. 1GB per DIMM with 512Mb tech.
- **AGP 3.0 and AGP2.0 Compliant**
  - 8X/4X/2X Mode Support
  - Fast Write Support
  - Support 1.5V interface only
- **SiS MuTIOL Technology Delivering **1GB/sec** Bandwidth**



## SiS963 MuTIOL Media IO

- **USB 2.0 /1.1 Support**
  - Integrated Three Independent Open HCI Controllers includes Root Hub w/ two USB 1.1 ports each
  - Integrated One EHCI Controller includes Root Hub w/six USB 2.0 ports
  - Support a maximum of 6 USB Ports. Dynamic connection to USB 1.1 or USB 2.0.
- **IEEE 1394a Controller Integrated**
  - OHCI 1394a 1.1 compliance
  - Up to three 1394a ports support w/ external 1394a Phy.
- **IDE Controller**
  - Dual Independent IDE Channels with **ATA133/100/66** support
- **Integrated MAC Controller with Standard MII Interface**
- **Integrated Audio Controller w/ AC97 2.2 Compliance Interface**
  - Support **5.1 channel of Audio output** and V.90 HSP Modem
  - Support 4 Separate SDATAIN Pins for 3 x 2 ch Audio Codec + 1 Modem Codec
- **PCI 2.2 Compliant**
  - Support up to 6 PCI Masters
- **LPC Interface 1.0 Compliance**
- **ACPI 1.0b Compliance**
- **I/O APIC Support**
- **PC2001 Compliance**
- **SiS MuTIOL Technology Delivering 1GB/sec Bandwidth**