

# *SiS550Family Detail Feature List*

## **Integrated x86 Compatible CPU**

- # x86 Instruction Set Compatible Processor
- # High Performance with Advanced Architectures
- # Superscalar Execution
- # Three Superpipelined Integer Units
- # Pipelined Floating Point Unit
- # Innovative Instruction Decode and Branch Prediction
- # Separate Code and Data Caches
- # Support for Bus Frequency up to 100MHz
- # Low Power Consumption Design
- # Software Compatibility with Microsoft Windows, Windows CE, MS-DOS, QNX and LINUX
- # Supports Host Bus Direct Access GUI Engine for Integrated A.G.P. VGA Controller

## **Integrated DRAM Controller**

- # Supports up to 2 Double Sided DIMMs (4 Rows Memory)
- # Supports PC100/PC133 SDRAM Technology
- # Supports NEC Virtual Channel Memory (VC-SDRAM) Technology
- # System Memory Size up to 1 GB
- # Supports 16Mb, 64Mb, 128Mb, 256Mb, 512Mb SDRAM Technology
- # Supports Suspend-To-RAM (STR)
- # Relocatable System Management Memory Region
- # Programmable Buffer Strength for CS#, DQM[7:0], WE#, RAS#, CAS#, CKE, MA[14:0] and MD[63:0]
- # Shadow RAM Size from 640KB to 1MB In 16KB Increments
- # Two Programmable PCI Hole Areas

## **Integrated A.G.P. Compliant Target Host-To-PCI Bridge**

- # AGP V2.0 Compliant
- # Supports Graphic Window Size from 4Mbytes To 256Mbytes
- # Supports Pipelined Process in CPU-To-Integrated A.G.P. VGA Access
- # Supports 8 Way, 16 Entries Page Table Cache for GART to Enhance Integrated
- # A.G.P. VGA Controller Read/Write Performance
- # Supports PCI-To-PCI Bridge Function for Memory Write from 33Mhz PCI Bus to Integrated A.G.P. VGA

## **Meets PC99a Requirements**

## **PCI 2.2 Specification Compliant**

### **High Performance PCI Arbiter**

- # Supports up to 3 external PCI Masters
- # Rotating Priority Arbitration Scheme
- # Advanced Arbitration Scheme Minimizing Arbitration Overhead
- # Guaranteed Minimum Access Time for CPU And PCI Masters

### **Integrated Host-To-PCI Bridge**

- # Zero Wait State Burst Cycles
- # CPU-To-PCI Pipeline Access
- # 256B to 4KB PCI Burst Length for PCI Masters
- # PCI Master Initiated Graphical Texture Write Cycles Re-Mapping
- # Reassembles PCI Burst Data Size into Optimized Block Size

### **Fast PCI IDE Master/Slave Controller**

- # Supports PCI Bus Mastering
- # Supports Native Mode and Compatibility Mode
- # Supports PIO Mode 0, 1, 2, 3, 4
- # Supports Multiword DMA Mode 0, 1, 2
- # Supports Ultra DMA 33/66/100

### **Virtual PCI-To-PCI Bridge**

### **Integrated Ultra-AGP™ VGA for Hardware 2D/Video/Graphics Accelerators**

- # Supports Tightly Coupled 64 Bits 100Mhz Host Interface to VGA to Speed Up GUI
- # Performance and the Video Playback Frame Rate
- # AGP Rev. 2.0 Compliant
- # Zero-Wait-State Post-Write Buffer with Write Combine Capability
- # Zero-Wait-State Read Ahead Cache Capability
- # Re-Locatable Memory-Mapped and I/O Address Decoding
- # Flexible Design Shared Frame Buffer Architecture for Display Memory
- # Shared System Memory Area up to 128 MB
- # 128-Bit 2D Engine with a Full Instruction Set
- # Built-In 64x64x2 Bit-Mapped Hardware Cursor

- # Built-In 32x32x16, 32x32x32 Bit-Mapped Hardware Color Cursor and Alpha Cursor
- # MPEG-2 ISO/IEC 13818-2 [MP@ML](#) and MPEG-1 ISO/IEC 11172-2 Standards Compliant
- # Supports Advanced H/W DVD Accelerator
- # Built-in Video Processor to Support De-interlace Function and High Quality Multi-tap Video Scaling
- # Direct DVD to TV Playback
- # Supports Two Independent Video Windows with Overlay Function and Scaling Factors
- # Supports YUV-To-RGB Color Space Conversion
- # Supports Bi-Linear Video Interpolation with Integer Increments of Pixel Accuracy
- # Supports Graphic and Video Overlay Function
- # Supports VCD/DVD to TV Playback Mode
- # Simultaneous Graphic and TV Video Playback Overlay
- # Supports Current Scan Line Of Refresh Red-Back and Interrupt
- # Supports Tearing Free Double/Triple Buffer Flipping
- # Supports Input Video Vertical Blank or Line Interrupt
- # Supports RGB555, RGB565, YUV422 and YUV420 Video Playback Format
- # Supports Filtered Horizontal up and down Scaling Playback
- # Supports DVD Sub-Picture Playback Overlay
- # Supports DVD Playback Auto-Flipping
- # Built-In Two Video Playback Line Buffers
- # Supports DCI Drivers
- # Supports Direct Draw Drivers
- # Built-In Programmable 24-Bit True-Color RAMDAC up to 300 MHz Pixel Clock RAMDAC
- # with Snoop Function
- # Built-In Reference Voltage Generator and Monitor Sense Circuit
- # Supports Down-Loadable RAMDAC for Gamma Correction In High Color and True Color Modes
- # Built-In Dual-Clock Generator
- # Supports Multiple Adapters and Multiple Monitors
- # Built-In Digital Interface for Digital TV-Out Encoder, Panellink™ (TMDS), LVDS and DSTN
- # Supports Digital Flat Panel Port for Digital Monitor (LCD Panel)
- # Built-In Secondary CRT Controller for Independent Secondary CRT, LCD or TV Digital Output
- # Supports VESA Standard Super High Resolution Graphic Modes

- # 640x480 16/256/32K/64K/16M Colors 160 Hz NI
- # 800x600 16/256/32K/64K/16M Colors 120 Hz NI
- # 1024x768 256/32K/64K/16M Colors 120 Hz NI
- # 1280x1024 256/32K/64K/16M Colors 85 Hz NI
- # 1600x1200 256/32K/64K/16M Colors 85 Hz NI
- # 1920x1440 256/32K/64K Colors 60 Hz NI
- # 1920x1440 256 Colors 75 Hz NI
- # Low Resolution Modes
- # Supports Virtual Screen up to 4096x4096
- # Fully DirectX 8.0 Compliant
- # Efficient and Flexible Power Management with ACPI Compliance
- # Supports DDC1, DDC2B and DDC 3.0 Specifications
- # Cooperate with "SiS301 Video Bridge" to Support
  - NTSC/PAL Video Output
  - Digital LCD Monitor
  - Secondary CRT Monitor

#### **Low Pin Count Interface**

- # Forwards PCI I/O and Memory Cycles into LPC Bus
- # Translates 8-/16-Bit DMA Cycles into PCI Bus Cycles

#### **Advanced PCI H/W Audio & S/W Modem**

- # Hardware DirectSound™ accelerator
  - 64-Channel DirectSound™ acceleration with High Quality sampling rate converter.
  - 64-Voice DirectSound™ 3D Channels.
  - 16 On-Chip High-Precision re-routable Sub-Mixers.
  - Full-duplex supports of Stereo/Mono, 8-/16-bits, and Signed/Unsigned Samples.
  - Per Channel Control of Volume and Pan.
- # Advanced DLS-2 compliant Wavetable Synthesizer
  - 64-Voices Polyphony Wavetable Synthesizer fully compliant with DLS-2.
  - Per Channel control of Volume, Envelope, Pitch, Pan, Tremolo, and Vibrato etc.
  - Per Channel Resonance and Cut-Off Frequency control of Low-Pass Filter.
- # Fully Compliant with AC97 V2.1
  - Support for up to 3 AC97 CODEC s.
  - Support for AC3 2-4-6-channels Output over AC-link.
  - Support for DRC and VRC over AC-link.
  - Support ever slot defined in AC97 V2.1.
  - Power Management Control of AC97 Codec.

#### # Telephony & Modem

Full-Duplex Support for Line1 and Line2 over AC-link.

Full-Duplex Support for Handset over AC-link.

#### # Consumer Digital Audio Interface

Support PCM/AC-3 digital audio output.

Support AC97 CODEC s digital audio output.

### **Advanced Power Management**

# Meets ACPI 1.0 Requirements

# Meets APM 1.2 Requirements

# ACPI Sleep States Include S1, S2, S3, S4, S5

# CPU Power States Include C0, C1, C2, C3

# Power Button with Override

# RTC Day-Of -Month, Mont h-Of -Year Alarm

# 24-Bit Power Management Timer

# LED Blinking In S0, S1, S2 and S3 States

# System Power-Up Events Include: Power Button, Hot-Key, Keyboard Password/ Hot-Key, RTC Alarm, Modem Ring-In, SMBALT#, LAN, PME#, AC 97 Wake-Up and USB Wake-Up

# Software Watchdog Timer

# PCI Bus Power Management Interface Spec. 1.0

### **Integrated DMA Controller**

# Two 8237A Compatible DMA Controllers

# 8/16- Bit DMA Data Transfer

# Distributed DMA Support

### **Integrated Interrupt Controller**

# Two 8259A Compatible Interrupt Controllers

# Level- Or Edge-Triggered Programmable Serial IRQ

# Interrupt Sources Re-Routable to Any IRQ Channel

### **Three 8254 Compatible Programmable 16-Bit Counters**

# System Timer Interrupt

# Generate Refresh Request

# Speaker Tone Output

### **Integrated Keyboard Controller**

- # Hardwired Logic Provides Instant Response
- # Supports PS/2 Mouse Interface
- # Password Security and Password Power-Up
- # System Sleep and Power-Up By Hot-Key
- # KBC and PS/2 Mouse Can Be Individually Disabled

#### **Integrated Real Time Clock (RTC) with 256B CMOS SRAM**

- # Supports ACPI Day-Of-Month and Month-Of-Year Alarm
- # 256 Bytes Of CMOS SRAM
- # Provides RTC H/W Year 2000 Solution

#### **Integrated Universal Serial Bus Host Controller**

- # OpenHCI Host Controller with Root Hub
- # Three USB Ports
- # Supports Legacy Devices
- # Over Current Detection

#### **Integrated Parallel Port Controller**

- # Supports Parallel Port SPP mode

#### **Integrated CIR Controller**

- # Supports programmable Amplitude Shift Keyed (ASK) serial communication protocol
- # Supports various popular protocols including RC-5, NEC and RECS-80
- # Supports 7 kinds of decoders
  - Forward-Coded Decoder
  - Space-Coded Decoder
  - Pulse-Coded Decoder
  - Silitek-Coded Decoder
  - Chicony1/2-Coded Decoder
  - BTC-Coded Decoder
  - Software Decoder
- # Supports Sample rates up to 3MHz
- # Supports Hardware power on/off key decode ability
- # Supports interrupt and software reset
- # 32-bytes FIFO length for data reception and supports FIFO clear

#### **Integrated Smart Card Controller**

- # Compliant with Personal Computer Smart Card (PC/SC) Working Group standard

- # Compliant with smart card (ISO 7816) protocols
- # Supports card present detect
- # Supports smart card insertion power on feature

#### **Integrated Memory Stick Controller**

- # Compliant with SONY memory stick protocol 1.2
- # Supports memory stick present detect
- # Supports power switch for memory stick

#### **NAND Tree for Ball Connectivity Testing**

#### **672-Balls BGA Package**

#### **1.9V Core with Mixed 3.3V and 5V I/O CMOS Technology**