

## High Performance – Low Power

### System-Level Solution



### Product Overview

The AMD Geode™ CS5535 companion device is designed to work with the AMD Geode™ GX 533@1.1V processor\* and other Northbridge components. The combined system provides a system-level solution designed to help developers produce high-performance and low-power applications including digital set-top boxes, personal access devices, and thin client applications.

The internal architecture of the AMD Geode CS5535 companion device has been greatly simplified over previous AMD Geode companion devices by using a single, high-performance modular structure based on GeodeLink™ architecture. This architecture yields high-internal-speed (over 4GB/s) data movement and extremely versatile internal power management. The GeodeLink architecture is transparent to application software. Communication with the GX 533@1.1V processor is over a 33/66MHz PCI bus.

The CS5535 companion device incorporates many I/O functions, including those found in typical Super I/O chips, simplifying many system designs. Since the graphics subsystem is entirely contained in the GX 533@1.1V processor, system interconnect is simplified. The device contains state-of-the-art power management that helps to significantly reduce power consumption.

Audio is supported by an internal controller, designed to connect to multiple AC97-compatible codecs. An infrared (IR) port supports all popular IR communication protocols. The IR port is shared with one of two industry-standard serial ports that can reach speeds of 115.2kbps. A low pin count (LPC) port is provided to facilitate connections to a Super I/O should additional expansion, such as a floppy drive, be necessary, or to an LPC ROM for the system BIOS.

AMD Geode™ Solutions have received new model numbers to better reflect total performance beyond just megahertz. This presentation of attributes gives designers greater understanding of the capabilities of AMD Geode Solutions.



### Technical Specifications

#### General features

- 208-terminal PBGA package – 1.5V
- JTAG interface IEEE 1149.1

#### IDE controller

- UDMA-66 compliant
- One channel with two devices

#### Flash memory interface

- Multiplexed with IDE interface
- Connects to an array of industry standard NAND Flash and/or NOR Flash memory

#### USB controllers

- Two USB 1.0 controllers, supporting total of four

#### Audio codec 97 controller

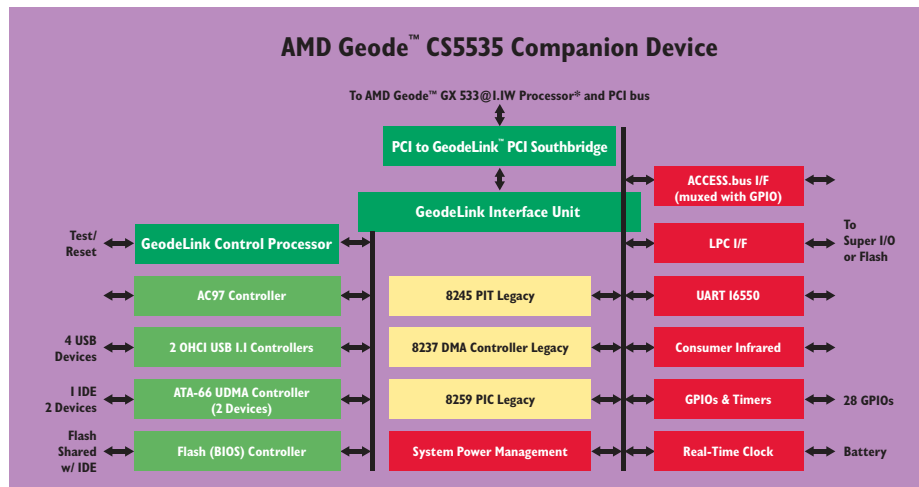
- AC97 specification version 2.1 compliant interface to multiple audio codecs: serial-in, serial-out, bit clock-in
- Multiple codec support
- Surround sound support

#### IR (infrared) communication port

- Shared with serial port 1
- I6550A and I6450 software compatible
- Consumer-IR (TV-remote) mode
- HP-SIR
- Selectable internal or external modulation/demodulation (SHARP-IR)
- Consumer remote control supports RC-5, RC-6, NEC, RCA, RECS 80

\*This processor operates at 400MHz. Model numbers reflect performance as described here: <http://www.amd.com/connectivitysolutions/geodegxbenchmark>.

# AMD Geode™ CS5535 Companion Device



## System Management Bus (SMB) controller

- Compatible with Intel System Management Bus, Philips I2C, and ACCESS.bus

## Low Pin Count (LPC) port

- Based on Intel LPC interface specifications, revision 1.0

## General Purpose I/Os (GPIOs)

- Up to 28 programmable GPIOs: in, out, I/O, open-drain, pull-up/down, and invert

## Multi-Function General Purpose Timers (MFGPTs)

- Eight MFGPTs – two are multiplexed with GPIOs for external usage

## Real-Time Clock (RTC) with CMOS RAM

- Battery backed-up century calendar in days, day of the week, date of month, months, years and century, with automatic leap-year adjustment

## Power management logic

- Advanced Configuration Power Interface (ACPI) specification compliant timer and register set
- Supports Advanced Power Management (APM) and Legacy PM
- Power Management Event (PME) from GPIOs and/or on-chip sources
- Working, Sleep and Standby states
- System over-temperature support

\*This processor operates at 400MHz. Model numbers reflect performance as described here: <http://www.amd.com/connectivitysolutions/geodegxbenchmark>.

### About AMD

AMD (NYSE:AMD) designs and produces microprocessors, Flash memory devices and system-on-chip solutions for the computer, communications and consumer

electronics industries. AMD is dedicated to helping its customers deliver standards-based, customer-focused solutions for technology users, ranging from enterprises to government agencies and individual

consumers. Founded in 1969, AMD is a Standard & Poor's 500 company with global operations and manufacturing facilities in the United States, Europe, Japan and Asia.

For more information, please visit: [www.amd.com/connectivitysolutions/cs5535](http://www.amd.com/connectivitysolutions/cs5535)



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