



I need **low power,**  
**performance**  
and **commitment**  
in an **x86** solution.



## AMD Geode™ Solutions

AMD Geode™ Solutions deliver performance  
and power that designers really need.





**Low-power versatility and optimum performance for a variety of highly efficient designs.** AMD Geode™ processors represent the state of the art in low-power x86 solutions, combining industry-leading design methodologies with a unique architecture to deliver products with an optimized combination of power and performance.

Bringing together innovative technologies like the flexible AMD GeodeLink™ high-speed interconnect and a fully accelerated graphics engine – combined with exceptionally low power consumption – AMD Geode x86 solutions give designers the freedom to produce highly efficient and versatile platforms for a wide variety of applications.

**x86 Everywhere**

x86 processor technology is rapidly moving beyond the traditional PC computing environment to provide powerful processing capabilities for an assortment of consumer electronics devices. “x86 Everywhere” means that the PC-based x86 instruction sets can now deliver virtually anywhere – giving designers the freedom to create cross-platform devices that deliver more power and opportunity to end users.

The AMD Geode processor strategy has been developed to leverage x86 Everywhere methodologies – combining the software capabilities of Microsoft® Windows® and Linux operating systems and their associated software titles – eliminating the barriers to truly integrated embedded computing while providing unprecedented protection of their software investments.

**Common Instruction Set Architecture**

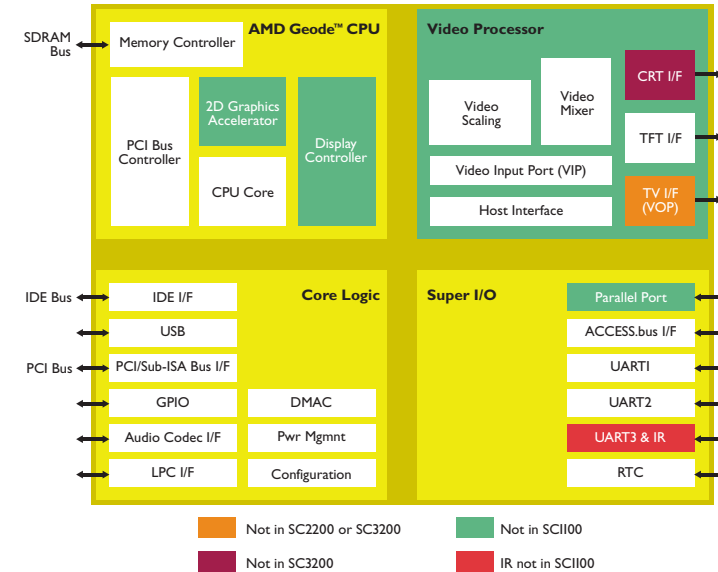
- No need to port
- No need for multiple validations
- Built-in OS integration
- Robust security
- Investment protection
- Windows® and Linux

**The right AMD Geode™ processor for virtually every vertical application.**

<p><b>Computing Applications</b></p> <ul style="list-style-type: none"> <li>• Thin Client</li> <li>• Information Appliances</li> <li>• POS</li> </ul>	<p>AMD Geode™ processors are optimized for computing applications, delivering tightly integrated CPU and graphics operations to provide versatile and low-power solutions with high benchmark performance.</p>	
<p><b>Multimedia Applications</b></p> <ul style="list-style-type: none"> <li>• Entertainment on Demand</li> <li>• IP Based Delivery</li> <li>• Handheld</li> <li>• Automotive</li> </ul>	<p>AMD Geode processors enable a variety of new and exciting multimedia products, combining high-performance application processing with excellent video support, all at power levels compatible with fanless and mobile systems.</p>	
<p><b>Industrial/Embedded Applications</b></p>	<p>Low power consumption and high performance empower designers to leverage AMD Geode processor solutions for innovative, cutting-edge x86 applications within the embedded processor marketplace.</p>	

**AMD Geode™ SC1100/SC1200/SC1201/SC2200/SC3200 Processors**

Decrease time-to-market with a highly integrated lower-power solution that delivers PC performance for embedded devices.



The highly integrated AMD Geode™ SC processor family is built around the powerful AMD Geode x86 processor core, coupled with application-specific system-level peripherals – including multi-input TV video processor, video input/output ports, core logic, and a Super I/O block. The SC processors feature advanced display interface support for audio, AC97 and AMC97. Combined with a small form factor and low power consumption, AMD Geode SC processor solutions are optimized for embedded Internet applications.

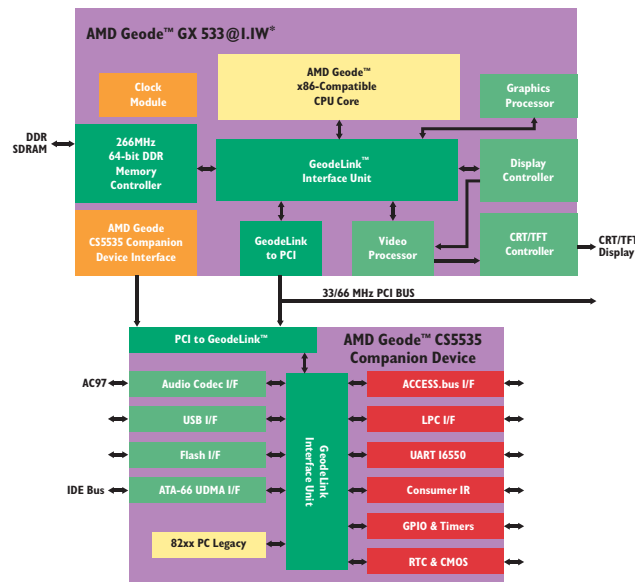
**Features**

- 32-bit x86 processor, with MMX® instruction set support
- 64-bit SDRAM interface
- 2D graphics accelerator
- PCI bus controller
- USB interface
- Audio interface, AC97 and AMC97 Rev. 2.0 compliant
- Virtual System Architecture™ (VSA) technology support
- Power management, ACPI 1.0 compliant
- Two IDE channels for up to four external ATA-33 compliant devices
- OS Support
  - Microsoft® Windows® XPe, CE
  - Linux



**AMD Geode™ GX 533@1.IW\* Processor**

Low power, excellent performance for applications that require a small form factor.



Optimized for low-power applications such as set-top boxes, personal access devices, thin-client applications and other products that combine low power requirements with small form factors, the AMD Geode™ GX 533@1.IW processor provides the maximum mix of performance, power and size. The AMD Geode CS5535 companion device enables fast design-to-market cycles.

**Features**

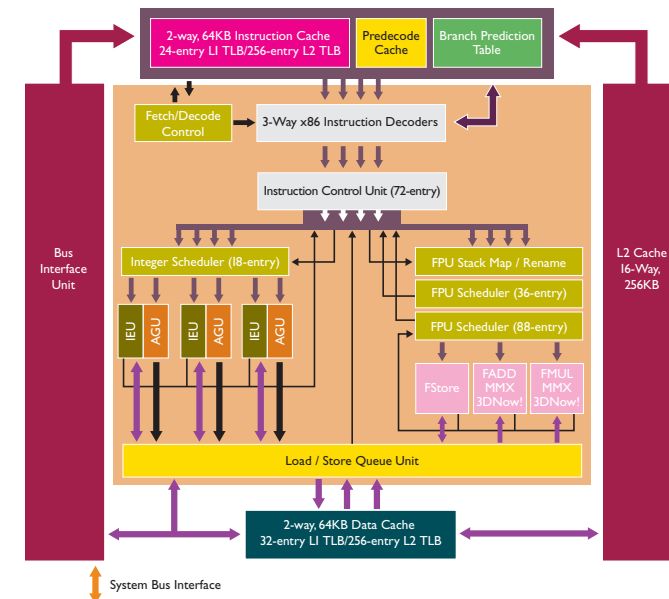
- x86 CPU with integrated graphics, DDR memory controller and FPU
- High-performance GeodeLink™ architecture
- 32-bit PCI-66 interface
- ACPI and APM compliant
- <1.5W typical power consumption (1.IW for CPU core)
- Support for MMX® and AMD 3DNow!™ technology extensions
- 32KB of level 1 cache, 16KB instruction and 16KB data
- Integrated display controller for CRT and TFT
- 64-bit DDR memory controller
- OS support
  - Microsoft® Windows® XP, XPe, CE
  - Linux
- Also available: AMD Geode GX 500@1.0W\* processor and AMD Geode GX 466@0.9W\* processor



\*The AMD Geode™ GX 533@1.IW processor operates at 400MHz. The AMD Geode™ GX 500@1.0W processor operates at 366MHz. The AMD Geode™ GX 466@0.9W processor operates at 333MHz. Model numbers reflect performance as described here: <http://www.amd.com/connectivitysolutions/geodexbenchmark>.

**AMD Geode™ NX 1500@6W\* Processor**

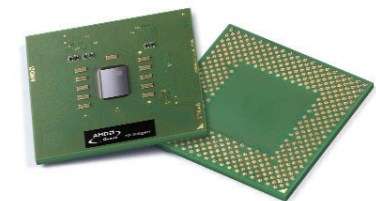
High-performance fanless operation with scalability and proven architecture to leverage full Internet capability.



Based on the AMD Athlon™ processor architecture, the AMD Geode™ NX 1500@6W processor features advanced design, proven performance and excellent power management characteristics. Compatible with the Mobile AMD Athlon infrastructure – including chipsets, BIOS, drivers, and more – the NX 1500@6W processor is an ideal solution for fanless applications where high performance and low power consumption are important.

**Features**

- Pipelined floating-point execution unit
- Support for MMX®, SSE, and AMD 3DNow!™ professional instruction sets
- 266MHz FSB
- 128Kbyte L1 cache, 256Kbyte L2 cache with hardware data prefetch
- 6W typical core power at 1.0GHz
- No fan required
- Long-term manufacturing and support
- Design stability for long-life applications
- Leverage PC components
- AMD PowerNow!™ technology
- 453-pin Socket A compatible Organic PGA (OPGA) package
- Also available: AMD Geode NX I750@14W\* processor and AMD Geode NX I250@6W\* processor



\*The AMD Geode™ NX 1500@6W processor operates at 1GHz. The AMD Geode™ NX I750@14W processor operates at 1.4GHz. The AMD Geode™ NX I250@6W processor operates at 667MHz. Model numbers reflect performance as described here: <http://www.amd.com/connectivitysolutions/geodexbenchmark>.

**Processor Selector Guide**

The full range of AMD Geode™ processor solutions has been developed to give designers a broad range of capabilities and functionality. Use this chart to select the processor that's best suited to your application.

AMD Geode™ Processors	Availability	Processor		Peripherals											Video									
		Max Clock (MHz)	ACPI compliant	ACPI compliant	AMD PowerNow!™	Typ. Core Power (W)	PCI	IDE	USB	UART	Max GPIO	Parallel Port	RTC	Audio Codec Interface (AC97)	MMX®	AMD 3DNow!™	Macromedia	Memory Interface	Video Input Port	Video Output Port	Video DAC	HTS/CPAL	CRT Interface	TFT Interface
SC1100	Now	266	✓	✓	1.6	✓	2	3	3	1	30	✓	✓	✓	✓		SDR							
SC1200	Now	266	✓	✓	1.6	✓	2	3	3	27	✓	✓	✓	✓	✓		SDR	✓	✓	4	✓	✓	✓	1280x1024
SC1201	Now	266	✓	✓	1.6	✓	2	3	3	27	✓	✓	✓	✓	✓	✓	SDR	✓	✓	4	✓	✓	✓	1280x1024
SC2200	Now	300	✓	✓	1.8	✓	2	3	3	27	✓	✓	✓	✓	✓		SDR	✓	3	✓	✓	✓	✓	1280x1024
SC2200	Now	266	✓	✓	1.6	✓	2	3	3	27	✓	✓	✓	✓	✓		SDR	✓	3	✓	✓	✓	✓	1280x1024
GX 466 @ 0.9W† Note 2	Now	333	✓	✓	0.9	2.2	2	3	4	2	32	✓	✓	✓	✓	✓	DDR	✓	3	✓	✓	✓	✓	1600x1200
GX 500 @ 1.0W† Note 2	Now	366	✓	✓	1.0	2.2	2	3	4	2	32	✓	✓	✓	✓	✓	DDR	✓	3	✓	✓	✓	✓	1600x1200
GX 533 @ 1.1W†	Now	400	✓	✓	1.1	2.2	2	3	4	2	32	✓	✓	✓	✓	✓	DDR	✓	3	✓	✓	✓	✓	1600x1200
NX 1250 @ 6W*	Now	667	✓	✓	6.0																			
NX 1500 @ 6W*	Now	1000	✓	✓	6.0																			
NX 1750 @ 14W**	Now	1400	✓	✓	14.0																			

- Notes:**  
 1. UDMA 66  
 2. GX processor and CS5535 companion device




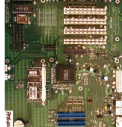
**Development Board Selector Guide**

Development boards are designed to work with each component of the AMD Geode™ processor solutions family to provide more efficient designs and simplify the overall design cycle. Use this selector guide to choose the development board that's ideally suited to your design applications and the components you are using.

AMD Geode™ Product Name	Availability	Processor		OS Support Note 3	Video Output		I/O Connectors											Typical Kit Contents						
		SC1000/SC1200/SC2200	GX with CS5535 or NX 1250/6W/NX 1500/14W		TV-Out	Audio Out Channels Note 1	USB	PCI Slots	LPC Slots	Super I/O on Board	Ethernet on Board	Power	Serial ATA	Supported UDMA Level	Serial	PS/2, Keyboard/Mouse	Parallel	IR	Standard Documentation	5V to 3.3V PCI Card	TFT Interface Card	LPC Card with Super I/O	PCI Ethernet Card	
SP45C40	Now	✓					2	3	4	1					ATX	UDMA-33	1			✓	✓	✓	✓	✓
SP45C31 Note 2	Now	✓	✓				1	3	2	1					ATX	UDMA-33	2			✓	✓	✓	✓	✓
GX DB533-C	Now		✓				1	2	2/3 Note 5	1	1	1		ATX	UDMA-66		1	1		✓				
GX DB533-T	Now		✓				1	2	2/3 Note 5	1	1	1		ATX	UDMA-66		1	1		✓				
NX DB1500	Now		✓	✓			6	4 Note 6	1	1	1			ATX	UDMA-133	1	1	1	1	✓				

- Notes:**  
 1. All others are mono microphone and stereo headphone out.  
 2. For AMD Geode SP45C31 system platform, video output is limited to one output at a time.  
 3. OS support typically includes BIOS and drivers for audio, display and bootloader if required.  
 4. Kit includes PCI VGA graphics card.  
 5. The GX DB533 has a total of three PCI slots, two at 3.3V and one at 5.0V. Two slots available at 66MHz or three slots available at 33MHz.  
 6. The AMD Geode NX DB1500 includes USB 2.0.  
 7. AMD no longer recommends new designs with the GX1 processor.  
 8. The AMD Geode NX 1750@14W requires a fan.

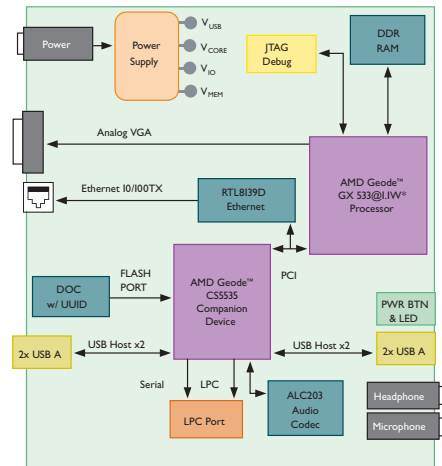
Each AMD Geode™ processor solution works in conjunction with a specially created development board that provides highly efficient design and test functions to shorten time-to-market cycles and produce more streamlined end products.

Device	Features	Software	
NX 1250@6W* NX 1500@6W* NX 1750@14W*	<ul style="list-style-type: none"> <li>Micro ITX form factor</li> <li>DIMM memory support for DDR DRAM module of up to 1GB</li> <li>512MB Spansion™ Boot Flash memory</li> <li>One PCI 2.3 expansion slot</li> <li>Standard ATX I/O</li> </ul>	<ul style="list-style-type: none"> <li>OS support                             <ul style="list-style-type: none"> <li>- Linux 2.4</li> <li>- Windows® CE 4.2</li> <li>- Windows XP Pro</li> </ul> </li> <li>Firmware:                             <ul style="list-style-type: none"> <li>- Award BIOS</li> </ul> </li> <li>Diagnostics</li> <li>Example code</li> </ul>	 NX DB1500
GX 533@1.1W† GX 500@1.0W† GX 466@0.9W† CS5535	<ul style="list-style-type: none"> <li>Flex ATX form factor</li> <li>Standard ATX I/O</li> <li>Three PCI slots</li> <li>One ATA-5 (UltraDMA 66) IDE interface</li> <li>128MB DDR SDRAM</li> <li>BootROM options</li> </ul>	<ul style="list-style-type: none"> <li>OS support                             <ul style="list-style-type: none"> <li>- Linux 2.4</li> <li>- Windows® CE 4.2</li> <li>- Windows XP Pro</li> <li>- Windows XPe</li> </ul> </li> <li>Firmware:                             <ul style="list-style-type: none"> <li>- XpressROM</li> </ul> </li> </ul>	 GX DB533-C GX DB533-T
SC1200 SC1201 SC2200 SC3200	<ul style="list-style-type: none"> <li>Standard ATX I/O</li> <li>One ISA and two 3.3V PCI slots</li> <li>LPC bus interface</li> <li>Hardware and socketing options</li> <li>SC2200/SC3200 processors</li> </ul>	<ul style="list-style-type: none"> <li>OS support                             <ul style="list-style-type: none"> <li>- Linux 2.4.17</li> <li>- Microsoft Windows CE.NET</li> <li>- Microsoft XPe</li> </ul> </li> <li>Firmware:                             <ul style="list-style-type: none"> <li>- XpressROM</li> </ul> </li> </ul>	 SP45C31
SC1100	<ul style="list-style-type: none"> <li>ATX full-size form factor 9.6" x 12.0"</li> <li>Standard ATX I/O</li> <li>Four 3.3V PCI slots and one Sub-ISA slot</li> <li>64MB system memory, expandable to 256MB</li> <li>Socket for M-Systems' DiskOnChip</li> </ul>	<ul style="list-style-type: none"> <li>OS support                             <ul style="list-style-type: none"> <li>- Linux, Kernel 2.4.17</li> <li>- Microsoft Windows CE 4.0</li> <li>- Microsoft Windows XPe</li> </ul> </li> <li>Firmware:                             <ul style="list-style-type: none"> <li>- XpressROM</li> </ul> </li> </ul>	 SP45C40

†The AMD Geode™ GX 466@0.9W processor operates at 333MHz. The AMD Geode™ GX 500@1.0W processor operates at 366MHz. The AMD Geode™ GX 533@1.1W processor operates at 400MHz. Model numbers reflect performance as described here: <http://www.amd.com/connectivitysolutions/geodexbenchmark>.  
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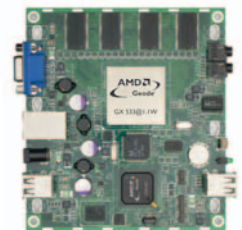
## AMD Geode™ GX Thin Client Reference Design Kit



The AMD Geode™ GX thin client reference design kit (RDKit) is a compact, low-power and high-performance system designed to help facilitate the next generation of thin client networked computing appliances. Building on AMD's philosophy of delivering low total cost of ownership, the GX thin client reference design kit is optimized to provide value through all phases of the design and development cycle, and serves as a powerful, near manufacture-ready reference design tool.

### Features

- CPU power to process multiple applications locally
- Small form factor – approximately 5.5"W x 1"H x 5"D
- Low power consumption – 6W typical, 1W standby – with no fan
- Support for multiple operating systems
  - Microsoft® Windows® CE
  - Microsoft XPe
  - Linux
- Support multiple protocols, plug-ins, and local application (Web browser, multimedia player)
  - Microsoft RDP
  - Citrix ICA
  - Java
  - Macromedia Flash



Design files available at <http://wwwd.amd.com/amd/developer.nsf/>

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

To connect with the right AMD Geode™ processor solution, connect with AMD today.

For the AMD Geode processor solution that's right for your application, contact your authorized AMD distributor or visit AMD on the Web at [www.amd.com/geode](http://www.amd.com/geode)