

Serving Next Generation Point of Sale Applications



Overview

Point of Sale systems or Kiosks, described as self service devices in grocery and hardware stores, airline counters, bus and train stations and other retailers, are becoming very common. They benefit consumers and companies alike by providing excellent service at a low cost. The trend appears to continue as these self service kiosks improve in their ability to provide high quality and more diverse services.

Aside from the traditional retail register, these applications often require very unique I/O to support technologies such as bar code scanners, card readers, touch screens, multiple printers, scales and other devices. Advanced POS systems are helping retailers offer consumers rich experiences at the point of sale, such as short videos at the checkout line. To do this, their systems must interact with the I/O while simultaneously providing a smooth, high quality graphical interface that includes 3D and video.

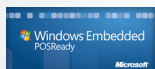
AMD offers low power scalable processor and chipset solutions ranging from AMD Geode™ processors with 2D graphics capabilities to high performance AMD64 technology with high speed low latency I/O, 3D graphics and video capabilities, and a range of software-compatible price and power points. Leveraging the M690E, AMD 780E or AMD 785E chipset and a discrete ATI Radeon™ graphics controller, up to four kiosk heads can be driven by a single board. If only one or two display heads with I/O are being driven, a single-core processor can be utilized but upgraded to dual-core for multi-headed operation.

AMD POS/KIOSK Solutions are designed to provide many benefits:

- **Low power consumption.** Low power solutions can benefit your POS/KIOSK applications in a number of ways. Systems built around low power solutions are designed to minimize your energy costs and increase your system reliability by reducing maintenance, repair and replacement costs. AMD platform solutions help enable the performance you need while providing you with several options to stay within your thermal limits.
- **Low total cost of ownership with system reliability.** Customers not only require superior graphics, more display heads and greater interactivity, but they also demand high system reliability. Whether employing basic 2D graphics with a single display head or 3D graphics and high definition video on multiple display heads, AMD offers a wide range of processor, chipset and discrete graphics solutions that are designed to meet your price, performance, power and reliability needs.
- **Long Term Availability.** Developing systems around products that support extended availability helps enable vendors to maintain consistent hardware and software configurations over the life of their projects. This can help stabilize software images and reduce software development, maintenance and tracking costs. AMD offers a full line of high performance and low power processors, chipsets and discrete graphics controllers with planned long term availability.
- **Rich Multimedia capabilities.** ATI Avivo™ HD technology is the advanced image and video processing and display technology found in certain ATI Radeon™ graphics cards¹. ATI Radeon™ graphics are designed to deliver the following benefits for your POS/KIOSK applications:
 - Unified Video Decoder – View and manipulate the latest HD video content with a dedicated hardware video decoder that offloads the CPU, leaving it free to perform other tasks.
 - Ultimate Image Quality – Enjoy video beyond HD on displays with resolutions that exceed 1080p – up to 2560x1600.²
 - Integrated Digital Outputs – Deliver digital content the way you want to, in a variety of formats: HDMI, DVI or the latest in display connectivity, DisplayPort technology.
 - Multi-Monitor Support – Enjoy configurations supporting up to six independent displays, each with unique content.
 - ATI Discrete Graphics – Combine an ATI Radeon™ discrete graphics processor with an AMD 785E Chipset-based motherboard to help improve graphics performance and multi-monitor capabilities.



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AMD and Windows have flexibility designed in

Windows® Embedded POSReady 2009 combined with the high performance, low power AMD64 solutions gives retailers the power, flexibility, and reliability they need along with these benefits:

- **Customizable OS** – The OS is pre-built for you but also allows you to easily add and remove the components you need.
- **User Interface** – an intuitive UI is essential and POSReady 2009 allows you to quickly and easily create a custom UI specific to your needs.
- **Media Storage** – POSReady 2009 allows retailers to deploy an image with a USB drive (new) or over the network to help with ease of deployment.
- **Windows XP Service Pack 3** – (new) Retailers can benefit from the security, driver and feature updates available in Windows XP Service Pack 3 that provide enterprise-class manageability and customer-level device protection.
- **.NET Framework** – familiar environment and an industry standard
- **Microsoft® Silverlight®** – Silverlight technologies, such as WPF, allows the easy creation of a rich graphical frontend



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¹ ATI Avivo™ HD is a technology platform that includes a broad set of capabilities offered by certain ATI Radeon™ HD GPUs. Not all products have all features and full enablement of some ATI Avivo™ HD capabilities may require complementary products.

² HD-capable resolution depends on a variety of factors including display type, operating system drivers, processor selection and number of displays.

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The AMD64 embedded family: Offering developers a choice of leading-edge technology

ASB2 BGA

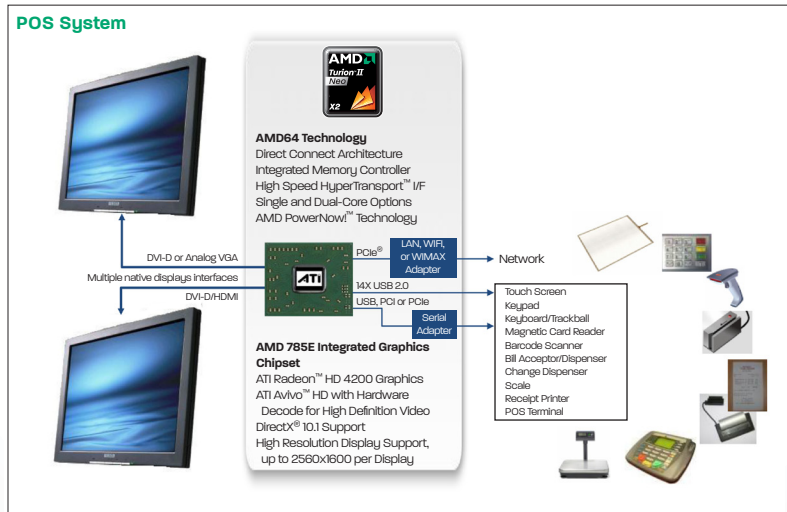
Model	OPN	Number of Cores	Core Frequency	L2 Cache/Core	Thermal Design Power	Memory Interface	HyperTransport™ Technology	Tcase	Product Release
AMD Turion™ II Neo - N54L	TEN54LSDV23GME	2	2.2GHz	1MB x2	25W	DDR3-800, 2-ch Unbuffered ECC	One 16-lane@1.6GHz Full Duplex	95°C	Q2-10
AMD Turion™ II Neo - N40L	TEN40LGA/23GME	2	1.5GHz	1MB x2	15W	DDR3-800, 2-ch Unbuffered ECC	One 16-lane@1.6GHz Full Duplex	95°C	Q2-10
AMD Athlon™ II Neo - N36L	AEN36LLAV23GME	2	1.3/0.8GHz ¹	1MB x2	12/6W ¹	DDR3-800, 2-ch Unbuffered ECC	One 16-lane@1GHz Full Duplex	95°C	Q2-10
AMD Athlon™ II Neo - R44L	AER44LAV13GME	1	1.7GHz	1MB	12W	DDR3-800, 2-ch Unbuffered ECC	One 16-lane@1GHz Full Duplex	95°C	Q2-10
AMD Athlon™ II Neo - R34L	AER34LFCV13GME	1	1.0GHz	1MB	8W	DDR3-800, 2-ch Unbuffered ECC	One 16-lane@1GHz Full Duplex	95°C	Q2-10

Note 1. While operating at the max/min P-States which can be dynamic or fixed through BIOS.

AMD Embedded Chipsets

Model	Devices	CPU Interface	Package	PCI Express [®]	PCI	Graphics	ATI Hybrid CrossFire™	DVI/ HDMI	Display Port	LVDS	TV	DVO	SATA II	IDE	Power	Ethernet MAC	USB	Audio	LPC SPI SMBus	Max GPIOs	Display, Max Resolution ¹
AMD M690T	M690T/ SB600	1GHz HyperTransport™	21mm FCBGA/ 23mm FCBGA	1x8, 4x1 Gen1	v2.3	DirectX® 9.0 WMV9	No	1 @ 1080i ²	No	24-bit Dual-Channel	Yes	DVI & LVDS Transmitter Support ³	4, RAID 0, 1, 10 meets 1.0a spec	ATA 133	8W	No	10 v2.0	HD Audio, AC97 v2.3	Yes	73	2048 x 1536
AMD M690E	M690E/ SB800	1GHz HyperTransport™	21mm FCBGA/ 23mm FCBGA	1x8, 4x1 Gen1	v2.3	DirectX® 9.0 WMV9	No	2 @ 1080i ²	No	24-bit Dual-Channel	No	DVI & LVDS Transmitter Support ³	4, RAID 0, 1, 10 meets 1.0a spec	ATA 133	8W	No	10 v2.0	HD Audio, AC97 v2.3	Yes	73	2048 x 1536
AMD 780E	780E/ SB710	2.6GHz HyperTransport™ 3.0	21mm FCBGA/ 23mm FCBGA	2x8 or 1x16, 6x1 Gen 2	v2.3	DirectX® 10.0 OpenGL 2.0, UVD 2.0	Yes	2@ 1080p ⁴	Yes	24-bit Dual-Channel	No	No	6, RAID 0, 1, 10 meets 2.5 spec	ATA 133	13W	No	12 v2.0, 2 v1.1	HD Audio, AC97 v2.3	Yes	73	2560 x 1600
AMD 785E	785E/ SB8XX	2.6GHz HyperTransport™ 3.0	21mm FCBGA/ 23mm FCBGA	2x8 or 1x16, 6x1 Gen 2, 2x1 Gen1	v2.3	DirectX® 10.1 OpenGL 2.0, UVD 2.0	Yes	2@ 1080p ⁴	Yes	24-bit Dual-Channel	No	No	6, RAID 0, 1, 5 ⁵ , 10 ⁵ , 6GBPS	No	6.4 - 13W	Yes ²	14 v2.0, 2 v1.1	HD Audio, AC97 v2.3	Yes	73	2560 x 1600

Note 1. Capable display resolutions are influenced by the operating system driver, processor and memory selection.
 Note 2. The PCI Express[®] x8 interface is multiplexed with a TMDS interface, enabling DVI or HDMI 1.2 with HDCP 1.1 support.
 Note 3. The sideport memory interface of the M690T and M690E can be configured as a DVO to attach to an additional DVI, LVDS, or CRT transmitter.
 Note 4. The LVDS interface of the M690E and 780E is multiplexed with a TMDS interface, enabling DVI or HDMI 1.2 (for the M690E) or HDMI 1.3b (for the 780E) with HDCP 1.1 support.
 Note 5. Available on the SB850.



ABOUT AMD

AMD (NYSE:AMD) designs and produces innovative microprocessors and low-power processor solutions for the computer, communications, and consumer electronics industries. AMD is dedicated to delivering standards-based, customer-focused solutions for technology users, ranging from enterprises and governments to individual consumers. 48842A

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