



Application Brief

Eye-Catching Graphics and Next-Generation Technology Delivered in Flexible, Robust Solutions

AMD understands the challenges of the embedded digital signage market and has developed solutions that combine high-level graphics performance with a high-value feature set. The AMD Embedded Family of Accelerated Processing Units (APUs) delivers high-performance processing coupled with a premium high-definition visual experience through the combination of compute and parallel processing cores that includes discrete-class AMD Radeon™ graphics. Plus, AMD Embedded APUs deliver support for features such as remote management and analytics that were previously not available in a platform in this price and power range.

Making the DOOH (Digital Out-Of-Home) Experience More Like Home

Plain video, bland two-dimensional graphics and simple scrolling text is no longer catching the attention of consumers who have become accustomed to high-definition video and 3D graphics in their home media experience. The high performance discrete-class AMD Radeon graphics found in AMD Embedded APUs deliver the graphics capabilities consumers expect:

- **Third Generation Unified Video Decoder** - View and manipulate the latest HD video content with a dedicated hardware video decoder, enabling the system to operate at low power while playing high-definition video, leaving the CPU free to perform other tasks.
- **Ultimate Image Quality** - Performance rivals high-end Blu-ray players on displays with resolutions that exceed 1080p – up to 2560x1600¹.
- **Digital Display Options** - With built-in HDMI™, DVI and DisplayPort-capable interfaces, connecting to a wide range of commercial displays is easy.
- **Multi-Display Support** - Drive up to 4 displays² from a single highly integrated processor. Drive multiple displays simultaneously as independent displays, or as a single large surface with AMD Eyefinity Technology³.

Digital signage customers include a wide-range of applications, including retail (supermarkets, shopping centers), hospitality (virtual concierge in hotels), and transportation (onboard small systems, including point-of-sales). Whatever the application, most digital signage customers are looking for a system that:

- Delivers high-definition multi-media content to generate customer attention and interest.
- Supports multiple displays with flexible configuration options.
- Enables small media player design due to its decreased footprint.
- Maintains the system power consumption.
- Offers the right balance of performance per watt per dollar.
- AMD offers a variety of solutions to meet these needs as well as application-specific requirements.
- The AMD Embedded Family of APUs provides high-end graphics and parallel processing performance combined onto a one-chip solution.
- AMD Embedded R-Series APUs are a good fit for customers with high-definition graphics-intensive applications, including multi-screen installations.
- AMD Embedded G-Series APUs provide low-power solutions that meet most graphical and parallel processing demands, but support a low-cost, low-maintenance system.
- Discrete AMD Radeon™ graphics, a leader in high-end GPUs, can be used in combination with AMD Embedded APUs, AMD Embedded CPUs, and with other processor solutions.

High-End Features in Value-Oriented and Low-Power Solutions

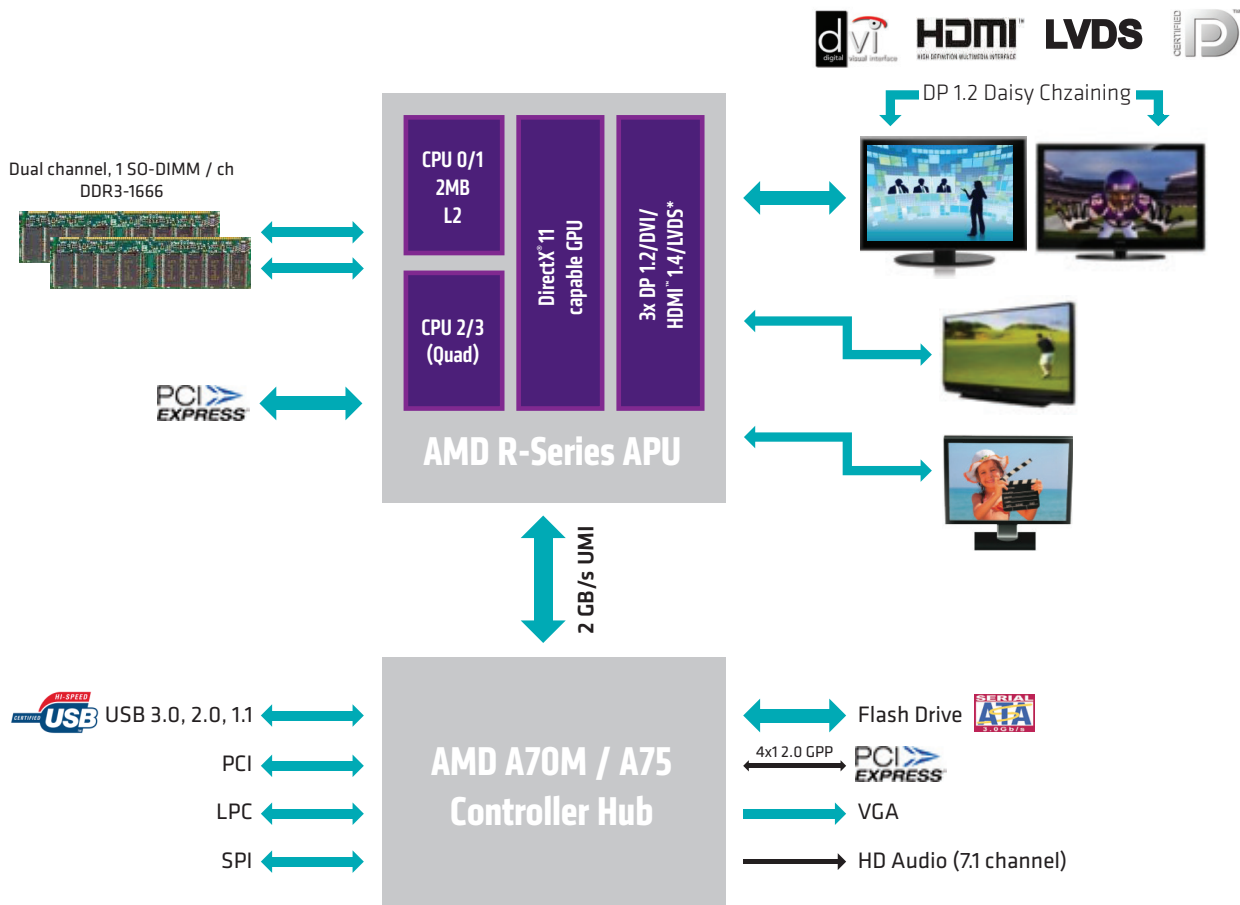
Solution designers are constantly challenged by the ever present need to reduce costs while delivering increases in performance and capabilities. AMD Embedded APUs help designers meet those challenges by delivering advanced features targeted at helping to reduce development, solution and operating costs:

- **Remote Management** - Manage costs, while at the same time increasing reliability and uptime. AMD APUs support the DASH 1.1 specification, enabling robust, secure remote management.
- **AMD Accelerated Parallel Processing (APP) Technology⁴** - Enables digital vision solutions to efficiently analyze and capture audience metrics. Presenting the right content to the right audience can help maximize the return on each advertising dollar.

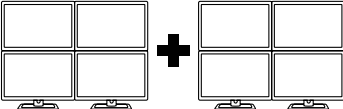
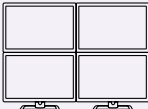


- **Low Power** - Reducing power costs and imposing less thermal stress on the entire system can result in reduced maintenance and replacement costs.
- **Scalability** - Whether driving a single standard definition display or multiple HD displays, a range of APU options are available to meet system performance and power requirements, which enables a single design to serve multiple product versions.

AMD Digital Signage Solutions

More and more customers are not only requiring better graphics, more display options, and interactivity, but are also demanding higher reliability and long-term availability from systems being deployed. Whether the application requires basic 2D graphics with a single display or 3D graphics and high definition video on multiple displays, the AMD Embedded Family of APUs and discrete AMD Radeon™ graphics processors help deliver the performance, features and scalability to meet your requirements.



* Not all display combinations available.

DIGITAL SIGNAGE APU CHART	Display Device & Resolution Support ¹		Other Considerations ¹	
	AMD R-Series APU with Embedded Discrete GPUs		See AMD Eyefinity technology usage scenario	Support AMD Eyefinity SLS only within each GPU
	AMD Embedded GPU E6460		Capable of driving 4 displays at 2560 x 1600	Support AMD Eyefinity technology
	AMD Embedded R-Series APU		Capable of 4096 x 2400, can drive 4 displays at lower resolution	Uses 2 eDP interfaces to achieve 4096 x 2400
	AMD Embedded G-Series APU		Two 2560 x 1600 resolution displays with selected models	Suitable for fan-less design

www.amd.com/embedded

¹ Dual Link DVI: 2560x1600@60Hz 1920x1200@60Hz 24/30 bpp. Capable resolution depends on a variety of factors including display type, operating system drivers, processor selection and number of displays.
² Support for the 4th display requires the use of DisplayPort 1.2 multi-streaming technologies with compatible monitors and/or hubs. The number and types of supported displays may vary by board design.
³ AMD Eyefinity technology works with applications that support non-standard aspect ratios, which is required for panning across multiple displays. AMD Eyefinity technology can support up to 4 displays using a single enabled AMD R-Series APU or up to 6 displays using a single enabled AMD graphics card with Windows Vista or Windows 7 operating systems – the number and type of displays may vary by board design. Some implementations may require DisplayPort 1.2 multi-streaming technologies with compatible monitors and/or hubs. SLS ("Single Large Surface") functionality requires an identical display resolution on all configured displays.
⁴ AMD APP technology is a set of technologies designed to improve video quality and enhance application performance. Full enablement of some features requires support for OpenCL™ or DirectCompute (including AMD's Universal Video Decoder (UVD)). Not all products have all features and full enablement of some capabilities and may require complementary products.

