



## Pixelworks™ Announces Breakthrough In Flat Panel Display Technology

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Portland, Ore., May 18, 1998 – Pixelworks Inc. announced today a breakthrough in display controller technology for flat panel display products that will accelerate the adoption of products using the increasingly popular flat panel technology. The PW364 ImageProcessor IC, the company's initial product, is the first time an integrated, flat panel display controller is contained on a single chip. The ImageProcessor will enable flat panel display products that deliver unsurpassed image quality regardless of input source format, with no user intervention, at the lowest cost. Applications for this exciting new product include LCD monitors, plasma displays, projection systems, and CRT based systems.

The PW364 ImageProcessor will enable a new generation of flat panel display products that are capable of showing both computer and video signal input. By supporting input resolutions up to UXGA and HDTV with complete image resizing, frame rate conversion, and automatic image optimization, display products using the PW364 will set new standards for image quality and ease of use. With its high level of integration and complete design environment, Pixelworks ImageProcessors mean the fastest time to market for display product manufacturers; a compelling benefit in this hyper-paced product development environment. A Pixelworks ImageProcessor replaces several discrete components, meaning dramatically lower overall electronics and hence product cost. The company expects flat panel display products utilizing the Pixelworks display controller will be available in the first quarter of 1999.

"Most consumers don't understand that the challenge of converting input signals for flat panel displays requires a number of electronic components that add as much as \$800 per display," said Allen Alley, CEO of Pixelworks. "A solution using the PW364 ImageProcessor can cost less than \$100 and will offer significantly greater functionality — all in an easy to integrate, state-of-the-art design."

The PW364 ImageProcessor addresses the following challenges for flat panel displays:

- **Image Resizing** — The PW364 supports graphics resolutions from VGA to UXGA. Pixelworks uses patent pending image resizing technology to expand or shrink the input image to match the resolution of the display. Pixelworks provides up scaling and down scaling with programmable filters all on a single IC. This capability ensures that the user gets an excellent image whether they are using their display for high resolution graphics or lower resolution video games with no intervention required.
- **Video Processing** — The PW364 supports multi-standard video (including DTV, HDTV, NTSC, PAL and SECAM) as well as computer inputs. The PW364 does all the processing required, including deinterlacing to convert an interlaced video signal such as NTSC to a progressive scan signal suitable for flat panel displays. Products using the PW364 can even intelligently convert video images from 4:3 video formats (such as NTSC) to any of the new Digital Television formats including those using the new 16:9 aspect ratio.
- **Frame Rate Conversion** — Using integrated, on-chip synchronous DRAM (SDRAM), the PW364 allows savings in memory costs and eliminates frame tear artifacts. Integrated frame rate conversion ensures that display products using the PW364 have complete compatibility, requiring no user intervention such as refresh rate adjustments. These adjustments are often times required for current display products.
- **Adaptive Image Optimization** — Pixelworks has developed a proprietary technology that automatically and continually adapts in real time to provide an optimal image. No manual adjustments such as "sync", "phase", "position", "clock" and "tracking" are necessary. This will make products using Pixelworks ImageProcessors as easy to connect as today's auto-synch CRT monitors.
- **Multi-Windowing** — The PW364 will give display products the ability to easily display video and computer graphics data simultaneously.
- **Visual User Interface Builder and Core Software** — The PW364 includes a complete On Screen Display Controller (OSD) as well as a unique Windows based application that allows customers integrating the PW364 into their display products to quickly develop and implement their own unique user interface.
- **Developer's Kit** — The PW364 developer's kit includes sophisticated, easy-to-use tools such as a reference design and complete software design environment which deliver clear product differentiation through rapid customization of features, performance, and look and feel with the fastest time to market.

"Our world class team has extensive experience in the display technology industry. We understand that to be competitive, manufacturers require rapid design integration," explained Alley. "Pixelworks not only has the best display controller technology, we also use our market knowledge to anticipate user demands and be the first to incorporate those features in silicon for our customers."

### Pixelworks Technology Breakthroughs

Pixelworks has developed or enhanced several new technologies in order to develop the world's first ImageProcessor. Pixelworks innovations include: ultra-high bandwidth, decoupled memory architecture; innovative, new algorithms for image scaling; and proprietary, automatic image-optimization algorithms. In addition, Pixelworks has developed a unique, sophisticated approach to its driver software that provides a platform for customers to provide significant levels of customization in a minimum period of time. The PW364 has an extremely high level of integration including onboard frame rate conversion with embedded SDRAM, automatic mode adaptive image optimization logic, automatic image resizing logic, and an onboard

microprocessor making it a true "system on a chip."

The PW364 will be manufactured using a state of the art embedded DRAM semiconductor fabrication process that will provide all this functionality at the lowest possible cost.

**About Pixelworks**

Pixelworks Inc., headquartered in Portland, Ore., is a privately held fabless semiconductor company founded in 1997 by several senior managers from In Focus Systems, Inc (NASDAQ: INFS). The company has core capabilities in the development, marketing, and sales of integrated circuits incorporating image processing, high speed digital design, and mixed signal processing. Pixelworks' mission is to enable broad adoption of flat panel display products through the development and sales of critical integrated circuit components resulting in display products that deliver unsurpassed image quality, automatically, at the lowest cost. Beginning in early 1997, the company entered into a strategic partnership with Fujitsu General America to develop the market and channels for the Plasmavision™ 42 large screen, plasma display. The relationship enabled Pixelworks to further enhance its extensive market knowledge of the flat panel display products and their applications.

For more information about Pixelworks, call 503-612-6700 or visit our Web site at [www.pixelworksinc.com](http://www.pixelworksinc.com)