

# STMicroelectronics Launches Advanced New LCD Scaler Family for Flat Panel Displays

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[STMicroelectronics](#) (NYSE: STM) has announced a new range of scalers - the ADE3800 family - which offer powerful features for LCD monitor manufacturers. Codenamed 'Kona,' the family builds on the success of ST's widely-used 'Loihi' and 'Lanai' families, and has already been chosen by several [LCD](#) monitor makers and by a leading PC manufacturer for their next-generation products.

All the members of the family are pin-to-pin and software compatible. They are the first LCD scalers to be manufactured using an advanced 0.15-micron process technology to give minimum die size, and the first to be available in a small and cost-effective 14 x 14mm 100-pin package.

Commenting on the new family, Philippe Berger, Manager of ST's Display Division, said: "Packing so much dedicated power into such a small package means that the ADE3800 will make a major contribution to cutting costs for LCD-monitor board makers - not just by saving board space, but also through its compatibility with both LVDS and RSDS panels, and the IC's ability to handle analog, video, and dual inputs. Coupled with the use of a 0.15-micron production process, the Kona family puts ST at the forefront of chip makers for this market."

The ADE3800 family provides a highly integrated solution for LCD monitor manufacturers, taking an analog RGB video input signal and generating LVDS or RSDS outputs for LCDs up to SXGA resolution. As well as high-quality scaling - from 5:1 upscale to 2:1 downscale - and

generating the complex LCD timing signals, the Kona chips include a broad range of additional features designed to improve picture quality and to enhance the end user's experience, while minimizing the load on the monitor's microcontroller to allow a simpler and cheaper MCU to be used.

Video input resolution has been increased from 9 to 10 bits per color, with an advanced 3-channel 10-bit ADC. The high performance On Screen Display engine offers a range of features designed to satisfy the most demanding OSD specifications, including proportional fonts, a broad TrueColor palette with alpha blending capability, support for multi-window displays, and multiple text decoration effects.

ST is the leading supplier of semiconductors for the CRT display market, and is strongly involved in digital TV, video processing and LCD displays. Further development of the Kona family will take advantage of this broad experience and of ST's existing IP to provide solutions for emerging LCD applications in multimedia markets, including UXGA displays, multi-function monitors (MFM), low-cost LCD-TVs, and portable multimedia equipment.

Samples of the first analog-input device are available now, and volume production is starting in the third quarter of 2004. Pricing is US\$6, in quantities of 1000. Dual- and triple-input versions will be sampling by the end of the year.

### About LCD Scalers

Flat-panel LCD displays are increasingly used on desktops in place of CRT monitors, occupying a considerably smaller desk area and needing less power. But although the end user may see the difference simply as desk space versus cost, there are important technical differences, of which the most significant is that while CRT monitors can handle many different resolutions, the resolution of a given LCD monitor is fixed; if

the image output by the PC does not match the resolution of the monitor it needs to be scaled to fit, using sophisticated algorithms to preserve image quality.

In addition, different physical mechanisms are used to produce the images, requiring the color data to be transformed to match the target display. And finally, because graphics cards have typically been designed to output to CRT monitors, extensive timing conversions are necessary to synchronize their output with LCD monitors. ST's Analog LCD Display Engines - commonly simply referred to as 'scalers' - are single-chip solutions designed to perform all of these functions.

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