

Overview

SoCtronics is a customer-focused VLSI design and embedded software service company operating since 2003. The company has operating entities in Hyderabad, India and Santa Clara, California. SoCtronics offers complete spec-to-silicon turnkey solutions that include embedded systems and software/firmware co-development. The company has over 500 employees world-wide and is privately owned and operated.

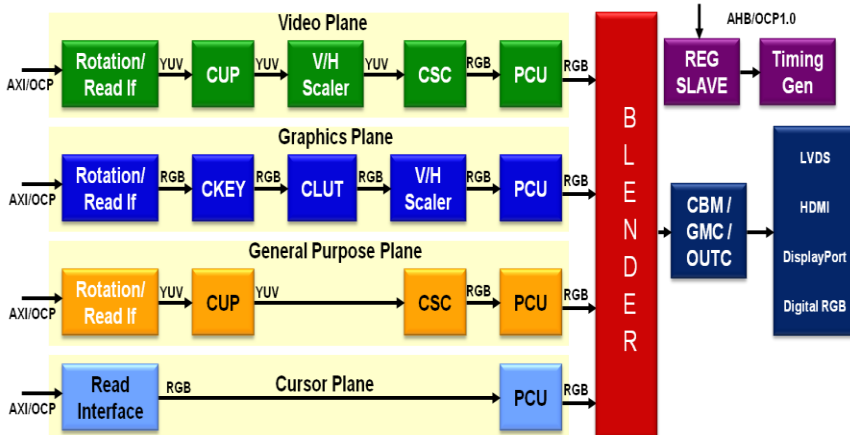
Display Controller Description

The Display Controller IP is responsible for fetching the display content from memory, blend various display planes as per the specified alpha and z-order and generates timing for different display interfaces as per specified display format. It also does post processing of the data like scaling, color space conversion, chroma upsampling where ever needed. Also does post-processing of the blended data like contrast, brightness adjustment and gamma correction before sending to the display interface.

Display Controller Features:

- Blends multiple video, graphics and general purpose planes according to a specified z-order and alpha values followed by cursor overlay
- Generates digital video data output compliant to progressive PC formats such as VGA, SVGA, XGA, WXGA with max output resolution supported being 1920x1080 @ 60 Hz(1080p)
- Generates digital video data output compliant to progressive TV formats such as 480p,720p with max output resolution supported being 1080p HD (1920x1080) @ 60 Hz display rate; max pixel clock freq would be 148.5 MHz
- Can interface to LVDS OpenLDI transmitter, DisplayPort or a HDMI transmitter.
- Provides Digital RGB interface to interface to an external component
- Supports clone or mirrored mode
- Support for various Graphics input formats viz. 8 bpp, 16 bpp and 32 bpp formats (palletized as well as direct formats)
- 420 YCbCr video input is supported on video plane and general purpose planes
- Display output at 10-bit or 8-bit per color component precision in RGB format
- Hardware cursor support of max 128x128 resolution
- Supports Color Space Conversion, Chroma Keying, Gamma correction, Image Cropping and alpha-blending
- Independent in-line vertical/horizontal upscaling and downscaling of Graphics and Video planes. Upscale or downscale by a factor of 16 is supported.
- Provides support for color saturation, white point control and brightness control

Display Controller Subsystem Block Diagram



Configurable Features:

The Subsystem provides various configurable options

- AXI 32-bit or 64-bit / OCP 2.0 system interface for datapath
- AHB/OCPI.0 for control path
- The number of planes are configurable to have multiple graphics, video and GPP planes
- The number of pipes can be configured to have 1, 2 or 3 display pipes to interface to multiple display ports with independent displays
- The rotation engine for each plane is optional and is configurable.
- Max display resolution is configurable to either 1366x768 (720p) or 1920x1080 (1080p).

India's Soctronics claims 28-nm design win

Peter Clarke
10/19/2011 8:19 AM EDT

EE Times

SoCtronics Quick Facts

- Started operations in 2003
- Privately owned and operated
- Design centers and sales offices in Santa Clara, California and Hyderabad, India
- 500+ employees world wide

Engagement Models

- Point task and augmentation
- Turnkey with Spec to SOW to Deliverables
- Off-shore Design Center with Experts On Demand benefits
 - Staff and facilities in India
 - Operated by SoCtronics
 - Directed by client

SoCtronics specializes in

- Complex designs with one or more embedded CPUs
- Integrated standard protocol IPs such as PCIe, DDRx, USB, GbE, SATA, etc.
- Multiple embedded memories
- Embedded ADC / DAC
- High speed IOs
- Hardware and software co-development

<http://www.soctronics.com/>

SoCtronics Technologies Pvt. Ltd., Plot No. 89 & 90, 8-2-120/76/115, Road No. 2, Banjara Hills, Hyderabad – 500 034, India

Ph: +91-40-30615555, Fax: +91-40-30615560 sales@soctronics.com

SoCtronics, Inc. 4800 Great America Parkway, Suite 270, Santa Clara, CA 95054

Tel: +1 408-400-7374 Fax: +1 408-701-0145 USA_Sales@soctronics.com