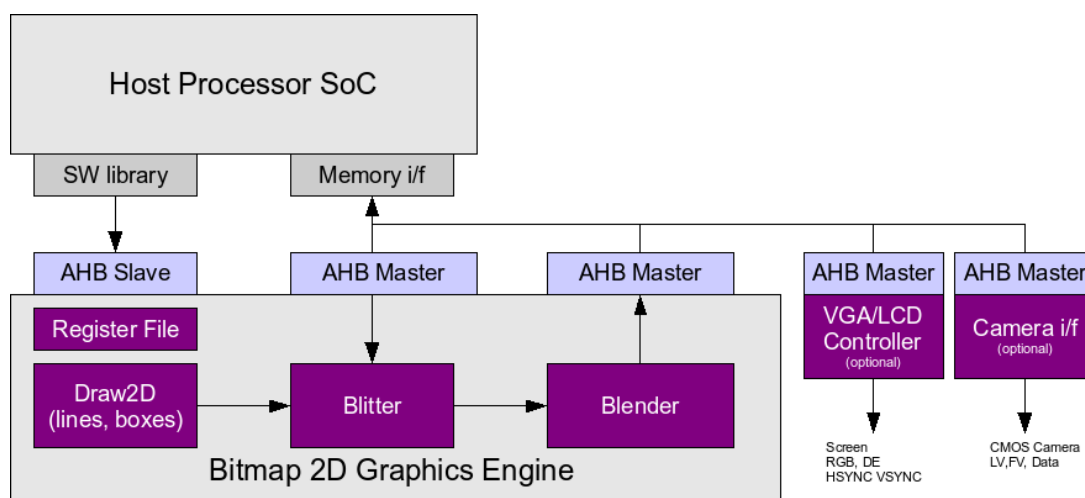


Bitmap 2D Graphics Engine

The Bitmap 2D Graphics Engine is a Graphics subsystem for SoC and Mobile Devices for the acceleration of 2D content. It is capable of targeting multiple types of surfaces, seamlessly move raster images, accelerate drawing of lines and filled boxes and perform alpha blending in all modes.



Example Applications

- PDA (Personal Data Assistants)
- Mobile Phones (middle-end)
- GPS Navigators
- InCar Information/Entertainment
- Low-end 2D Game Machines
- Set-Top Boxes
- Remote Display Boards

Availability: Immediate
Evaluation Board: Altera FPGA based with LCD

Speed: 1 pixel / clock cycle

Software Supplied: Software Drawing Library in pure ANSI C

Key Features:

2D Drawing Engine :

Pixel Drawing
Line Drawing (any direction)
Filled Boxes
Configurable Clipping Rectangle

Pixel Blending

Supports RGBA8888, RGB565, RGBA5551, RGBA4444, L8, A8 colour surfaces
Alpha Blending
Raster bitwise Operations (ROP)

Blitter

High performance DMA Blitter moves raster images in memory
Colour Conversion from any source to any destination image format on-the-fly
Direct Support for transparency to improve performance and quality

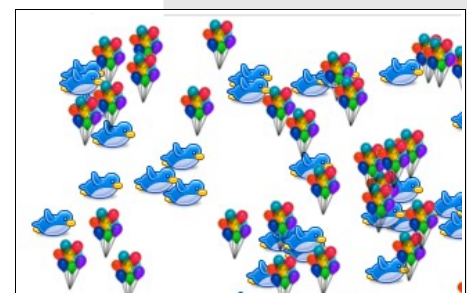
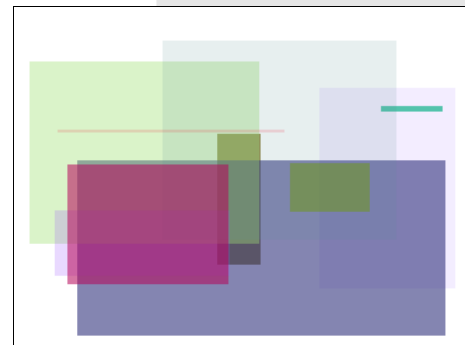
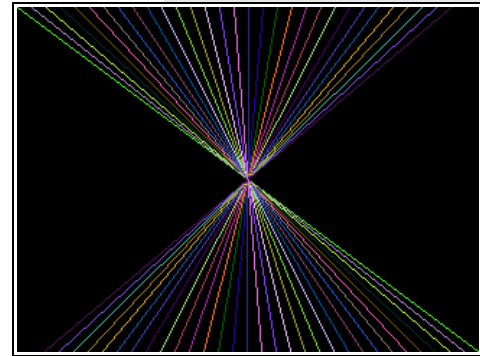
VGA/LCD Controller (optional)

Supporting RGB888, RGB565, L8 and 8-bit palette modes
Support for any resolution including 320x200, 640x480, 800x600, 1024x768 and higher.
Internal AHB DMA Engine
Support for 256-Color Look up table
Configurable timing using Modeline parameters.
Configurable number of Hardware Sprites for Cursors

CMOS Camera i/f (optional)

Direct Interfacing to external CMOS colour camera
Bayer pattern to XRGB8888
Internal AHB DMA Engine

- Modular Design
- AMBA AHB Slave for Programming
- AMBA AHB Master for Connection to Framebuffer
- SRAM and SDRAM Controllers optionally available
- pure Synthesizable Verilog RTL



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