Overview

Pollux is the 3rd generation chip adopting MagicEyes’s VRender Technology. Its high performance and low power consumption architecture realize a big differentiation in developing richer-end user applications such as 2D/3D Car Navigation System, Dual display POS System, High resolution Display System with various visual effect and convergence Handheld products such as Multimedia Toy, MP4 Player and etc.

Pollux 3D graphics engine can be used not only rendering 3D contents such as 3D map but also various color LCD terminal application’s needs on splendid user interface and variety of display function through its various visual effects.

Pollux is a SoC including ARM926EJ 32 bit CPU, 3D Graphics Accelerator, NTSC/PAL Encoder with video DAC and various interfaces like USB 2.0, 4ch UART, 2ch SD/MMC, I2C.

The embedded 3D Graphics engine enables high performance 3D graphics and display functions without sacrificing host CPU power to reserve most CPU power to other application software.

Pollux provides the powerful display unit enabling simultaneous multi-layer display on digital convergence system:
- Displays 3 layers simultaneously such as background, 3D graphics and video
- Enables low cost system with internal NTSC/PAL encoder with Video DAC
- Supports two different displays (1 digital & 1 analog) simultaneously

Two separated displays from one terminal can be shown on each monitor simultaneously; one for navigation and another for user interface for audio playback.

Pollux gives designers flexibility in developing system with enough CPU horse power, powerful 3D performance, multi-layering display together with lots of I/O interfaces to realize competitiveness portable/handheld/embedded products.

Block Diagram

- ARM926EJ 533MHz
  - I Cache 16KB
  - D Cache 16KB
- DDR SDRAM Controller
- Static Memory Controller
- High Performance System BUS (2 channels, 64 bit, 133MHz)
  - DMA 8 ch
  - 3D Graphics Accelerator
  - TFT/STN LCD Controller
  - NTSC/PAL Encoder
  - USB Host
- General Peripheral BUS (32 bit, 66MHz)
  - Timer 5 Ch
  - WDT
  - RTC
  - UART 4 Ch
  - SPI
  - SD/MMC 2 Ch
  - ADC 8 Ch
  - PWM 3 Ch
  - I2C
  - USB 2.0 Device

Key Features

- 533MHz ARM926EJ
- 90nm process
- 3D Graphics : 1,330,000 Polygon/sec
- OpenGL ES 1.1 support
- Enhanced display functions
  - Dual display, 3 layer display
  - NTSC PAL Encoder with Video DAC
  - Visual effect
  - Up to 1280 x 1024@60Hz
- Supports MLC, SLC or One NAND™
- Supports STN, TFT LCD
Since MagicEyes, headquarter in Korea, was established in 1997 as a high-end SoC & multimedia system solution provider, it has introduced several chips targeted for digital-convergence and digital ubiquitous systems. Now MagicEyes is recognized as one of leading companies in multimedia SoC market through its outstanding technical achievements.