



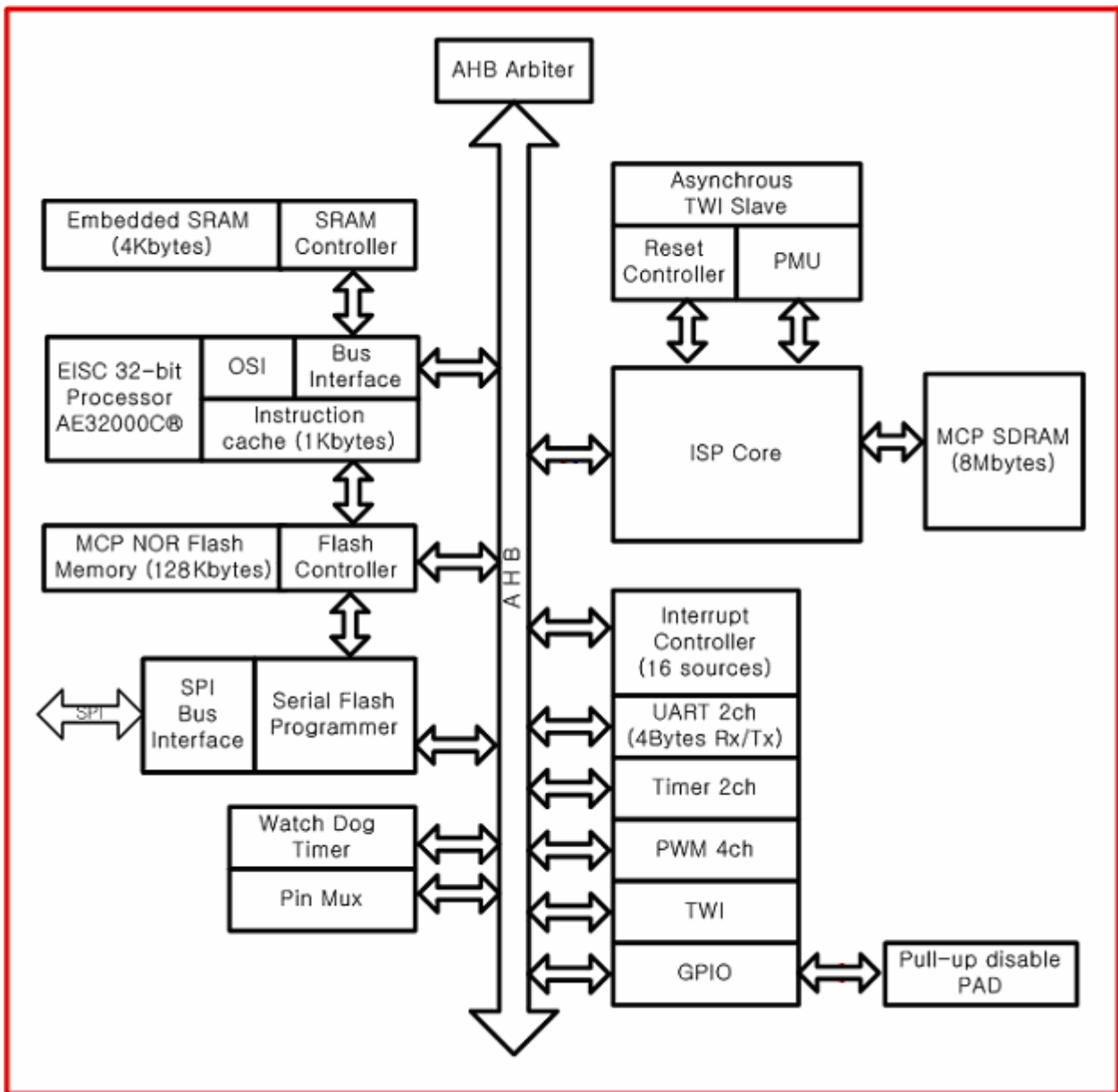
SDIS(Still Digital Image Stabilization) Image Signal Processor for Mobile Phone

128KB Flash Memory, 8MB SDRAM, 3Mega Pixel

Preliminary Information

SDIS is a one-chip solution that implements better image quality with various image processing technologies. It is optimized to provide highly advanced digital camera through a LCD of mobile device and especially Suitable for multi pixel camera solution that requires high image quality.

SDIS Block Diagram



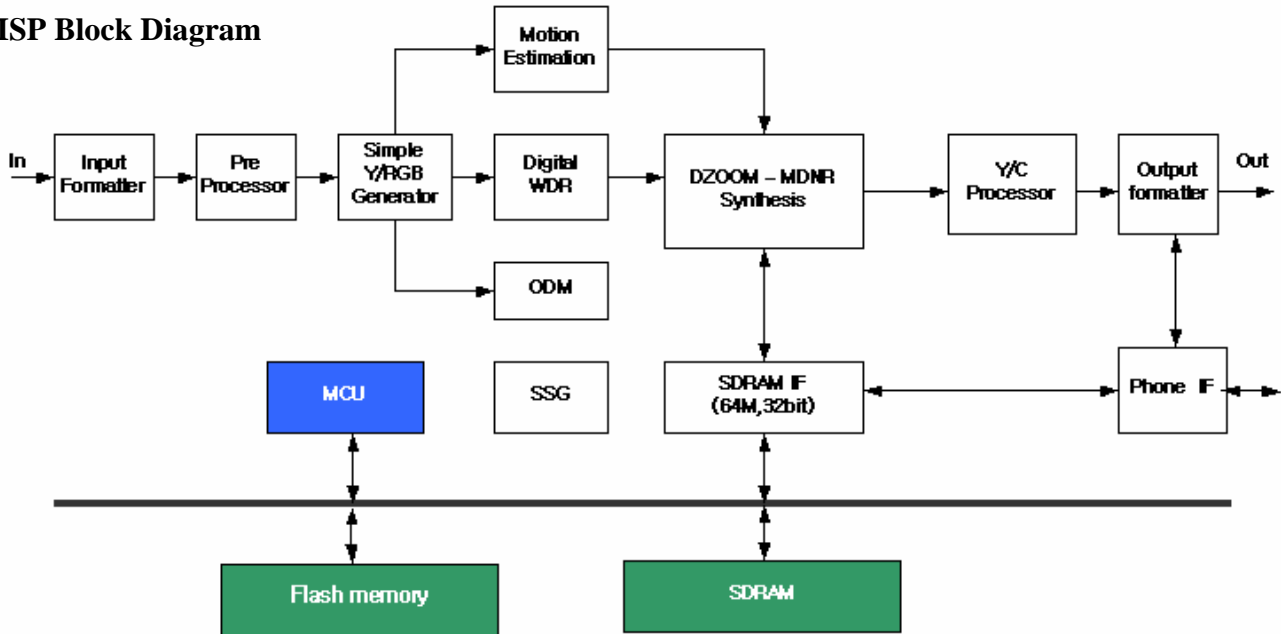


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ISP Block Diagram



Features

- ❑ Input formatter
 - input format : RGB Bayer(including irregular pattern) from CMOS/CCD Module
 - image sensor interface(support 3 Mega Pixel)
 - irregular pattern converter : 1 line to 2 line converter, down scaler, 1 line to 2 line sync generator
 - support Interlace still mode
- ❑ Pre-Processor
 - Lens shading correction
 - Defect Detection & correction
- ❑ Simple Y/RGB generator
 - Y signal generation for motion detector, WDR and ODM
 - R, G, B generation for WDR, ODM before compensate AWB
 - color correction
 - black balance control
 - RGB Gain control for AWB
- ❑ Optical Detector Module
 - AWB Detector
 - AF Detector
 - AE Detector
- ❑ Digital WDR
 - gamma control on every R, G, B
 - adaptive gamma compensation on local area
 - adaptive gain control by analysis of histogram
- ❑ Digital Zoom/DIS/MDNR
- ❑ Y/C processor
- ❑ Output Formatter
 - YCbCr (4 : 2 : 2) output
 - output sync adjust & polarity
- ❑ MCU and peripherals
 - 32 bit EISC CPU : AE32000C
 - 32 bit Timer with 8 bit pre-scale
 - 32 bit Watch dog timer
 - Interrupt Controller with 2 external interrupts
 - Two Channels UART with 4 byte FIFO (compatible 16550 UART)
 - Four Channels PWM
 - Two Wired Interface
 - 20 General Purpose Input/Output Ports
 - Serial Flash Programmer for In-System Programming with SPI Protocol
- ❑ Operation Voltage Range
 - MCU : up to 40 MHz , ISP : 100MHz
- ❑ Built in Memory
 - 128KB Flash Memory
 - 8MB SDRAM
 - 4KB Data Memory
 - 1KB Instruction Cache Memory
- ❑ Package
 - 78 BGA Package(0.18 μm)

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