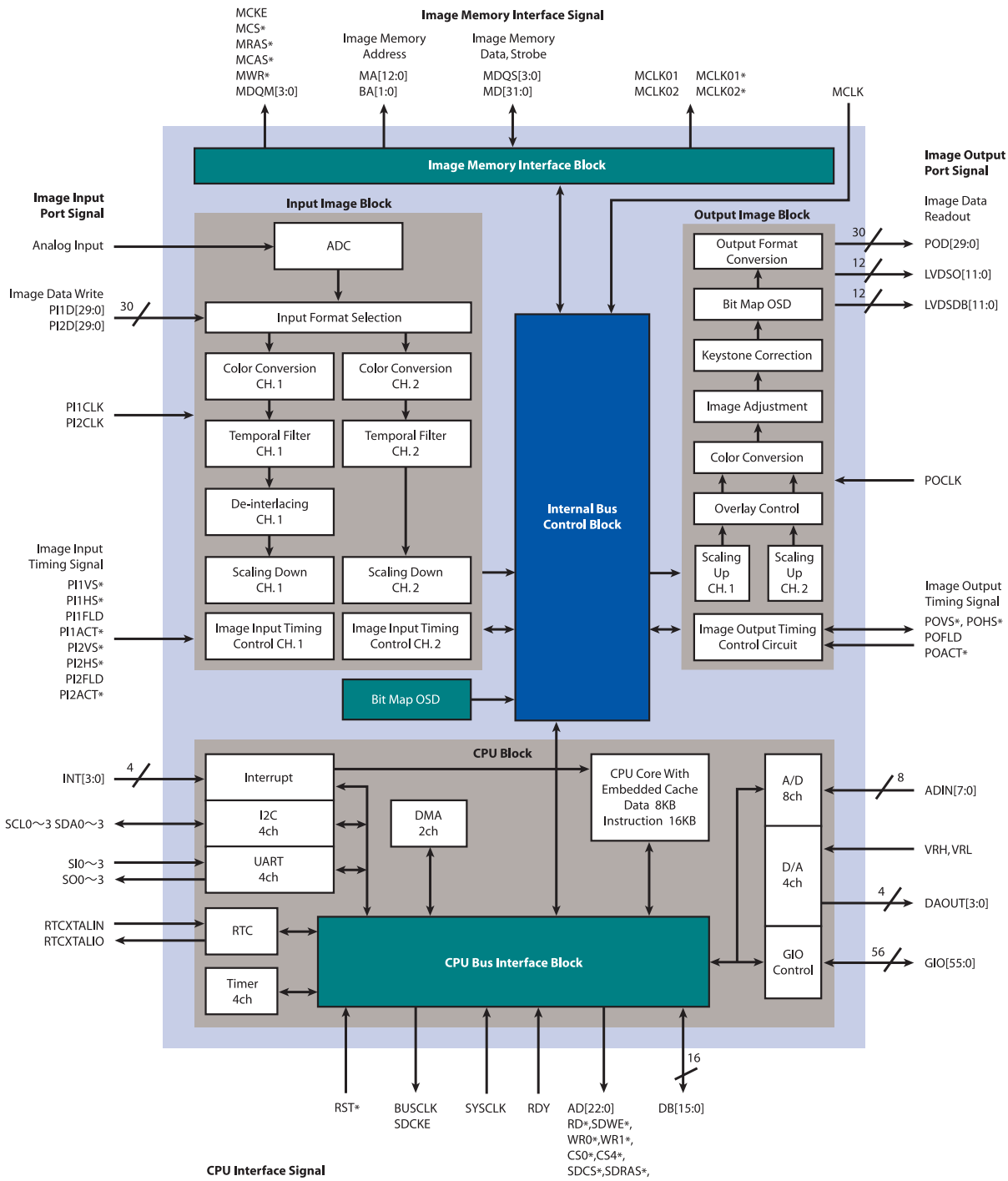
IP00C811

Dual De-interlacer/Scaler With Analog Front-End

IMAGE PROCESSORS

Summary

The IP00C811 is a dual-input channel de-interlacer/scaler with built-in video decoder, ADC, CPU and LVDS Tx. It supports PiP, PoP with inputs and output up to 1080p/WUXGA/2K1K progressive or 1080i. The IP00C811 features MPEG noise reduction, edge enhancement, xvYCC deep color processing, high color bitmap OSD, 90-degree image rotation, mirror image, keystone correction, and edge blending. IP00C811 is ideally suited for video walls applications.



IP00C811 Specifications

INPUT (2 PORTS)

- 30-bit RGB/YUV 4:4:4 @ 166 MHz
- 20-bit/10 bit YUV 4:2:2 @ 166 MHz

EMBEDDED ANALOG FRONT-END

- Video decoder for NTSC/PAL/SECAM
- Supports Composite (CVBS) and S-Video inputs
- 10-bit ADC
- Adaptive Comb filter for Y/C separation
- VBI Data extraction (CC, CGMS, WSS)
- Closed-caption decoding

OUTPUT

- 30-bit RGB/30-bit YUV 4:4:4/20-bit YUV 4:2:2 @ 166 MHz
- FPD link/LVCMOS output compatible
- Up to 4096 pixels/line with 2176 pixels of active video

DE-INTERLACING

- Motion adaptive de-interlacer (only for channel 1 input)
- Diagonal line interpolation
- 3D/MPEG/mosquito/block noise reduction
- 2:2, 2:3 and multi cadence detection
- Comb filter for close caption
- Chroma bug canceller

SCALING

- 8x6 interpolation with FIR Filter
- Independent H and V scaling ratios (aspect ratio correction)
- Filter coefficients in embedded (64 ROM set)

PiP & PoP FUNCTIONS

- Two (2) fully independent video inputs
- Frame rate conversion with frame tear protection
- α blending

BITMAP OSD

- 256 colors/High color OSD (RGB 565)
- Embedded font engine
- Support for blinking and semi-transparent (4 color) OSD
- OSD scaling

INPUT IMAGE CHARACTERISTICS IDENTIFICATION

- (APL, Histogram, Min/Max, Edge intensity, position measurement)

IMAGE SIZE

- Ch1: Up to 4096 /line with 2176 active video pixels
- Ch2: Up to 4096 /line with 1600 active video pixels (after shrink)

IMAGE PROCESSING

- Mirror image
- 90 degree image rotation (image and OSD)
- Edge blending
- Vertical keystone correction

EMBEDDED CPU

- ARM946E-S core with 16KB instruction, 8KB data
- Work RAM of 64KB
- DMAC (2ch)/UART (4ch)/I2C (4ch)
- Timer (4ch)/Clock control/interruption control/General port control /IR remote control/RTC
- 8-bit ADC (8ch)/8-bit DAC (4ch)

EXTERNAL CPU INTERFACE

- 8 bit parallel or 4 bit serial interface to external Flash/SRAM/SDRAM
- Address: 23-bit/Data: 16-bit
- 4 external interrupt lines

IMAGE QUALITY CONTROL

- Horizontal and vertical edge enhancement circuits
- 12-bit color gamma correction tables (7 LUT's available)
- Brightness & luminance in RGB or YUV, contrast adjustment
- H and V edge enhancement function (9 symbols)
- Bias x 3, Gain x 2, CSC equipped for RGB <-> YUV
- Color management function
- Dithering for 10 or 8 bit output
- Fully compatible with xvYCC

EXTERNAL MEMORY

- DDR2-SDRAM PC800 (512/256 Mbit x 16) x 2

POWER SUPPLY

- 3.3V, 1.8V and 1.2V

PACKAGE

- 900-pin Plastic BGA; (1mm pitch)

For more information please visit:
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IMAGE PROCESSORS

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