i-Chips

IMAGE PROCESSORS

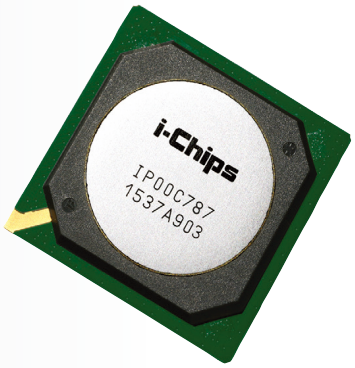
PRODUCT BRIEF

IP00C787

2K Warping/Edge-blending LSI with Built-in Memory

Product Description

The IP00C787 is an advanced warping and edge-blending chip for input and output images up to 2K (2048x1200) in resolution. This device contains very powerful functions such as RGB independent gamma correction edge-blending, per pixel edge-blending and uniformity correction that are required for higher image quality. Rotation of the image in any angle is also supported by this product. Now, due to the embedded frame memory, no external memory is required. This saves space and provides for a more flexible design. Because of the comprehensive specifications and functions, this device can be used in any application that requires image geometry correction such as projectors, video-walls, camera systems, etc.



Features

Input (1-port)

30-bit RGB/YUV4:4:4, 20-bit YUV4:2:2 @166MHz LV-CMOS, 160MHz high speed LVDS, 83MHz x 2 LVDS

Output (1-port)

30-bit RGB/YUV4:4:4, 20-bit YUV4:2:2, 10-bit YUV4:2:2 (BT656) @166MHz LV-CMOS, 166MHz high speed LVDS, 83MHz x2 LVDS

Image Size

Horizontal sync signal 16384 pixels (max), image active area 2048x1200 (max)

External/Internal Sync

Output sync signal is compatible with internal/external signal

External Memory

DDR2-SDRAM 1Gbit embedded. No external memory

Serial Flash Interface

2G-bit x 1(max)

Distortion Correction Mode

RGB common distortion correction mode

Interpolation Filter

Horizontal/vertical 6-symbol programmable FIR filter

Distortion Correction Method

- Coordinate correction look up table (max resolution with fine grid 8x8:1280x800)
- Incorporated correction look up table generator (keystone correction only)
- Load from external CPU or external serial flash memory

Distortion Correction Amount

- Up to 45 degrees (horizontal /vertical)
- Any angle rotation (up to 45˚ rotation + 90˚ rotation)
- Vertical shrink ratio is about x 0.3

Image Correction

- Edge-blending (per pixel correction available)
- Uniformity correction (per pixel correction available)
- Mirror/flip image

Image Quality Control

- 16-bit color gamma correction tables (7LUT available)
- Error diffusion, brightness and contrast adjustment
- Color management

CPU Interface

8-bit parallel/4-wire serial

Power Supply

3.3V/1.8V/1.2V

Package

496-pin BGA (1.0mm pitch), 27mmx27mm

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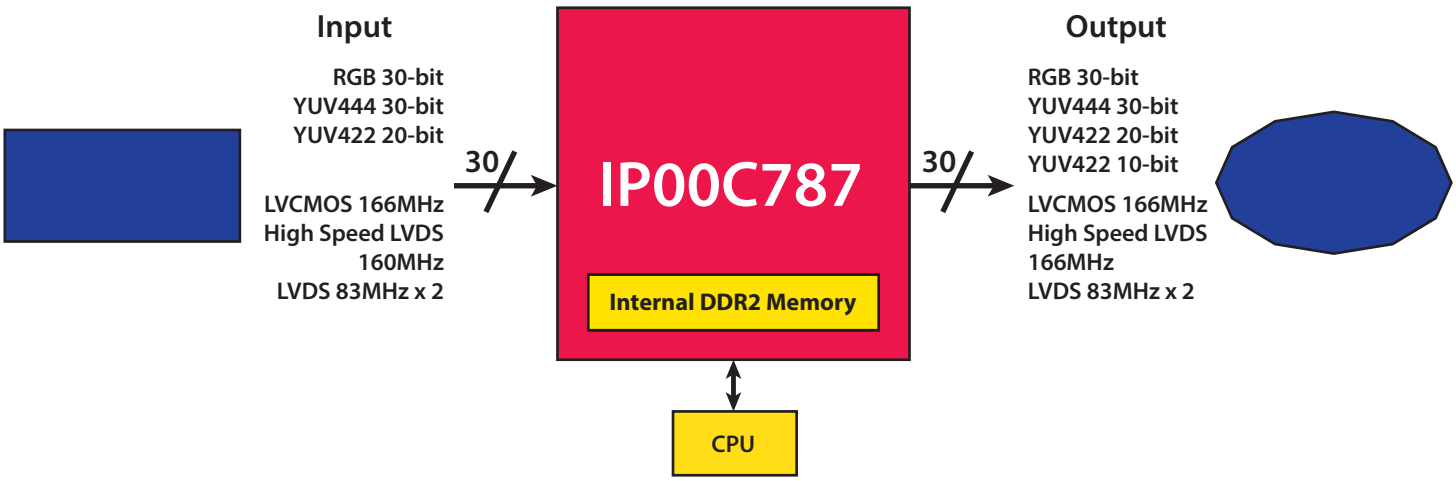
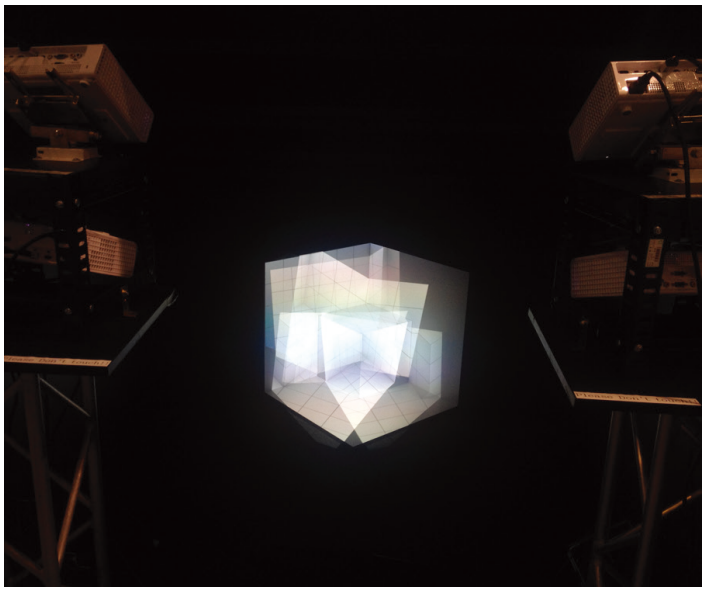
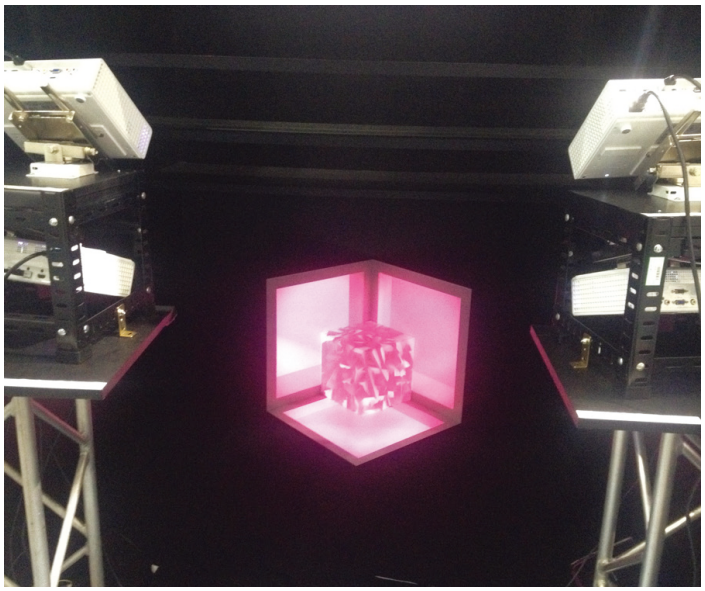
IP00C787 Block Diagram



Examples





Projection Mapping (2x2 Projectors)

For more information please visit:
www.i-chips.co.jp or **info@i-chips.co.jp**

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