

### IMAGE PROCESSORS

# IP00C734

## Quad Input/Output De-interlacer/Scaler for 4K

### Product Description

The IP00C734 has 4 independent image processing channels with 4 input ports and 4 output ports at 166 MHz each. A single IP00C734 can drive a UHDTV/4K@60Hz format. Also, the IP00C734 incorporates 4 independent de-interlacers along with scaler and image quality control such as gamma correction and uniformity correction in order to meet the requirements for higher image quality. With its LVDS output, the IP00C734 is an ideal single-chip solution for a 4K monitor.

### Features

#### Input/Output

- (4-channel) 30-bit RGB/YUV4:4:4, 20-bit YUV4:2:2, 10-bit YUV4:2:2/YUV4:2:0 @ 166MHz LV-CMOS
- Dual type Input/Output, DDR Input
- Up to 16384 pixels/line with 2176 pixels of active video

#### Input I/F

- LVCMOS 4CH input (DDR input, Dual input)

#### Output I/F

- LVDS 4CH output (no CMOS output)

#### Color Support

- xvYCC/Bt-2020

#### Scaling

- 6 symbol filter with FIR filter
- Coefficient, ROM (64 sets)
- Independent vertical/horizontal magnification & panoramic view

#### De-interlacer

- Motion adaptive de-interlacer, YUV4:2:2, 22/23 pull-down, multi-cadence
- High performance motion detection filter

### Image Quality Control

- Gamma correction
- Uniformity correction (dot by dot correction also available)
- 3x3 color conversion matrix
- Bias, Gain, Gamma correction
- Horizontal edge enhancement (9 symbols)
- Error diffusion (12→10, 10→8)

### Image Manipulation

- 4-channel overlay
- Alpha blending
- Color key blending
- Mirror/flip/90° image rotation

### CPU Interface

- 8-bit parallel/4-wire serial

### External Memory

- DDR2-SDRAM 64bit PC800 (2G/1G/512M bit x 16) x 4

### Input/Output Sync

- Frame rate conversion
- Tearing protection
- External force synchronization
- Genlock (external VCXO)

### Bit Map OSD

- 256 colors
- Font data development function (65536 characters)
- Support for blinking and semi-transparent (4-color) OSD
- 90° rotation
- Scroll function
- 4 independent
- Serial flash to bitmap

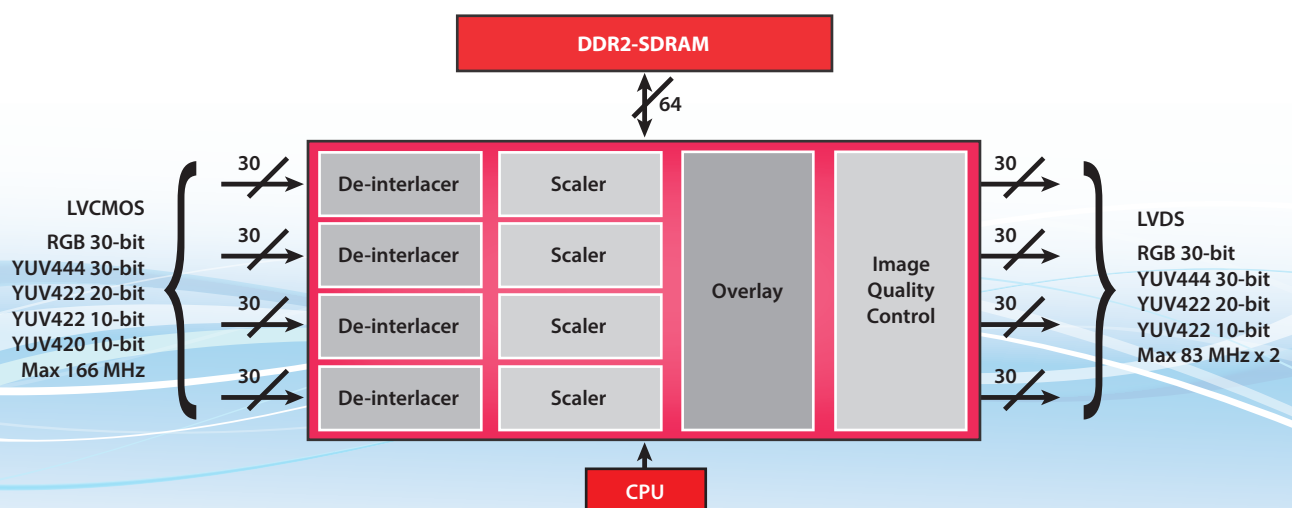
### Power Supply

- 3.3V/1.8V/1.2V

### Package

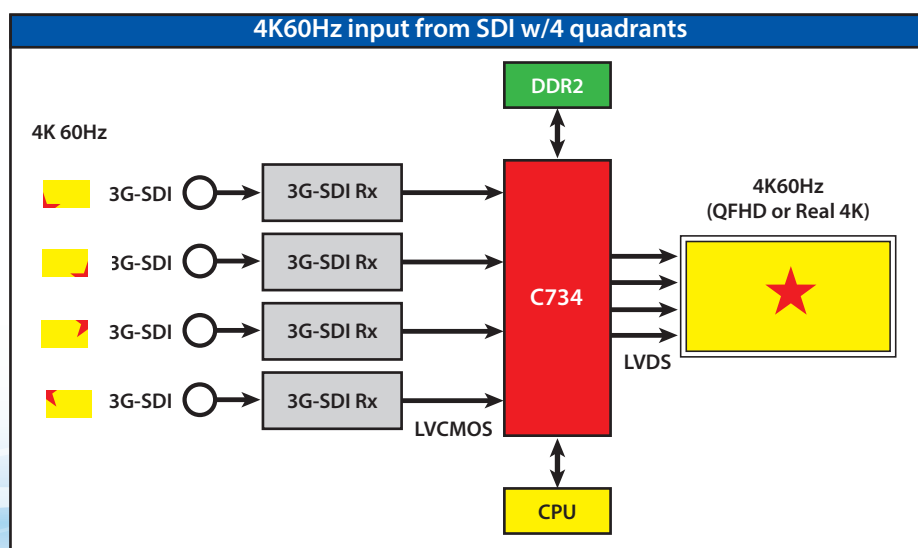
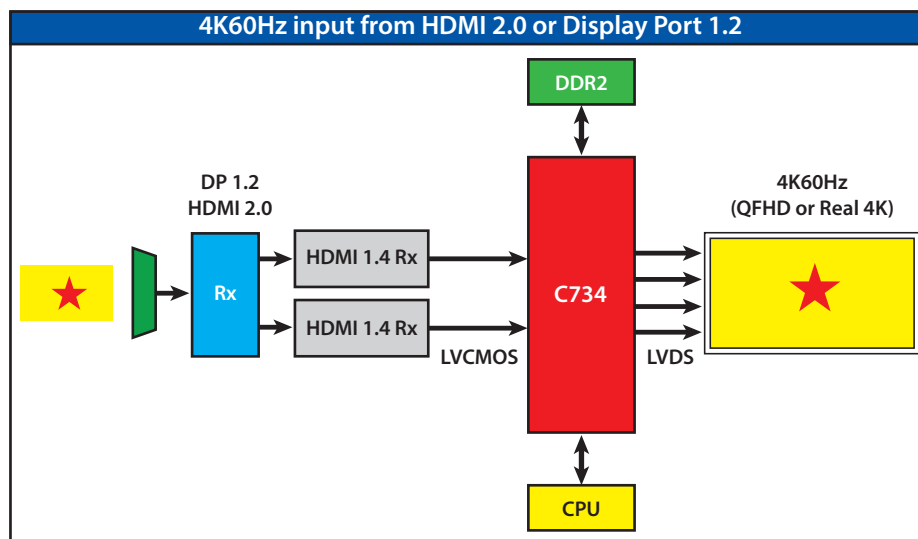
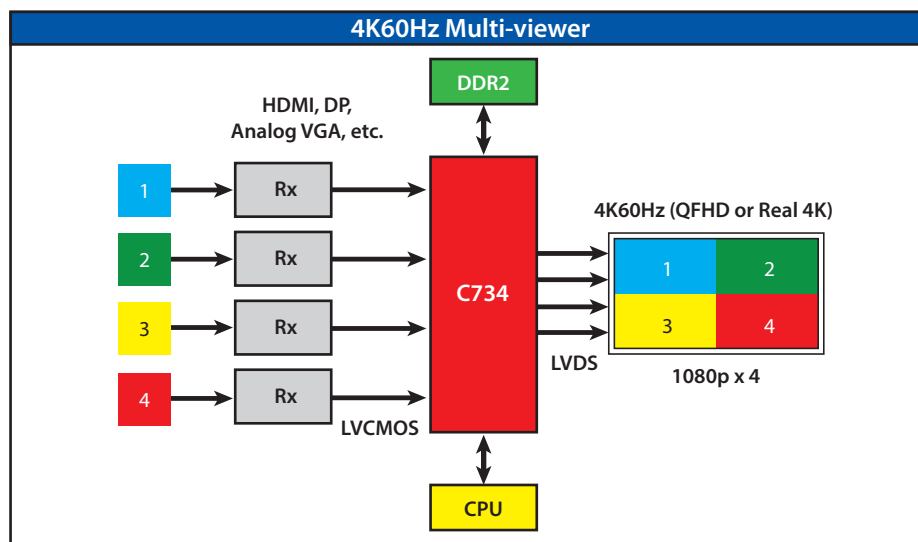
- 768-pin BGA (0.8mm pitch), 27mmx27mm

### IP00C734 Block Diagram



# IP00C734 Quad Input/Output De-interlacer/Scaler for 4K

## Application Diagrams



For more information please visit:

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