Silicon Image™

ABT1015 Video Scaling Chip

High Performance Deep Color Video Scaling

The ABT1015 is a high performance video scaling IC designed for A/V Receiver, Blu-ray® and Set-top-box applications supporting Deep Color. The ABT1015 features Precision Video Scaling™ that independently scales an image horizontally and vertically to achieve outstanding picture quality for resolutions up to 1080p.

Applications

- A/V Receivers
- Blu-ray Players/Recorders
- Docking Stations/Adapters
- Set-top Boxes

Key Features

- 10-bit fully programmable horizontal and vertical scaler
- Up-scales to 1080p and downscales as low as 480i/576i format
- AutoCUE-C™ Automatic Chroma Up-sampling Error detection and correction
- Panoramic stretch and Pillar-box mode to support 4:3 content on a 16:9 display

Input

- 24/30/36-bit RGB/YCbCr 4:4:4
- 16/20/24-bit YCbCr 4:2:2
- 8/10/12-bit YCbCr 4:2:2 (ITU-R BT.656)
- Supports a wide range of video and PC formats including 1080p and WUXGA
- Separate and embedded syncs, DE generation, BT.656 support
- Other resolutions are supported but may require an external PLL
- 165MHz maximum input clock

Picture Controls

- Brightness
- Contrast
- Saturation
- Sharpness (vertical and horizontal)
- Sub-pixel Y/C delay
- Output black level
- Dynamic Range Expansion and Compression
- 12-bit 3x3 Matrix for color correction
- xvYCC enhanced colorimetry

Pass Through Mode

- All formats including 1080p and 3D over HDMI formats.

Output

- 24/30/36-bit RGB/YCbCr 4:4:4
- 16/20/24-bit YCbCr 4:2:2
- 8/10/12-bit YCbCr 4:2:2 (ITU-R BT.656)
- Supports a wide range of video formats including 1080p
- Other resolutions are supported but may require an external PLL
- 165MHz maximum output clock

Test Pattern Generator

- Flexible test pattern generator under software control to provide reference test patterns for display calibration.

Host Interface

- Two wire serial bus interface (I²C compatible)

Package

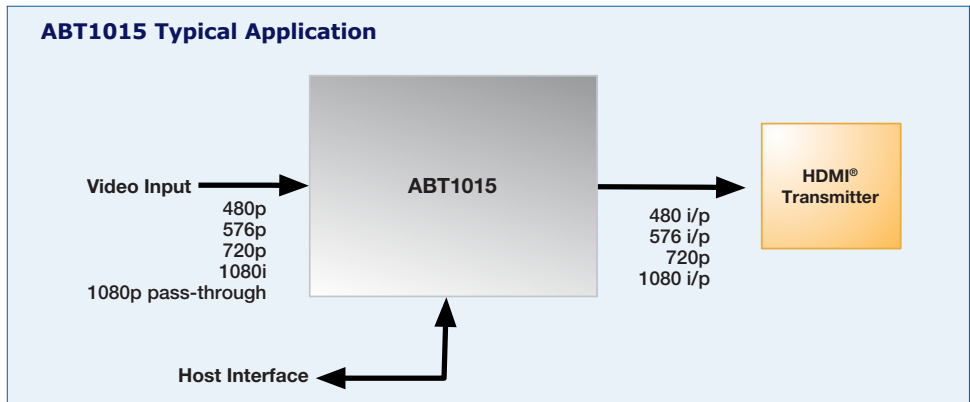- 128-pin LQFP

Voltage

- 1.8V core and 3.3V I/O

Power

- <2 W

ABT1015 Typical Application

Video Input
480p
576p
720p
1080i
1080p pass-through

ABT1015

HDMI® Transmitter

480 i/p
576 i/p
720p
1080 i/p

Host Interface

Enhancing the connected HD experience

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