



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

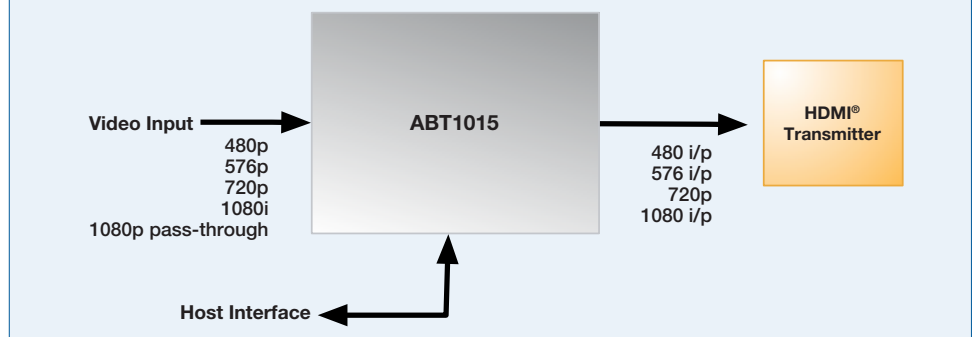
Voltage

- ◆ 1.8V core and 3.3V I/O

Power

- ◆ <2 W

ABT1015 Typical Application



Enhancing the connected HD experience

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