



# PS171 DisplayPort™ to HDMI™/DVI Converter

## HDMI 1.4b Compatible with 300MHz TMDS Clock Support

Product Brief

PS171

### FEATURES

- Integrates a complete DisplayPort™ receiver and complete HDMI/DVI transmitter for video format conversion
- Fully compliant HDMI output, up to 300 MHz TMDS clock
- Fully compliant DisplayPort input, video and audio
- Full HDCP 1.3 content protection support
- RGB at 6/8/10/12 bpc (bits-per-component) supported
- YCbCr 4:4:4 and YCbCr 4:2:2 8/10/12 bpc supported
- Audio input formats: 8-ch LPCM, compressed audio (AC-3, DTS) and HBR audio format Up to 24-bit audio sample size and 192 kHz sample rate
- Includes on-chip microprocessor with SPI ROM interface
- 1.2V Core Power Supply & 3.3V I/O Power Supply
- Internal crystal oscillator
- ESD: HBM 8kV at connector pins and 5kV for all other pins
- 56-pin QFN package

### DisplayPort Receiver Capability

- Supports 1, 2 and 4 lanes at 1.62Gbps and 2.7Gbps
- Supports full link training and no link training operation
- Supports DisplayPort Spread Spectrum Clocking

### DVI and HDMI Transmitter Capability

- HDMI 1.4b transmitter, up to 3.0Gbps data rate (300MHz TMDS clock) supporting 3D 1080p and 4K x 2K @30Hz

### GENERAL DESCRIPTION

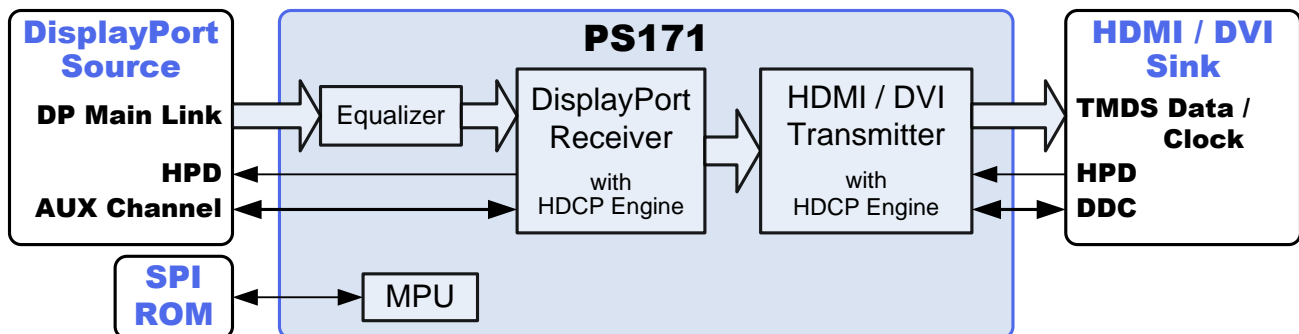
The PS171 is a new generation DisplayPort™ to HDMI™/DVI converter that receives both video and audio streams from an upstream DisplayPort Source link and converts to an HDMI or DVI output. The HDMI transmitter is compliant to the HDMI 1.4b specification and supports video formats using TMDS clock rates up to 300MHz (3.0Gbps TMDS data rate).

The PS171 supports DisplayPort branch functions for active protocol conversion, namely DisplayPort-to-HDMI or DisplayPort-to-DVI. The PS171 provides anonymous, automatic operation that is enabled by an integrated microprocessor that uses an external SPI ROM for configuration and microcode. The SPI ROM can be field updated through the AUX channel or device I2C port. System control is available through the use of a dedicated I2C slave input, and an I2C master interface is available for external EDID and expansion functions.

The PS171 fully supports HDCP content protection, including the HDCP repeater function, with integrated HDCP Rx & Tx keys.

### APPLICATIONS

- Docking device
- Enablement of DisplayPort input for CE device
- Active Protocol DisplayPort-to-HDMI Video Adapter
- Active Protocol DisplayPort-to-DVI Video Adapter



Rev. 2

Date of release: Mar 2012

Information furnished by Parade Technologies is believed to be accurate and reliable. However, no responsibility is assumed by Parade Technologies for its use, nor for any infringements of patents or other rights of third parties that may result from its use. Specification is subject to change without notice. No license is granted by implication or otherwise under any patent or patent rights of Parade Technologies.

Parade Technologies, Inc.  
2890 Zanker Road, Suite 102, San Jose, CA 95134, U.S.A.  
TEL: 408-329-5540 FAX: 408-329-5541  
<http://www.paradetech.com>  
© 2012 Parade Technologies, Inc. All rights reserved.