



DP601

KEY FEATURES

- Direct Interface to DisplayPort or HDMI/DVI Transmitter Devices
- Dual Channel LVDS Outputs, Support 18/24/30/18+18/24+24/30+30-bit LCD panels
- Support up to QHD (3840x2160), QWXGA (2560x1600) Hi-Def & Hi-Res LCD panels
- Digital Video Output (DVO) in 18/24/30/36-bit format with separate sync control
- Multiple Pixel Formats: RGB 6/8/10/12 bit per component (bpc); YCbCr 422/444, 8/10/12 bpc
- Compliance with DisplayPort Specification 1.1 at 1.62/2.7 Gbps data rate
- Compliance with DVI 1.0 up to 1.65 Gbps and HDMI 1.3a up to 2.25 Gbps
- Auto Loss of Signal Detection for Link Management
- High Input Sensitivity, with Differential Input Level down to 100 mV
- Adaptive Receiver Equalization up to 18 dB
- Robust Clock Data Recovery without External Reference Clock
- Superior Jitter Tolerance up to 0.8 UI
- Support DisplayPort Spread Spectrum Clocking to reduce EMI
- Source device Hot Plug/Unplug Detection through DisplayPort AUX CH DC level input pins
- Secured Content Protection with HDCP 1.3, Embedded Serial Key ROM
- Support HDCP Repeater for Down Stream Devices
- Support Display Power Management
- Convert analog Light Sensor input into Pulse Width Modulation Output for Backlight Control
- Programmable digital PWM (Pulse Width Modulation) for Backlight Control
- Integrated Optional Microcontroller for System level Management
- Build-in Bridge between DisplayPort AUX channel & E-DDC for E-EDID Data Structure
- Color enhanced Dither or Frame Rate Conversion for Low Color Depth LCD panel
- Adjustable Contrast, Brightness, Saturation, Hue, & Color Boost
- I2S, SPDIF, & One-bit Audio Outputs

- Support LPCM, AC-3, & DTS, & One-bit Audio (DSD & SACD) Audio formats
- 1.2V Core Power Supply & 3.3V I/O Power Supply
- 128-pin LQFP 14x20 mm² RoHS Package
- 5V tolerance for HPD, I2C, & AUX Channel pins
- 0°C to 70°C Operating Temperature Range

APPLICATIONS

- LCD Monitor
- A/V Receiver
- Digital TV
- Multi Functional Monitor

GENERAL DESCRIPTION

The DisplayPort architecture and interface specification leverage matured technologies such as physical layer of PCI Express Bus standard, packet based transaction & quality of service of data communication, and advanced CMOS semiconductor process to address existing and future growth of digital display on PC & CE industries. The objective of DisplayPort & HDMI/DVI dual-mode receiver product is to provide a scalable and interoperable digital display interface with optional content protection interface to address broad application in both PC & CE display devices.

The dual-mode receiver input port support versatile sources with various video and audio source formats from DisplayPort, HDMI, or DVI transmitter devices. The core engine of receiver products converts, unpackets, and de-serializes incoming media stream and output in either LVDS or DVO signaling format.

The DisplayPort receiver support source device hot plug/unplug by detection voltage level at AUX DC level input pins DAUXDCP & DAUXDCN. It receives command and report configuration and status of main link services through secondary channel in either AUX or DDC channel respectively. The dual-mode receiver in DP601 also support DisplayPort cable adaptor which can direct access legacy DVI/HDMI source device through the cable adaptor.

Rev.0

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. Trademarks and registered trademarks are the property of their respective owners.

Date of release: Mar. 2007

530 Lakeside Dr. Suite 230, Sunnyvale, CA 94085, U.S.A.

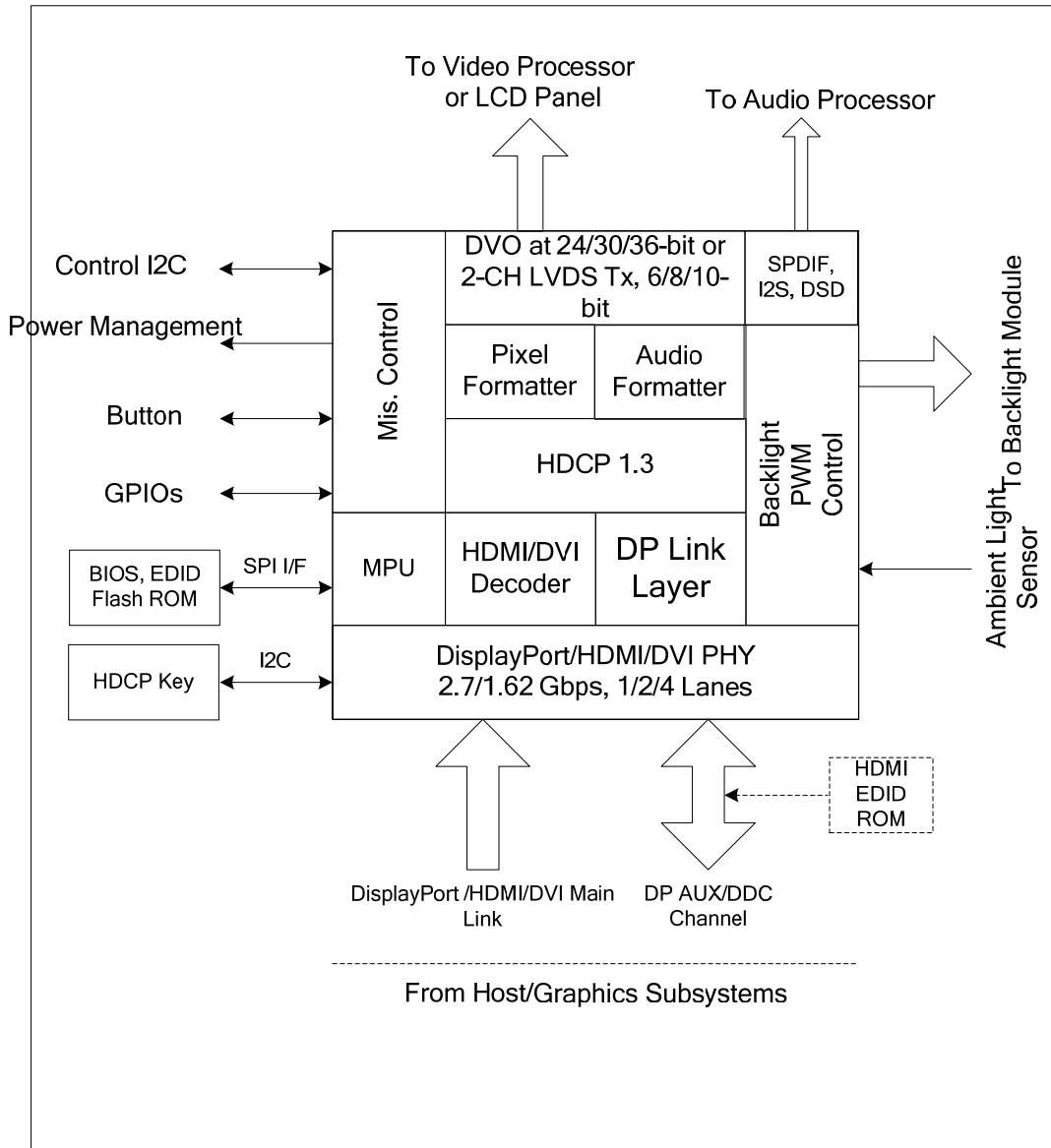
TEL: 408-329-5540 FAX: 408-329-5541

<http://www.paradetech.com> © 2007 Parade Technologies, Inc. All rights reserved.



DP601

FUNCTIONAL BLOCK DIAGRAM



Rev.0

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. Trademarks and registered trademarks are the property of their respective owners.

Date of release: Mar. 2007

530 Lakeside Dr. Suite 230, Sunnyvale, CA 94085, U.S.A.

TEL: 408-329-5540 FAX: 408-329-5541

<http://www.paradetech.com> © 2007 Parade Technologies, Inc. All rights reserved.