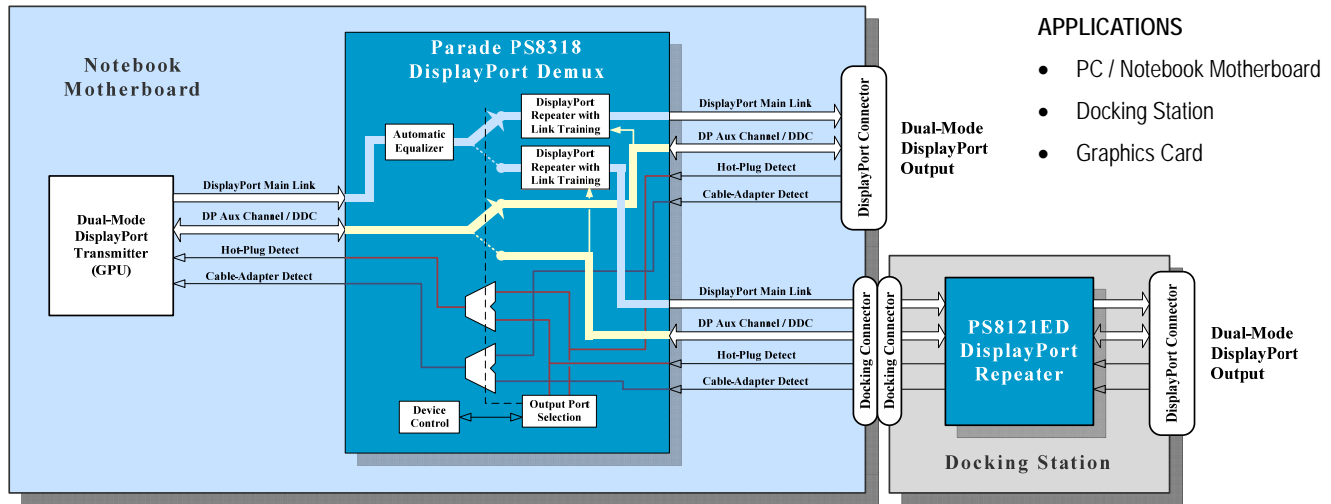




PS8318 DisplayPort™ Dual-Mode Source Demultiplexer

Product Brief

PS8318



APPLICATIONS

- PC / Notebook Motherboard
- Docking Station
- Graphics Card

KEY FEATURES

- Compliant to VESA DisplayPort™ Standard version 1.1a for both 1.62 and 2.7 Gbps link rates
- Compliant to VESA DisplayPort PHY Compliance Test Standard version 1.1
- Automatic receiver equalization adjustment to compensate for PCB and/or connector losses.
- Full link training support for 1, 2, or 4 lanes
- Supports all 4 output amplitude and pre-emphasis levels.
- Supports Dual Mode DisplayPort Demultiplexing (DisplayPort and HDMI™/DVI)
- Source initiated power down control
- Extended features include automatic power down and automatic port switching
- Low power consumption
- Optional Broadcasting Mode
- Local I2C control option
- Single 3.3 V power supply
- 56-pin QFN RoHS package
- 0° to 85°C operating temperature range
- ESD: Human Body Mode to 8 kV

GENERAL DESCRIPTION

The Parade Technologies PS8318 DisplayPort Dual Mode Source Demultiplexer accepts one DisplayPort input and provides two DisplayPort outputs. Dual Mode DisplayPort (DP) Sources are supported enabling HDMI/DVI compatibility through the use of a down-stream, level-shifting cable adapter (dongle). The device provides optimum signal integrity by directly regenerating and driving Main Link amplitude and pre-emphasis levels requested by the Sink during the DP Link Training process. Signal loss caused by the PCB traces between the DP source and PS8318 is removed by the PS8318 automatically-adjusted input equalizer. Device operation and configuration can be controlled through device pin settings or I2C bus control.

The PS8318 features optional automatic power management capability that powers down the device when no Sink devices are connected (no monitors plugged in), and wakes up the device upon a hot plug assertion (Sink device connected).

The automatic receiver equalization and Auxiliary Channel link training functions assure optimum signal integrity between the GPU Source and Display Sink system devices. This substantially increases overall system margin, facilitates the use of longer or marginal cables, and assures overall improved interoperability and reliability.

To support DP link training over the DP output port, the PS8318 implements an Auxiliary Channel (AUX CH) interception scheme to manage the PHY setting at the output port. The AUX CH interceptor in the PS8318 is a passive "listener" that intercepts the DP training information passing through the AUX CH channel. This intercepted data is used to adjust the lane count, output level, and pre-emphasis level of PS8318 DP output, and to manage the device's D3 power saving state.

Date of release: Dec 2008

Rev.0

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