

PI3EQXDP1201

DisplayPort (Rev 1.2) ReDriver™ Signal Conditioner

PI3EQXDP1201 provides the user the ability to reduce signal jitter caused by transmission line effects on the DisplayPort data. Pericom's PI3EQXDP1201 will provide an AUX decoder, which can decipher the link training message and automatically configure its outputs with the required pre-emphasis or output swing level.

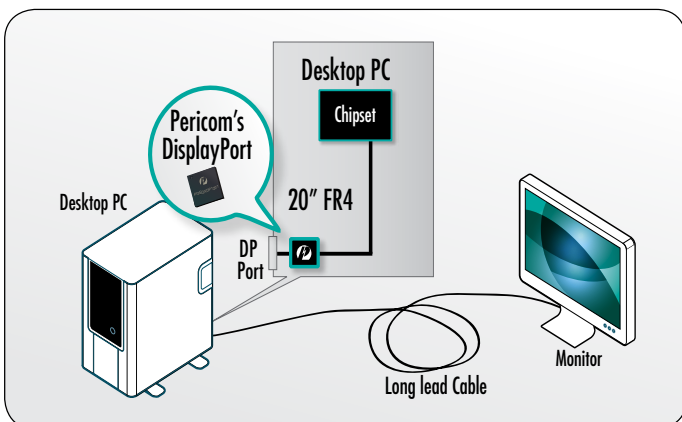
Intelligent Power Management

Pericom's block based design, and intelligent detection scheme allows portions, or all of the IC, to be disabled for power savings. For example, in DP mode, if only one or two lanes are active, the other lanes will be automatically powered off. If there is no input video signal the entire IC will be powered down. If there is no monitor detected, Pericom's PI3EQXDP1201 can also automatically power down the IC. This intelligent power management concept not only saves system power, but also stops the device from outputting useless data or noise when no signal is present at the input of the IC. The power-down mode can also be entered using hard pin ENABLE, or through DPCD register (AUX link training)

DisplayPort AUX Decoder

PI3EQXDP1201 integrates an AUX decoder, which enables the device to receive and decipher all AUX link training data and use this extracted information for its own configuration. The intercepted DPCD data is used to adjust the active lane count, output swing level, output pre-emphasis level, and to manage the device's D3 power saving state.

Utilization of PI3EQXDP1201 in Gaming Application



Features

- Support DisplayPort 1.1a and 1.2
- Supports Dual mode DisplayPort outputs
- Supports Dual mode DisplayPort inputs
- Automatic power down when monitor is not connected
- Automatic power down when input video signal is not present
- 2 power-rail modes supported
 - Single 3.3V mode
 - Dual 1.5V/3.3V mode (lower power consumption)
- Integrated ESD protection
- Support for FAUX signal pass through with low signal degradation
- Support for RBR (1.6Gbps), HBR (2.7Gbps) and HBR2 (5.4Gbps)
- AUX decoder for automatic part configuration
 - Automatically set Pre-emphasis based on AUX data transfer
 - Automatically set output swing based on AUX data transfer
 - Automatically set Pre-emphasis bit duration based on data-rate detection through AUX data transfer
- Input equalizer for input deterministic jitter reduction
 - Can be fixed programmable with 4 taps
 - Can be automatically configured based on AUX link training requirement
- AUX/DDC combo switch
- Independent squelch per lane (auto power down)
- 48-contact TQFN, 48ZBE, 7mm x 7mm

Block Diagram

