



SiI 7171 iTMD5 Receiver



Applications

- Direct view HDTV (LCD and PDP) internal link
- Rear projection HDTV (DLP, LCOS, and LCD) internal link
- Projectors
- Multi-functional monitors

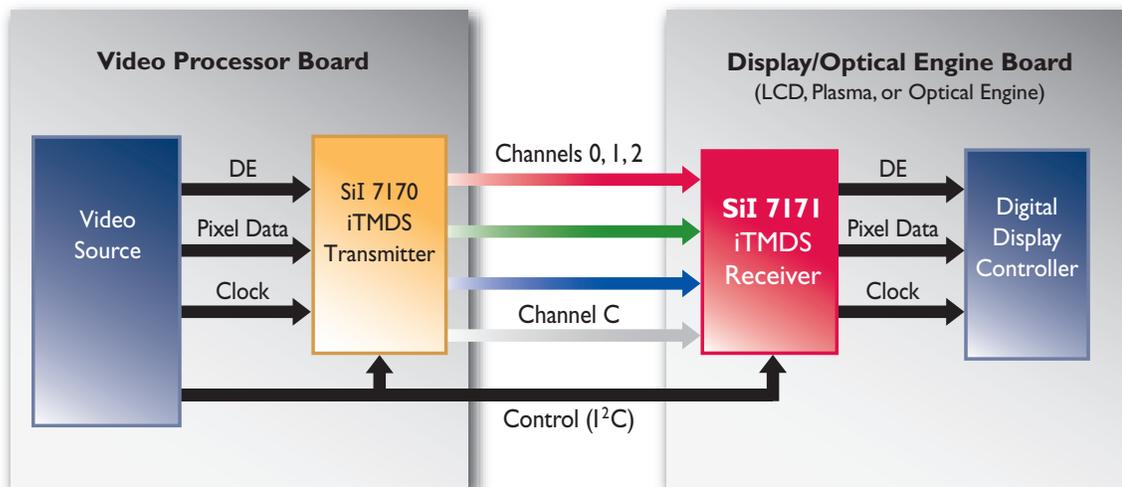
Silicon Image introduces SiI 7171™ iTMD5 (internal TMDS) receiver product for high bandwidth needs of direct view LCD/plasma and rear projection (LCOS, DLP, and LCD projection) digital televisions (DTVs), LCD monitors, and projectors.

While DVI 1.0 compliant for external applications, the SiI 7171 is ideal for internal link of DTVs, monitors, and projectors. Innovative SiI 7171 architecture adds new encoding method for high color depth support including 8, 10, 12, or 16 bits per color. Silicon Image advance design technique allows single link SiI 7171 operation of 225MHz bandwidth. This allows SiI 7171 to support 720p/1080i/1080p resolution with 12-bit per color at 60 Hz refresh rate. The SiI 7171 enables billions of color for HDTVs, leading to exceptional digital visual quality.

SiI 7171 incorporates advanced automatic equalizer and PLL bandwidth for long cable support and increase interoperability. Planned high definition content protection (HDCP) capable device with integrated pre-programmed keys provide secure high definition video delivery at low cost. The SiI 7171 is available in a 128-LQFP Universal environmentally friendly Pb free package.

Single link SiI 7171 provides bandwidth to support today's 720p and tomorrow's 1080p digital TVs at 8, 10, 12, or 16 bits per color using only four differential signal pairs (three data pairs and one clock pair). Using today's LVDS technology will require two channel with up to 12 differential signal pairs. The SiI 7171 provides significant cost savings for the digital TV internal interface by reducing the chip count from two to one and dramatically reducing the cost of cable assembly by cutting the number of wires needed.

Texas Instruments selects the SiI 7171 for 720p/1080p 10-bit Digital Light Projection (DLP) reference design because it brings revolutionary solution to address the fast growing band width of the digital TV internal interface while reducing overall bill of material (BOM) cost.



SiI 7171 Features

iTMDS Receiver

General

- iTMDS receiver supporting 25MHz – 225MHz bandwidth
- Consistent, high quality digital visual experience
- Cost effective single link support 1080p and 12-bit color
- 8-bit, 10-bit, 12-bit, and 16-bit per color encoding
- Support HDTV resolutions (720p/1080i/1080p)
- DVI 1.0 compliant receiver interoperable with broad range of DVI transmitters
- Automatic equalizer adjust to cable impedance ensure long cable support and greater interoperability
- Long cable support up to 20M DVI cable
128-pin LQFP Universal Pb-free package

Input

- iTMDS input up to 225MHz
25MHz-165MHz DVI 1.0 compliant input

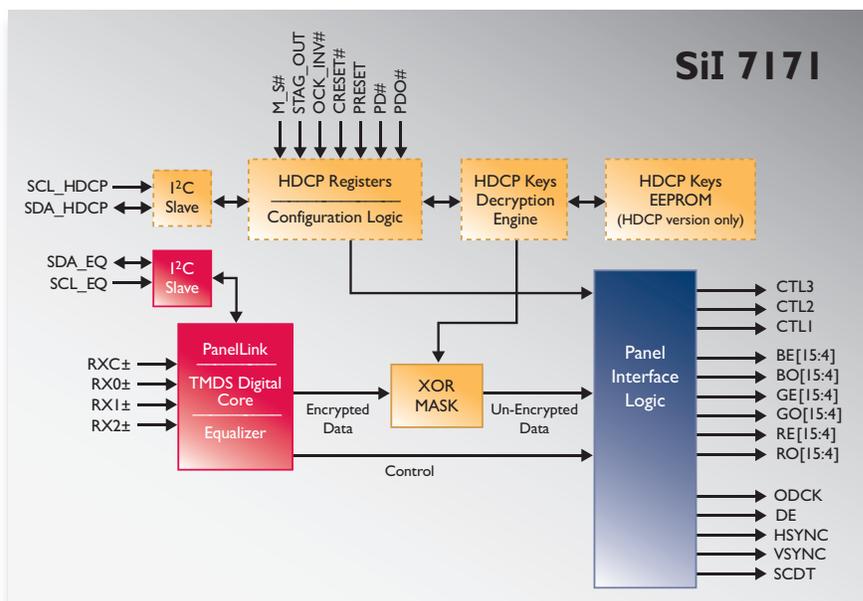
Output

- Flexible digital output interface
 - Single pixel per clock: 24-bit, 30-bit, 36-bit, or 48-bit
 - Two pixels per clock: 48-bit, 60-bit, or 72-bit
- Support 720P/1080i/1080P
EIA/CEA-861B output timing
- Support VGA~UXGA PC output timing
- 8-bit, 10-bit, 12-bit, and 16-bit color digital RGB output

Power Management

- Support DVI and VESA DPMS power management functionality
- Low standby power consumption to meet energy conservation requirements

Part Number - **SiI7171CLU**



Silicon Image's SiI 7171 Starter Kit (CP7179)

- The CP7179 Starter kit includes hardware to evaluate both SiI 7171 and SiI 7179, the equivalent of SiI 7171 with HDCP. Included is documentation to quickly design and launch an iTMDS internal link for DTV, LCD monitor, or projector applications

Contents include:

Hardware

- SiI 7179 evaluation board

Documentation

- SiI 7179 Starter Kit User's Guide
- SiI 7171/SiI 7179 Data Sheet
- SiI 7179 Evaluation Board Schematics
- SiI 7179 Bill of Material (BOM)

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