

Application: Digital Video Broadcasting (DVB) Equipment Pericom Device: PI90LVB010 LVDS Transceiver

DVB and MPEG2 Transport Stream

DVB stands for Digital Video Broadcast, it is a standard based upon MPEG-2 video and audio. DVB covers how MPEG-2 signals are transmitted via satellite, cable and terrestrial broadcast channels along with how such items as system information and the program guide are transmitted along with the scrambling system used to protect the signal.

DVB has been widely adopted by many countries in the world for digital TV & radio. The applications include DVB-S, which is the satellite format of DVB, DVB-C that is the specification for DVB/MPEG-2 over cable and DVB-T for the DVB/MPEG-2 over terrestrial transmitters.

MPEG2 is a standard method of transmitting digital video and sound in a compressed format, and MPEG2 Transport Stream (TS) defines the way of data transmitting and receiving. Several interfaces are standardized to convey the TS data. A Synchronous Parallel Interface (SPI) using LVDS signals is defined to support short and medium distances, i.e., for devices arranged near each other. SPI interface uses a 25-pin type D connector, to transmit data, clock, synchronization and valid signals. All of the signals are in LVDS format and the pins are arranged as in Fig. 1.

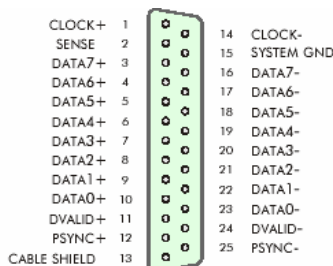
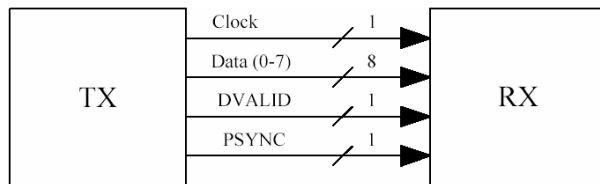


Figure 1: For MPEG2 TS transmission, standard connection SPI uses LVDS as interface media

The Pericom Solution

A lot of DVB high-end equipment or MPEG2 testing equipment has SPI interface, like TS data validation machine for set-top-box, Internet radio server, MPEG2 ATM Transceiver, DVB satellite-to-PC receiver, DVB satellite modulator and demodulator, etc.

Pericom's LVDS transceiver PI90LVB010 can be used for a two-way connection in MPEG2 TS data transmission between two pieces of equipment with SPI connection ports. Alternatively, Pericom's LVDS drivers and receivers can be used for uni-directional transmission on the transmitter or receiver side.



Figure 2: DVB-SPI Adapter for PCI Bus



Figure 3: DVB QPSK Demodulator

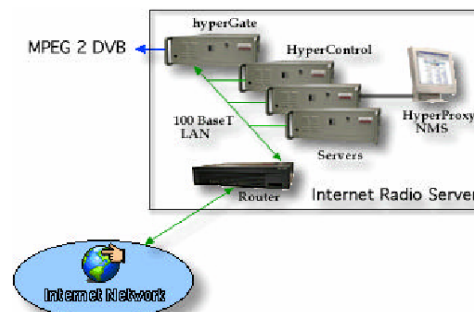


Figure 4: Internet Radio Server

Key Features & Specifications

- ❑ Bus LVDS (BLVDS) signaling
- ❑ Typical signal rate > 100 Mbps
- ❑ Propagation delay time for driver: 1.5ns typ.
- ❑ Propagation delay time for receiver: 3.3ns typ.
- ❑ ESD rating > 10kV
- ❑ Industrial temperature range -40°C to +85°C
- ❑ Comply with TIA/EIA-644 standard
- ❑ 8-pin SOIC and MSOP Package

[Package Outline Drawings](#)

<http://pericom.com/products/packaging/mechanicals.php>



Figure 5: DVB SPI-ASI Interface Converter

Additional Information

- ❑ Datasheets, IBIS, Application Notes:
<http://pericom.com/products/lvds/psempart.php?productID=PI90LVB010>
- ❑ Product Presentation - Customer Friendly
http://pericom.com/pdf/presentations/lvds_ov.pdf

Budgetary Pricing

- ❑ PI90LVB010: <100 units @ \$2.18

Product Status

- ❑ Samples: NOW
- ❑ Production: NOW
- ❑ Lead Time: 4 Weeks

Contact Information

Please contact your local Pericom Sales Representative or franchised Distributor. www.pericom.com/contact

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Figure 6: MPEG2 Transport Stream Converter



Figure 7: Digital Broadcast Test Platform