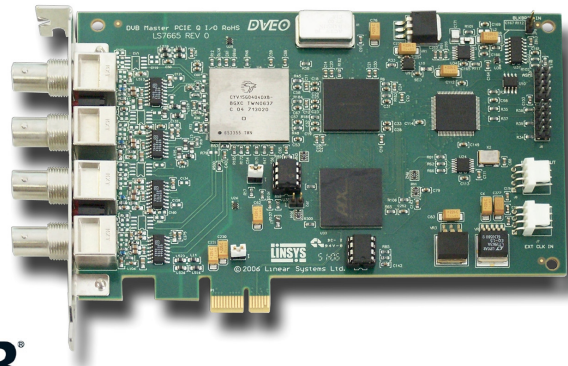


# DVB Master™ Quad/i PCIe

## Quad Channel DVB-ASI PCIe v1.0a Input Card with Hardware Based Automatic Packet Size Detection, PID Filtering, and Packet Arrival Timestamping on Each Port



## Overview

Worldwide the television industry is currently in the process of changing from analog to digital technology. MPEG-2 has now been universally adopted as the main standard for video compression. Since MPEG-2 must be decoded at the same rate it was encoded, an information layer needs to be added to the MPEG in order to transmit it to end users. Standards have been created by industry to provide for the methodology of packetizing MPEG-2 streams and adding encoding information in tables via data packets to the video packets. The DVB standard has been approved by the European Community and other industry and government groups as the standard to accommodate the need for satellite and terrestrial originated digital television. This product complies with the DVB-ASI specifications as defined in ETSI TR 101 891 and provides for the ability of computers to capture, process, and transmit DVB-ASI compliant streams.

DVB-ASI streams are routinely used to send and receive transport streams between different brands of equipment. These transport streams can be single program transport streams or multiprogram transport streams. Interestingly, RF modulators determine the maximum size of transport streams. QAM modulators can handle 38 Mbps, 8VSB modulators can handle 19.3 Mbps, and DVB-S2 can handle over 60 Mbps. Of course IP backbones can routinely transfer 100 Mbps transport streams. It is also worthwhile to note that H.264 streams can be embedded into any MPEG-2 stream. Our DVB-ASI interface cards can handle them all.

## Features

- Four receiver channels on the same PCI Express card
- Full DVB-ASI throughput of 213 Mbps per channel
- Multiple boards can be used for more inputs
- Looks like four separate DVB Master™ III Rx's
- Uses highly efficient Bus Master Link List DMA for data transform (saving CPU resources)
- Provides an interface for Layer-0 and Layer-1 of the DVB-ASI standard
- Uses the proven Cypress™ HotLink® interface chip
- RoHS compliant (2002/95/EC)
- Drivers for Windows® 7 32 and 64 bit, Server 2003, Server 2008, Windows® 2000, Windows® XP, and Linux®
- Windows® XP/Server 2003/Server 2008/Linux® API
- DirectShow® filter
- Advanced Receiver Capabilities –
  - Synchronizes incoming packets to byte boundaries
  - Automatic 188- and 204-byte packet size detection
  - Interrupt on in/out of sync
  - Software selectable option to strip 16 bytes from 204 byte packets
  - Unlimited PID filtering (any number of PIDs may be selected)

## Applications

- DVB VoD (Video on Demand) Servers
- Cable TV
- Broadcast TV



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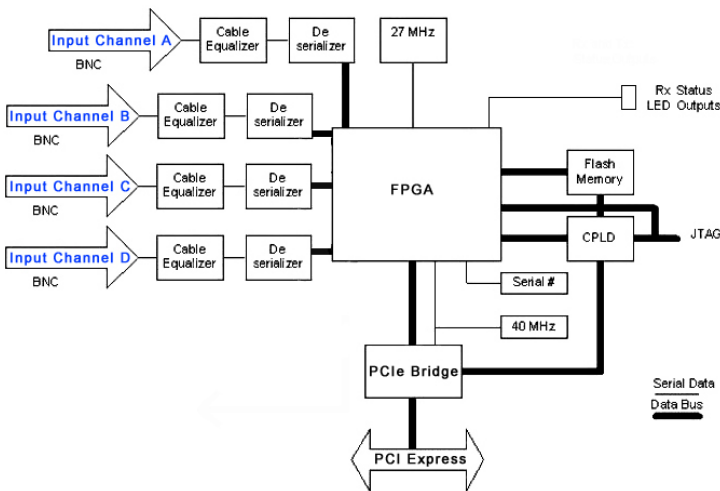
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## Specifications

<b>Dimensions</b>	
Width:	4.376 in (11.115 cm)
Length:	6.6 in (16.765 cm)
Thickness:	0.6 in (1.51 cm)
<b>Typical Weight</b>	5.2 oz (147 g)
<b>Input Connectors</b>	75-Ohm BNC
<b>Data Input</b>	DVB ASI Coaxial, DVB Transport Stream
<b>Typical Power</b>	850 mA @ 5 V
<b>Operating Temperature</b>	0 to 55° C
<b>Operating Humidity</b>	To 90%, Non-condensing
<b>Status LED Indicators</b>	Rx (with CD on power-up)
<b>Receive FIFO Size</b>	4 KB per channel
<b>Bus Interface</b>	Single Lane (x1) PCIe 1.0a
<b>Driver Support</b>	Windows® 7 – 32 and 64 bit, Server 2003, Server 2008, Windows® 2000, Windows® XP, and Linux®

## Block Diagram



## Capabilities

**Receive Packet Synchronization** – The DVB Master Quad/i PCIe receiver will check the incoming transport stream for packet sync, and synchronize on it. Once synchronized, the packets will be stored on packet boundaries in memory. This makes further processing of the transport stream much easier for the host processor. When the board is synchronized on a valid stream the green LED for the respective channel will be illuminated.

**Packet Arrival Timestamping** – Under software control each packet is timestamped with an arrival time generated by an internal timer/counter.

**Null Packet Insertion** – Under software control but performed by hardware, "null packets" are automatically inserted into the bit stream to replace filtered PIDs.

**Automatic Packet Size Detection** – The DVB Master Quad/i PCIe automatically detects packet size and indicates the current size in a status register. If packet size changes suddenly, it will lose synchronization, then resynchronize on the new packet size and indicate the new packet size in the status register. An interrupt will be generated on loss of sync and re-sync.

**Indicator LEDs** – Indicator LEDs are provided on the bracket to show receiver operation (one LED per channel). Initially, the LED will indicate that a signal is present (Carrier Detect). Once the receiver is enabled through software, the LED will flash to indicate when valid data is being received on that channel.

**In/Out of Sync Interrupt** – An interrupt will be generated whenever synchronization is lost or recovered. Interrupts are generated when there are changes in the stream and indicate that the status of the stream should be checked.

**16 byte Strip** – The 16 byte Stripping function will remove the extra 16 Reed-Solomon encoded bytes from the 204 byte packets to create 188-byte packets.

**PID Filtering** – This function allows you to select any number of PIDs from the total of over 8,000 possible PIDs to be filtered from the stream. The DVB Master Quad/i PCIe receiver channels will block all PIDs that are not selected.

**Conformity to DVB Standards** – The DVB Master Quad/i PCIe meets CENELEC EN50083-9: 1998 – Cable distribution systems for television, sound and interactive services – Part 9: Interfaced for CATV/SMATV headends and similar professional equipment for DVB/MPEG-2 transport streams.

## Ordering Information

DVB Master Quad/i PCIe (Model 132)