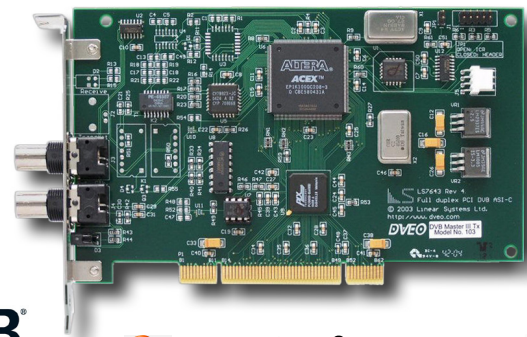


# DVB Master™ III Tx

## Enhanced DVB-ASI PCI Transmit Interface Card with Fine Tuning, Auto Null Packet Insertion, Accurate Clock (25 ppm), and Jitter Management in Firmware



### Features

- 213 Mbps DVB-ASI transmitter on a single PCI card
- Low Jitter rate control with optional interbyte stuffing
- Software-controlled Transmit Clock selection:
  - On-board oscillator (27 MHz)
  - External clock input (27 MHz)
- Transmit Clock Output (via header)
- Automatic stuffing of null PID packets via firmware
- 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
- Proven third generation design
- Optional High Stability Oscillator (2.5 ppm)
- Silicon serial number
- Advanced Transmit Capabilities:
  - Transmitter Packet Size – 188 or 204 bytes
  - Reed-Solomon Conversion
  - Transmitter Fine Tuning (FT)
  - Fine Control PCR Pacing
  - Null Packet Insertion

### Applications

- MPEG-2 Transport Stream Video Server/Generator
- MPEG-2 Transport Stream Repurposing
- SI Table Insertion for Private Data Broadcasting
- High Definition HDTV - Servers
- Electronic Program Guide Table Insertion
- IP over MPEG data encapsulation

### Overview

DVB-ASI is a physical interconnect standard created by the international standardization group known as the DVB Project ([www.dvb.org](http://www.dvb.org)). It is designed to carry MPEG-2 transport streams between devices at a maximum rate of 213 Mbps. The actual signaling rate of DVB-ASI is 270 Mbps, but there is overhead from the data encoding scheme and the maximum payload ends up being approximately 213 Mbps.

Transport streams are essentially packetized MPEG streams with tables embedded every 100 ms or so, which tell the ultimate MPEG decoder how to decode the stream.

Furthermore, transport streams may be combined or multiplexed to create multiprogram transport streams with separate PIDs, or program identifiers, that distinguish them as “channels” do in analog television.

We have incorporated as many features as possible into this PCI card. With all these features, our customers can create very powerful workstations that can process transport streams “on the fly” for applications such as broadcasting, cable TV, satellite links, video servers, and distance learning.

### Highlights

- Driver software is available for Windows® 7 – 32 and 64 bit, Server 2003, Server 2008, Windows® 2000, Windows® XP, and Linux®. The source code is available for the Linux® driver.
- Optional high stability oscillator with less than 2.5 ppm drift, meeting ATSC specifications.



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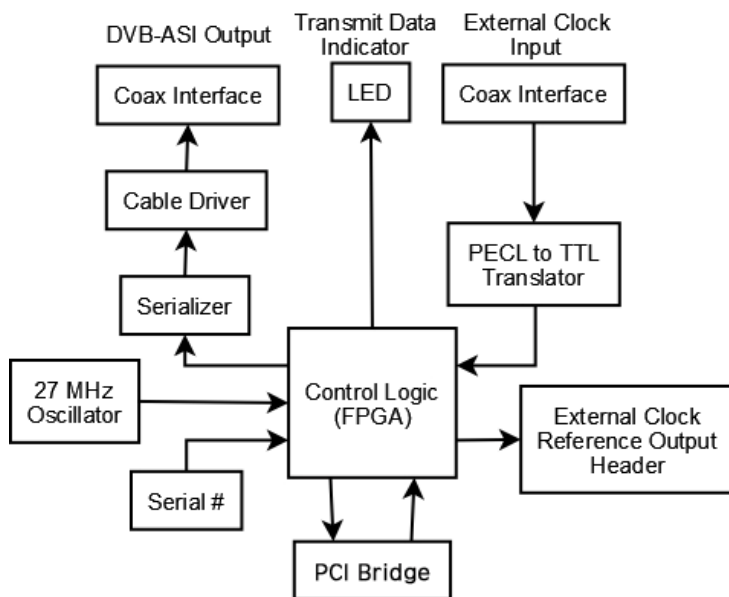
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## Specifications

<b>Dimensions</b>	
Width:	6.875 inches (17.46 cm)
Length:	4.2 inches (10.67 cm)
Thickness:	0.58 inches (1.47 cm)
<b>Typical Weight</b>	5.5 oz (156 g)
<b>Output Connectors</b>	75 Ohm BNC
<b>External Clock Input</b>	75 Ohm DC Blocked ECL, 27 MHz
<b>Data Output</b>	DVB-ASI Coaxial, 2 kbps to 213 Mbps Data Rate
<b>Power Requirements</b>	260mA @ 5V
<b>Operating Temperature</b>	0 to 55° C
<b>Operating Humidity</b>	To 90%, Non-condensing
<b>Status LED Indicators</b>	Tx data transmission (green)
<b>Transmit FIFO Size</b>	2 Kbytes eliminates DMA latency
<b>Bus Interface</b>	PCI 2.2 Bus Interface; 5V/3.3V, 33/66 MHz, 32 bit
<b>Standard Oscillator Stability</b>	± 25 ppm
<b>Optional High Stability Oscillator</b>	± 2.5 ppm

## Block Diagram



## Ordering Information

DVB Master III Tx  
DVB Master III Tx/HSO High Stability Oscillator  
(Model 103)

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## Capabilities

**Transmitter Fine Tuning** – The normal inter-byte (IB) and inter-packet (IP) stuffing options available with the DVB-ASI standard cannot be used for fine rate control. In some applications, such as reading files from a disk, it may be desirable to use stuffing to control the transmission rate of the stream in order to match the rate required by the Program Clock Reference (PCR) of a Transport Stream. Because of this, we have developed the Fine Tuning (FT) feature. Fine Tuning is accomplished by first setting the standard IP and IB to select a rate as close to the desired rate as possible. Then the FT parameter can be set to bring the rate within 2.5ppm of the target. This method of rate control works with small Tx buffers and gives minimum latency.

**Clock Source Options** – The transmit clock options include the 27 MHz External Clock and an Internal Clock.

**Indicator LEDs** – Indicator LEDs are provided on the bracket to show transmitter operation. The LED will flash to indicate when valid data is being transmitted on that channel.

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

**PCR Pacing** – Firmware support is available for releasing PCR packets at the correct PCR time, using software-created time stamps. This method ensures that the transmit rate and PCR timing are the same as the original transport stream.

**Reed-Solomon Conversion** – The software can be set to have hardware add 16 bytes filled with zeros to 188-byte packets to create a 204-byte packet stream.

**Conformity to DVB Standards** – The DVB Master III Tx 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.

**Customizability** – Room in large FPGA for your custom functions.

**DVEO**  
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