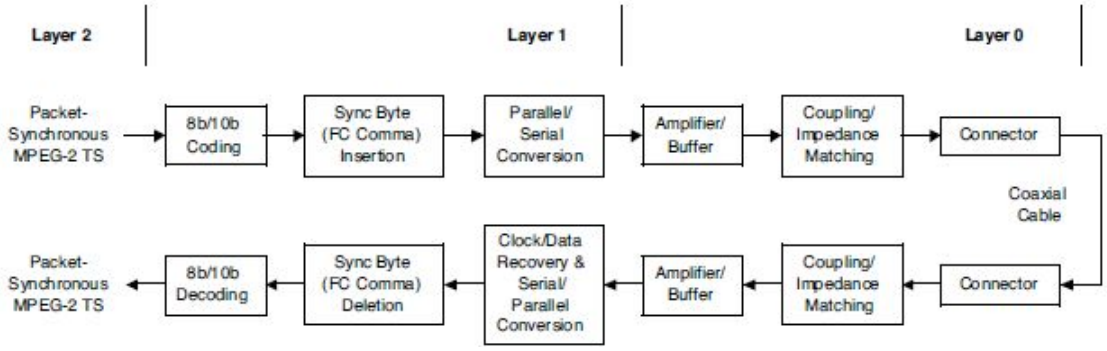
Digital Video Broadcasting - Asynchronous Serial Interface (DVB-ASI) IP Core

Overview

Digital Video Broadcasting (DVB) is a suite of open standards for digital television. The interface schemes for DVB are defined in the European standard EN 50083-9, "Interfaces for CATV/SMATV Headends and Similar ProfessionalEquipment". **DVB via Asynchronous Serial Interface (DVB-ASI)** is one of the primary mechanisms to transport MPEG-2 based streams over cable media.

DVB-ASI is a three-layered architecture with the top layer (Layer 2) specified by IEC 13818-1 and the bottom layers, Layer 1 and Layer 0, specified by the Fibre Channel standard IEC 141165-1, part 1. This IP core along with LatticeECP3™ SERDES/PCS implements Layer 1 of the DVB-ASI interface. A part of Layer 2 functionality is also supported by the IP core.



DVB-ASI Interface Layers

Key Features

- Configurable Tx FIFO supporting independent Layer 2 transmit clock
- Configurable Rx FIFO supporting independent Layer 2 receive clock
- Automatic start of packet comma insertion in the transmit side
- Rate-matching comma insertion in the transmit side
- Handshake signals for sync and data valid for transmitter and receiver
- Tx and Rx FIFO full indicators
- Rx sync byte indicator for identifying start-of-packet
- Optional configurable almost full and almost empty indicators for the FIFOs
- Matching port names for seamless connection with LatticeECP3 SERDES/PCS
- Layer 2 functions including lock, sync byte, packet size, runt and giant indicators

Performance and Resource Utilization

LatticeECP3[1]

Sample Configuration	SLICEs	LUTs	Registers	EBRs	Tx Clk	Tx Full Clk	Rx Full Clk	Rx Clk
1	249	478	343	2	113	119	127	219
2	84	162	136	1	183	121	-	-
3	156	301	202	1	-	-	117	203

1. Performance and utilization data are generated targeting an LFE3-95E-7FN1156C device with Lattice's Diamond 1.1 software. Performance may vary when using a different software version or targeting a different device density or speed grade within the LatticeECP3 family.

Ordering Information

Family	Part Number
LatticeECP3	DVB-ASI-E3-U

IP Version: 1.1
Evaluate: To download a full evaluation version of this IP, go to the IPexpress tool and click the IP Server button in the toolbar. All LatticeCORE IP cores and modules available for download will be visible. For more information on viewing/downloading IP please read the **IP Express Quick Start Guide**.
Purchase: To find out how to purchase the IP Core, please contact your **local Lattice Sales Office**.