Valens
First in HDBaseT™

Valens VS010
Product Brief

Overview

The Valens VS010 chipset transmits and receives uncompressed HD, video, audio, power and control signals over a Cat5e/cat6a cable of up to 70 meters.

HDBaseT™ delivers a significant value to the entire home and commercial entertainment ecosystem, from CE/PC equipment manufacturers and audio/video connectivity product suppliers, through systems integrators and retailers, to installers and consumers. Homes, offices, hotels, airports and other public places can now install a robust HD ecosystem easily, effectively and at a very low cost.
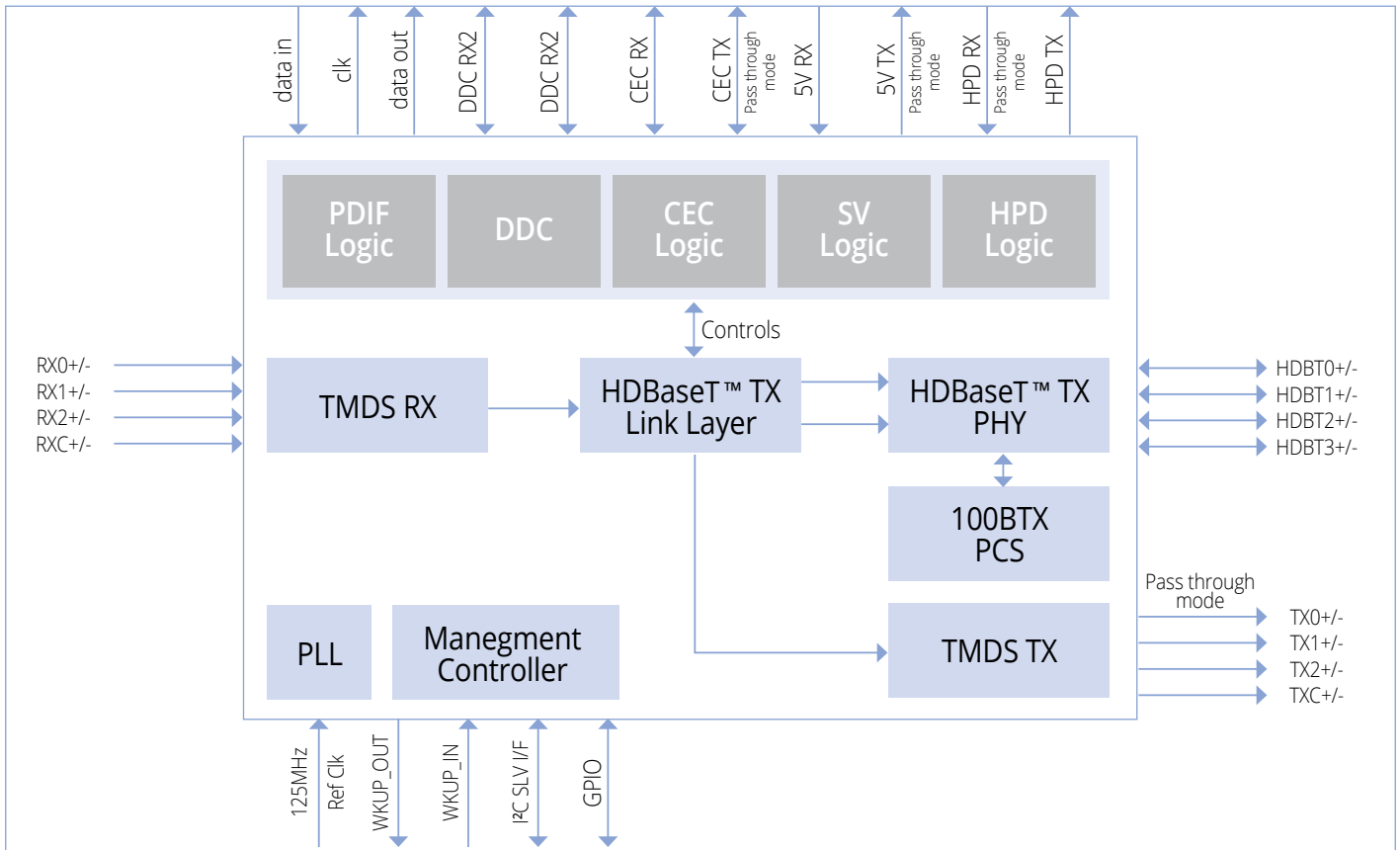
Architecture

The VS010 family consists of two chips:
• **VS010TX (Transmitter):** For DVDs, STBs and other HD source equipment.
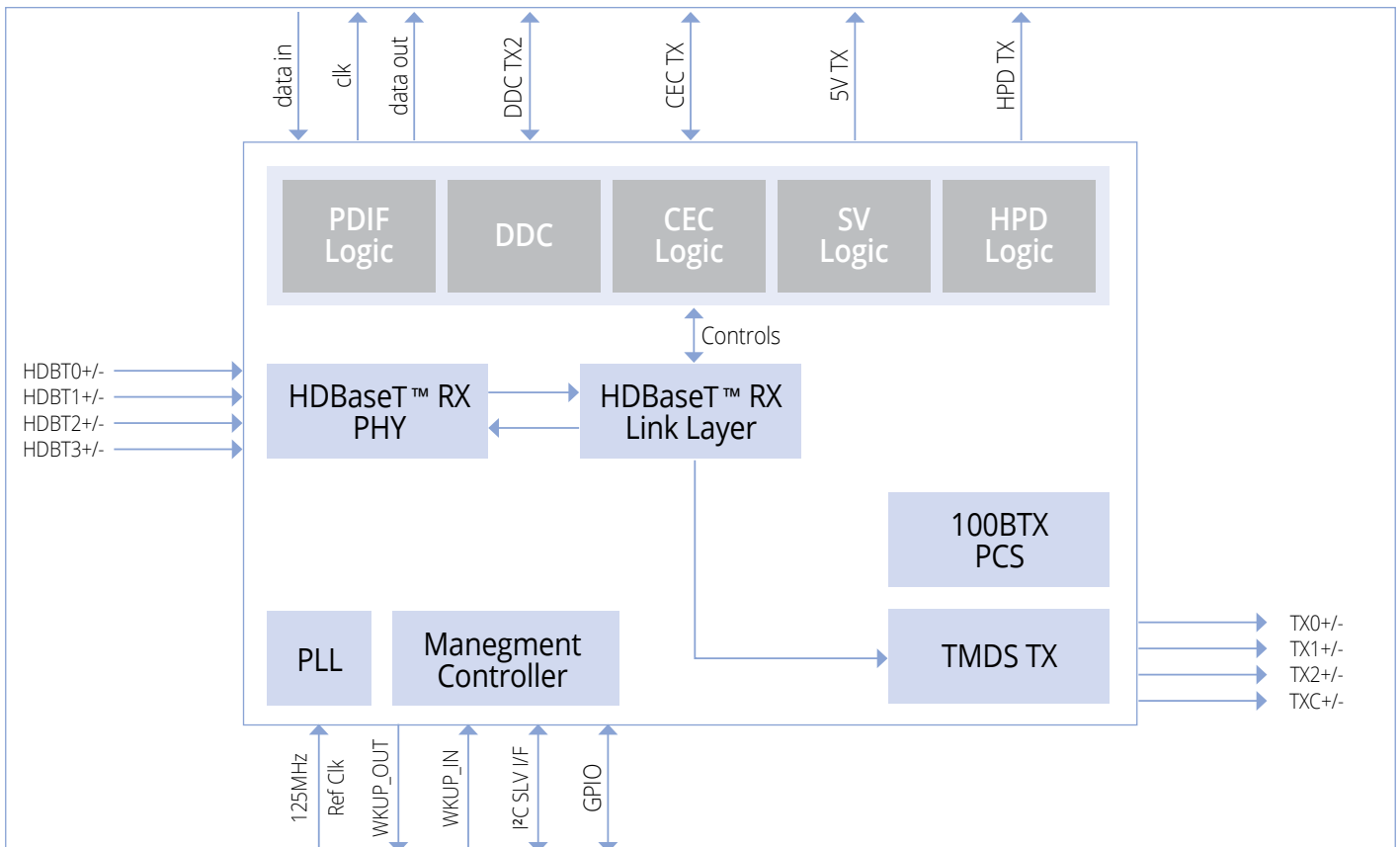• **VS010RX (Receiver):** For HDTVs, projectors and other display equipment.

The following block diagram illustrates the major VS010 components:

VS010TX

VS010RX

Applications

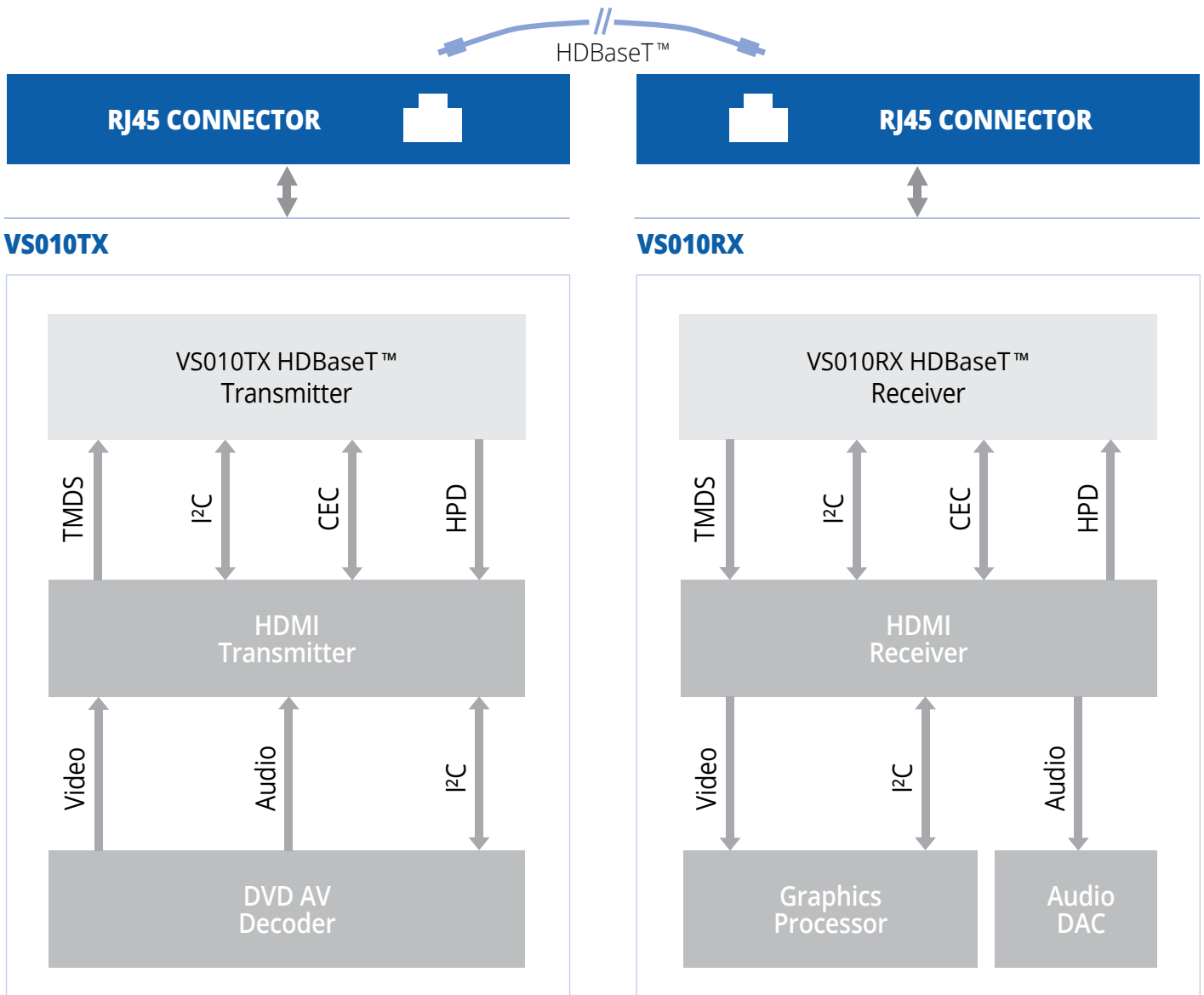The VS010 chip can be used in various applications throughout multiple industries.

VS010TX:

Blu-ray, DVD players and recorders, digital set-top-boxes (STBs), game consoles, PCs, HDMI repeaters, splitters, switches, HDBaseT™ Switch, A/V receivers, surveillance cameras

VS010RX:

A/V receivers, DTVs, LCDs and plasma displays, rear and front projectors, HDMI repeaters, splitters, switches, HDBaseT™ Switch, digital signage, DVR for surveillance

The following diagram illustrates an example of system functionality of HDBaseT VS010 :

HDBaseT™

RJ45 CONNECTOR	RJ45 CONNECTOR

VS010TX

VS010TX HDBaseT™ Transmitter

TMDS I²C CEC HPD

HDMI Transmitter

Video Audio I²C

DVD AV Decoder

VS010RX

VS010RX HDBaseT™ Receiver

TMDS I²C CEC HPD

HDMI Receiver

Video I²C Audio

Graphics Processor	Audio DAC

Key Technical Highlights

Features

Complies with HDBaseT™ 1.0

Interplay with Valens' VS100 product line

Simultaneous distribution of the following to a distance of up to 70 meters over a Cat5e/cat6a cable:
 – Uncompressed high definition (HD) video:
   1080p@60Hz@36 bits, 1080p@60Hz@48 bits, 3D, 4K x 2K up to a distance of 40m/150ft
 – High-quality audio
 – Power over cable
 – Control signals including RS232 and infrared

HDCP Compliant

HDMI RX interfaces for easy integration

CISPR/FCC Class B EMC/EMI compliance

Power:
 – 1V, 1.8V and 3.3V
 – 5V tolerant IOs

196-pin LBGA, 15mm x 15mm

0°C to 70°C operating temperature

RoHS and Green compliant

VS010TX supported interfaces

HDBaseT™ TX

1xHDMI in

1xHDMI out

Bi-directional control channel which can
be used for example for RS232 and IR control

I²C slave management

VS010RX supported interfaces

HDBaseT™ RX

1xHDMI out

Bi-directional control channel which
can be used for example for RS232 and IR control

I²C slave management

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