

A large, diagonal image of a modern living room occupies the right half of the page. The image is rendered in a blue-tinted, wireframe style, giving it a technical or architectural feel. It shows a man and a woman sitting on a sofa, looking at a tablet held by a young child. In the background, there is a large television, a floor lamp, and a staircase. The room has large windows and a high ceiling with recessed lighting. The image is framed by large, abstract geometric shapes in shades of blue and green, with a small red triangle pointing towards the bottom right.

Valens Colligo VS2110 Product Brief

Overview

Valens' Colligo VS2110 is a cost-effective HDBaseT™ solution, enabling the transmission of uncompressed, high-definition multimedia content (audio & video), control signals, power, and USB 2.0 functionality over a single 30 meter (98 foot) Cat6a standard cable. The Colligo VS2110 is optimized for the fundamental requirement of low-latency interactivity and flexibility as well as for educational settings, digital signage and industrial PC applications. This optimization enables a number of features such as daisy-chaining of displays. The Colligo VS2110 is also backwards-compatible with HDBaseT 1.0 and 2.0 Specifications.

Architecture

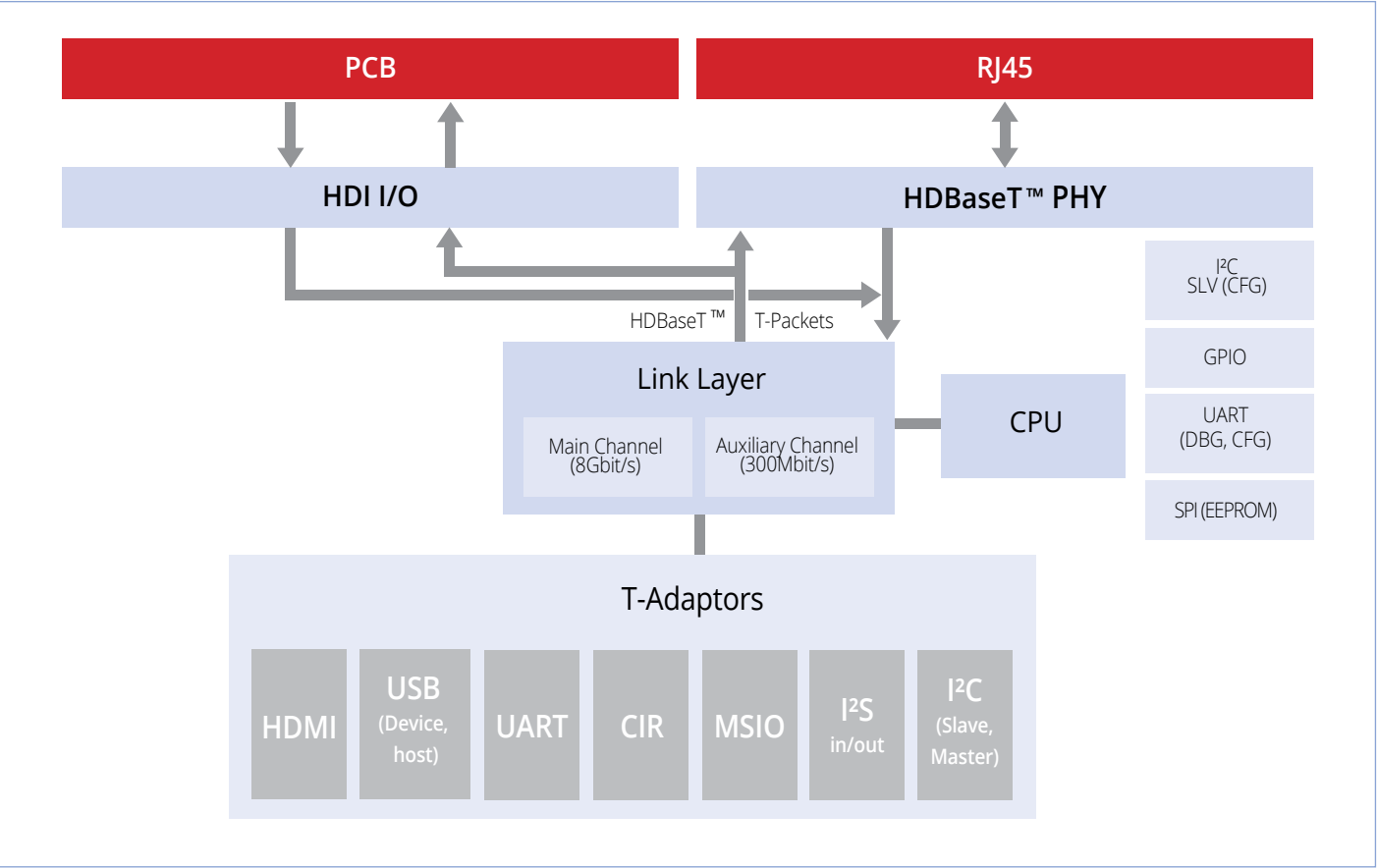
The Colligo VS2110 is comprised of two integrated chips:

- **Colligo VS2110TX** – The transmitter chip, which is implemented in the HD source equipment, such as a computer or media streamer.
- **Colligo VS2110RX** – The receiver chip, which is implemented in educational projectors and other types of display equipment.



The following block diagram illustrates the major Colligo VS2110 components:

Colligo VS2110TX/RX

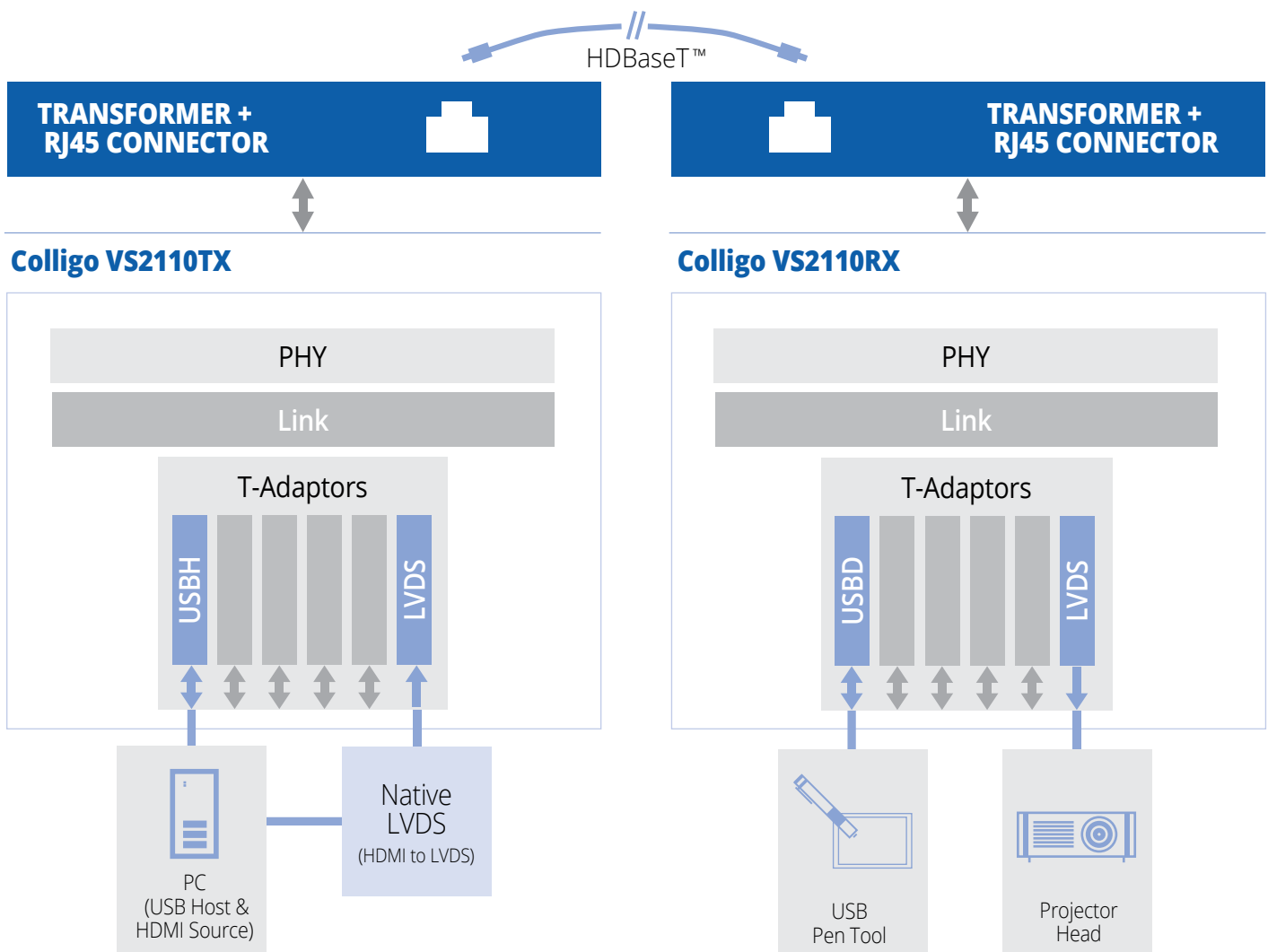


Applications

The Colligo VS2110 is optimized for usage in educational settings and digital signage applications, supporting the transmission of high-definition video, and enabling full interactivity between source and sink equipment, thanks to its USB 2.0 support. KVM – Keyboard-Video-Mouse – functionality is also enabled, with practically no latency. The VS2110 is ideal for connecting an out-of-the-way computer/source to the classroom projector.

The Colligo VS2110 features direct LVDS-HDBaseT and RGB-HDBaseT connectivity, without any LVDS-HDMI or RGB-HDMI conversion necessary, simplifying the equipment architecture. Educational environments often demand low-cost projectors and have embedded LVDS/RGB video interfaces. The VS2110 complies with both these requirements, making it an ideal choice for K-12 and universities setups. Likewise, digital signage applications and daisy-chaining designs also benefit from the embedded LVDS/RGB video interfaces.

The following diagram illustrates a typical VS2110 application, in which the video is sent from an HDBaseT TX board over an HDBaseT link, using a 30 meter Cat6a cable. The HDBaseT Rx board converts the HDBaseT stream back to LVDS, USB and audio streams, which are then forwarded to the projector head and the USB mouse and keyboard devices.



Key Technical Highlights

Parameter	Value
Video Interfaces	HDMI Compliant with HDMI 1.4 EDID adjust mechanism Glueless interface to TMDS, DDC, CEC, and HPD HDMI signals Native RGB and LVDS interfaces
HDMI Interface	Uncompressed HD video over a 30-meter (98 foot) Cat6a cable: <ul style="list-style-type: none">• Up to 165 MHz for HDMI (up to 1920X1200)• Up to 148.5 MHz for LVDS• Up to 165 MHz for RGB
Audio Interfaces	Standard I ² S
Control Interfaces	UART, IR, I ² C (slave/master), MSIO-6 General Purpose fast serial channels USB 2.0
HDII/O Interfaces	8 Gbps inter-device connectivity HDBaseT packets over inter-chip connection Glueless interface to Colligo family
System Interfaces	RS232, I ² C slave, SPI boot EEPROM
USB 2.0	Configurable as host or device USB port, USB 2.0 standard compliant
Power	PoE (802.3af), POE+ (802.3at), PoH
Data Rate	Auxiliary channel data rate of 300Mbps Full Duplex
HDCP	Supported on HDMI interfaces
Networking	End device functionality for HDBaseT 2.0 networking
Daisy Chain	Support for daisy chain connectivity of source and sink
Power Consumption	Sleep – Low power mode #1 – RX 310mW, TX 240mW Max power consumption – RX 3.8w, TX 2.4w
Junction Temp	-40°C – +125°C
Dimensions	Colligo VS2110TX – Heat slug BGA 21mm x 21mm Colligo VS2110RX – Heat slug BGA 23mm x 23mm Ball pitch – 1mm TX Pin count: 356, RX Pin count: 484



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