



Valens Valens VS200 Product Brief

Overview

The Valens Colligo VS200 is Valens' second generation chip, fully compliant with the HDBaseT 2.0 Specification. The Valens Colligo VS200 chip relays audio, video, control and power over a single cable, for up to 70m/230ft. The Valens Colligo VS200 is also backwards compatible with the HDBaseT 1.0 Specification and all legacy HDBaseT products.

Architecture

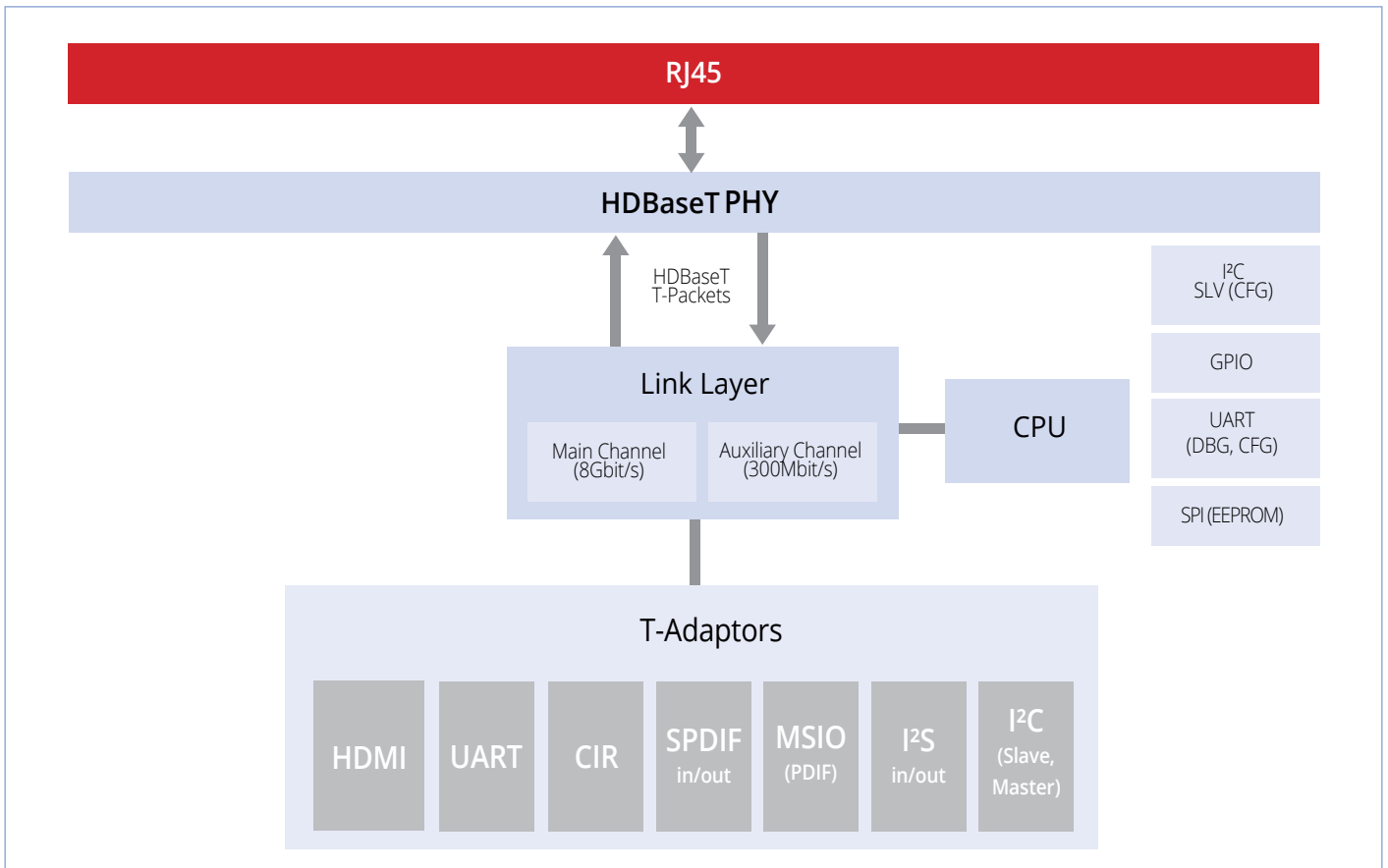
The Valens Colligo VS200 is comprised of two integrated chips:

- **Valens Colligo VS200TX** – The transmitter chip is used for video and signaling in a source device, such as a Blu-ray player or STB.
- **Valens Colligo VS200RX** – The receiver is used for video and signaling in a sink device, such as an LCD display or projector.



The following block diagram illustrates the major Valens Colligo VS200 components:

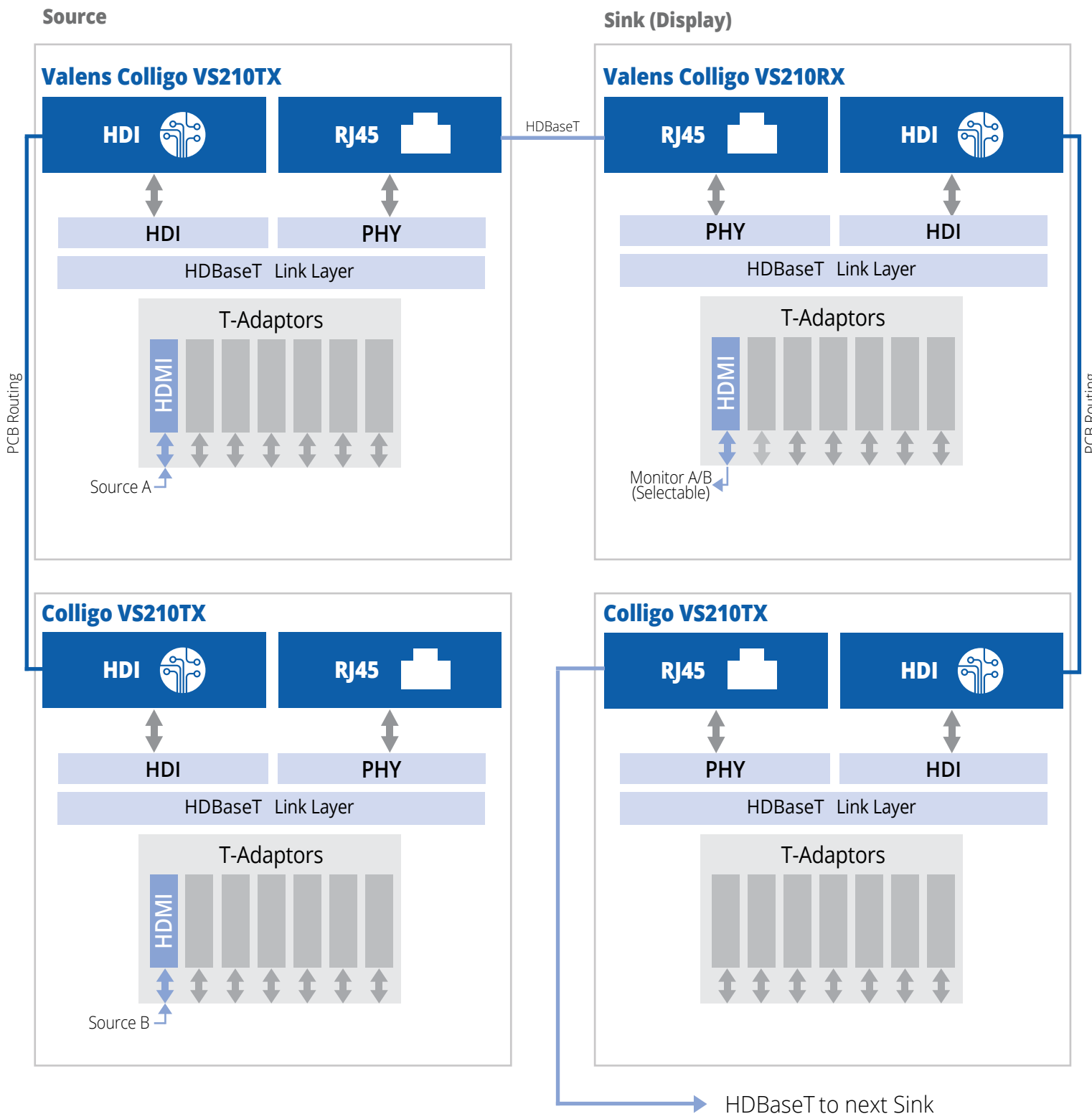
Valens Colligo VS200TX/RX



Applications

The Valens Colligo VS200 second generation chip can be used in various applications throughout multiple industries. Main applications include HDMI and DVI extenders over CatX cables, switch matrixes, AV receivers, HD projectors, broadcasting equipment, industrial PCs, single wire TVs, and digital signage displays.

The following diagram illustrates an example application of HDBaseT Gen 2.0 in action:



Key Technical Highlights

Parameter	Value
Video Interfaces	Fully compliant with HDMI 1.4 and HDMI 2.0. EDID adjustment mechanism for HDMI 2.0 at pixel clock higher than 340MHz Glueless interface to TMDS, DDC, CEC, and HPD HDMI signals
HDMI Interfaces	40m Cat6A uncompressed HD video: <ul style="list-style-type: none">• 4K/2K, 30Hz, 24bpp• 4K/2K, 60Hz, 24bpp with 4:2:0 pixel format 70m Cat6A uncompressed HD video: <ul style="list-style-type: none">• 1080p, 60Hz, 36bpp
Audio Interfaces	All formats supported by HDMI 1.4 and HDMI 2.0 All major digital audio formats, including: Dolby Digital, DTS, Dolby TrueHD, DTS HD-Master Audio, Dolby Pro Logic Iiz 7.1 & 9.1, and more Standard SPDIF, I ² S
Control Interfaces	UART, IR, I ² C (slave / master), MSIO-6 General Purpose fast serial channels
HDII/O Interfaces	8Gbps inter-device connectivity HDBaseT packets over inter-chip connection Glueless interface to Valens Colligo VS2311 fiber optics devices
System Interfaces	RS232, I ² C slave, I ² C / SPI boot EEPROM
Power	PoE (802.3af), PoE+ (802.3at), PoH
Data Rate	Auxiliary channel data rate of 300Mbps Full Duplex
Max Traffic Rate	40m – 8Gbps HDBaseT traffic rate 70m – 6Gbps HDBaseT traffic rate
HDCP	Supported
Networking	End device functionality for HDBaseT 2.0 networking supported (HDI)
Power Consumption	Sleep – Low Power Mode #1 – RX 310mW, TX 248mW Max power consumption – RX 3.4w, TX 2.1w
Junction Temp	-40°C – +125°C
Dimensions	Valens Colligo VS200TX – Heat Slug BGA 21mm x 21mm Valens Colligo VS200RX – Heat Slug BGA 23mm x 23mm Ball pitch – 1.0mm TX Pin count: 356, RX Pin count: 484



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