BlueRiver™ 400

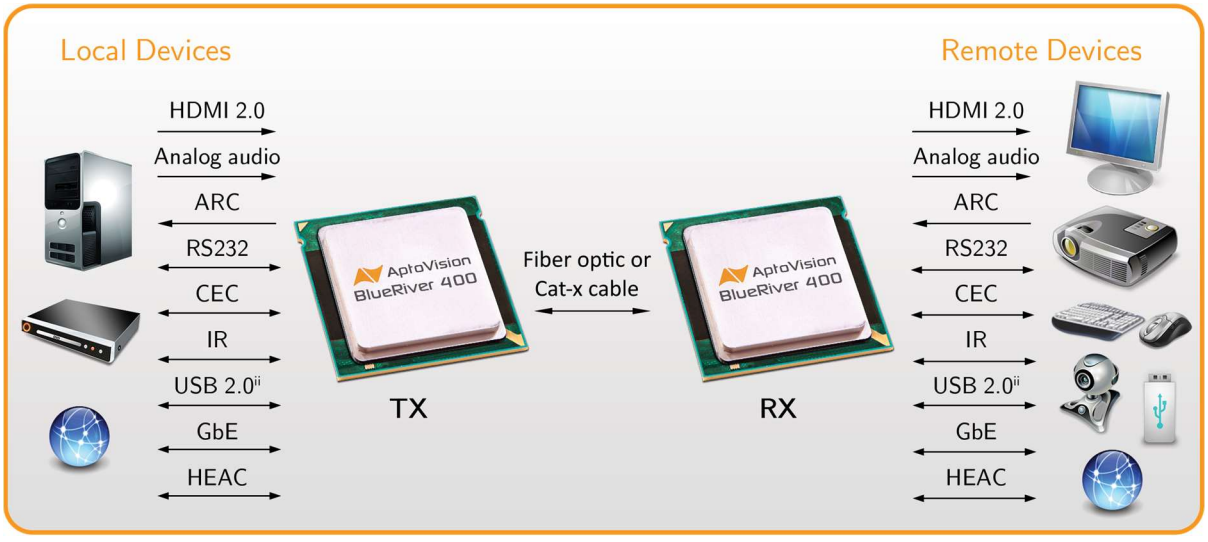
All-in-one AV extension & inline signal processing

Featuring the all new in-line AV signal processing Plethora Engine and an unprecedented 250 meter extension range on category cabling, AptoVision's BlueRiver 400 is the world's first AV extension chipset designed from the ground up to efficiently and cost-effectively address all of the requirements of the professional AV market.

- True 4K/60 4:4:4 and HDR
- HDMI 2.0 and HDCP 2.2
- Broadcast quality scaling with 16-line latency
- Extension **up to 250 m** (cat-x) or 30 km (fiber)
- Seamless switching
- Audio embedding, de-embedding, down-mixing

In addition to zero-frame latency transmission and end-to-end pixel processing of 4K/60/4:4:4 video, the BlueRiver 400 also extends audio, gigabit Ethernet, USB 2.0, RS-232 and IR signals. Support for both CAT-x and fiber cable types reduces the complexity of design and simplifies procurement and inventory management for manufacturers. The BlueRiver 400 chipset is easily integrated into OEM designs for AV extension and switching equipment as either:

- Transmitter (Encoder) for 4K and HD media players, STBs, computers and other source equipment
- Receiver (Decoder) for 4K and HD TVs, projectors, monitors and other display equipment
- Input or output cards for AV matrix switching equipment



Applications

- Ultra-long distance analog or digital AV and KVM extenders: an unmatched 250 meters over cat-x cable
- Matrix switching: easy upgrade to an existing product line for True 4K/60 4:4:4 support
- Scalers and video-walls: the integrated Plethora Engine delivers AV processing functionality at every endpoint, eliminating the need for complex and costly external hardware.

AptoVision
Redefining AV Signal Processing

Technical Highlights

Parameter	Value
Video Interfaces	HDMI 2.0 / HDMI 1.4 / DVI 2.0 Pixel clock up to 594 MHz
Video Resolutions	All SD, HD, and other resolutions (including 3D support) up to 4K / 60 Hz / RGB and 4:4:4 8 bit 4K / 60 Hz / 4:2:2 10 bit (HDR) 4K / 60 Hz / 4:2:0 10 bit (HDR)
Audio Interfaces	All audio formats supported by HDMI 1.4 and HDMI 2.0, including: LPCM, Dolby Digital/Plus/EX, Dolby True HD, DTS, DTS-96/24, DTS-EX, DTS High Res, DTS-HD Master Audio, DSD I2S stereo input and output up to 48 kHz 24-bit
Control Interfaces	RS-232 (up to 115.2 kbaud) Infrared USB 2.0 (full device support, up to 480 Mbps) with 3rd party chipset 10/100/Gigabit Ethernet
Transmission Interface	10 Gigabit XFI, IEEE 802.3 (RJ45 and SFP+)
Transmission Distance (Cat6a/Cat5e)	Up to 100/60 meters for 4K / 60 Hz / 4:4:4 video Up to 160/130 meters for 4K / 30 Hz / 4:4:4 video Up to 250/230 meters for HD video
Transmission Distance (fiber)	Interchangeable, field replaceable SFP+ modules • Up to 300/550 meters with multi-mode OM3/OM4 fiber • Up to 30 km with single-mode fiber
Digital Content Protection	HDCP 1.2 / HDCP 2.2 Compatible
AV Processing Technology	AptoVision Plethora Engine • Broadcast quality scaling optimized for video, graphics, and text • Colorspace and frame-rate conversion • Light compression, lossless for most content, used for select ultra-high res only • Audio embedding, de-embedding, down-mixing, and re-sampling • Video-splitting (video wall feature) with bezel correction
Synchronization Technology	AptoVision ACR (Automatic Clock Recovery) • Two-line latency (zero frames) in most operating modes, 16 with scaling • 1-2 frames latency with optional frame buffer enabled
Multi-Signal Streaming Technology	BlueRiver Channel Coder • Serializing multiple signals into single channel • De-serializing single channel into multiple signals • Bidirectional, 10Gbps
Encryption	AES-128

About AptoVision

A Montreal-based company, AptoVision provides advanced chipsets for AV/KVM signal extension, matrix switching, IP-based switching, and video-wall and multi-view applications. Enabling end-to-end systems, these chipsets also integrate advanced inline signal processing capabilities such as light compression, broadcast quality scaling and audio down-mixing. In 2014, AptoVision introduced its award-winning BlueRiver NT technology which forever changes the face of AV signal distribution by allowing installers and OEMs to replace traditional AV matrix switches with IP switches while delivering noticeably higher price/performance, flexibility and scalability.

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