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Advanced Video and Data Systems

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Revision C

Velocity Series ARINC 818 Cards

A new generation of frame grabbers, video generators, and converters enables ARINC 818 systems to utilize ultra-resolution graphics such as 4K. Link speeds beyond 8 Gb/s and Generation 3 PCIe transfer rates greater than 4 GB/s accelerate your design possibilities.

Full featured

Velocity adds the power of PCIe Gen 3 x8 interface coupled with two high-speed DDR3 memory banks. All the while, it retains features pioneered for Matrix Plus Series cards. GRT can factory configure a single Velocity card for up to 15 ICDs. Each mode matches one of your ICDs: link speed, image resolution, and pixel format.

As an ARINC 818 receiver

Velocity cards can capture ARINC 818 video to the software GUI and permit real-time viewing of embedded ARINC 818 data. The cards have a dedicated HDMI 2.0 video port to view the incoming ARINC 818 video on a monitor.

Applications

- Avionics video
- ATP for production displays
- Display development
- Sensor arrays
- Cockpit simulations
- Video generation
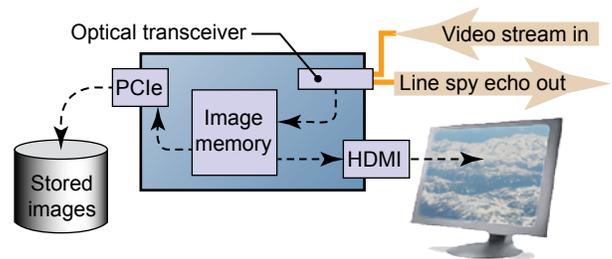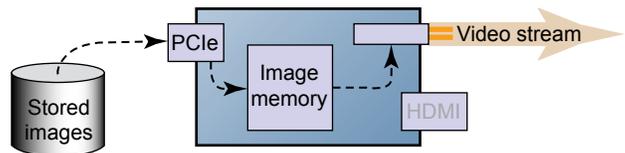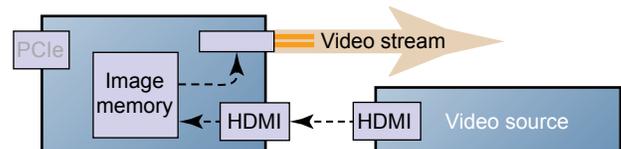- Ultra-resolution, high-speed video recording
- Data only

As an ARINC 818 transmitter

Load test images and embedded header data into the Velocity card and transmit using the test software.

Card specifications

Standards	FC-PH Revision 4.3 ARINC 818-2 ADVB high data rate
PCIe Gen 3 x8	4 GB plus throughput
Memory	256 MB (2 banks of 128 MB)
Power requirement	20 W @ 12 V
Operating System	Windows 7, 8, 10, 64-bit
Form factor	PCIe half length
Connectors	HDMI
Operating temp.	0–50°C (32–122°F)

As an ARINC 818 converter

A Velocity board can be factory configured as a converter for HDMI to ARINC 818 or ARINC 818 to HDMI.
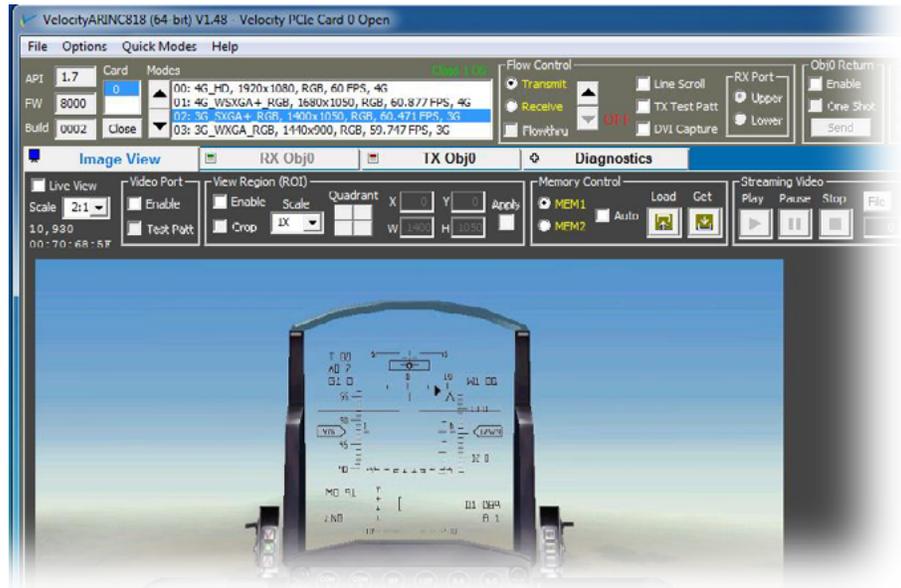
Powerful test application

GRT ships **VelocityARINC818** test software with all Velocity ARINC 818 cards. Configure and test ARINC 818 systems. Diagnose the health of your links. Features include:

- Status indicators afford quick checks of link synchronization, presence of SOFi, EOFt, and idle ordered sets. They will detect any 8b/10b and CRC errors.

- Use the View Region window to magnify a region of interest in your image. A problem in the image is easy to isolate and troubleshoot. Curser over the image to determine the location and read values for any pixel in the region.

- Compare a received image with a reference image from a file or card memory. See the count for mismatched images. Even view a "difference" image on the screen.

- Quickly select any preloaded ICD on the card.

- Transmit streaming video from numerous file types, including .avi, .wmv, .mov, and .mp4.

- To visually confirm live video on the ARINC 818 receiver, an optional scrolling line can be added to any static test image transmitted.

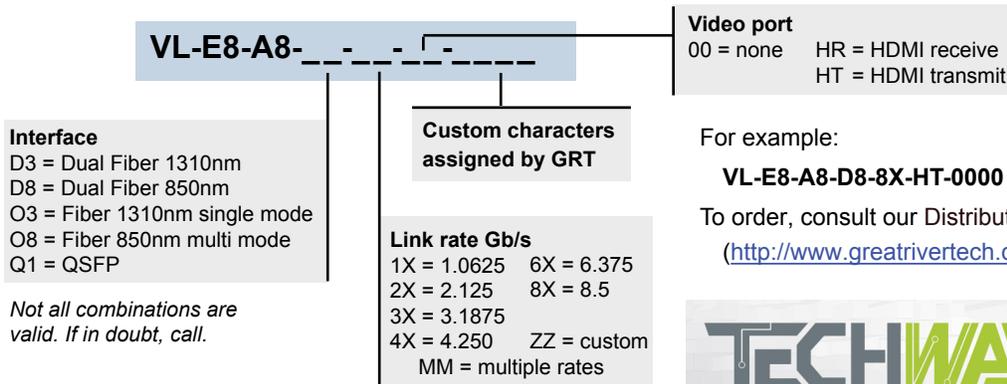The application includes a detailed user manual.

Velocity test application GUI

Software Development Kits

An optional Windows-based Software Development Kit (SDK) enables faster development of real-time image and data acquisition systems, camera and sensor emulators, video generators, or other video-intensive applications. The SDK includes a user guide, sample code, and four hours of technical support.

How to buy

Determine your part number for Velocity Series (VL-E8) ARINC 818 (A8) cards as follows:

VL-E8-A8-__-__-__-____

Video port
00 = none   HR = HDMI receive
              HT = HDMI transmit

Custom characters assigned by GRT

Interface
D3 = Dual Fiber 1310nm
D8 = Dual Fiber 850nm
O3 = Fiber 1310nm single mode
O8 = Fiber 850nm multi mode
Q1 = QSFP

Not all combinations are valid. If in doubt, call.

Link rate Gb/s
1X = 1.0625   6X = 6.375
2X = 2.125   8X = 8.5
3X = 3.1875
4X = 4.250   ZZ = custom
    MM = multiple rates

For example:

VL-E8-A8-D8-8X-HT-0000 or **VLE8A8D88XHT0000**

To order, consult our Distributors page:

(http://www.greatrivertech.com/distributors.html)

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