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ARINC 818: Matrix

GRT Matrix Series PCIe4 and XMC cards support interfaces from 1 to 4 Gb/s. A single card can function as a receiver and a transmitter for ARINC 818. We configure cards to match your system's link speed, image resolution, and pixel format.

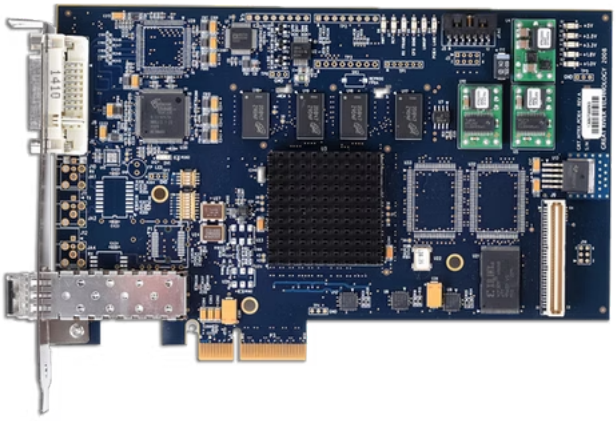
USEFUL LINKS

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LEARN ARINC 818

CONSULT AN ENGINEER

GRT FILE SHARE



Features | Specifications | Resources | How to Configure | How to Purchase

Features

Matrix is a full-featured, high speed ARINC 818 frame grabber, graphics generator and video converter. It comes with a powerful test application. Optional SDK is available for purchase.

Support link rates up to 4.25Gbps

Factory configured for your ICD.

XMC – Rugged XMC variants are also available, including Conduction Cooled

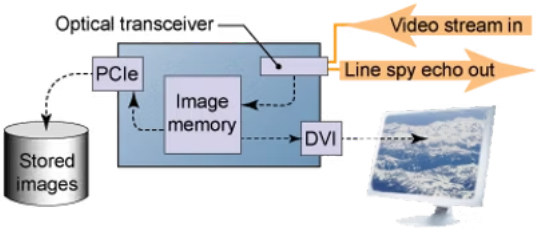
SDK - An optional Windows- or Linux-based Software Development Kit (SDK) enables faster development of real-time image and data acquisition systems, camera and sensor emulators, video generators, or other video-intensive applications. The SDK includes a user guide, sample code, and four hours of technical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

ARINC 818 Receiver & Converter

ARINC 818 Transmitter & Converter

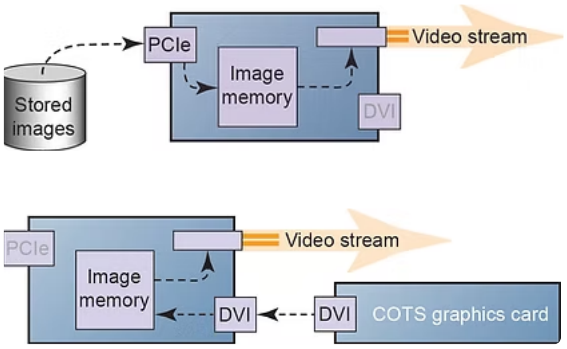
Matrix cards can capture ARINC 818 video to the software GUI and permit real-time viewing of embedded ARINC 818 data. The cards have a dedicated DVI video port to view the incoming ARINC 818 video on a monitor.

- Line Spy: Echoes out incoming ARINC 818 in real-time
- Receive and Display ARINC 818 to GUI
- Capture Video Stream over the PCIe Bus (using StreamPix software)
- Convert ARINC 818 to DVI



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

- Convert DVI to ARINC 818
- Transmit known test patterns over ARINC 818
- Load real-time images over the PCIe



Test Application

- Real-Time monitoring of link status and healt
- Display incoming video to GUI or convert to DVI
- Image compare feature
- Transmit from pre-recorded video
- Zoom on regions of interest
- Explore & Configure Ancillary Data and Container Headers

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ALBUQUERQUE, NM 87113

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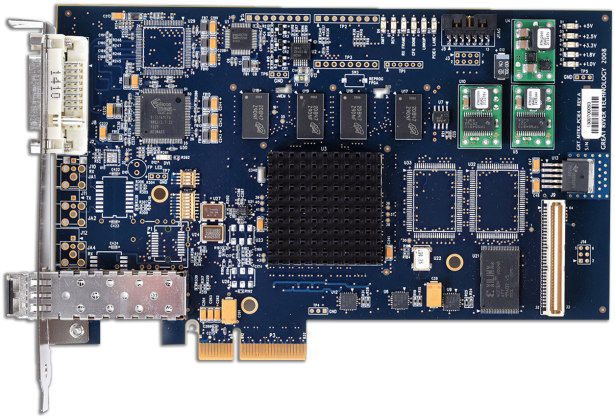
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Card Specifications

All Matrix ARINC 818 Cards

Standards	FC-PH Revision 4.3 ARINC 818 (818-3 ADVB high data rate)
Memory	500 MB plus throughput
Power requirement	8W (2.66A @ 3.0V)
Operating System	Windows 10, Windows XP, 32-bit; Windows 7, 32- and 64-bit; Linux (call for kernels supported); VxWorks support available

Matrix PCIe4 ARINC 818 Cards

Form factor	PCIe half length
Connectors	DVI; optional VGA
Operating temp.	0–50° C (32–122o F)

Matrix XMC ARINC 818 Cards

Form factor	14.9 x 7.4cm (5.8” x 2.9”); stack height: 1.0cm (0.39”); conduction cooled
Connectors	HDMI; optional VGA
Operating temp.	0–70o C (32–158o F) Industrial version: -40–85o C (-40–185o F)

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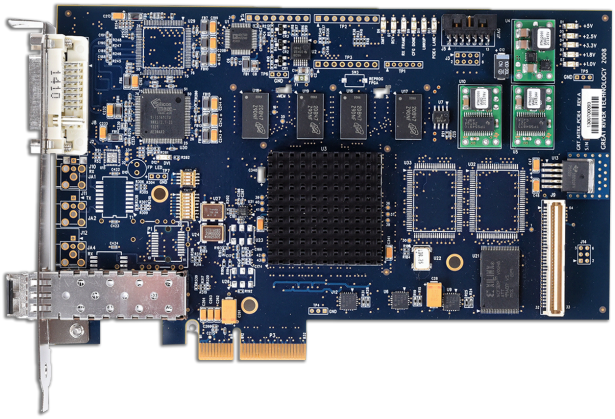
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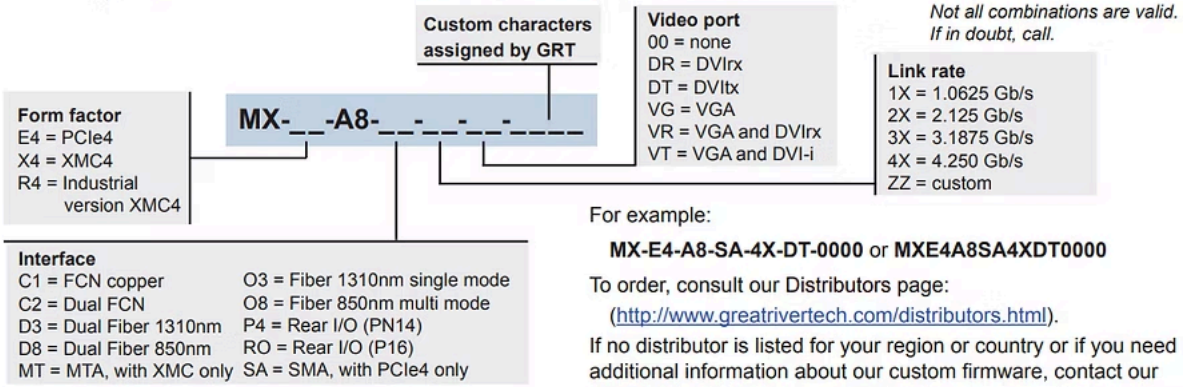
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How To Configure

Determine your part number for Matrix Series (MX) ARINC 818 (A8) cards as follows:



For example:

MX-E4-A8-SA-4X-DT-0000 or **MXE4A8SA4XDT0000**

To order, consult our Distributors page:
(http://www.greatrivertech.com/distributors.html).

If no distributor is listed for your region or country or if you need additional information about our custom firmware, contact our headquarters in Albuquerque.

Determining the PN

Since the ARINC 818 protocol is so flexible the ARINC 818 standard requires that all projects create an Interface Control Document (ICD). The ICD defines the video resolution, color encoding, link rate, update rate, ancillary data and the timing. If you don't have an ICD, GRT can help you create and verify one.
An ICD template is available at the link below.

Most GRT products consist of a base Part Number, together with project specific information, shown below with the blue and red portions.

BASE P/N PROJECT SPECIFIC
MX-E8-A8-C7-1X-DT-60024C
HS-A8-DF-C1-1X-DR-X24C
HS-A8-DF-O8-1X-DR-RCSXP8M64
MX-E8-A8-O8-F3-DR-WTRM3

Some products, like our VPA and XfTuner, are generic ARINC 818 tools and work with "any" ICD so they don't have a project specific designation.

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