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CoaXPress v2.0 explained

CoaXPress (**CXP**) is a dedicated machine vision standard adopted by the **JIIA** in 2011. The latest version, v2.0, was released in June this year.

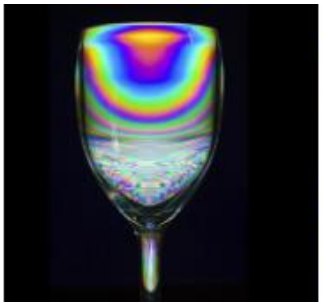
Active Silicon's CTO, Chris Beynon, is technical chair for CoaXPress and lead author on the standard. We take a look at what's changed and the advantages that CXP v2.0 is bringing to machine vision.

What's changed?

Key changes are listed below but the new release includes a number of additional improvements and refinements.

- **Speed:** CXP v1.0 introduced a maximum speed of 6.25 Gbps per link. v2.0 increases this to 10 Gbps for CXP-10 and 12.5 Gbps for CXP-12. Links can also be concatenated so a 4-link frame grabber can now receive data at up to 50 Gbps.
- **Connectors:** The preferred connector for v2.0 is a micro BNC, also called an HD-BNC. This smaller connector can be incorporated into more compact hardware.
- **Uplink speed:** This has been doubled to 42 Mbps so trigger rates over 500kHz are now possible. Real-time triggering is a well-known benefit of CoaXPress and a key feature in many industrial inspection systems.

- **Multiple cameras:** The standard has always offered excellent support for the use of multiple cameras. v2.0 has introduced multi-destination capability so that data can be output from a single camera to multiple frame grabbers which can be located in different PCs.
- **GenICam:** Mandatory support for GenICam has always been part of the CXP standard, including GenTL, but new event packets now allow the camera to send status information. The new GenDC standard for streaming complex data is expected to be formally supported in the next CXP release.


Who needs CoaXPress?

CXP maintains its key advantages - high-quality data transmission, power up to 13W per link and advanced camera control are all supported over one flexible and cost-effective cable, with extensive lengths being possible. With the faster speeds and additional benefits of v2.0, CXP is an ideal technology for:

- **Industrial inspection** - high speeds and real-time triggering capabilities result in faster and more accurate imaging in line scan and area scan applications. Plus, flexible and robust cables are well-suited to a harsh industrial setting.
- **Medical imaging** - long cable lengths mean hardware can be located outside the challenging environment of the treatment room. High speeds support real-time imaging, vital in surgical applications.
- **Defense** - frame grabbers support IR and thermal cameras and enable high-resolution image capture and video transmission. Advanced camera control and long cables offer solutions to complex aerospace vision systems.

How can you benefit from CXP technology?

Active Silicon manufactures a range of CXP frame grabbers and we can help you select a product which will add speed and controllability to your vision system. Replacing

current hardware is straightforward, or we can help with introducing a whole new system. Plus, we offer unparalleled support for all our hardware and software. **View our products** online and **contact us** with your questions.

Read more about CoaXPress

Active Silicon's FireBird CoaXPress frame grabber 4xCXP12-3PE8 supports v2.0

Active Silicon is a leading manufacturer of imaging products and embedded vision systems. If you would like to stay informed of upcoming events, products and news in general, then please follow us on one of our social media channels below.

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