



The QFi converts that output from a CoaXPress camera to CoaXPress running over fiber. The QFi provides a cost effective way to greatly extend the reach of compact CoaXPress cameras.

The Problem

The QFi was created to solve the problem of needing a compact CoaXPress (CXP) camera to be located a long way from the host PC. The traditional solution was to convert the camera's CXP output to fiber using a dedicated set of converter boxes, with a long run of fiber cable in between. At the PC end, the signal is converted back to copper and plugged into a frame grabber. While this is a viable configuration, it is quite cost prohibitive. Another solution is to convince the camera maker to redesign the camera with a fiber interface. Here the problem is that these small cameras would get much larger and require higher power in order to support a fiber output. Further, the ROI for the camera maker would probably be small as these are cost sensitive applications.

The QFi Solution

The QFi solves this problem by taking a minimal parts approach. It connects directly to the camera via normal CXP (on coax). It can also power the camera.

The QFi uses CoaXPress over Fiber (CoF) on the frame grabber side. CoF can run many kilometers on low cost fiber cables. The fiber then plugs directly in to the BitFlow Claxon frame grabber. The output of up to four QFi boxes can connected to a single quad-link frame grabber.

The QFi Advantages

This solution has many advantages. It works with any CXP camera, no modifications needed. The CoaXPress stream is converted from copper to fiber on-the-fly. The QFi is not a frame grabber, it just a packet converter. Because the "output" of the QFi is CoF compliant, no changes are needed on the frame grabber to support this configuration. Finally, the QFi has a small and rugged chassis that will easily fit into existing industrial, stadium or other types of large infrastructure.

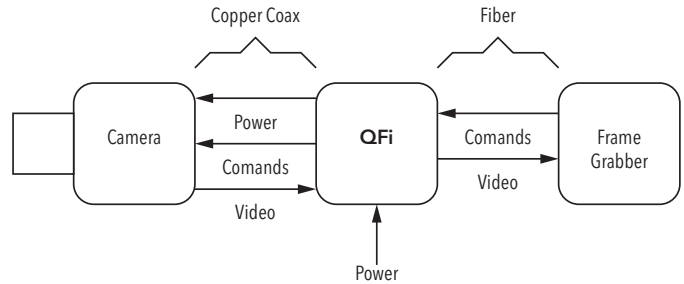
Applications

While it might seem like the QFi is targeting a very small market, in fact there are more use cases than one would think. Part of the reason is that it's unlikely camera firms will start building compact cameras with direct fiber connectors any time soon. The power and space requirements basically mean that only large, quad-link cameras will have direct fiber connections. This leaves a surprisingly large market segment where compact cameras are the only cost effective solution, but stadium or factory-sized distances are a requirement. These types of applications are the sweet spot for the QFi.

QFi Features

- CoaXPRESS copper (device) to fiber (host) converter
- Device: single-link CoaXPRESS camera
- Host: Claxon fiber frame grabber
- CoaXPRESS 1.1/2.0 compliant
- Uplink channel fully supported
- Camera speeds CXP-1 (1.25 Gb/S) to CXP-12 (12.5 Gb/S)
- Supports QFi to camera distances up to 40 meters at CXP-12, even longer for lower speeds
- Fiber connection always runs at 10 Gb/S (which supports CXP-12)
- Supports all SFP+ compatible cable assemblies
- Supports fiber lengths well over a kilometer
- Up to four QFi modules can be connected to one frame grabber
- Off-the-shelf fiber cables exist that combine multiple SFP+ connections to one QFSP+ connection
- Firmware is field upgradable
- QFi does not need programming
- Automatically switches CoaXPRESS speeds to match camera
- Provides up to 13 Watts of power to camera
- Side channel available for observing QFi state (temperature, link speed, etc)
- Ruggedize industrial case
- RoHS compliant
- REACH compliant

QFi - One Camera Configuration



QFi - Four Camera Configuration

