

# unibrain Fire-i Drivers

## DirectShow compatibility and drivers layout.

### Unibrain's Fire-i drivers are DirectShow compatible...

The Fire-i drivers from Unibrain are a set of fully WDM compliant drivers that offer IIDC 1394 camera control and streaming. Like every Kernel Streaming driver, they communicate with User mode applications via DirectShow. DirectShow provides a variety of interfaces that allow camera control and manipulation.

### ... but have to overcome some DirectShow limitations

DirectShow interfaces have been designed for generic camera use and do not take advantage of all IIDC 1394 camera features. To overcome these limitations, Unibrain has created a set of custom interfaces supported in their Fire-i drivers, and included in their Fire-iAPI SDK. There is no other way to handle features like : one push mode in camera controls, control with setting in Absolute values, Format 7 and many other 1394 IIDC 1.30 camera specific functionalities.

Two DirectShow interfaces were chosen not to be supported by Unibrain drivers due to their limitations, and a set of custom interfaces is added in Unibrain's Fire-i API. These interfaces are **IAMCameraControl** and **IAMVideoProcAmp**. They are replaced by **FiColorControl**, **FiBasicControl** and **FiExpoControl**. In the future, Unibrain may decide to support in parallel both the two missing standard interfaces and their Unibrain's replacements.

### Unibrain provides higher abstraction class

Unibrain's Fire-iAPI also provides a class that abstracts most of DirectShow programming and offers an easy access to Fire-i drivers.

The Fire-i API user is encouraged to not use interface programming at all and to prefer the **FiCamera C++ class** that abstracts all the intricacies of COM programming and DirectShow. The following scheme shows the layout of Unibrain's Fire-i API modules and Drivers.

### Drivers layout

