

Remote camera server



The Remote camera server from Norbert Fiebig Astrotechnik is designed to bring a camera to the internet. Andor cameras come with USB 2 or 3, CameraLink or proprietary PCIe framegrabber interfaces. However, frequently in astronomy, experimental physics or other instrument setups, the need arises to control one or more cameras remotely over the network. The Remote Camera Server is a dedicated solution for exactly this purpose.

The camera is connected to the Remote Camera Server by either of the above-mentioned interfaces on short distance. The Remote Camera Server is based on a robust, embedded, industrial PC, which allows to mount it close to the camera in an experimental setup. Output interface is a standard GBit Ethernet cable (or fibre via converter).

The control software provides a REST server with an API to allow clients (operator workstations) to control the camera and receive the acquired image stream over LAN or even WiFi. Multiple clients may connect to the REST server in parallel. The REST API concept is a well-known HTTP based protocol.

Astro.control

ASTRO.control from Norbert Fiebig Astrotechnik is a dedicated platform for control of astronomical instrumentation, and in particular high-end scientific cameras. Most Andor CCD, EMCCD and sCMOS cameras are supported out of the box, including the iXon Ultra 888 and 897 EMCCD cameras, the popular iKon-L 936 4.2 megapixel back-illuminated CCD, the new and exciting iKon XL very large area back-illuminated CCD platform as well as the ultra-low noise Zyla sCMOS cameras with 4.2 and 5.5 megapixels.

ASTRO.control systems are based on a Remote camera server (industry grade PCs), robust enough for the environmental conditions of an observatory.



Remote camera server

The boxes run a sophisticated real-time and embedded Linux operating system. Supported device classes include cameras, filter wheels, focusers, telescope mounts, domes and more.

Framework software and application modules are pre-installed, providing a high-level platform on which custom specific applications can be implemented. Basic functions for camera control, image acquisition, image calibration and processing, local storage in FITS format, communication via INDI protocol and the ASCOM interface as well as image transfer via Ethernet are available out of the box.

Use cases for ASTRO.control in combination with Andor cameras include, among others:

- **Remote camera control and networking**
Cameras with USB or PCIe connections can be connected to a Remote Camera Server which forwards camera control and image transfer to Ethernet, thus enabling cameras on the network.
- **Instrument control**
An instrument for e.g. observation, guiding, or adaptive optics, which includes a camera plus related devices, like filter wheels or focusers, can be managed by only one control box.
- **Multiple camera control**
Multiple cameras can be managed by one control box, including processing their parallel image streams.

Software development services

Custom software development services and turn-key solutions around Andor cameras enhance the value and shorten the time to get a camera integrated and operative in a given environment. Norbert Fiebig Astro-technik has much experience with custom solutions in scientific and industrial areas and provides such professional software services, e.g. specific camera control software, graphical user interfaces, network image transfer or integration with existing software. Operating systems Windows, Linux, MacOS and Android are supported.

For further information, please visit:

<http://www.astrocontrol.de/en/homepage/>

<http://www.astrocontrol.de/andor>

<http://www.astrocontrol.de/en/services>



Quantum Design
EUROPE

Quantum Design GmbH
Im Tiefen See 58
D-64293 Darmstadt

+49 6151 8806 0
germany@qd-europe.com
www.qd-europe.com

ANDOR
an Oxford Instruments company