



# QHYCCD

## QHY16200A 16MP APS-H Format Cooled CCD Camera



The **QHY16200A** uses a unique APS-H size CCD sensor, a product of close collaboration between QHYCCD and the sensor supplier. This sensor is specially designed and manufactured with amateur astronomers in mind who wanted a mono sensor larger than APS-C.

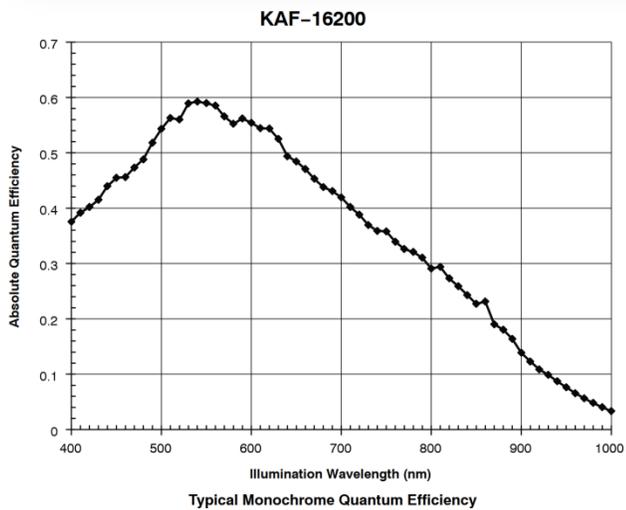
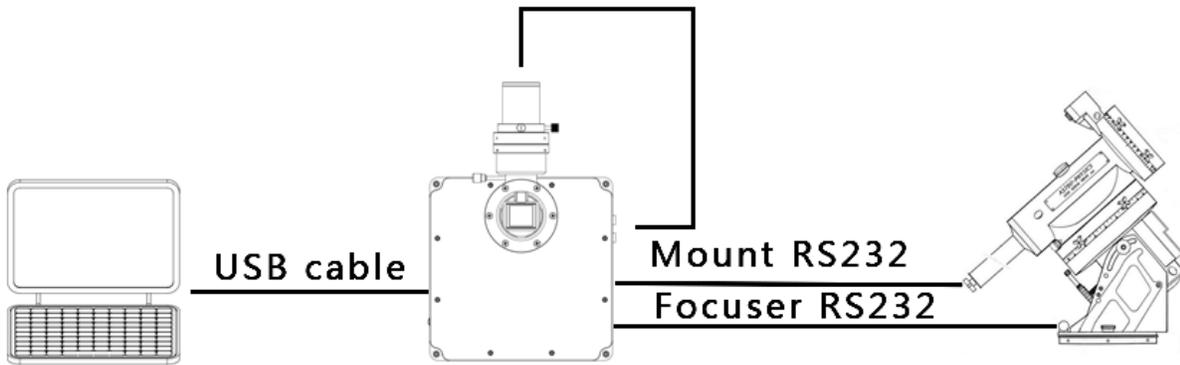
**APS-H Format CCD Sensor:** The effective image area is 27mm x 21.6mm. Compared to the QHY8L APS-C format of 23.4 x 15.8, the APS-H sensor is significantly larger with over 50% larger image area. The reason for desiring an APS-H size mono sensor is that there are no other existing mono sensors in size between the KAF-8300 (4/3inch) and the KAI-11002 (35mm format). This sensor has 16 Megapixels and the APS-H format is suitable for most telescopes, including SCT's that cannot fully illuminate a 35mm frame without some vignetting or distortion at the edges. It is also suitable for commonly available 2inch filters. The pixel size of this sensor is 6.0um x 6.0um, slightly bigger than the KAF-8300's 5.4um but, due to the larger size of the sensor, it has nearly twice as many pixels as the 8300. The QE is similar to or higher than 8300 and the 37ke- full well capacity is almost 50% greater than the 8300's 25.5ke-. Since the read noise is comparable to the 8300, the dynamic range can be calculated at about 1.5X greater than the 8300. This sensor also comes in a color version on request.

**"A" Series Camera - Fully Integrated:** The QHY16200A belongs to the new QHYCCD "A" series camera family. "A" stands for "ALL-IN-ONE". The camera includes a built-in motor driven filter wheel and natively supports the QHYOAG. The OAG can be installed on the camera solidly with six screws, consuming a minimum of back focus, precious for some optical systems. The filter wheels available for the QHY16200A accept 2" mounted filters, or 50mm unmounted round filters, in carousels with 5 or 7 positions. The camera is compatible with the medium size QHYOAG. In addition to the filter wheel and OAG, this "A" series camera offers an internal USB HUB (2.0) that provides two USB host port and a USB to dual RS232 converter. A guiding camera, mount and electric focuser can be connected directly to the camera instead of the computer to reduce cable clutter and the chance of signal loss due to the long cables. Only a single USB cable is needed to control all the peripherals.

**Butterfly Shutter - long life, uniform illumination and automatic dark frames:** This camera uses a mechanical shutter that has a butterfly shape. The shutter is directly driven by a motor with no other moving parts. The working life is almost unlimited. The shutter has two sides that block light and open spaces in between. The fan shape of the blades create even-illumination when opening, and even-darkness when closing for dark frames. This feature is of great benefit when taking flat frames or making photometric observations.

## "A" Series Camera Connections

### Guide Camera USB



Model	QHY16200A
Sensor	On Semiconductor (Kodak) Truesense KAF-16200 CCD
Optical Format	APS-H
Sensor Size	27mm x 21.6mm (34.6mm diagonal)
Total Active Pixels	16.2 Megapixels
Pixel Size	6um x 6um
Active Pixel Array	4500 x 3600
Cooling Delta T	-40C
Read Noise	10e-
Shutter	Even Illumination Mechanical Shutter
A/D Resolution	16-bit
Dark Current	0.04e-/pixel/sec @ -20C
Full Well Capacity	41ke-
Computer Interface	USB 2.0
Weight	1550g with 5-position FW, 2330g with 7-position FW
Reference Price	\$3999 (5-position FW+OAG, \$4399 (7-position FW+OAG)

For more information please visit: <http://www.qhyccd.com>