



# QHYCCD

## New Product Announcement

October 23, 2017

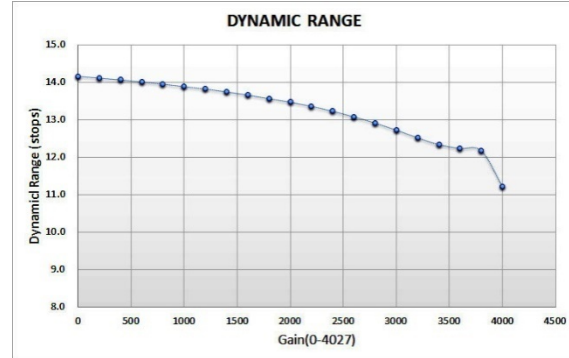
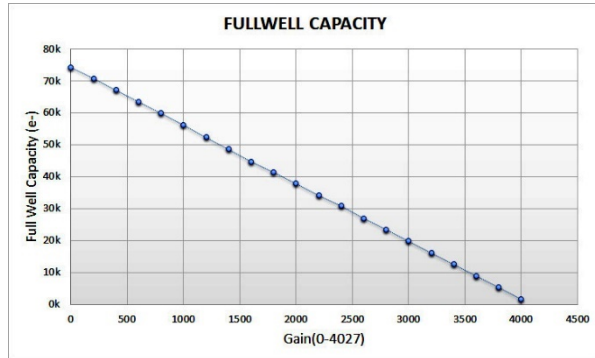
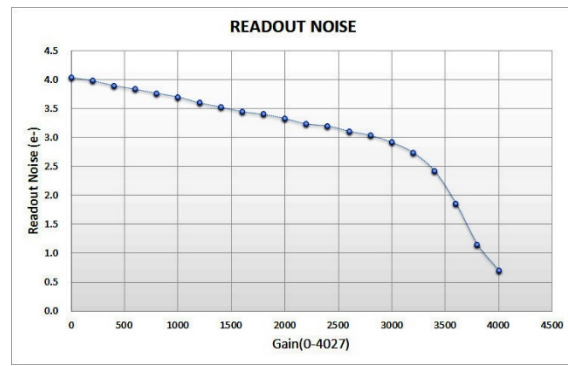
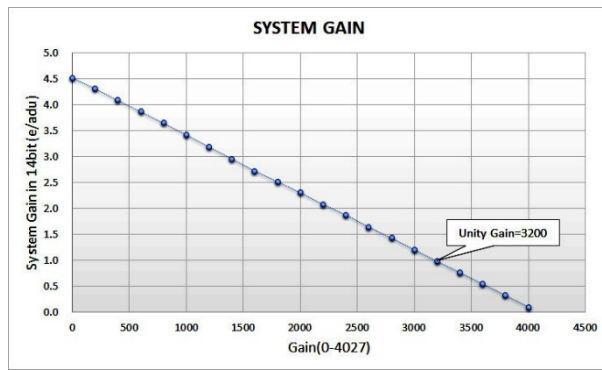
## QHY128C and QHY367C 35mm Format Cameras



QHYCCD is proud to announce the release of two exciting new 35mm format color cameras. The QHY128C uses a 24 Megapixel sensor with 5.96u pixels and the QHY367C uses a 36 Megapixel sensor with 4.88u pixels. Both models incorporate the latest technology and offer:

- USB 3.0, 5 FPS up to 30 FPS for partial frames
- Ultra High Performance
- Ultra Low Read Noise and Dark Current
- High Dynamic Range
- Zero Amplifier Glow
- Unique Thermal Noise Reduction Technology
- 128MB DDRII Image Buffer
- True RAW Image Output
- Anti-Dew Technology
- AR+AR Coated Optical Window
- Anti-reflection Black Case for F2 Imaging Systems
- High Precision Axis Calibration (no need for tilt corrections)

The Sony Exmore IMX128 sensor has been used in a number of commercial products including the Nikon D600, 610 and 750 cameras, and the Sony DSC-RX1 camera. The IMX094 was designed to produce ultra high resolution 4K video as well as 36MP still images. In the QHY cameras, these sensors are implemented specifically for astronomical use with custom thermal noise reduction technology that does not affect the accuracy of the raw image. Amplifier glow can also be an issue with some CMOS cameras, but these new QHY models boast the rare capability of zero amplifier glow, no matter how long the exposure. The image output is a true raw image, without any internal processing for maximum flexibility with image processing software. Other features include a 128MB image buffer that helps tremendously with slower computers using USB 2.0, and when running multiple cameras using the same computer. The optical window has built-in dew control and the chamber is protected from internal humidity condensation. The optical window is AR+AR coated, reducing halos around bright stars. IR blocking is not used so that the cameras can be used with maximum sensitivity to H-alpha and near IR light when desired, or a simple IR blocking filter can be attached for typical RGB imaging with IR cut. Each camera is carefully calibrated to high precision assuring flatness of the sensor to +/- 20 microns from edge to edge, eliminating the need for external adjustments by the user.



Graphs represent typical performance of QHY128C camera

Model	QHY128C	QHY367C
Sensor	Sony IMX128 Color CMOS	Sony IMX094 Color CMOS
Sensor Size	36mm x 24mm full frame	36mm x 24mm full frame
Pixel Size	5.97um x 5.97um	4.88um x 4.88um
Effective Pixels	6036 x 4028 24 Megapixels	7376 x 4938 36.4 Megapixels
Binning	1 x 1	1 x 1
Full Well	74ke-	56ke-
Readout Type	Progressive Scan	Progressive Scan
Shutter	Electronic shutter	Electronic shutter
Exposure Time	60us-3600 sec	60us-3600 sec
Peak QE	53%	TBD
AD Convert	14BIT	14BIT
Readout Noise	4e-@Low gain, 2.7e-@unity gain	3.2e-@Low gain, 2.4e@unity gain
Maximum Dynamic Range	More than 1:17000>14 STOPS	More than 1:17000 >14 STOPS
Mechanical Interface	M54/0.75 female thread	M54/0.75 female thread
TEC	2-stage TEC -35C below ambient	2-stage TEC -35C below ambient
Weight(Camera only)	788g	788g
Power Consumption	30W @ 100% TEC, 13W @ 50%TEC	30W @ 100% TEC, 13W @ 50%TEC
Interface	USB3.0, 12V DC Power socket	USB3.0, 12V DC Power socket
Frame Rate	5FPS@Full Resolution 9FPS@2160 LINES (e.g. 7400*2160, 4096*2160) 16.5FPS@1080 LINES (e.g. 7400*1080,1920*1080) 22.5FPS@768 LINES 32FPS@480 LINES	3.2FPS@Full Frame 7FPS@2160 LINES (e.g. 7400*2160, 4096*2160) 14FPS@1080 LINES (e.g. 7400*1080,1920*1080) 19FPS@768 LINES, 30FPS@480 LINES 40FPS@320 LINES, 83FPS@100 LINES

For more information please contact QHYCCD or visit <http://qhyccd.com/QHY128.html>