

SBIG®
STC-428-OEM

**SBIG STC-428-OEM SCIENTIFIC CMOS
IMAGING CAMERA EVALUATION PACKAGE.**

The STC-428 is designed to be used as a component in instruments for medical imaging, laboratory instruments, low-light industrial inspection, and other applications. The basic camera platform can be modified to meet your mechanical requirements including mounting, packaging, accessories, and more. Options such as a mechanical shutter or filter wheel can be added. Software API support is provided for a variety of operating systems including embedded Linux applications.



For years mature CCD sensor technology, embodied in our venerable STF-8300-OEM camera, set the standard for high sensitivity, low noise, high dynamic range, and images free of pattern noise.

The new STC-428-OEM scientific CMOS camera represents a major improvement over CCD technology. Compared with previous CCD models, the STC-428-OEM features higher sensitivity (78% QE versus 56%), significantly lower read noise (2.5 e- versus 9.3 e-), and 20X faster readout.

While a single exposure on the Sony IMX428 sensor can equal CCD dynamic range, the combination of fast readout and very low read noise allows for stacking many shorter sub-exposures to produce greater dynamic range than previously possible. The built-in StackPro™ capability can automatically divide your exposure into up to 16 shorter sub-exposures, and stack them inside the camera prior to download. This increases dynamic range without imposing greater storage or processing requirements on the host computer.

Our SmartCooling™ active regulation maintains the sensor temperature to within 0.1°C, and minimizes fan speed based on heat sink temperature for longer life and quieter operation.

ACHIEVE YOUR VISION

The SBIG STC-428-OEM features include:

High sensitivity, low noise 7 megapixel Sony IMX428 imaging sensor	SmartCooling™ active temperature regulation to 0.1°C for high calibration stability
Electronic global shutter for fast exposure times (0.001 to 3600 s)	Application engineering support
High-speed USB 3.0 interface (USB 2.0 compatible)	Customization options for your application, including mechanical shutter, filter wheel, packaging modifications, adapters
StackPro™ automatic in-camera sub-exposure stacking	Windows-based evaluation software available
Regulated two-stage cooling with delta ~ -30°C	Multiplatform software API and sample code available

SBIG MODEL NAME	STC-428-OEM
A/D Converter	12-bit with High Gain / Low Gain modes
Binning Modes	1x1, 2x2
Computer Interface	USB 3.0 (USB 2.0 compatible)
Cooling Delta	30°C
Dark Current	0.1 e-/p/s at -5°C
Exposure	0.001 – 3600 s
Imaging / Pixel Array	3208 x 2200 pixels
Imaging Sensor	Sony IMX428 CMOS sensor
OS Compatibility	Windows 10 or 11 Contact us for Linux and other platform availability
Peak QE	78% typical
Pixel Size	4.5 x 4.5 µm
Power	12VDC, 4A max
Read Noise (Typical)	1.9 e- High Gain, 2.5 e- Med Gain, 5 e- Low Gain
Sensor Size	14.4 mm X 9.9 mm
Shutter	Global Shutter (electronic) Mechanical Shutter is optional
Temperature Regulation	Yes
Total Pixels	7.1 megapixel

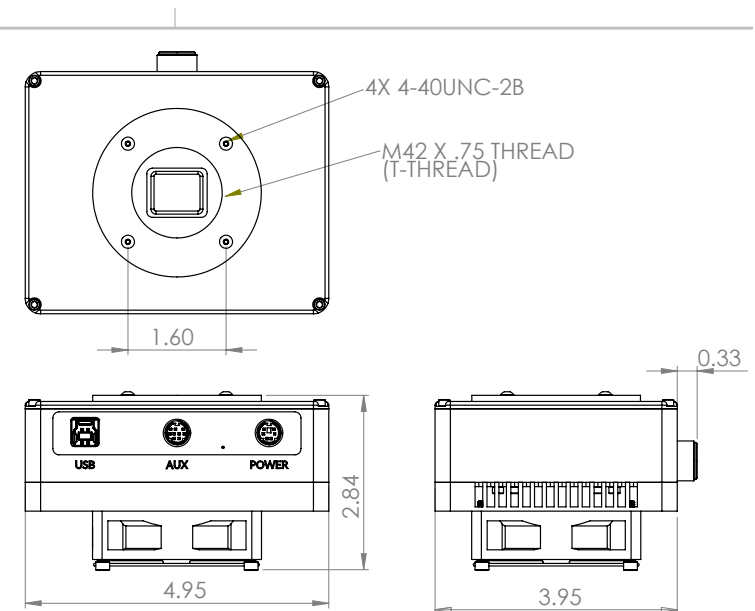
SENSOR SPECIFICATIONS

17.6 mm diagonal

Typical QE:

- Red (635-700 nm) ~ 63%
- Green (520-560 nm) ~ 78%
- Blue (450-490 nm) ~ 75%

80 dB dynamic range



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Specifications subject to change without notice – December 2022

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