Take industrial area scan color imaging to a new level….

APEX
AP-3200T-USB
Multi-Sensor

Worlds fastest 3-CMOS prism-based camera

3 x 3.2 MP

38.3 FPS

Exceptionally accurate color image data

....with the new APEX AP-3200T-USB

3-CMOS prism-based industrial area scan camera providing better color fidelity and spatial precision than traditional Bayer color cameras<

APEX
AP-3200T-USB
3-CMOS PRISM-BASED
AREA SCAN CAMERA

Worlds fastest 3-CMOS

3 x IMX265 Pregius Sony

3 x 3.2 megapixel

38.3 frames/sec

Compact design

- **High resolution combined with high frame rates**
  The AP-3200T-USB is built around the Sony Pregius™ IMX265 sensor. Combined with a USB3 Vision interface, the AP-3200T-USB camera can output as much as 3 x 3.2 megapixels at 38.3 frames/second.

- **USB3 Vision Interface**
  With the USB3 Vision Interface you get excellent plug and play compatibility with a data throughput of up to 350 MB/s. (More than 3 times faster than with a GigE Vision interface).

- **Flexible color space conversion**
  The AP-3200T-USB provides great flexibility in on-board color space conversion: including RGB to HSI color space conversion and RGB to CIE XYZ color space conversion. (sRGB and Adobe RGB color spaces are also available).

- **Single and multi-region-of-Interest (ROI) for faster frame rates and faster image processing**
  The ROI can be set up in rectangular fields as both single and multi-ROI to increase the frame rate or to increase the image processing speed. Image processing is only done on the ROI to increase processing speed further and to avoid influence from image details outside the ROI.

- **Analog gain and exposure setting for each individual R-G-B channel**
  The analog gain and the exposure time can be set independently for the red, green and blue sensor channels allowing for better signal/noise conditions. This maximizes the dynamic range for each color channel resulting in improved image quality.

- **Automatic Level Control**
  The ALC function combines automatic gain control and automatic shutter control to efficiently handle various changes in brightness.

- **Shading correction on ROI**
  For improved processing speed, shading correction is performed only on the region-of-interest, not the full image (Provided that the ROI feature is applied.)

See the possibilities

50G SHOCK

3G VIBRATION

Ambient temp. -5°to +45°C.

Measures 44 x 44 x 74 mm

Robust and compact design

The camera is built with a high degree of robustness (Shock 50G and Vibration 3G) and is designed to perform reliably even in harsh and hot industrial environments.

Color Temperature Preset

The color temperature preset function allows the user to choose between five different color temperatures (3200K, 5000K, 6500K, 7000K and 9000K). This enables the camera to adjust to different light sources with a single click.

Color Enhancer

With the color enhancer tool it is possible to strengthen certain colors (double emphasis) in the image for additive hues (red, green and blue) and subtractive hues (cyan, magenta and yellow). This feature is useful in certain applications such as microscopy and medical imaging.

Edge Enhancer

The edge enhancer function can improve the edge contrast in an image. The image processing filter identifies the boundaries between contrasting colors and increases the contrast in those areas, thereby improving edge sharpness and definition.

Pixel Binning

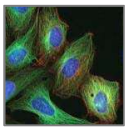
Binning can be used to increase the light sensitivity of the pixels but also to achieve a higher signal-to-noise ratio if this is more important than getting images with maximum resolution. Various horizontal and vertical binning combinations are available: two horizontal pixels (2x1), two vertical pixels (1x2) and two horizontal and vertical pixels (2x2).

Chunk data for each image

Chunk data provides user data and control data for each image such as offset X and Y, width, height, exposure time, binning, LUT Enable, Frame Trigger Counter, exposure start plus many more parameters.

Apex AP-3200T-USB application examples:

Ophthalmology
Eye examination looking at interior features such as the retina, optic nerve head and microcirculation in blood vessels.



Pathology/cell imaging
Imaging of human tissue slices, cells and body fluid samples under a microscope.

Endoscopy/surgical imaging
Imaging inside the human body and organs for medical diagnostic purposes. Surgical imaging in microscopes and ceiling.

Medical quality control
Color quality control of ampoules, capsules, multi-layer tablets and other medical products.

Food/bottle inspection
Fruit, vegetable, egg , meat and bottle inspection.

PCB inspection and wafer
Visual inspection of printed circuit boards, chips, electronic parts and wafers.

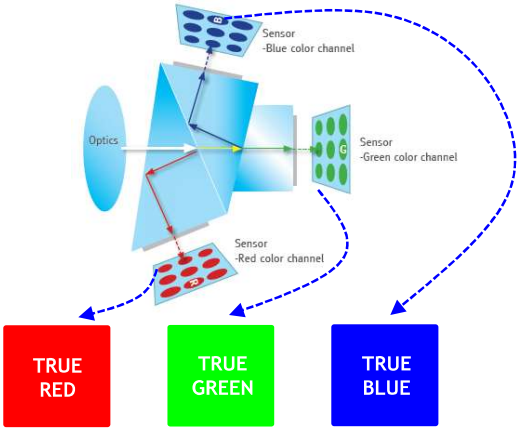
Flat panel inspection
Calibration of chrominance and luminance values to specified color spaces, as well as detection of pixel defects.

Print inspection
High-end print inspection of currency, pharmaceutical pakages and other printed material.

Automotive inspection
Paint inspection and verification of color LEDs in dashboard instruments.

Mineralogy
Inspection of clarity and colors of diamonds and inspection of minerals.

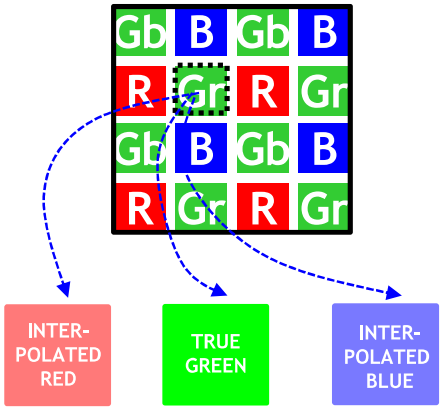
Prism-based imaging
DELIVERING TRUE COLORS



In JAI's prism-based RGB cameras the incoming light is separated into red, green and blue wavelengths, which are directed to three precisely-aligned CMOS sensors. The JAI RGB color imaging technique provides better color accuracy and spatial precision than traditional color cameras usng the Bayer mosaic technique.

APEX
AP-3200T-USB

Bayer mosaic imaging
DELIVERING ONLY INTERPOLATED COLORS



In Bayer cameras, each pixel is filtered to record only one of three colors. Therefore the data from each pixel cannot fully specify each of the red, green, and blue values on its own. To obtain a full-color image, various algorithms are used to interpolate a set of complete red, green, and blue values for each pixel. These algorithms make use of the surrounding pixels of the corresponding colors to estimate the values for a particular pixel. The result is less color accuracy than can be obtaind with JAI prism-based cameras.

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See the possibilities