Image Processing Board for CIS from Canon - IE64_CISC

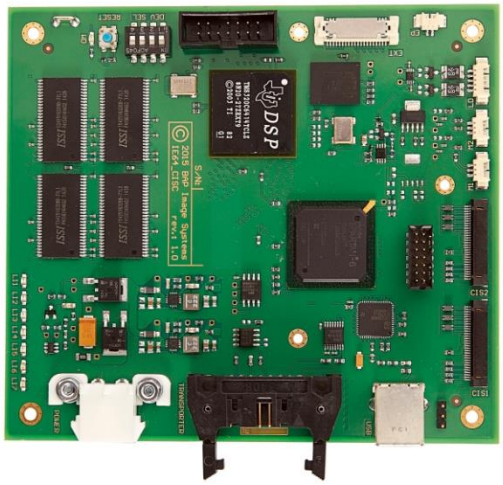
The IE64_CISC is an image processing board designed to connect with two types of Canon CIS color sensors: 1200 DPI (DIN A4 HW12H) and 600 DPI (DIN A3 JC06H). This creates an excellent combination for high speed color scanners. The IE64_CISC with its rich set of algorithms for image processing, transformation, and quality improvement delivers the complete solution necessary for color and black-and-white image processing.

Speed, resolution and flexibility

In the IE64_CISC following image functions are included:

- cropping
- rescaling
- de-skew
- dynamic, adaptive thresholding
- G4 compression
- JPEG and JPEG2000 compression
- HSV based drop out color filter
- fixed angle rotation
- sub-sampling
- multiple snippets
- and many more

One IE64_CISC board has two ports for the CIS. This means that two contact image sensors (CIS) can be connected to one IE64_CISC board and be handled simultaneously.



Area of Application:

- Automotive:
  Plane surfaces coating quality measurement, plane surface machining quality check, cylinder objects surface coating and machining quality check.
- Machinery:
  Different material plane surface quality check.
- DTP:
  Document scanning and preprocessing.

Short Technical Overview

- Based on the TI TMS32C6414 DSP, Xilinx, Virtex 4 FPGA, Spartan 6 FPGA, and Canon CIS.
- Two sensors serviced simultaneously.
- Output interface USB 2.0 up to 21 MB/s.
- Output image formats: JPEG, JPEG2000, and TIFF Group IV.
- SD RAM: 256 or 512 MB.

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Technical Description

- Line resolution:
  - With sensor HW12H: 1200 DPI, 600 DPI, 300 DPI or 200 DPI
  - With sensor JC06H : 600 DPI, 300 DPI or 200 DPI
- Max pixel conversion resolution: up to 16 bit
- Light source: RGB LED
- Interfaces: DLL for MS Windows 32/64 bit
- Connection/driver: USB 2.0
- Power supply: 5V / 3A DC
- Throughput for sensor HW12H:
  Scanning width: 219 mm

  up to 49.5 inch per second at 200 DPI gray
  up to 33.0 inch per second at 300 DPI gray
  up to 8,8 inch per second at 600 DPI gray
  up to 2.2 inch per second at 1200 DPI gray

  up to 16.5 inch per second at 200 DPI color
  up to 11.0 inch per second at 300 DPI color
  up to 2.9 inch per second at 600 DPI color
  up to 0.7 inch per second at 1200 DPI color

  Example of DIN A4 size document scan throughout:
  up to 222 PPM at 200 DPI gray

- Software options:
  - TWAIN driver
  - API for Linux
  - further options upon customer request.
- Additional interfaces compatible with IEC 61000-4-2 ESD:
  - Two bidirectional COM interfaces with 5V logic (RxD, TxD, GND)
  - Two general purpose open drain outputs with separate 5 to 12 VDC power supply and PWM ability

BAP Image Systems (BAPis) is a dependable and reliable imaging products and solution provider with highly proven industry experience. BAPis develops and manufactures cameras based not only on high speed CCD and CMOS line sensors, but also on area CMOS/CCD sensors. BAPis cameras are used in the machine vision industry as well as in the film industry. Additionally, BAPis develops and produces image grabbers and processing boards based on DSP and FPGA technologies using its own algorithms. Image processing boards are matched with camera performance and, when combined, are able to reach the highest possible throughput.

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