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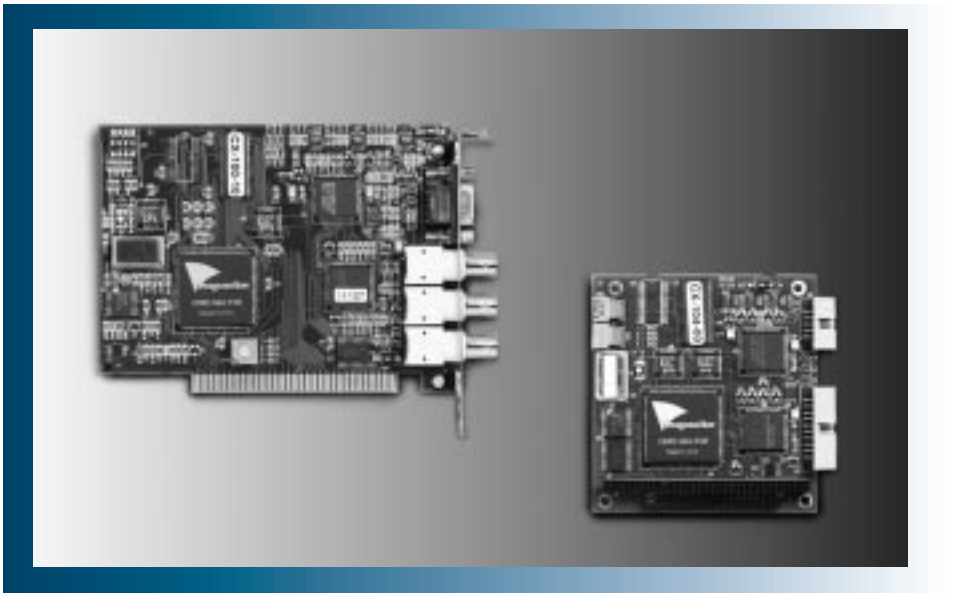
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CX Family of Video Frame Grabbers

High-quality video capture that is easy to integrate into your application…and easy to afford.



Start with features found in more expensive boards. The CX family of video frame grabbers are precision image capture boards in the ISA bus configuration. Each board has a digital synchronization scheme which delivers a rock solid image and an industry leading sampling jitter of just +/-3 ns for detecting image details at the sub-pixel level. Video noise is 0.7 least significant bit (LSB) out of 256 gray levels to meet the most demanding applications.

The CX family provides real time capture to true dual port video RAM mapped into the computer's memory. This allows fast, non-destructive, random access to a captured image even during capture and display. Composite display output is available for viewing live video or a captured image on an external monochrome monitor. Text and graphics can be displayed on top of a live video or captured image with the optional overlay RAM, which provides 15 selectable gray levels.

The CX family supports standard RS-170 (NTSC) and CCIR (PAL) video formats, with format auto detect and auto switch. Single images of 512 x 486 pixels (RS-170) and 512 x 512 (CCIR) or four images at half resolution can be displayed. They also support hardware controlled field or frame grab, software adjustable offset and gain, and automatic look up table (LUT) load. Input and output LUTs allow gamma correction, contrast and brightness adjustment, and thresholding in real time.

We know your application. And what it takes to make components play together. From manufacturing automation to security systems and quality control, Imagenation's products are designed to integrate easily into your application with seamless results. The CX family provides support for needs like these:

- Resettable cameras work in tandem with the CX family to capture a full frame or field without losing a bit of information.
- Strobe output offers software control over cameras, strobe lights and other external equipment, with trigger input for synchronizing image acquisition to an external event.

Imagenation gives you tools and assistance to speed development and shorten time to market. The CX family's simple yet elegant software interface and well documented software libraries enable you to build your application quickly, with support for DOS, Windows 3.1, Windows NT, Windows 95, Watcom 32-bit as well as standard languages including C/C++ and Visual Basic. Sample application source code takes the trial-and-error out of programming: you can have your hardware up and running almost immediately.

Technical support as well as current software and examples are available through Imagenation's web site. Or call toll-free to talk directly with our design engineers if questions arise.

We make it our business to make *yours* successful. Imagenation can help you design the optimum vision system for your application, drawing on our years of experience and technical expertise.

Imagenation offers a variety of frame grabber formats to help you migrate to another platform as you ramp up for volume applications. For example, the CX Family is available in the standard desktop ISA half-slot design and in the embedded PC/104 format.

Your software investment is also protected because no rewrite is required if another form factor can better satisfy your price and performance requirements in the future. Imagenation also has a family of products with similar features for the high speed PCI bus.

Finally, Imagenation's team of vision system specialists stand ready to provide fully integrated MV systems or subsystems, custom designed to meet all your unique application requirements.

KEY FEATURES

- Compact, half-slot design; stackable PC/104 module
- Digital synchronization
- Precise image capture (pixel jitter < ± 3 ns)
- 256 gray levels with low video noise (0.7 LSB)
- Programmable offset and gain
- Real time image capture (30 frames/sec)
- Input and output look up tables (LUTs)
- Support for RS-170 (NTSC) or CCIR (PAL) composite video formats
- VCR compatible
- Works with asynchronous (reset-table) cameras
- External trigger input and strobe output
- + 12 VDC to power camera
- Simple software interface
- Supports DOS, Windows 3.1, Windows NT, Windows 95, Watcom 32-bit
- Support for C/C++ language and Visual Basic
- Software and manual included

OPTIONS

- ISA & PC/104: optional overlay VRAM (1Mbit of additional VRAM provides 15 gray levels of text and graphics)
- Software protection: optional built-in protection key for your application software

CX SPECIFICATIONS

Input and output composite video format — Monochrome, RS-170 (NTSC) or CCIR (PAL), auto detect, auto switch

Video Input (capture)— 1 V peak to peak, 75 Ω

Resolution — RS-170: High, 512 x 486 pixels; Low, 256 x 243 pixels; CCIR: High, 512 x 512 pixels; Low, 256 x 256 pixels; 256 gray levels, 8 bits

Sampling jitter — Maximum of ± 3 ns relative to horizontal synchronization

Memory — 256 kbytes of memory mapped, dual port video RAM; optional 256 k x 4 bits of bit-maskable overlay RAM

Video RAM base address — ISA & PC/104: software selectable segment address of 8000 through F000 (hex)

Software programmable look up tables (LUTs) — 256 byte input LUT and 256 byte output LUT

Video Output (display) — Monochrome composite 1 V peak to peak, 75 Ω with optional 4-bit non-destructive overlay

External trigger — Input pulled up by 10 k Ω to 5V, trigger requires a TTL pulse of 100 ns (minimum); software programmable edge or level sensitivity; software programmable polarity

Strobe output — Single TTL level output is provided to control resettable cameras, strobe lights, etc.

Overvoltage protection — All inputs and outputs are diode protected

Video input DC voltage range — Diode clamped to -0.6 VDC to + 2.0 VDC

Form factor — ISA, half slot, 5.525 x 4.20 inches (140.3 x 10.7 mm); PC/104, 3.6 x 3.8 inches (91.4 x 96.5 mm)

Bus — All cards use 8-bit ISA bus. PC/104 has full 16 bit connectors for placement anywhere in a PC/104 stack.

Video noise — 0.7 LSB (least significant bit); -51 dB signal to noise before digitization

Power — + 5 VDC, 600 mA

Camera power — + 12 VDC output

Connectors — ISA: 9 pin D subminiature (DBS) and BNC co-axial; PC/104: 10 pin and 20 pin IDC mass terminators (flat ribbon connectors)

Operating temperature — 0°C to 60°C

Warranty — One year limited parts and labor

ORDERING INFORMATION

CX100-10	**ISA Standard product (no overlay)**
CX100-30	**ISA Standard product with overlay option**
CX104-00	**PC/104 product (no overlay)**
CX104-20	**PC/104 product with overlay option**

CX family of video frame grabbers are also available with built-in software protection.

Contact Imagenation for more information or to discuss your application.

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Email: info@imagenation.com Web site: www.imagenation.com

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