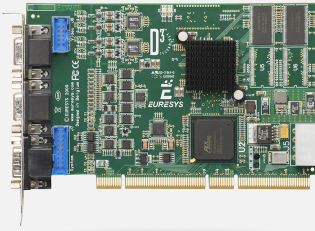




Domino Harmony

Frame grabber for two single-tap or one RGB non-standard analog cameras



At a Glance

- Triple 10-bit 40 MHz A/D converter
- 64-bit 66 MHz PCI bus
- D³ technology for extremely low synchronization jitter
- Support for mega-pixel progressive-scan and interlaced cameras, asynchronous reset and exposure control
- Trigger, strobe and general purpose I/O lines

Benefits

Enjoy digital quality from low-cost analog cameras thanks to our patented D³ technology

- Extremely low noise, true 10-bit image acquisition
- Lowest jitter: 0.5 ns (or 0.008 pixels) even when using composite video signals, for the most precise measurements
- No need to use pixel clock

Take advantage of the lowest-cost industrial cameras available on the market

Windows drivers available

Applications

Machine Vision for the General Manufacturing Industries

- Low cost image acquisition from industrial analog cameras for inspection machines

Specifications

Mechanical

Form Factor	PCI card
Format	Standard profile, half-length, 64-bit Conventional PCI card
Dimensions	L 168 mm x H 107 mm L 6.6 in x H 3.87 in

Host bus

Standard	PCI 64-bit, 66 MHz, 3.3 V and 5 V signaling
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DMA	32-bit
Effective (sustained) delivery bandwidth	240 MB/s (Host PC motherboard dependent)
Power consumption	Max. 6.8 W (1.45 A @ +3.3V, 400 mA @ +5V), excluding I/O power output

Camera / video inputs

Interface standard(s)	Non-standard Analog
Connectors	<ul style="list-style-type: none"> • CAMERA X: high-density sub-D 15-pin male connector for video and camera control • Camera Y: high-density sub-D 15-pin male connector for video and camera control • Video internal: 10-pin shrouded header video connector on the PCB
Termination resistor	Selectable by software
Number of cameras	<ul style="list-style-type: none"> • One or two single-tap cameras • One RGB camera
Number of cameras (at full frame rate)	2
Line-scan cameras supported	No
A/D converter	Three, 10-bit, 40 MHz
Maximum camera line rate	<ul style="list-style-type: none"> • 49.5 kHz in synchronous mode • 31.5 kHz in asynchronous reset mode

On-board processing

On-board memory	64 MB (32 MB for image data)
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General Purpose Inputs and Outputs

Number of lines	8 I/O lines: <ul style="list-style-type: none"> • 2 differential inputs (TRX, TRY) • 2 opto-isolated outputs (STX, STY) • 4 TTL inputs/outputs (ENHANCED IO1..4)
Connectors	<ul style="list-style-type: none"> • SYSTEM: 15-pin male sub-D connector on the bracket • SYSTEM INTERNAL: 16-pin shrouded header on the PCB • POWER: Molex 4-pin connector on the PCB for camera powering
Usage	<ul style="list-style-type: none"> • Camera and image acquisition trigger • Light strobe trigger • General purpose IO
Electrical specifications	<ul style="list-style-type: none"> • TRX, TRY: Inputs compatible with TTL, LVTTTL, differential LVDS, differential RS-422, differential RS-485 signals, protected against electrostatic discharge, with choke for the rejection of common-mode noise • STX, STY: Opto-isolated outputs, compatible with signals up to 60V, with 3 μs fall time, isolated up to 500V • IO: TTL inputs or outputs

Software

Host PC Operating System	<ul style="list-style-type: none"> • Microsoft Windows 10, 8.1, 7 for x86 (32-bit) and x86-64 (64-bit) processor architectures • Linux for x86 (32-bit) and x86-64 (64-bit) processor architectures
APIs	<p>Refer to release notes for details</p> <ul style="list-style-type: none"> • MultiCam 32- and 64-bit binary libraries (Windows and Linux), for ISO-compliant C/C++ compilers

Environmental conditions

Operating ambient air temperature	0 to +50 °C / +32 to +122 °F
Operating ambient air humidity	10 to 90% RH non-condensing
Storage ambient air temperature	-20 to +70 °C / -4 to +158 °F
Storage ambient air humidity	10 to 90% RH non-condensing

Certifications

Electromagnetic - EMC standards	<ul style="list-style-type: none">• European Council EMC Directive 2004/108/EC• United States FCC rule 47 CFR 15
EMC - Emission	<ul style="list-style-type: none">• EN 55022:2010 Class B• FCC 47 Part 15 Class B
EMC - Immunity	<ul style="list-style-type: none">• EN 55024:2010 Class B• EN 61000-4-2• EN 61000-4-3• EN 61000-4-4
Flammability	PCB compliant with UL 94 V-0
RoHS	European Union Directive 2011/65/EU (ROHS2)
REACH	European Union Regulation 1907/2006
WEEE	Must be disposed of separately from normal household waste and must be recycled according to local regulations

Ordering Information

Product code - Description	<ul style="list-style-type: none">• 1168 - Domino Harmony
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