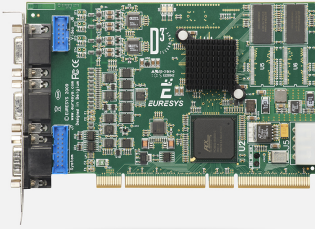


Domino Harmony

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 and Linux drivers available

Applications

MACHINE VISION FOR THE GENERAL MANUFACTURING INDUSTRIES

Low cost image acquisition from industrial analog cameras for inspection machines

Take advantage of the lowest-cost industrial cameras available on the market with the Domino and Picolo series cards.

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
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	• 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	• 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	• 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: • 2 differential inputs (TRX, TRY) • 2 opto-isolated outputs (STX, STY) • 4 TTL inputs/outputs (ENHANCED IO1..4)
Connectors	• 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	• Camera and image acquisition trigger • Light strobe trigger • General purpose IO
Electrical specifications	• TRX, TRY: Inputs compatible with TTL, LVTTTL, differential LVDS, differential RS422, 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	• Microsoft Windows 10, 8.1, 8, 7 • Microsoft Windows Server 2012 R2, 2012, 2008 R2 • Linux, from kernel version 2.6 to 4.10, compatible with a wide range of distributions • 32- and 64-bit versions
APIs	• 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	• European Council EMC Directive 2004/108/EC • United States FCC rule 47 CFR 15
EMC - Emission	• EN 55022:2010 Class B • FCC 47 Part 15 Class B
EMC - Immunity	• 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	• 1168 - Domino Harmony
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