GiDEL Introduces the Industry’s Highest Performance, Flexible CoaXPress™ Simulator for the Machine-Vision market

GiDEL, Or Akiva, Israel and Santa Clara, CA – April 11th, 2014 – With over two decades of leadership in Machine Vision and Imaging architectures utilizing FPGAs technology, GiDEL unveils its latest CoaXPress™ based Camera/Machine simulator that generates video and test patterns to a frame grabber supporting the CoaXPress™ specification configurations. For the simulator product brief, click ProcCamSim-X™.

The CoaXPress™ simulator version is an extension of GiDEL’s widely popular CameraLink™ simulator available since 2007. The driving force for this new CoaXPress Simulator is primarily the development of faster, high pixel rate image sensor for high-end cameras. Vision systems founded on these expensive high-end cameras naturally require more demanding system validation and algorithm debug based on proficient simulation tools.

GiDEL’s ProcCamSim-X™ simulator replaces the necessity to maintain an array of expensive cameras for different images and video formats required for both initial development and testing, and for rigorous field testing. Supported pixel formats include Raw, Mono, Planar, Planar Raw, Bayer, RGB, RGBA, YUV, YCbCr601, YCbCr709. The ProcCamSim-X™ software application can configure all of the simulation parameters, including timing, resolution, CoaXPress channels structure, and so forth. The application also enables to load RAW and BMP file data via a DMA channel or image data from the embedded Pattern Generator. As a result, system designers and developers have at hand the necessary test patterns for their application testing or algorithm development. Because the ProcCamSim-X™ can accurately reconstruct simulation points of interest, debug of “rarely appearing” bugs is greatly expedited.

Using GiDEL’s API designed for low-latency and high throughput, images can be transmitted “live” according to the vision system’s real-time signal feedback. Another unique ProcCamSim-X™ feature is the option to support data transmission of multi-camera types and protocols simultaneously, including frame and line cameras, CoaXPress, Camera Link, etc. This can be achieved by using multiple ProcCamSim-X™ systems all synchronized from a single trigger source.
Typical Simulator Applications include Vision algorithm development, Image processing application testing, Machine vision integration and Vision system reliability.

GiDEL’s ProcCamSim-X™ CoaXPress simulator supports up to four devices transmit lines with up to 6.25 Gbps over a single coaxial cable and up to 25 Gbps using four cables. Users simply connect the coaxial cables from the ProcCamSim-X™ simulator to their Frame Grabber board(s)/GiDEL ProcFG™ Grabber or Video processor electronics board(s). The hardware is responsible for receiving image data from the software application, generating data valid signals at specified timing configuration, generating static test patterns, restructuring and outputting the image data corresponding to the CoaXPress™ configuration.

“ProcCamSim-X improves significantly the productivity of vision and imaging systems development,” said Reuven Weintraub, President and CTO of GiDEL, “and reduces the overall expenses by eliminating the need for precious machine time and high-end vision equipment by enabling in-lab real-world reproducible simulation capabilities.”

![Figure 2: ProcCamSim-X Simulator](image)

**Customized Simulator**

Whether it is a camera, machine or system simulation, inevitably developers require a customized simulator. The ProcCamSim-X™ simplifies tremendously the simulation customization process by enabling the user to add FPGA code, to connect to the system IOs and to add a user processes to handle the additional tasks of the simulator. An additional application driver is automatically generated by GiDEL’s ProcWizard™ development software. Furthermore, API methods enable to create at ease a fully customized simulator.

GiDEL also offers an open-source reconfigurable Frame Grabber, the ProcFG™, for an all-inclusive imaging/vision solution comprising both simulator and grabbing components on a single or on multiple boards.

**About GiDEL**

GiDEL Ltd. is a successful, profitable and innovative company which was founded in 1993. GiDEL has become one of the market leaders as a company that continuously provides cutting-edge reconfigurable technology utilizing FPGAs. GiDEL sees its customers as partners and uses its vast experience at the project-level and FPGA design to focus on its customers’ projects success. Customers in semiconductor, consumer product, communications, machine vision, medical imaging, and military/aerospace markets use the Proc family of reconfigurable Processors for (1) SoC and ASIC verification, (2) COTS (Commercial Off-The-Shelf) acquisition and accelerator boards, and (3) complex algorithms validation. For more information, contact GiDEL in North America at 408-969-0389, worldwide at +972 4 610 2505, or on the web at www.gidel.com.

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