



PRESS RELEASE

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For immediate release

e-con Systems' new USB 3.0 CUDA® accelerated Stereo vision Camera

TARAXL - USB 3.0 Stereo vision camera based on OnSemi MT9V024 Global Shutter CMOS sensor; this Stereo camera with a proprietary CUDA® accelerated Stereo SDK called TaraXL SDK that runs on the NVIDIA® TX2 GPU provides depth mapping at 50 fps.

ST. LOUIS and CHENNAI, India – August 30, 2018 - e-con Systems Inc., a leading embedded camera solution company, today announced the launch of [TaraXL](#), a USB 3.0 Stereo vision camera. TaraXL is based on the 1/3-inch [MT9V024](#), a WVGA Global shutter monochrome CMOS image sensor from OnSemi™ powered by proprietary CUDA® accelerated stereo camera SDK for NVIDIA® Tegra processors. This Stereo vision camera provides synchronized sensor frames to the host machine over USB 3.0 interface.

TaraXL is bundled with a proprietary CUDA® accelerated Stereo SDK called TaraXL SDK that runs on the GPU of NVIDIA® Tegra processors. The SDK can provide 3D Depth map for 752 X 480 @ 50 fps without stressing the CPU. The SDK supports two modes of operations, one is high accuracy mode which supports depth mapping @ 25 fps and the high frame rate mode supports depth mapping up to 50 fps. e-con Systems also provides sample applications with source code, demonstrating synchronous stereo image streams, disparity map and depth measurement. Customers can build their depth sensing based applications on top of this SDK and with TaraXL stereo cameras on NVIDIA Tegra platforms.



Fig: TaraXL - USB 3.0 Stereo Vision Camera with Pre-calibrated Lens

“TaraXL marks a significant milestone on e-con’s history, where e-con offers stereo camera powered by highly-optimized CUDA accelerated stereo camera SDK for NVIDIA Tegra platforms. The SDK enables customers to build 3d and depth-sensing applications directly on top of our SDK, said Ashok Babu, President of e-con Systems Inc., “The TaraXL will be the right camera for applications involving autonomous driving, robotics, drones and mixed reality applications”, he added.



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TaraXL with a form factor 100 x 30 x 35mm consists of two OnSemi's 1/3 inch MT9V024 CMOS image sensors separated by an 'inter-ocular distance' or 'base line' of 60 mm and pre-calibrated lens pair mounted on S-Mount holder (Also known as M12 lens mount). The MT9V024 enhanced NIR pixel process provides excellent image quality in IR illuminated applications also. With USB 3.0 interface to the host PC, TaraXL can stream uncompressed Stereo WVGA format (1504*480) or in other words two WVGA (752x480) at 60 fps which are processed by TaraXL SDK inside the GPU of NVIDIA Tegra platforms to generate the depth map of the scene. And the other resolutions supported are VGA (cropped) at 60 fps and QVGA (640*420) at 60 fps. The TaraXL is a UVC-compliant USB 3.0 Camera that is also backward compatible with USB2.0 host ports and does not require any special camera drivers to be installed.



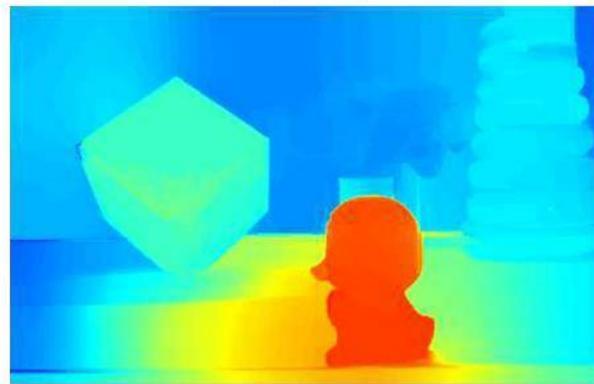
Left Image



Right Image



Grey Depth Map



Color Depth Map

TaraXL Disparity Map sample Images

TaraXL SDK is a software library with sample applications (TaraXL Studio) to aid in faster development. TaraXL SDK is built ground up using CUDA API's developed by Nvidia. TaraXL SDK is fully tested on Nvidia TX2 Linux platform, e-con plans to add other platforms shortly. TaraXL SDK is designed to be 5x times faster than the previous SDK for Tara. The TaraXL SDK provides

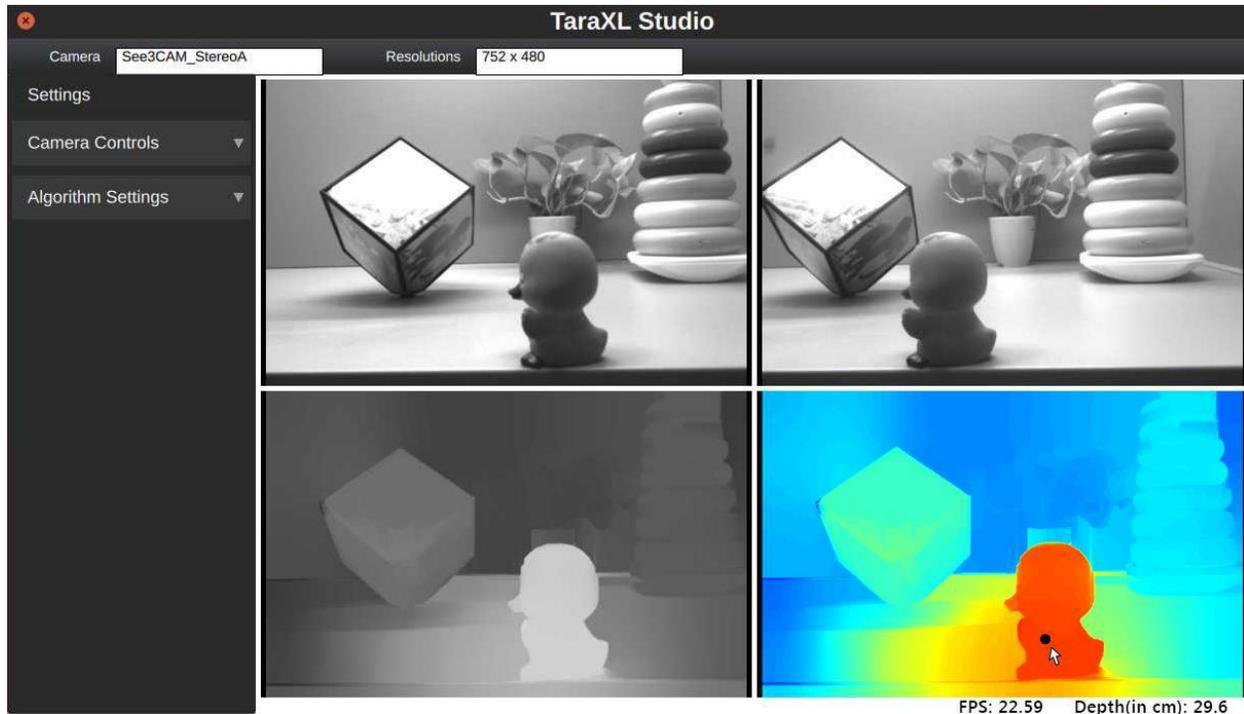
- disparity and depth maps, Using these maps one can develop various applications for autonomous roving and other machine vision applications. TaraXL SDK natively comes with C++ bindings. Developers can use these bindings to build various wrappers such as for ROS (Robot Operating System) very easily.



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TaraXL Studio Application

TaraXL, with its small form-factor design with USB 3.0 interface and accompanying CUDA accelerated SDK, is targeted for applications such as obstacle detection in autonomous driving, robotics, drones, people detection/counting, stock level monitoring in retail store shelves, volume measurements, robotics, proximity warning etc.

Availability

TaraXL stereo vision USB 3.0 camera is currently available for evaluation. Customers interested in evaluating the TaraXL can order samples from e-con Systems' [online Store](#). For more information, please write to sales@e-consystems.com.

For more information, please visit [TaraXL - Stereo vision USB 3.0 camera](#). Also watch TaraXL SDK demo video at <https://www.youtube.com/watch?v=vzXzz7VmWzo&feature=youtu.be>

Customization Services

Customers interested in customizing TaraXL for requirements such as baseline customization, sensor or optics/lens change services can contact e-con Systems directly with their requirements. e-con can also provide customized higher resolution versions of TaraXL as part of customization services. Complete customization of firmware and hardware as per customer requirements can be done. e-con Systems can also assist you in developing end stereo camera application using TaraXL. Please write to sales@e-consystems.com for any customization and additional features.



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About e-con Systems

e-con Systems specializes in camera solutions with offerings like camera modules, USB camera modules, camera boards for various microprocessors, camera Device driver development services on Operating systems like Linux/Android/WinCE, Camera reference design, software ISP, camera customization services and camera tuning services.

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