PANORAMIC CAMERA COMPACT HIGH-SPEED CAMERAS



PANORAMIC CAMERA SYSTEM

Also derived from the DARPA SCENICC program, the Distant Focus Panoramic Imager uses the same lens and sensor technology and repackages it into a compact optical head of five sensors that allow high-resolution panoramic imaging with a full panorama collected as close as 0.5 meters from the central axis. This optical head is connected to a controller module that can be up to 50 feet away. The controller electronics and computers provide a web-based interface that allows a user to configure and control the camera system. The servers also provide storage space for the video data and processing power for turning the raw frames into color-corrected and stitched video.

The Panoramic Camera provides unparalled situational awareness for fixed installation applications, and has also been used as a mobile camera platform to take videos while on the move. Due to its small size and high resolution, this system enables capturing high-resolution panoramic videos close to the action in a way that has never-before been possible.



MORE FEATURES

- Color or monochrome 25MP sensor with 4.5um pixels.
- Dynamic range: 10-bits
- Frame rate: 54 FPS
- Arria V FPGA supports real time image processing
- PCIe interface supports full resolution and frame rate
- Camera head power: 35W
- Camera head size: 133x133x112
- Camera head weight: 1.75kg
- FOV: 360º horizontal, 280 º vertical

System Specifications		Sensor Specifications	
Resolution	125 MPixels (raw), 100 Mpixels (effective)	Pixel Array	125 MPixels (raw), 100 Mpixels (effective)
Output Format	Raw bayer DNG, Cinema DNG archive, JPEG	Bitdepth	10-bit
Camera Control	HTTP API, preview web page	Frame Rate	53 FPS @ 25 MP
Camera updates	Field upgradable via maintenance web page	Shutter	Pipelined global shutter, electronic rolling shutter
Data Interface	16 Gbps via PCIEx4 (1 server and cable per aperature)	Exposure	1 us to 500 ms, triggered start/stop
Frame Rate	24 FPS @ 25 MP	Gain	up to 32 dB digital gain, 10x analog gain
Processing	bad pixel correction	Black Level Correction	Automatic, manual
Power	125 W @ 12 V (sensors and electronics)	Sensor SNR	43 dB
Temperature	0-25 C without additional cooling	Dynamic Range	56 dB (global shutter), 59dB (rolling shut- ter)
Server OS	Debian 8.2, 64-bit	Resolution Modes	Region of interest, subsampling (rolling shutter only)
Browsers	Chrome (Recommended), Firefox, Saffari	Processing c	Fixed pattern noise correction, black level calibration, correlated double sampling (rolling shutter only)
Size	133 X 133 X 112 mm		



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