MODEL SPECIFICATIONS

AQUETI MANTIS CAMERA

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Mantis is Aqueti's line of wide-field high-resolution cameras. Mantis cameras capture ~100 megapixels at 30 frames per second. Mantis includes a real-time interactive image analysis system with multiuser support. Current models capture a 70 degree field of view with 5x resolution or a 140 degree field of view with 3x resolution relative to human vision. Mantis uses Aqueti's "camputer" computer inside architecture for real-time streaming and extensible programming.

Mantis includes a camera head "imaging system" and a remote "rendering system." Features of these components include

Imaging System:

- Camera control and image acquisition
- Image tiling, down-sampling, and compression
- Basic image analysis and processing

Render System:

- Image formation and aggregation
- Storage management and control
- acOS API and custom applications.
- Global data analysis
- Video wall image server.

Mantis cameras are built on the Aqueti array camera operating system (acOS). acOS provides a framework for image acquisition, processing, and data management across the heterogeneous cluster of networked devices on the Aqueti Imaging Platform. Key functionality includes:

- General camera interface that can be extended to support a wide range of MIPI or USB micro-cameras.
- CPU/GPU/Hardware based image processing for compression, image aggregation, and data analysis.
- Storage architecture that supports distributed or localized storage solutions.
- Generalized interface to facilitate inter process and inter-node communication.

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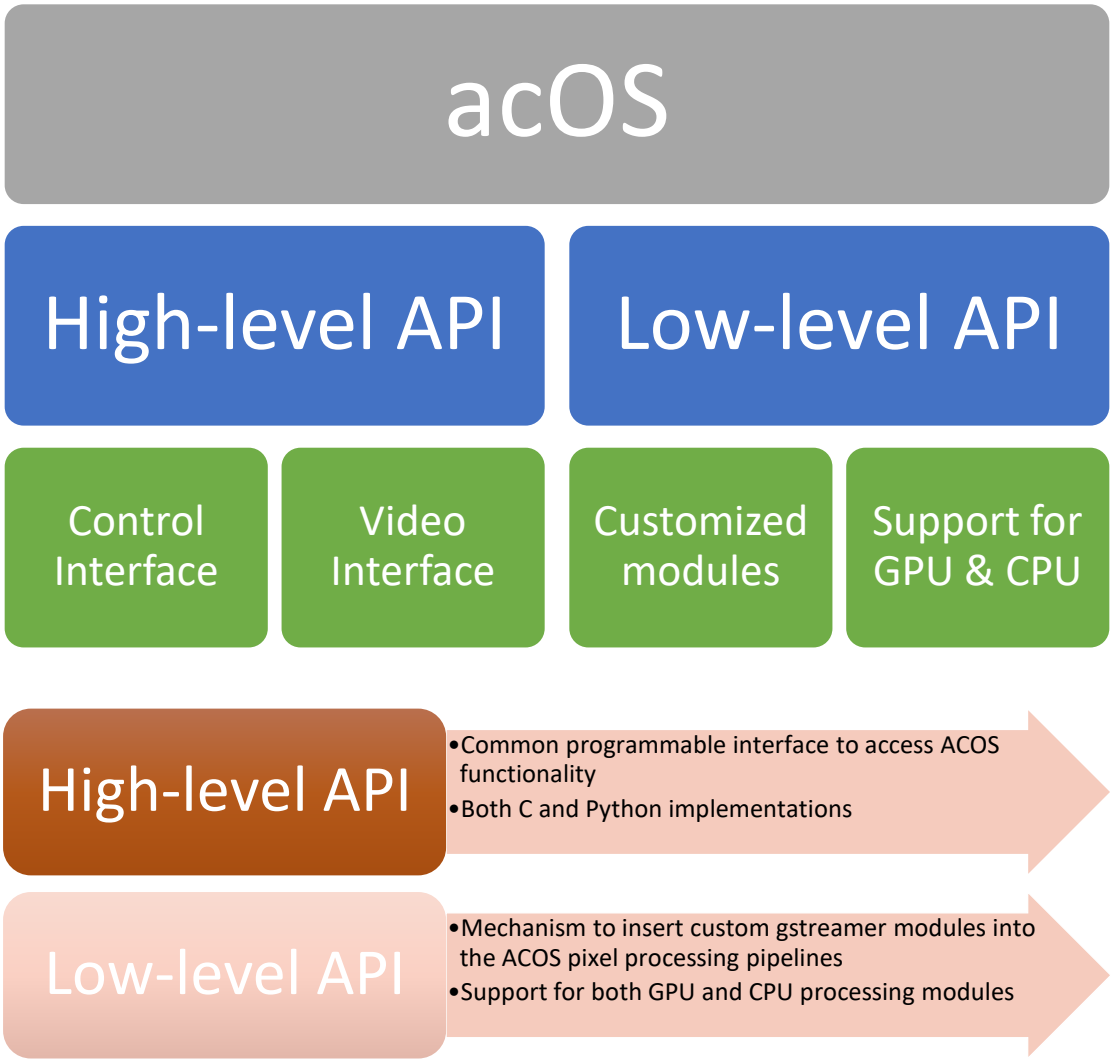

High-level API

- Common programmable interface to access ACOS functionality
- Both C and Python implementations

Low-level API

- Mechanism to insert custom gstreamer modules into the ACOS pixel processing pipelines
- Support for both GPU and CPU processing modules

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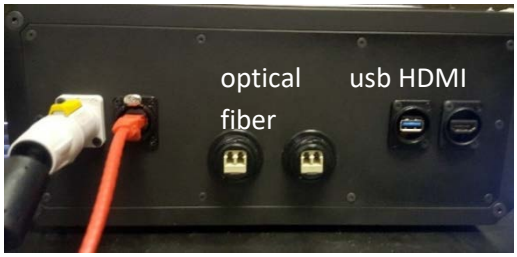
	Mantis 70	Mantis 146
Total System Field-of-View	70°x20°	146°x22°
Instantaneous field of view	64 mrad	100 mrad
Total Pixel Count Over System Field-of-View	107 Megapixels 19100 by 5600 pixels	98 Megapixels 25100 by 3900 pixels
# of 4k Microcameras	19	18
Frame Rate	30 fps	30 fps
Processor	10x NVIDIA TX1	9x NVIDIA TX1
Bandwidth	<800 Mbs H.264 <8 Gbs MJEG	<800 Mbs H.264 <8 Gbs MJEG
Image sensor	1/2.5” 4K Progressive Scan CMOS	1/2.5” 4K Progressive Scan CMOS
Minimum illumination (lux)	Color: 0.1LUX B/W: 0.01LUX	Color: 0.1LUX B/W: 0.01LUX
Latency	400ms	400ms
SNR	>120	>120
Power	260 Watts	260 Watts
Operating Temperature Range	-30-55°C	-30-55°C
Storage Temperature Range	-30-70°C	-30-70°C
Humidity Range	5%-90%	5%-90%
Moisture Resistance/Rating	IP66	IP66
Weight	11 kg	11 kg



Mantis Rear View