FLIR QUARK 2

Longwave Infrared Thermal Camera

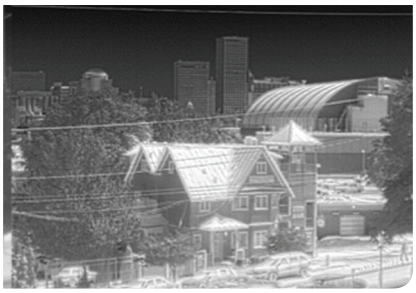
Quark 2 provides leading-edge imaging performance and reliability in an affordable, compact, and lightweight package that offers the best in "SWaP-C" value. Quark 2 is available in resolutions of 336 and 640, both with 17-micron pixels. With high shock and vibration tolerance, Quark 2 is designed for years of maintenance-free operation. And now Quark 2 offers a host of new features, including support options for 60Hz frame rates, accurate radiometric capabilities, and powerful image processing modes that can be set manually.

IMPROVED IMAGE PROCESSING

For clearer imagery, edge sharpening, and contrast

- Second generation Digital Detail Enhancement™ (DDE)
- Active Contrast Enhancement™ (ACE)
- Smart Scene Optimization™ (SSO)
- Information Based HEQ™ (IBHEQ) automatically adjusts AGC
- Silent Shutterless NUC™ for continuous image improvement

New Isotherm capabilities



Edge sharpening with 2nd Gen. DDE

ACCURATE TEMPERATURE MEASUREMENT

Supports radiometry, analytics and telemetry

- TLinear output places temperature data in each pixel
- Adjustable isotherm thresholds colorize temperatures of interest
- Rugged and reliable in all terrain

COMMON FEATURES ACROSS MODELS

Fosters improved OEM integration

- 22mm x 22mm x 12mm (w/o lens)
- 640 and 336 resolutions
- Weight: 18.3g - 23.0g (depending on lens)
- Multiple lens and FOV options
- 9Hz, 30Hz and 60Hz frame rates available
- Mechanical / electrical compatibility across all models
- Rugged and Reliable

Imaging Specifications

System Overview	
System Type	Uncooled LWIR Thermal Imager
Quark 640:	640 x 512 VOx Microbolometer
Quark 336:	336 x 256 VOx Microbolometer
Pixel Size	17 µm
Spectral Band	7.5 - 13.5 µm
Performance	<50 mK @ f/1.0
Outputs	
Analog Video	Field-switchable between NTSC and PAL
Quark 640:	30 Hz (NTSC); 25 Hz (PAL); <9Hz option for export
Quark 336:	30/60 Hz (NTSC); 25/50 Hz (PAL) ; <9Hz export option
Digital Video	8- or 14-bit serial LVDS; 8- or 14-bit parallel CMOS; 8-bit BT.656
Operation & Control	
Image Control	Invert, revert, 2× & 4× digital zoom, polarity, false color or monochrome, AGC, digital detail enhancement (DDE)
Camera Control	Autonomous; Manual via GUI or serial command
Signal Interface	60-pin SAMTEC connector: power, comm., video, digital data, external sync, discrete commands
Accessories	Video, Power & Communication (VPC) expansion board
Physical Attributes	
Size / Weight	22 x 22 x 12 mm (less lens) / 8 g (camera body only)
Mounting Interface	4 M1.6 x 0.35 on rear of camera frame
Power	
Input Voltage	3.3 +/- 0.1 VDC
Power Dissipation	<1.0 W (Quark 336); <1.2 W (Quark 640)
Time to Image	<4 seconds (Quark 336); <5 seconds (Quark 640)
Environmental	
Operating Temperature Range	-40° C to +80° C external temp
Storage Temperature Range	-55° C to +105° C external temp
Scene Temp Range	To 150° C standard
Shock / Temperature Shock	500 g; 0.8 msec shock pulse (all axes)/5/min
Vibration	4.3 g 3 axes, 8 hours each
Humidity	5 - 95% non-condensing
Operational Altitude	+40,000 feet
ROHS, REACH, and WEEE	Compliant

Applications:

Unmanned Vehicles

Handheld Imagers

Security Cameras

Maritime Cameras

Military-grade Goggles

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