

High Performance Infrared Cameras, Cores & Engines

MIRICLE 307K

Powered by Thermoteknix

640 x 480 VGA



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The MIRICLE infrared camera range, created by Thermoteknix, sets a new level of power, performance and flexibility for the full range of infrared applications. Resulting from more than 20 years' experience in thermography, MIRICLE cameras and cores deliver *more than just an image.*

Built in the smallest footprint, MIRICLE 307K cameras, cores and engines are driven by an ultra high performance 640 x 480 microbolometer detector available in a variety of different housings and configurations incorporating the very latest micro-electronics and power efficient management.

Thermoteknix MIRICLE 307K infrared cores and engines provide the OEM builder with high performance thermal imaging in highly compact, lightweight, low power, rugged, modular designs. Powerful embedded software, a choice of analog video and digital video outputs and accessories put MIRICLE 307K camera engines ahead of the field. Available in a range of configurations and options, MIRICLE 307K cameras and cores provide developers, integrators and end users with flexibility to tailor mechanical and electronic integration on a single platform. MIRICLE 307 fully built camera systems are available in a range of environmentally sealed housings or with interchangeable lens mounts for rapid lens changes in the field.

MIRICLE 307K Imaging

Based on a state-of-the art 640 x 480, uncooled alpha Silicon 7-14 μ micro-bolometer detector with 25 micron pitch, MIRICLE 307K's superbly detailed real-time imagery is unsurpassed. MIRICLE 307K cameras establish a new level of performance, free of US Government export authorization, for delivery to global markets.

From surveillance to online process inspection, MIRICLE camera systems fit outstanding features and power into the smallest and most flexible packages. For optimum imaging in varying intensity scenes and targets, MIRICLE electronics have manual and dual area of intensity auto gain to maximize target and featured background content. Multiple color palettes, smooth multi-level interpolated zoom directly into the core and auto hot/cold peak tracking throughout the whole image or user defined area of interest. For scientific and R & D imaging, multiple cameras can be gen locked for simultaneous frame mode. Standard frame rates (50/60 Hz) and high speed frame rates (100/120 Hz) address fast processes and dynamic image analysis with windowing modes up to 500 Hz. Programmable bias voltage enables custom ranging and optimum scene composition.

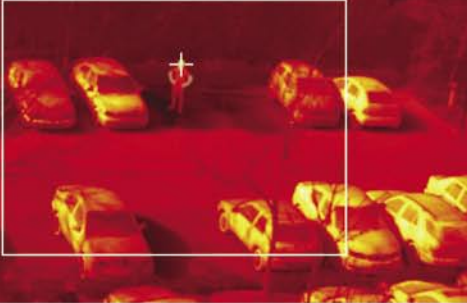
- Surveillance • Border security • Aerospace • Military • UAV • R & D • Scientific
- On-line process control •



More than just an image.....

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PERFORMANCE MIRICLE 307K

FPA Detector	Alpha Silicon uncooled microbolometer
Array size	640 x 480 (307,020 effective pixels)
Spectral band	7 - 14 μ m
Pixel pitch	25 μ m
Optical Fill	> 80 %
NEDT	\leq 85 mK (f/1.0, 60Hz)
IFoV (Instantaneous Field of View)	0.78 mrad with standard 32mm f/1.0 lens
Standard Frame Rate	50/60 Hz
Output Format	25Hz - USB2 (Standard)
Dynamic Range	14 bit
Gain/Level Control	Auto
Time to image	< 1 second
Shutter	Micro-compact. Auto NUC
Power Input	3.3 - 5 V
Power Consumption	< 2.5 W (USB2/LVDS output)

Environmental Properties

Impact	25G IEC 68-2-29
Vibration	2G IEC 68-2-6
Operating ambient temperature	-15 - +50°C
Humidity (Operating/Storage)	5 - 95% non condensing (KS model 100%)
Size (dimensions mm/inch)	42 x 40 x 40 mm 1.6 x 1.6 x 1.6 inches
Weight (inc. detector)	(86 g) 3.0 oz
Connector	Lemo/Miniature USB2/Ribbon cable depending on model

Optional Extras

VGA / LVDS Digital / Ethernet / Analog video / External motor drive (focus)

MIRICLE 307K camera systems are available in a choice of configuration and housings:



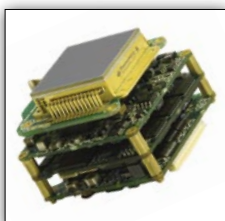
MIRICLE 307KB

The MIRICLE 307KB Camera features a bayonet lens front mount which provides rapid interchange ability between lenses



MIRICLE 307KS

A screw flange front mount allows lens interchange whilst offering a choice of environmental sealing and ruggedisation options including IP67 (NEMA 4), hermetic and space compliance



MIRICLE 307KC

MIRICLE cameras are available in custom configurations to suit integrator and third party development. Choice of shutter assemblies, mounts, casings, outputs and features

STANDARD SOFTWARE AND OPTIONAL PACKAGES

MIRICLE Control Software (RS232 PC) is included with all units

Functions: Freeze frame/live, Store digital frame (BMP), Black hot/White hot, Flip video: Left/Right, Up/Down

OPTIONAL COLOUR VIDEO PACKAGE

Video Output Format	Black & White / Colour
Communication	RS232 / USB2
Software Control	Black hot/White hot Flip video: Left/Right, Up/Down Manual or Auto configurable NUC Zoom x2 x4 x8 around centre
Gain Modes	Multiple Autogain Modes: Peak, Histogram, Standard, Deviation, Span or Hot Compression
Colour Palettes	10

MIRICLE ENGINEERING DEVELOPMENT TOOLKIT

- Engineering development technical support
- Miricle diagnostic and debugging development software
- Bad Pixel Replacement Tools

OPTIONAL ACCESSORIES

ThermaGRAM USB Digital Image Processing Software
ThermaGRAM PRO USB Real Time Digital Image Capture & Analysis Software

LENSES

Choice of multi-element Germanium lenses with electronic focus, shutter and mount options including AutoID sensing:

Focal Length	Aperture	IFoV	HFoV	VFoV	Diag
18mm	f/1.0	1.39 mrad	47.9°	36.9°	58.1°
32mm	f/1.0	0.78 mrad	28.1°	21.2°	34.7°
50mm	f/1.0	0.50 mrad	18.2°	13.7°	22.6°
75mm	f/1.0	0.33 mrad	12.2°	9.1°	15.2°
60/180mm Lens:					
60mm setting -	f/1.4	0.42 mrad	15.2°	11.4°	18.9°
180mm setting -	f/1.4	0.14 mrad	5.1°	3.8°	6.4°



A range of spectral transmission filters are available

US GOVERNMENT EXPORT LICENSE AUTHORIZATION : NOT REQUIRED

Not all features present on all models. Specifications subject to change. MIRICLE is a registered trademark of Thermoteknix Systems Ltd.
Printed on environmentally friendly 100% chlorine free pulp

