µCore-275Z Mini-Core MCT 3000

Midwave Infrared Cooled Camera Core Products

Key Features:

- Cooled Mercury Cadmium Telluride (MCT) detector
- Advanced image processing embedded in hardware and software
- Easy to integrate into gimbals, and security products

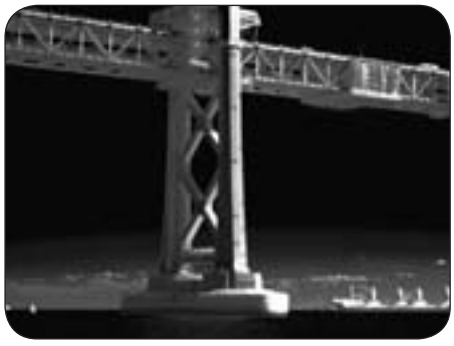
Design In High-Resolution MWIR Thermal Imaging

3 Cooled-Core Cameras

OEMs select FLIR µCore-275Z, Mini-Core or MCT Modules because they provide unparalleled visibility of long-range targets. Working in the midwave infrared spectrum (3 – 5 µm), these cooled thermal camera cores are ideal for gimbals, security and surveillance products.

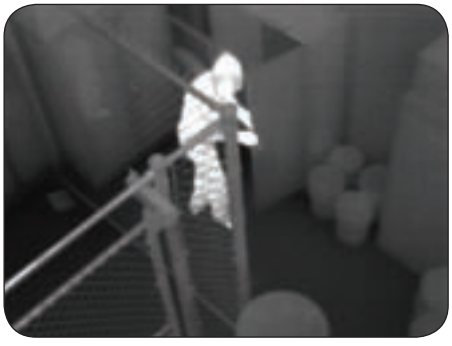
Midwave thermal cameras are the most affordable route into a 640 x 512 resolution imager for your product. FLIR midwave thermal cores operate in low f/#, allowing for more compact and affordable lenses. Plus, midwave detectors are more effective in warm and humid conditions because of better atmospheric transmission.

For more information on these thermal camera cores and all of FLIR's OEM solutions, please visit FLIR.com/OEM.



About FLIR OEM

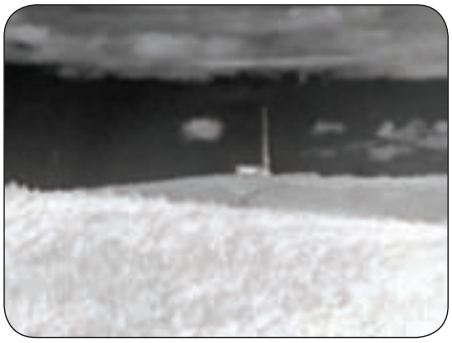
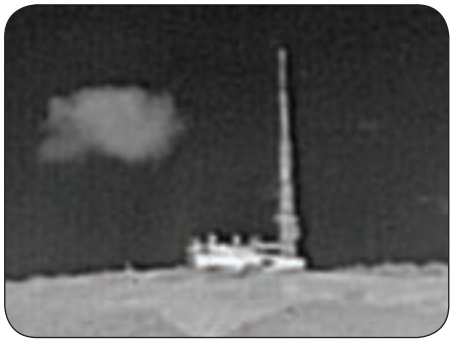
FLIR Systems provides components and cores for a large number of advanced thermal imaging platforms. Thermal imaging camera cores are subsystems designed to allow integration into other systems. Camera cores can be used in whole or subsystem form by an OEM in several applications. Other FLIR OEM components include longwave, shortwave and near infrared camera cores, laser pointers and rangefinders, readout integrated circuits (ROICs) for infrared and x-ray as well as high-performance pan-tilts.



What Comes with FLIR Midwave Camera Cores

Continuous Optical Zoom

µCore-275Z and Mini-Core are both capable of optical continuous zoom, which give operators an advantage of working back and forth between a narrow and wide field of view without ever losing sight of the target.

Cooled MCT Detector

The Mercury Cadmium Telluride (MCT) detector offers excellent range performance. It produces a crisp thermal image of 640x512 pixels (several detector matrix sizes are available).

Multiple Fields-of-View Optics

MCT 3000 and Mini-Core are all available with multiple fields-of-view optics, extending range performance beyond what's possible with a continuous zoom lens. Wide angle lenses provide situational awareness while narrow angle lenses provide details you need to confirm why a target caught your eye in a wide or medium angle image.

Easy Integration

These turnkey thermal imagers have advanced image processing features built in and are ready for system integration. They incorporate easily with common power and video interfaces found in existing and new systems.

Advanced Image Processing

Powerful image processing algorithms are embedded in these thermal imagers' hardware and software. AutomaticGain Control (AGC), histogram equalization and other functions guarantee high-quality thermal imaging day or night.

Digital Detail Enhancement

µCore-275Z and Mini-Core HRC include FLIR Systems patented Digital Detail Enhancement (DDE) algorithm. DDE assures clear, properly contrasted thermal images and delivers a high-contrast image even in extremely dynamic thermal scenes.

Midwave Infrared Cooled Camera Core Products

Mini-Core

The Mini-Core midwave thermal camera core is highly configurable and extremely OEM-friendly. Whether you want triple field-of-view optics (460T), continuous optical zoom (300Z), fixed-lens or a lens-less core, Mini-Core is an extremely flexible, compact solution.

Other key features of Mini-Core include:

- Non Uniformity Correction
- Bad Pixel Replacement
- Digital Detail Enhancement (DDE)
- Advanced Image Processing

Mini-Core X00Z

These two Mini-Core models feature two continuous opticalzoom options. The 300Z is equipped with a 20x 15-300 mm zoom lens and continuously zooms between a 1.8° narrow field of view and a 36° wide field of view. The 600Z is equipped with a 20x 30-600mm lens and continuously zooms between a 0.9° narrow field of view and an 18° wide field of view.

Mini-Core 460T

This Mini-Core comes with wide, medium and narrow fields-of-view lenses and can switch from one to the other in a fraction of a second.

Mini-Core: Fixed Lens

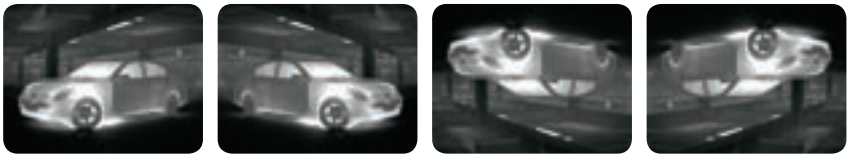
Available with 25, 50, 100 or 200mm interchangeable lenses, OEMs can make one design and just change the lens according to user need.

Lens-Less Core

OEMs that want to design in their own optical path can still take advantage of all the features and capabilities of the FLIR Mini-Core.

µCore-275Z

FLIR µCore-275Z is the newest, most compact mid-wave thermal camera in this series. There are two continuous optical zoom options, including a 1.5x extender (2.5x coming soon). µCore-275Z also has an electronic flip function that flips an image upside down and left to right. In an airborne application when a tracked object moves beneath the camera, the image can be inverted to maintain the correct display orientation. This electronic functionality is much more reliable compared to the more common mechanical flip function.



MCT 3000

FLIR MCT 3000 is the only camera core in this series that's available in 320 x 256 pixel resolution. It's also available with wide, medium and narrow triple field-of-view optics and can be equipped with an extender lens for even longer range performance.

Vilga Tracker

Vilga video processor, offers video tracking to a selected targetfrom multiple video sources installed in the optical payload. Vilga also offers electronic stabilization of images from external sensors. This can be useful when cameras are installed on high poles or in other environments susceptible to movement caused by wind or other factors.

µCore-275Z

IMAGING PERFORMANCE

Detector Type	Cooled Mercury Cadmium Telluride (MCT) 640 x 512 pixels
Spectral Range	3-5 µm
NETD Without Lens	< 25 mk typical
Digital Zoom	Centered & Continuous
Image Processing	AGC, Manual Gain & Control, Tunable Digital Detail Enhancement (DDE), Non-Uniformity Correction, Tunable frame rate (1 Hz step) up to 60 Hz
Focus	Automatic or Manual

INTERFACES

Digital Video Output	Option for GigE or CamLink (additional separate miniboard)
Analog Video Output	CCIR/RS170 configurable by online command
Communication	RS232/422 or optional GigE or CamLink + spare RS232 for external device control

POWER

Requirements	18 VDC up to 32 VDC
Consumption	< 16 W nominal at 20°C and 24 VDC
Ext. Sync In	LVTTL

ENVIRONMENTAL SPECIFICATION

Operating Temperature Range	- 32°C to + 65°C
Storage Temperature Range	- 40°C to + 70°C
Vibration	Random: MIL-STD 810F Method 516.5 Procedure I, 3 axis, 30 min/axis, 2.1 g rms 10-500 Hz
Shock	MIL-STD 810F Method 514.5, 30 g, 11 ms, 1/2 sinus, 2 shocks per axis

For DRI information, please visit www.FLIR.com/ATSDRI.

Mini-Core	MCT 3000
Cooled Mercury Cadmium Telluride (MCT) 640 x 512 pixels	Cooled Mercury Cadmium Telluride (MCT) 640 x 512 or 320 x 256 pixels
3-5 µm	3.7-4.8 µm
< 25 mk typical	< 25 mk typical
Centered & Continuous	2x
AGC, Manual Gain & Control, Tunable Digital Detail Enhancement (DDE), Non-Uniformity Correction, Tunable frame rate (1 Hz step) up to 100 Hz	AGC, BPR, Edge enhancement, histogram equalization, up to 60 Hz frame rate
Automatic or Manual	Automatic or Manual
Option for GigE or CamLink (additional separate miniboard)	NA
PAL or NTSC, W/H and B/H palettes	PAL, NTSC or GigE
RS232/422 or optional GigE or CamLink + spare RS232 for external device control	RS232, TCP/IP (optional)
20-32 VDC, 24 VDC nominal	20-32 VDC, 24 VDC nominal
< 30 W	< 30 W
LVTTL	NA
- 30°C to + 55°C	- 20°C to + 55°C
- 40°C to + 70°C	- 40°C to + 70°C
Random: MIL-STD 810F Method 516.5 Procedure I; Sine: 10 g peak from 15 Hz to 500 Hz	MIL-STD 810F Method 514.5
MIL-STD 810F method 514.5	MIL-STD 810F Method 516.5 Procedure I

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