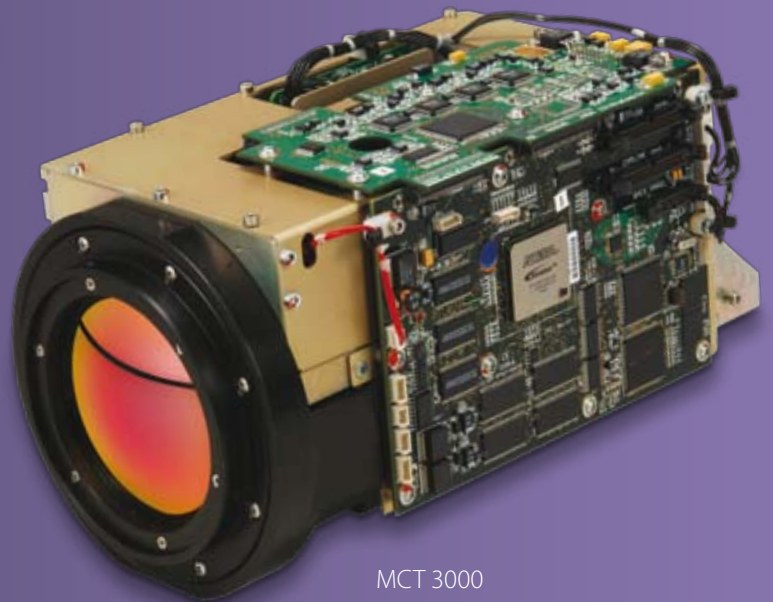




MCT 1500

MCT 1500 / 3000 modules

Cooled thermal imaging cores with Mercury Cadmium
Telluride (MCT) detector



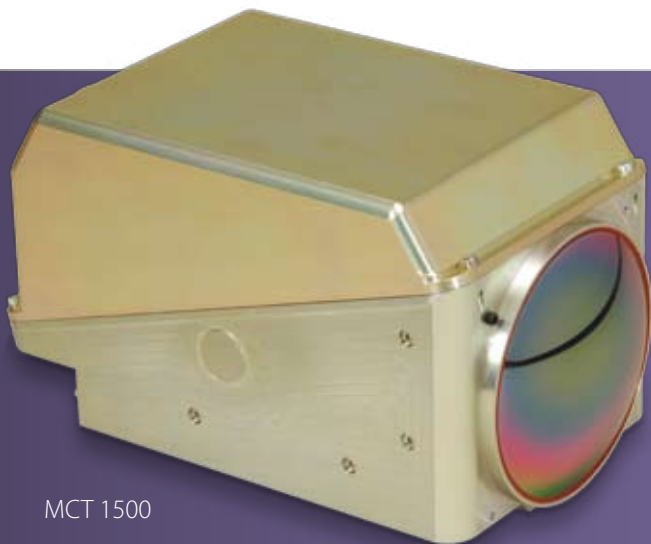
MCT 3000



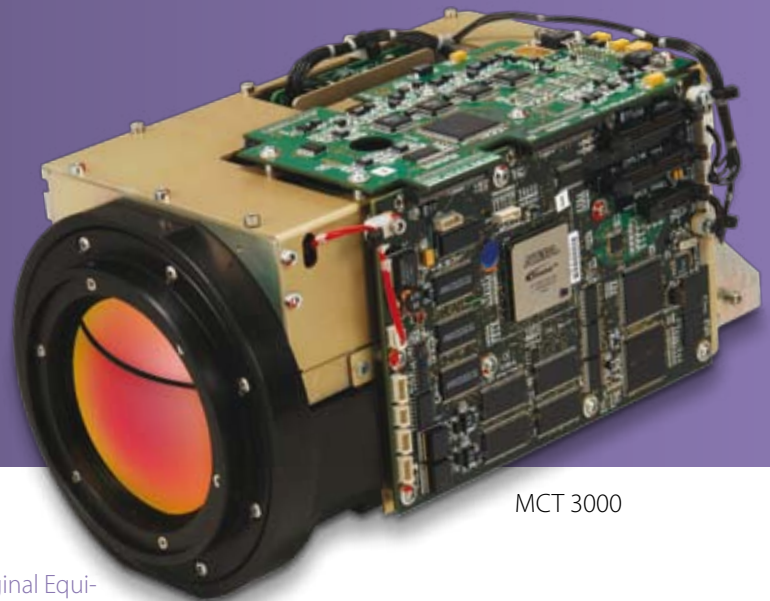
MCT 1500 / 3000 modules

Cooled thermal imaging cores

with Mercury Cadmium Telluride (MCT) detector



MCT 1500



MCT 3000

The MCT 1500 / 3000 cores have been especially designed for Original Equipment Manufacturers (OEM). They can be easily integrated into infrared systems that require an advanced, cooled thermal imaging solution. The MCT 1500 / 3000 modules are equipped with a mid-wave, cooled Mercury Cadmium Telluride (MCT) detector operating in the 3 – 5 μm waveband, which offers extremely long range detection in practically all weather conditions.

The MCT 1500 has 2 different fields of view. The MCT 3000 is equipped with three different fields of view. This offers excellent situational awareness while also giving the possibility to have a closer look at suspect activities once they are detected.

The MCT 1500 and MCT 3000 offer crisp thermal images of 640 x 512 pixels. On which the smallest of details can be seen. Manufacturers that want to integrate the MCT 1500 or MCT 3000 for applications that do not require this extremely high image quality can choose for a 320 x 256 pixels version. All versions produce a clear image in total darkness, through smoke, dust and light fog.

Thermal imaging core

Thermal imaging camera cores are subsystems that provide similar features and functions to those found in some of FLIR Systems' standard camera products. However, cores are designed to permit integration into other systems. Camera cores can be used in whole or subsystem form by an OEM in many applications. FLIR Systems provides different components

and cores for a large number of advanced thermal imaging platforms.

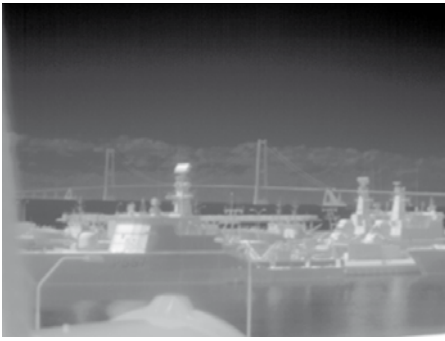
With FLIR's strength in focal plane array manufacturing, vacuum packaging, video processing electronics and system integration, along with high commercial product manufacturing rates, FLIR Systems is a powerful partner to many OEM customers.

Cooled MCT detector

The MCT 1500 / 3000 modules are all equipped with a cooled, highly sensitive Mercury Cadmium Telluride (MCT) detector. A thermal imaging core with a cooled detector gives you the advantage that you can see and detect potential threats much further away than with an uncooled detector. But there is more. Objects which are at a close distance can be seen with much more detail. You can see what people are carrying. There is no need anymore to send someone out in the field to check things out since small details can clearly be seen on the thermal image.



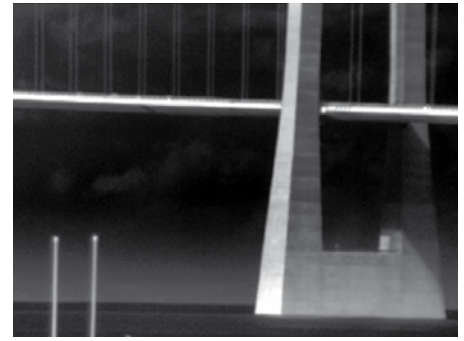
Wide field of view



Medium field of view



Narrow field of view



The MCT 3000 switches between 3 different fields of view within a fraction of a second.

Choice of image quality – 640 x 512 pixels or 320 x 256 pixels

The MCT 1500 / 3000 modules are equipped with a MCT detector offering crisp thermal images of 640 x 512 pixels. It is a four times better image quality than a 320 x 256 detector. It allows the user to see more detail and detect more and smaller objects from a further distance.

Manufacturers that want to integrate the MCT 1500 or MCT 3000 for applications that do not require this extremely high image quality can choose for a 320 x 256 pixels version.

Multiple field of view optics

The MCT 1500 module comes with dual field of view optics. The MCT 3000 module is equipped with triple field of view optics. A wide angle lens offering a wide field of view, a medium field of view lens and a narrow field of view lens.

All systems have the capability to switch from one lens to another within a fraction of a second. A wide angle lens will give you excellent situational awareness. When a potential threat is detected you can easily switch to the medium field of view lens to have a closer look at the situation. The MCT 3000 module can even switch to the extremely narrow field of view lens so that you can see the smallest of details. This way operators can see further recognize more detail and react more quickly to security threats.

Advanced image processing

The MCT 1500 / 3000 contain powerful image processing algorithms which are embedded in the module's hardware and software.

Automatic Gain Control (AGC), image enhancement filters, histogram equalization and other functions are guaranteeing high quality thermal imaging in any night or daytime environmental conditions.

Auto focus

Both modules contain an exclusive auto focus feature which delivers crisp, clear images at the press of a button. The system allows you to experience better situational awareness in the wide field of view, while maintaining detailed recognition capabilities in the narrow field of view.

MCT 3000: choice of optics

The MCT 3000 can be equipped with an extender lens for even longer range performance.



Easy to integrate

All modules provide a turnkey thermal imager with advanced image processing features built-in and ready for system integration. They incorporate easily with common power and video interfaces found in existing and new systems. The images from

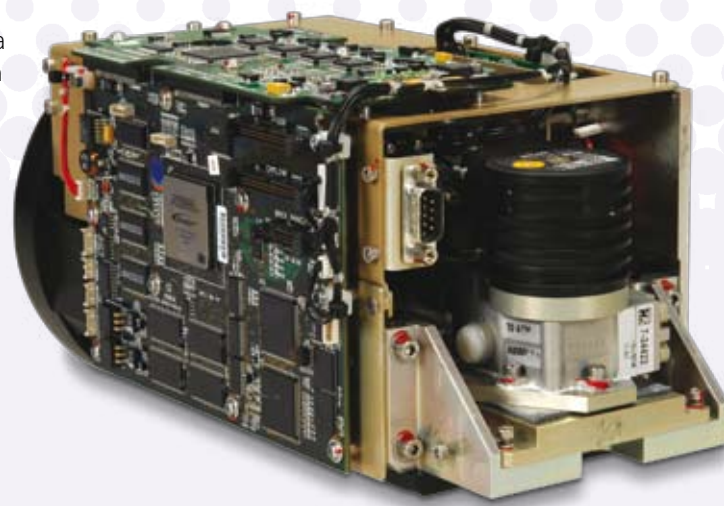
the 320 x 256 pixels or 640 x 512 pixels detectors can be displayed on virtually any existing display that accepts composite video.

Proven technology with a wide range of possibilities

All cores are designed for easy integration in airborne, land or maritime systems. The modules have been integrated into many of FLIR Systems successful thermal imaging cameras. Numerous systems, used for a wide variety of applications, are out in the field with a proven track record.



Applications include security and surveillance, thermal weapon sights, airborne gimbals for e.g. powerline inspections, research and development and numerous others.



MCT 1500 / 3000 modules

Technical specifications



IMAGING PERFORMANCE

Thermal:

Detector type

Spectral range

Field of view (FOV) /

Spatial resolution (IFOV)

Cooled Mercury Cadmium Telluride (MCT)
640 x 512 pixels or 320 x 256 pixels
3.7 to 4.8 μm

MCT 1500	30 mm lens	150 mm lens
FOV	18.3° (H) x 14.7° (V)	3.7° (H) x 2.9° (V)
IFOV (320 x 256 pixels detector)	1.0 mrad	0.2 mrad
IFOV (640 x 512 pixels detector)	0.5 mrad	0.1 mrad

MCT 3000	25 mm lens	80 mm lens	320 mm lens
FOV	21.7° (H) x 17.5° (V)	6.9° (H) x 5.5° (V)	1.7° (H) x 1.4° (V)
IFOV (320 x 256 pixels detector)	1.2 mrad	0.38 mrad	0.09 mrad
IFOV (640 x 512 pixels detector)	0.6 mrad	0.19 mrad	0.05 mrad

MCT 3000 with extender lens	36 mm lens	116 mm lens	460 mm lens
FOV	15.3° (H) x 12.5° (V)	4.7° (H) x 3.8° (V)	1.2° (H) x 0.95° (V)
IFOV (320 x 256 pixels detector)	0.8 mrad	0.25 mrad	0.06 mrad
IFOV (640 x 512 pixels detector)	0.4 mrad	0.13 mrad	0.03 mrad

Thermal sensitivity

Image frequency

Focus

Electronic zoom

Image processing

<25 mK (18 mK typical)
50 Hz (PAL), 60 Hz (NTSC)
Automatic or manual
2x
NUC, BPR, Edge enhancement, AGC, histogram equalization

IMAGE PRESENTATION

Video output

Connector types

PAL or NTSC
MCT 1500: Sub-DB15HD
MCT 3000: Sub-DB9

POWER

Requirements

Consumption

28 V DC
30 W in steady operation

ENVIRONMENTAL SPECIFICATION

Operating temperature range

Storage temperature range

Shock

Vibration

-30°C to +55°C
-40°C to +70°
MIL STD 810F Method 516.5 Procl
MIL STD 810F Method 514.5

PHYSICAL CHARACTERISTICS

MCT 1500

Weight

Size

Shipping weight (camera + packaging)

Shipping size

3.8 kg
246 x 133 x 130 mm
15 kg
700x500x300 mm

MCT 3000

Camera Weight

Camera Size (w/o GigE)

Shipping weight (camera + packaging)

Shipping size

4.1 kg
281 X 133 X 138 mm
15 kg
700x500x300 mm

INTERFACES

TCP/IP

RS-232

optional: MCT 3000 only
Command and control all functions

Standard Package

MCT 1500:

Thermal Imaging core, breakout cable (0,3m), operating manual, shipping case

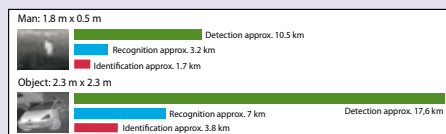
Option: DC power supply,

MCT 3000:

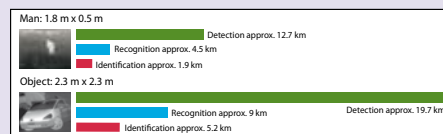
Thermal Imaging core, breakout cable (0,3m), operating manual, shipping case

Option: DC power supply, GigE

MCT 3000 module: range performance 320 mm lens



MCT 3000 module: range performance 460 mm lens



Actual range may vary depending on camera set-up, environmental conditions, user experience and type of monitor or display used.

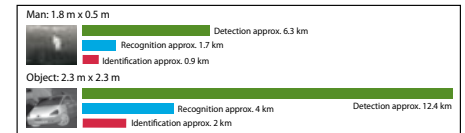
Assumptions:

50 % probability of achieving objective at specified distance given 2°C temperature difference and 0.85 / km atmospheric attenuation factor.

SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

©Copyright 2008, FLIR Systems, Inc. All other brand and product names are trademarks of their respective owners.

MCT 1500 module: range performance 150 mm lens



Actual range may vary depending on camera set-up, environmental conditions, user experience and type of monitor or display used.

Assumptions:

50 % probability of achieving objective at specified distance given 2°C temperature difference and 0.85 / km atmospheric attenuation factor.

FLIR Commercial Vision Systems B.V.

Charles Petitweg 21
4847 NW Teteringen - Breda
The Netherlands
Phone : +31 (0) 765 79 41 94
Fax : +31 (0) 765 79 41 99
e-mail : flir@flir.com
www.flir.com

FLIR Systems, Inc

CVS World Headquarters
70 Castilian Drive
Santa Barbara, CA 93117
USA
Phone : +1 805 964 9797
Fax : +1 805 685 2711
e-mail : sales@flir.com

FLIR Systems

France
Phone : +33 (0)1 60 37 01 00
Fax : +33 (0)1 64 11 37 55
e-mail: flir@flir.com

FLIR Systems Ltd.

UK
Phone : +44 (0) 1732 220 011
Fax : +44 (0) 1732 220 014
e-mail : flir@flir.com

FLIR Systems AB

Spain
Phone : +34 915 73 48 27
Fax : +34 915 73 58 24
e-mail : flir@flir.com

FLIR Systems AB

Sweden
Phone : +46 (0) 8 753 25 00
Fax : +46 (0) 8 753 23 64
e-mail : flir@flir.com

FLIR Commercial Vision Systems

China
Tel. : +86 10 5869 8762
Fax : +86 10 5869 8763
e-mail : flir@flir.com

FLIR Commercial Vision Systems B.V.

Dubai - United Arab Emirates
Tel. : +971 4 299 6898
Fax : +971 4 299 6895
e-mail : flir@flir.com

Your local dealer: