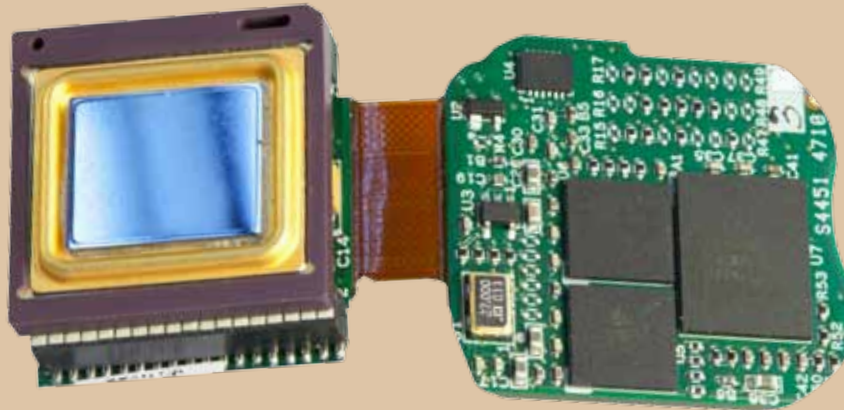


# EYE RCore™

High End thermal imaging video engine  
17μ designed for handheld applications



## Description

Opgal has used its vast customer experience to answer specific application requirements, such as: ultra low power consumption, very low voltage input, extremely short time to image and built-in digital video output. Opgal's state of the art image processing capabilities have allowed the development of superior high-end algorithms including TECless and Shutterless operations. Eye RCore™ is an advanced, versatile, modular platform that supports a variety of microbolometer detectors (VOx and ASi), including 17μ detectors technology.

## Key features

- Power consumption - < 1.2W
- High resolution - 640x480
- Opgal's Shutterless algorithm operation
- FPA pitch – 17μ
- FPA material – Vox or ASi
- NETD - < 50mK
- Time to image - < 2 seconds
- Operating temperature range - -40°C to +85°C

## Robust Design

The Eye RCore™ robust design combines many years of military product manufacturing experience with today's cutting-edge design. The Eye RCore™ has been developed to meet strict military standards to suit extremely harsh environmental conditions typical of defense and HLS applications.

## Applications

Today's battlefield and HLS demand a micro thermal imaging solution to achieve maximum all weather vision. The Eye RCore™ gives excellent high-end thermal imaging performance and has miniature dimensions especially designed for the following applications:

- Portable TWS
- Goggles
- UAV
- UGS - unattended ground systems

## Adaptable Design

The Eye-Rcore™ is specifically designed for OEM thermal imaging solutions. Its design is adaptable, modular and flexible enabling easy customization. Its modular mechanical design allows maximum flexibility to fit the customer's product.

## Shutterless

In thermal imaging cameras, shutter is a electromechanical device used for periodical non-uniformity correction that shuts the camera input window for a very short time, causing image interrupt and making the camera "blind" in that period.

With Opgal's Shutterless technology, the Eye RCore™ works continuously, making corrections in real time using a highly sophisticated algorithm without using a shutter.

- No image interruption
- No acoustic noise
- No mechanical moving parts

# EYE RCore™

Technical Data

## Long RANGE Detecteion

EYE RCore™ 17μ detector pitch increases detection and recognition performances for longer ranges in compare with detectors of larger pitch size (25u) using same focal length optics:

### Performance Comparison 17μ versus 25μ - Object target 2.3mx2.3m 50mm optics



NATO Target 17μ

Detection: 1400m  
Recognition: 3400m



NATO Target 25μ

Detection: 950m  
Recognition: 2370m

Features	Eye RCore™ VA	Eye RCore™ VV
Resolution	640x480	640x480
FPA pitch	17um	17um
FPA material	ASi	Vox
NETD (F#1, 25°C)	<50mK	<50mK
Analog video Formats	PAL/NTSC	PAL/NTSC
Digital video	Camera link or BT656	Camera link or BT656
Frame rate	30Hz or 60Hz	30Hz ,60Hz or 120Hz
Time to Image	<2 seconds	<2 seconds
Power consumption	<1.2 W	<1.3 W
Input power	4 – 14 VDC	4 – 14 VDC
TEC operation	TECless	Power save
Shutter operation	Opgal's shutterless operation	Opgal's shutterless operation
User configuration	SDK & GUI	SDK & GUI
Graphics	On Screen Menu ,Text, LOGO,32 reticules, 256 colors, color pallets	On Screen Menu ,Text, LOGO,32 reticules, 256 colors, color pallets
Digital zoom	Continuous digital zoom : x1 to x12	Continuous digital zoom : x1 to x12
Control interface	RS232/RS 422 or 5 push buttons	RS232/RS 422 or 5 push buttons
Video synchronization	Optional external video synchronization	Optional external video synchronization
Operating Temp Range	-40°C to +85°C	-40°C to +70°C
Video optimization	Automatic or manual AGC, video enhancement, gamma correction	Automatic or manual AGC, video enhancement, gamma correction
Storage Temp Range	-46°C to +85°C	-46°C to +85°C
Dimensions in mm (w/o lens)	33(W)x41(H)x36.5(L)	45(W)x45(H)x38.5(L)
Weight	<60g	<85g
Environmental standards	MIL-STD 810F & MIL-STD 461D	MIL-STD 810F & MIL-STD 461D



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