



## ZAFIRO™<sub>640</sub>

DRS' Zafiro™<sub>640</sub> is a powerful 640 x 480, 12 μm pitch cooled MWIR sensor that integrates DRS' advanced Mercury Cadmium Telluride (MCT) technology with its patented cryogenic cooler designs.

Zafiro™<sub>640</sub>'s unmatched 12 μm pixel pitch Focal Plane Array (FPA) enables the use of smaller, lighter weight optics without compromising imaging performance. DRS' patented linear Stirling cryo-cooler is exceptionally quiet with nearly imperceptible vibration and delivers over 17,000 hours Mean Time To Failure (MTTF) and is backed by a two year system warranty. The camera dissipates an industry low 7.5 watts of power at room temperature. These features translate into exceptional performance, reliability and low life-cycle cost resulting in substantial savings over the operational life of the product.

Measuring approximately 10 x 11 x 18 cm and weighing less than 1.5 kg, the Zafiro™<sub>640</sub> is an excellent choice for applications requiring minimal space and the highest performance and resolution. Additionally, Zafiro™<sub>640</sub> offers the outstanding utility of a 12.5X continuous zoom optic, enabling long range performance for optimal situational awareness. The Zafiro™<sub>640</sub> includes DRS' proprietary

Local Area Processing (LAP) which provides enhanced image quality and superb clarity for better image interpretation.

DRS designs and manufactures infrared detectors, camera modules and camera systems. DRS understands what it takes to deliver fully qualified products to the market. DRS' technical support staff is always available to help with your product development. To assist customers with their design, integration and improved time-to-market, DRS offers a complete Zafiro™<sub>640</sub> Development Kit.

With its compact size, affordable price tag and rugged construction DRS' Zafiro™<sub>640</sub> is designed to address the most demanding security and surveillance applications.

- 640 x 480 resolution; 12 μm pixel pitch
- Smooth, quiet cooler operation
- Motorized and continuous 12.5X zoom optic
- DRS' proprietary Local Area Processing (LAP) for image enhancement
- Two year system warranty
- No-lens version also available

## SYSTEM FEATURES

### FOCAL PLANE ARRAY

Sensor Type	Photovoltaic MCT (HgCdTe)
Array Format (NTSC)	640 x 480
Pixel Pitch	12 $\mu$ m
Spectral Band	3.7 - 5.1 $\mu$ m
FPA Operating Temperature	120°K
Sensitivity (50% well @ 300°K) NE $\Delta$ T	$\leq$ 30 mK @ system level
Operability	$\geq$ 99%

### OPTICAL

Lens Options: EFL; F/#; Lens Coating	17-220 mm; f/3.25; HC
HFOV	2° to 25° motorized and continuous zoom
Focus Range	WFOV: 25°: 20m to $\infty$ NFOV: 2°: 200m to $\infty$
Detection Range	$>$ 8 km

### COOLER

MTTF	$>$ 17,000 hours
Cool down time	$\leq$ 13 minutes @ 71°C $<$ 8 minutes typical

### VIDEO

Frame Rate	30 Hz
Format	RS-170; 14-bit parallel
Gain/Level Control	Auto/Manual control
Image Polarity Reversal	Yes
Enhanced Image Processing/LAP™	Yes
Image Orientation	Invert/Revert
Electronic Digital Zoom	1X to 6X (stepped in 0.25X increments)

### COMMUNICATION INTERFACE

Serial Interface	RS-232
Baud Rate	57,600

## ELECTRICAL

System Voltage	11.0 - 16.0 VDC
System Power Consumption	7.5 W (ambient; steady-state); 10 W (ambient peak)

## ENVIRONMENTAL

Operating Temperature	-32°C to 71°C
Storage Temperature	-50°C to +85°C
Altitude	Up to 50,000 feet
Humidity	5 - 95% relative humidity (non-condensing)

## MECHANICAL

Dimensions (L x W x H)	18.3 cm x 10.3 cm x 11.3 cm
Weight	$\leq$ 1.5 kg (3.3 lbs.)

## CONFIGURATIONS

Camera with 17-220mm CZ optic	P/N: 1000678-101
No lens	P/N: 1000678-102

## ACCESSORIES

External I/O Interface Card	P/N: 1001937-101
External I/O Interface Card Cable	P/N: 1001941-001
Power Supply Adapter	P/N: 1003589-001
User Manual	P/N: 1012415
Electrical and Software ICD	P/N: 1002171
Mechanical ICD with Optics	P/N: 1001575
Mechanical ICD (no Optics)	P/N: 1011547
Camera Control Software	P/N: 1012454-001
Camera Control Software User Guide	P/N: 1012455-001

### Notes:

Unless specified otherwise, temperature is at 24°C.

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Imaging and Targeting Solutions Company

100 N Babcock St, Melbourne, FL 32935 | Tel 888.377.7782 | www.drs.com | info@drs-rsta.com

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