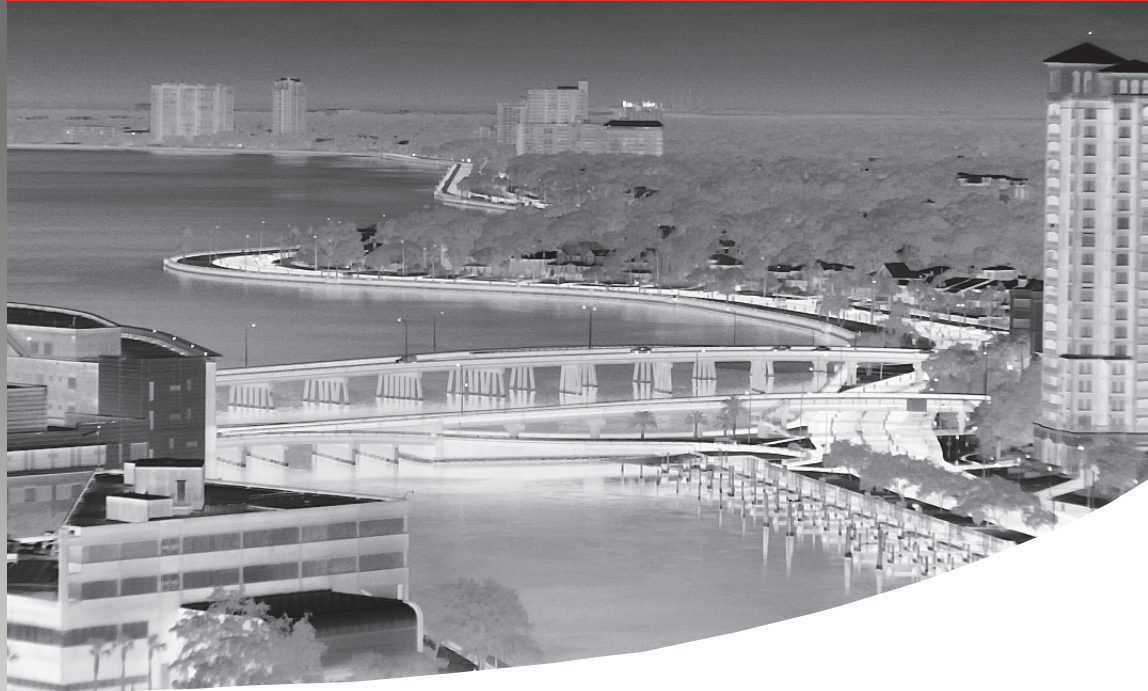
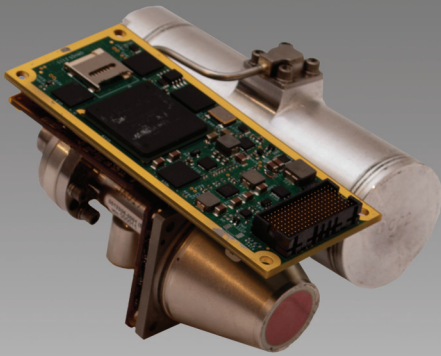


## High Definition Thermal Imaging — A New Standard for Image Clarity



### ZAFIRO™ HD

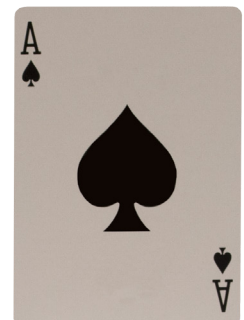
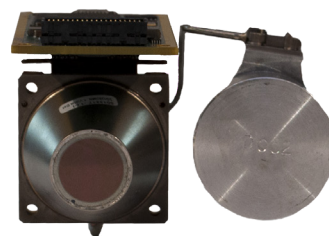
DRS Technologies' High-Definition Infrared Zafiro™ HD Sensor Module provides all the performance of a long-range capable, cooled MWIR camera in a small, low-power package. The Integrated Dewar Cooler Assembly (IDCA) utilizes DRS' HDVIP® (High Density Vertically Integrated Photodiode) HgCdTe detector technology to deliver high sensitivity.

Performing at an industry low 12 watts of power dissipation at room temperature, the Zafiro™ HD Sensor Module provides a 20,000-hour cooler Mean Time To Failure (MTTF). Using 12  $\mu\text{m}$ , micro-pixel spacing allows DRS to offer this HDTV format (720p) product in an affordable, compact package without compromising imaging performance. Additionally, the 14-bit corrected digital video capability helps to ensure system video of the highest possible quality.

Measuring 2.1 x 3.5 x 4.2 inches and weighing approximately 1.4 pounds (without brackets), the Zafiro™ HD is designed to address the most demanding applications. Its compact size and ultra-low power consumption makes it the perfect choice

for thermal imaging applications that require superior performance and resolution in a low size, weight, and power package.

- HgCdTe HDVIP™ Technology
- 1280 x 720 MWIR HDTV pixel resolution (720p)
- Advanced 12  $\mu\text{m}$  pixel pitch design
- 14-bit corrected digital video
- Full tactical military package
- Available with various long-life coolers depending on thermal enrichment



## SYSTEM FEATURES

### FOCAL PLANE ARRAY

Array Format	1280 x 720
Detector Material	HgCdTe
Detector Pitch	12 $\mu$ m
Spectral Response	3.7 - 5.1 $\mu$ m (standard)

### ROIC FEATURES

Modes	Snapshot operation Direct inject input circuit Read then integrate Programmable integration time	Blooming control Programmable gain Mode control through serial interface
Window Modes	Programmable down to 128 x 1	
Well Capacity	7.5E6 carriers	
Output Dynamic Range	72 dB	
Readout Noise	150 $\mu$ V rms	
Frame Rate	30 Hz / 60 Hz nominal	

### PERFORMANCE

Noise Equivalent Temperature Difference	< 20 mK Typical @ f/2.5
Operability	99.5%

### COOLER

MTTF	20,000 hours
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### SYSTEM ELECTRICAL INTERFACE

Sensor Warm Electronics Input Power	5 volts 6 watts typical
Cooler Input Power @ 23 ° C	6.0 watts typical
Max Cooler Input Power During Cooldown	22 watts
Sensor Control	RS-422 Command Interface (optional external frame sync)
Sensor Output	Camera Link® Digital Corrected Video (14-bit) Sensor Status Messaging

### ENVIRONMENTAL PERFORMANCE

Operating Temperature	-40 ° C to 71 ° C (-40 ° F to 160 ° F)
Cooldown Time	5.5 min. typical at room temperature

### MECHANICAL CONFIGURATION

Package Type	Tactical Dewar with integrated cooler and interface electronics Cooler drive electronics available
Size	Sensor Module - 2.1 H x 3.5 D x 4.2 L inches (5.334 H x 8.89 D x 10.668 L cm)
Weight	1.4 lbs. (635 grams) - without brackets +0.17 lbs. (77 grams) Cooler Control Module (optional)
ColdShield Information	Standard Options: f/2.5 and f/4.0 Standard ColdShield HT: 1.01 inches (free space equivalent at operating temperature)

Camera Link® is a registered trademark of the Automated Imaging Association.

\*Specifications subject to change without notice. Export of the commodities described herein is strictly prohibited without a valid export license issued by the U.S. Department of State, Directorate of Defense Trade Controls, prescribed in the International Traffic in Arms Regulations (ITAR), Title 22, Code of Federal Regulation, Parts 120-130.



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Approved for Release MR-2012-10-648