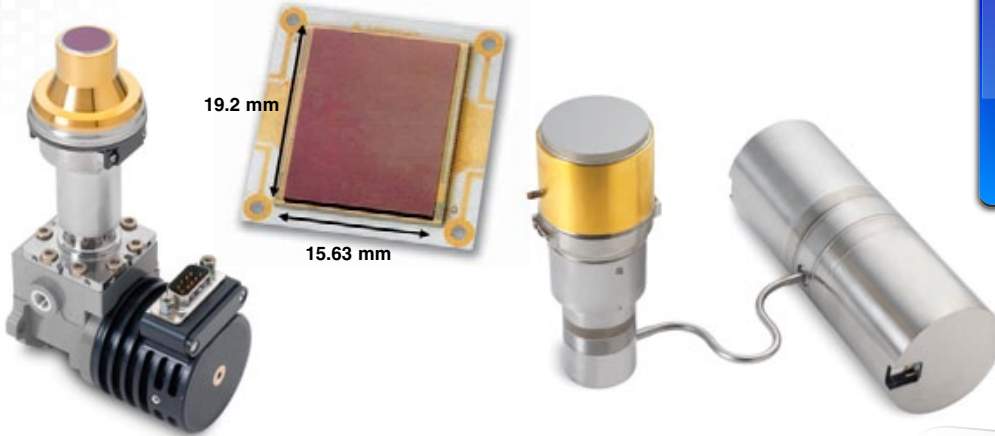


# Jupiter MW

## Very High Resolution IR Detectors for Mid Wave Infrared Imaging 1280x1024 HgCdTe MWIR (15µm pitch)



- Compact 1.3 Million Pixel Array
- HDTV Compatible
- 120Hz Operation
- Low Power
- 15 micron Pixel Technology

The Sofradir staring snapshot 1280x1024 Mid Wave Infrared (MWIR) focal plane assemblies are offered to answer the very high resolution (SXGA format / HDTV compatible) and high performance applications (FLIR,IRST, reconnaissance, surveillance, airborne camera...) in the band II (3-5µm) detection. These detectors take advantage of the Sofradir optimized, high performance, stable, low defect density, photo-voltaic HgCdTe Molecular Beam Epitaxy (MBE) technology for staring arrays. Hybridized on a Sofradir state-of-the-art CMOS Read-out Integrated Circuit (ROIC), these detectors can be offered in various long vacuum-life dewar and cooler configurations, in order to meet the mechanical and cooling needs for different applications.

**STANDARD CONFIGURATIONS:**

- Integrated Detector Dewar Cooler Assembly (IDDCA) with highly reliable 1.5W split Stirling-cycle linear cooler or with compact 0.75W microcooler



Security



Defense



Soldier Systems

**ROIC FEATURES**

Selection	Parallel or serial electrical interface
Modes	Snapshot operation, direct injection input circuit, integrate-while-read mode, programmable integration time, anti-blooming, image invert/revert/inverse
Window Modes	Fixed or programmable (one or two windows of any size down to 256x1)
Charge Handling Capacity	4.2x10 <sup>6</sup> e <sup>-</sup> (for 100% well fill)
Readout Noise	< 150µV (400 e <sup>-</sup> )
Signal Outputs	4 or 8
Pixel Output Rate	up to 20MHz per output
Frame Rate	up to 120Hz full frame rate (1280x1024, 8 outputs, 20MHz, Ti=1ms)
Electrical Interface	simplified through two 37-pins nano-D connectors

**ARRAY FEATURES**

Pixel Pitch	15µm x 15µm
Detector Spectral Response	3.7µm - 4.8µm (band pass filter)
FPA Operating Temperature	77K to 110K

# Jupiter MW

## Very High Resolution IR Detectors for Mid Wave Infrared Imaging 1280x1024 HgCdTe MWIR (15µm pitch)

### TYPICAL PERFORMANCE

Pixel NETD (average)	18mK (300K, integration time for 50% well fill)
Residual Fixed Pattern Noise	low and stable (<NETD)
Array Operability	> 99.5% typical (NETD < 50mK)
MTF	maximized

Technical characteristics described in this data sheet are for information only and are not contractual. Because of ongoing product enhancements, specifications are subject to change without notice. Export of these products from the United States is controlled by the US Government. Prior authorization is required for re-export or transfer.

### OPTIONS

MW Engine	Proximity Driving Electronics (including ADC)
Complete MW Camera	

### STANDARD CONFIGURATION

#### Jupiter MW-LSF

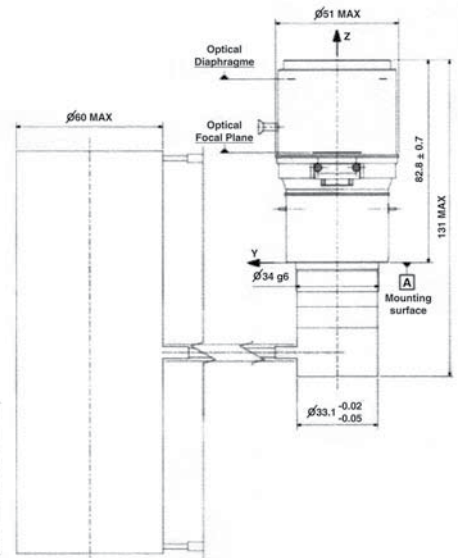
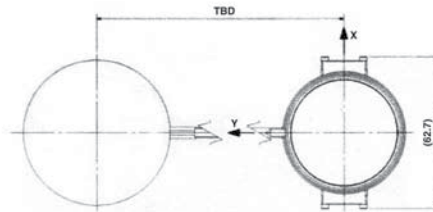
#### LSF9599 Split Cooler



- FOV: f/6 to f/2 (up to f/1 possible)
- Operating Temperature: -40°C / +71°C
- Weight: < 2 kg (4.4 lb)
- Power Supply: 24 V
- Typical Characteristics at 20°C, 90K:
  - Cooldown input Power: < 60 W<sub>AC</sub> (\*)
  - Regulated input power: < 25 W<sub>AC</sub>
  - Cooldown time: < 7 min.

Cooler MTTF > 20.000 hours

(\*) W<sub>AC</sub> – at cooler pins input



#### Jupiter MW-K548

#### K548 Integrated Microcooler



- FOV: f/6 to f/3
- Operating Temperature: -40°C / +71°C
- Weight: < 0.8 kg (1.76 lb)
- Power Supply: 24 V
- Typical Characteristics at 20°C, 90K:
  - Cooldown input Power: < 24 W<sub>DC</sub> (\*)
  - Regulated input power: < 10 W<sub>DC</sub> (\*)
  - Cooldown time: < 7 min.

Cooler MTTF > 8.000 hours

(\*) W<sub>DC</sub> – at cooler driving electronics input