

IRC800 COMPLETE SERIES

Utilizing the most advanced InSb, nBn and SLS focal plane array technology available, the LN2 cooled IRC800 Mid Wave Series features unmatched sensitivity, ultra-low noise, no blooming and no crosstalk.

The IRC800 Series cameras offer the ultimate in flexibility for researchers and scientists. Camera operators can vary integration time, frame rate and window size. Cold filters can be changed making the camera ideal for spectrally dependent applications. The IRC800 is the perfect instrument for prototyping system development or where application requirements may change.

Simultaneous Camera Link, GigE and HD-SDI outputs are standard. Super-framing allows the cameras to switch among different integration times on a frame-by-frame basis to capture rapidly changing scenes over a wide dynamic range.

Software options include our WinIRC application and a software developers kit to allow the user to acquire, display and analyze data from the IRC806 high-definition camera.



Optional Cold Filter Wheel

CAMERA CAPABILITIES

- Choice of LN2 cooled InSb, nBn or SLS sensors
 - InSb or nBn with $<1 \mu\text{m}$ to $>5\mu\text{m}$ spectral response
 - SLS with 3 - $12\mu\text{m}$ spectral response
- 14-bit digital output
- SuperFraming for extended dynamic range
- Motorized four position filter wheel option
- High frame rates & windowing



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IRC800 Model:	IRC806	IRC806 HS	IRC812	IRC812 nBn	IRC806 SLS
Detector Type	Indium Antimonide (InSb)	Indium Antimonide (InSb)	Indium Antimonide (InSb)	nBn	Strained Layer Superlattice
Spectral Response	0.9μm to 5.4μm	0.9μm to 5.4μm	0.9μm to 5.4μm	1.0μm to 5.1μm	<3μm - >12μm
Resolution (pixels)	640 x 512	640 x 512	1280 x 1024	1280 x 1024	640 x 512
Pixel Pitch	20μm	12μm	12μm	12μm	20μm
Imaging Electronics					
Frame rate @ max window size	119 Hz	475 Hz	119 Hz	119 Hz	475 Hz
Integration time	<550 ns to full frame				
Dynamic range	14-bits with 13-bit option to increase frame rate at small window sizes				
Windowing	User defined in 4x1 increments; min width=320, min height=32				
Integration type	Snapshot, automatic selection of integrate while read or integrate then read				
Ultra low latency sync	Sync I/O (<200 ns latency), Integration Out Signals				
Image data	Simultaneous Camera Link & Gig-E, Passive Monitor via HD-SDI				
Communications	Serial over Camera Link & Gig-E				
Non-Uniformity Correction (NUC)	NUC at max frame rate; NUC via software or hardware				
Superframing & States	Cycle between up to 4 integration times per SuperFrame Number of User-defined states limited only by memory; Selective integration times via command				
Software control	Cross Platform GenICam Compliant, WinIRC software, serial command list, optional Windows SDK				
Performance					
NEdT	< 18mK	< 32mK	< 32mK	< 38mK	< 45mK
Well capacity (electrons)	7M	2M	2M	2M	7M
Operability	99.8%	99.6%	99.6%	99.6%	99.0%
LN2 hold time	> 8 hours typical, > 4 hours with optional cold filter wheel				
Optics					
Camera f/#	f/2, f/2.3 & f/4.0 standard; custom cold shields available on request				
Cold filter	No Cold Filter standard, optional 3.0μm – 5.0μm, CO2, SWIR or custom filters on request				
Lens mount	Bayonet for 7, 13, 25, 50 & 100 mm lenses; bolt hole pattern for non-standard lenses				
Optional COLD Filter Wheel	Motorized four position COLD filter wheel; 25.4mm diameter x 1.0mm thick filters				
General					
Power @ 24 VDC	14 watts				
System weight	8 pounds				
Size	3.6"W x 8.6"H x 11.2"L				
Operating temperature range	-20C to +50C (-4°F to +122°F)				
Storage temperature range	-40C to +70C (-40°F to +158°F)				
Mounting holes	1x 1/4-20 & 4x 1/4 DIA Through Holes				