AIRS Nucleus™ MWIR Camera

BostonElectronics

1280 x 1024 Nucleus Mid Wave Infrared Camera

- High resolution, high sensitivity, and low noise infrared camera is well suited to demanding defense and scientific applications.
- AIRS Nucleus™ MWIR Camera design is light weight and low power enabling both portable field use and easy system integration.
- Available with or without a handle in a rugged aluminum chassis.
- Bayonet mount enables easy lens swapping between various lens focal lengths.
- Nyx Connect™ software simplifies set-up and control of critical sensor settings and digital video through a reliable Camera Link or USB3 Vision connection.
- On board video processing enables corrected video output with custom non-uniformity tables and user applied pixel maps for maximum performance.

AIRS Nucleus™ MWIR Camera

Nyx Nucleus™ MWIR Camera	
Sensor	
Type	HOT MWIR
Response	3-5µm
Resolution	1280 x 1024
NEdT	<25mk
Pixel Pitch	12µm
Electronics	
Frame Rate	60Hz
Integration Time	100µs to 98% full frame
Integration Type	Integrate-While-Read
A/D Resolution	16-bit
Video Output	Camera Link Base or USB3 Vision
Communication	RS-232 Serial over Camera Link or USB3 Vision
Optics	
Cold Filter	3.0µm cut-on
Lens Type	25, 50, 100mm, other options
F Number	f/2.5
Lens Mounting	Bayonet
Lens MTF Data	Available on request
Mechanical	
Size Without Lens	L x W x H (6 x 3.5 x 4 in)
Weight Without Lens	Approximately 4 lbs.
Cool Down Time	6 minutes typical
Cooler Type	Linear cooler
MTTF	>15,000 hours
Camera Mount	1/4"-20 standard tripod
Environmental	
Operating Temp	-20°C to + 50°C
Storage Temp	-50°C to + 70°C
Electrical	
Input Voltage	16V
Steady State Power	22W @ 23°C Typical
Max Power	30W
Control	

Nyx Connect™ software simplifies set-up and control of critical sensor settings and digital video through a reliable Camera Link or USB3 Vision connection.
See our video options data sheet.

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Nyx

AIRS Nucleus™ LWIR Camera

BostonElectronics

1280 x 1024 Nucleus Long Wave Infrared Camera

- High resolution, high sensitivity, and low noise infrared camera is well suited to demanding defense and scientific applications.
- AIRS Nucleus™ LWIR Camera design is light weight and low power enabling both portable field use and easy system integration.
- Available with or without a handle in a rugged aluminum chassis.
- Bayonet mount enables easy lens swapping between various lens focal lengths.
- Nyx Connect™ software simplifies set-up and control of critical sensor settings and digital video through a reliable Camera Link or USB3 Vision connection.
- On board video processing enables corrected video output with custom non-uniformity tables and user applied pixel maps for maximum performance.

AIRS Nucleus™ LWIR Camera

Nyx Nucleus™ LWIR Camera	
Sensor	
Type	SLS
Response	7.5-12µm
Resolution	1280 x 1024
NEdT	<30mk
Pixel Pitch	12µm
Electronics	
Frame Rate	60Hz
Integration Time	100µs to 98% full frame
Integration Type	Integrate-While-Read
A/D Resolution	16-bit
Video Output	Camera Link Base or USB3 Vision
Communication	RS-232 Serial over Camera Link or USB3 Vision
Optics	
Cold Filter	7.5µm cut-on
Lens Type	25, 50, 100mm, other options
F Number	f/2.0
Lens Mounting	Bayonet
Lens MTF Data	Available on request
Mechanical	
Size Without Lens	L x W x H (7.5 x 3.5 x 5 in)
Weight Without Lens	Approximately 6 lbs.
Cool Down Time	6 minutes typical
Cooler Type	Linear cooler
MTTF	>20,000 hours
Camera Mount	1/4"-20 standard tripod
Environmental	
Operating Temp	-20°C to + 50°C
Storage Temp	-50°C to + 70°C
Electrical	
Input Voltage	24V
Steady State Power	25W @ 23°C Typical
Max Power	40W
Control	

Nyx Connect™ software simplifies set-up and control of critical sensor settings and digital video through a reliable Camera Link or USB3 Vision connection.
See our video options data sheet.

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Nyx

Image Processing Options for AIRS Smart IDCA's and Cameras

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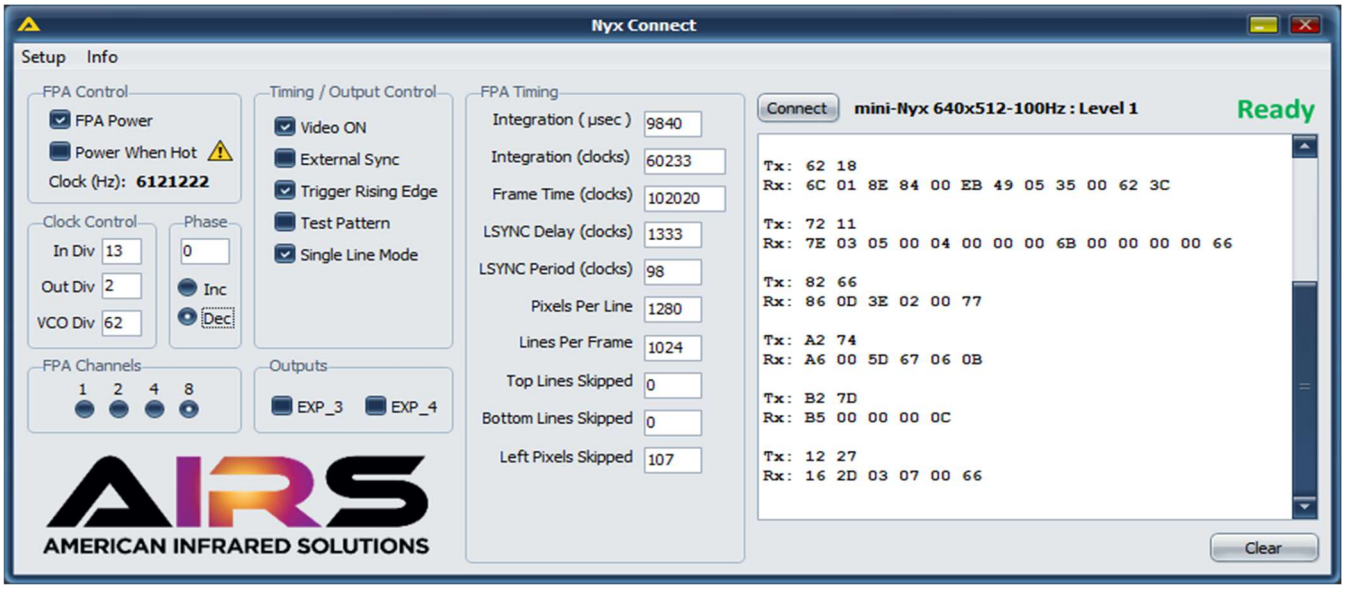
American IR Solutions offers a full strata of camera connectivity and control solutions for OEM system integration or stand-alone applications.

Our new Nyx Connect™ software simplifies set-up and control of critical sensor settings and digital video through a reliable Camera Link or USB3 Vision connection.

System integrators can experiment with custom integration times, advanced pixel replacement tools and other image optimization settings in a safe environment.

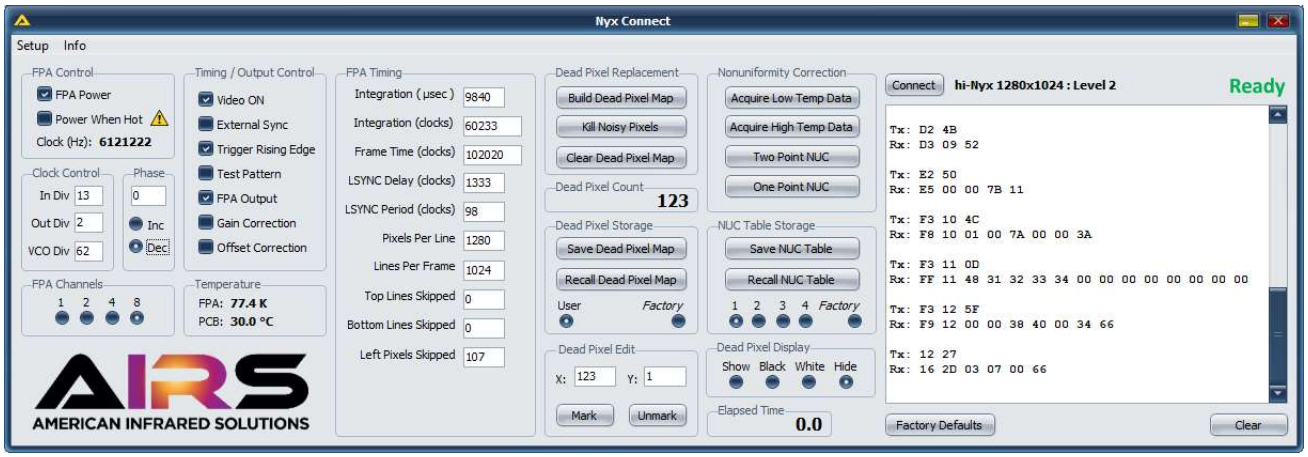
Video options include Camera Link, USB3 Vision, GigE, HDMI and HDSDI outputs.

Nyx Connect™ Level 1



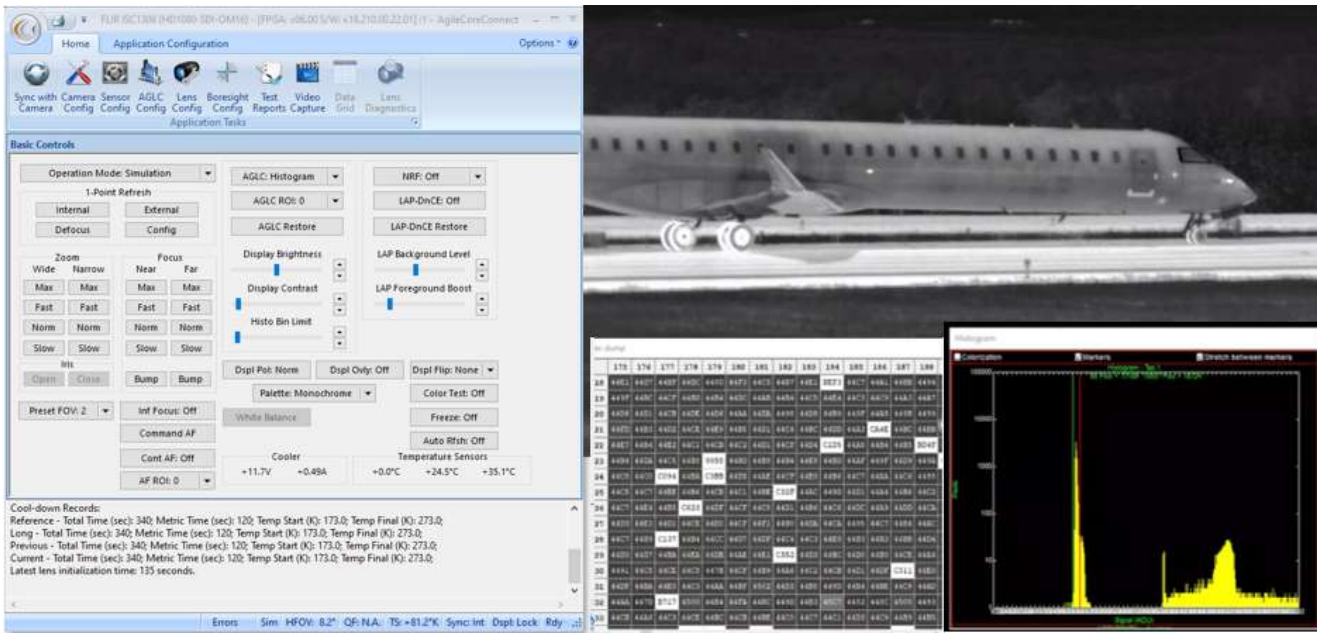
Ideally suited for Smart IDCA and Camera integration and enables streamlined development for engineers, systems integrators, and OEMs. The Nyx Connect software provides a user-friendly GUI enabling control over important camera and ROIC settings.

Nyx Connect™ Level 2



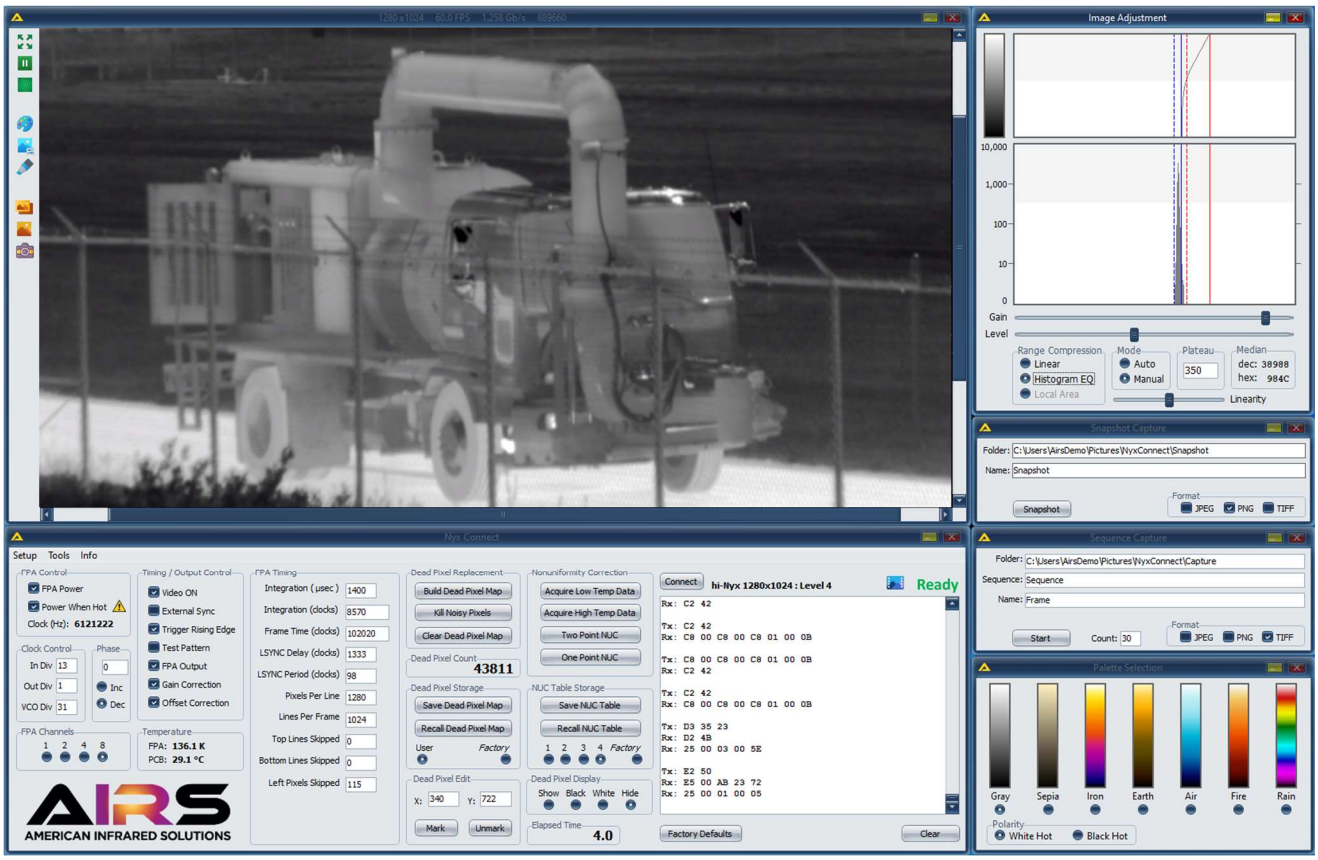
Enables a comprehensive set of tools for integrators, OEMs, and end users. This includes non-uniformity correction, dead pixel replacement, and four programmable NUC tables, in addition to the features included in Level 1 dashboard.

Nyx Connect™ Level 3



Provides a full suite of video processing options including lens control. A second video output channel can be configured to support HDSDI, GigE, HDMI, or USB3. Camera Link video is managed through a Imperx frame grabber, enabling live video management, scene ranges, pixel replacement and image enhancements.

Nyx Connect™ Level 4



Offers comprehensive access and control over all system attributes and crucial image management, including proprietary AIRS contrast enhancement and pixel replacement tools. Advanced pixel correction features include intuitive tools that automatically identify and replace dead pixels, along with the capability to manually mark individual pixels. Select any of seven pseudo color palettes. Save snapshots or frame sequences in JPEG, PNG, or TIFF format.

IDCA and Camera Connectivity and Control Features

Feature	Level 1	Level 2	Level 3	Level 4
Programmable Integration Time	✓	✓	✓	✓
Uncorrected Data Output	16b	16b	14b	16b
Corrected Data Output	-	16b	14b	16b
Camera Link Base Data Interface	✓	✓	✓	✓
USB3 Vision	-	-	✓	✓
2nd Video Output Option: HD-SDI, HDMI, GigE or USB3 Vision	-	-	✓	-
Pixel Correction	-	✓	✓	✓
Advanced Pixel Correction	-	-	-	✓
Linear AGC	-	-	✓	✓
Histogram Equalization	-	-	✓	✓
Local Area Processing	-	-	✓	-
Color Palettes	-	-	✓	✓
User Programmable NUC Tables & Camera States	-	4	6	4
Restore from factory NUC Table	-	✓	-	✓
Store Imagery to PC	-	-	✓	✓
Live Video in GUI	-	-	-	✓
Camera Control – RS232	✓	✓	✓	✓

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