

# AF-150X

## Series Frame Grabbers

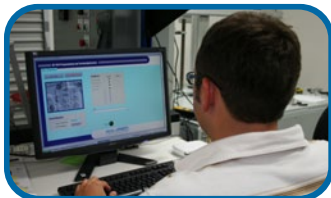
 NATIONAL INSTRUMENTS  
Certified Product Development Partner



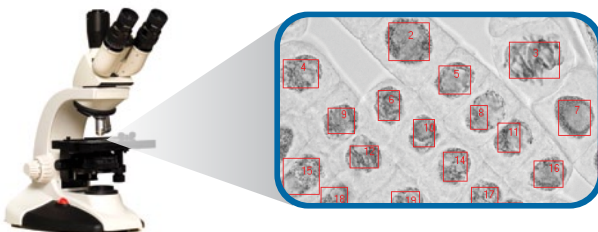
### Vision for CompactRIO™



**Sight Enabled Robotics**



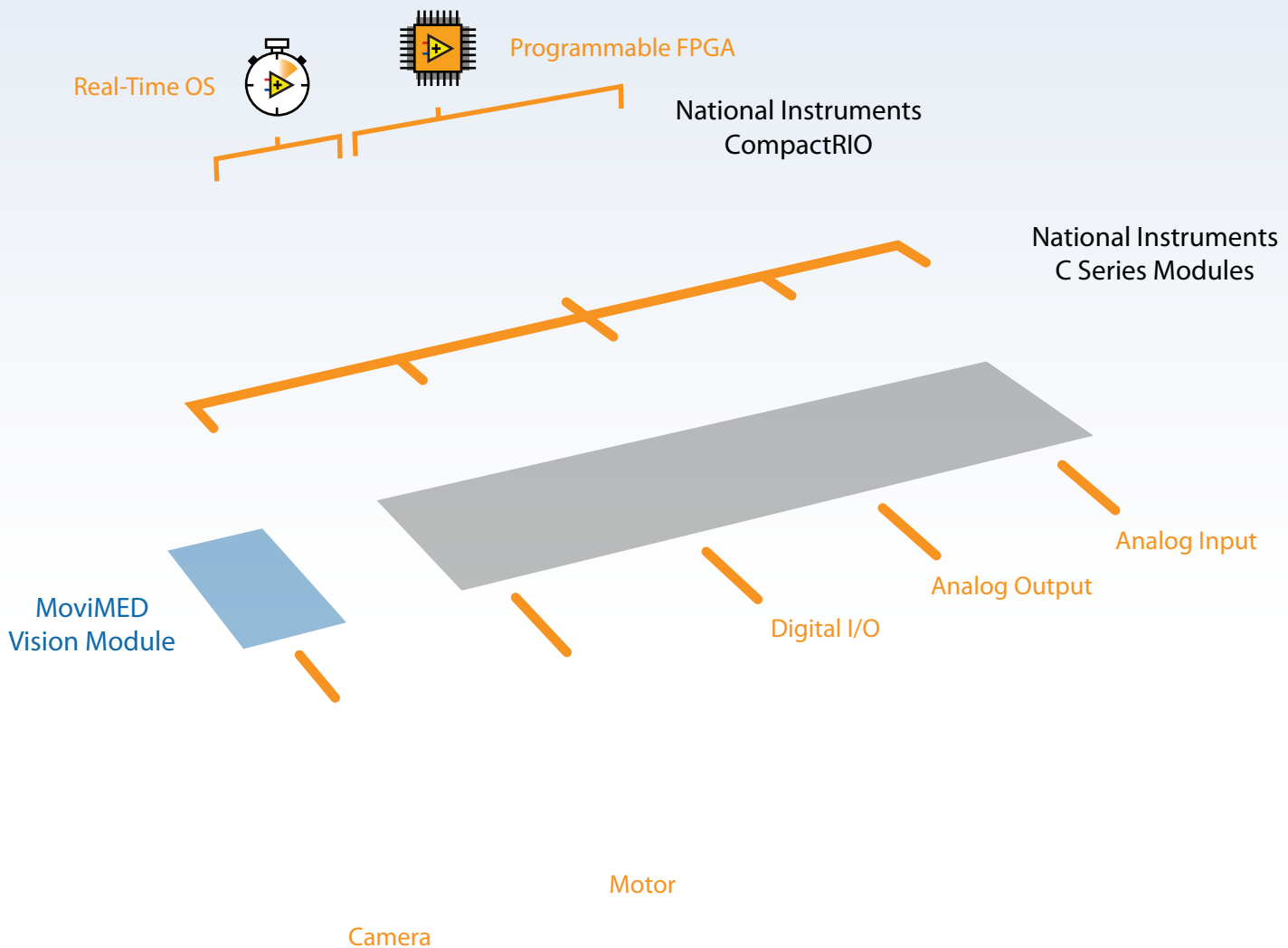
**Remote Monitoring**



**Automated Microscopy**

**MOVIMED**  
custom imaging solutions

# AF-150x Series Frame Grabbers



## What is CompactRIO?

The National Instruments CompactRIO is a small rugged industrial control and acquisition system powered by reconfigurable I/O (RIO) FPGA technology for ultra high performance and customization.

NI CompactRIO incorporates a real-time processor and reconfigurable FPGA for reliable stand-alone embedded or distributed applications, and hot-swappable industrial I/O modules with built-in signal conditioning for direct connection to sensors and actuators.

CompactRIO embedded systems are developed using high-productivity LabVIEW graphical programming tools for rapid development.

## Infinite Possibilities

With over 100 I/O modules available from National Instruments and third party vendors, including modules for motion control, analog and digital I/O, the CompactRIO provides a tightly integrated and customizable solution for a wide range of robotics and automation applications.

## AF-150x Modules

The AF-150x series are CompactRIO frame grabber modules that support analog video cameras. Any off-the-shelf NTSC, PAL, or SECAM camera can be plugged into an AF-150x module to capture video data directly into the CompactRIO system.

The AF-1501x LabVIEW drivers provided by MoviMED allow developers to fully leverage the native image processing libraries included in the LabVIEW Vision Development Module

# AF-150x Series Frame Grabbers

## Frame Grabbers



AF-1501  
Single Channel  
Monochrome



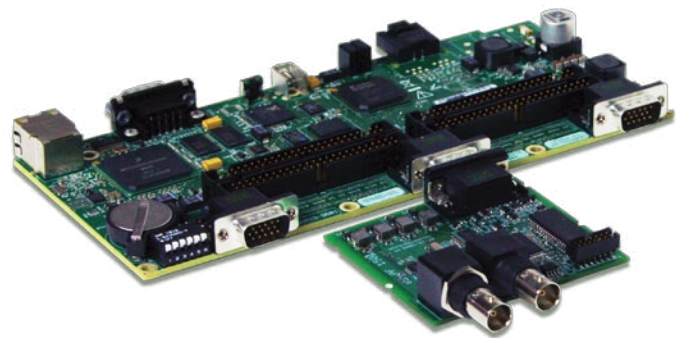
AF-1502  
Dual Channel  
Monochrome

## Single-Board RIO

The National Instruments Single-Board RIO platform combines deployable, embedded devices that feature a real-time processor, reconfigurable field-programmable gate array (FPGA), and analog and digital I/O on a single board programmed with National Instruments LabVIEW software. You can expand the built-in analog and digital I/O using National Instruments C Series modules and MoviMED AF-150x series modules.



AF-1501 for Single-Board RIO



Single-Board RIO with AF-1502 module

Model	AF-1501	AF-1502	Series	
General Specifications				
Analog Input	1 input single ended BNC	2 inputs, multiplexed single ended BNC	1 input single ended BNC	2 inputs, multiplexed single ended BNC
	Monochrome 254 gray levels (8-bit) 16 gray levels (4-bit) Threshold (1-bit)	Monochrome 254 gray levels (8-bit) 16 gray levels (4-bit) Threshold (1-bit)	24-bit RGB 12-bit RGB 8-bit RGB 8-bit Red 8-bit Green 8-bit Blue 8-bit Luminance/Mono- chrome 8-bit Chroma Blue 8-bit Chroma Red	24-bit RGB 12-bit RGB 8-bit RGB 8-bit Red 8-bit Green 8-bit Blue 8-bit Luminance/Mono- chrome 8-bit Chroma Blue 8-bit Chroma Red
Analog Front End	9-bit ADC			
Software, Driver	LabVIEW RT, LabVIEW FPGA			
Form Factor	CompactRIO module, Single-Board RIO module DB-15, female, high density			
Supported Formats	NTSC / RS-170 CCIR / PAL SECAM			
Impedance	75 Ohm, +/- 1%			
Onboard Features				
Progressive Skip Sampling	Yes	Yes	Yes	Yes
Programmable Region of Interest	Yes	Yes	Yes	Yes
Image Inversion	Yes	Yes	Yes	Yes
Hardware Accelerated Thresholding	Yes	Yes	No	No
Speed Optimized Mode	Yes	Yes	No	No

aF-1  
501

## Onboard Features

### **PSS** Progressive Skip Sampling



Pixel resolution is reduced to optimize frame rate. The resulting progressive image is ideal for motion sensitive applications.

### Programmable ROI



User-configurable region of interest from 1 x 1 pixel to the entire frame size.

### Hardware Accelerated Thresholding



Image thresholding at full frame rate using on-module hardware. Resulting binary image reduces processor load.

### Speed Optimized Mode



Gray level bit depth is reduced from 8 bits per pixel to 4 bits per pixel. Resulting image transfer rate is doubled.

 NATIONAL INSTRUMENTS  
Certified Product Development Partner