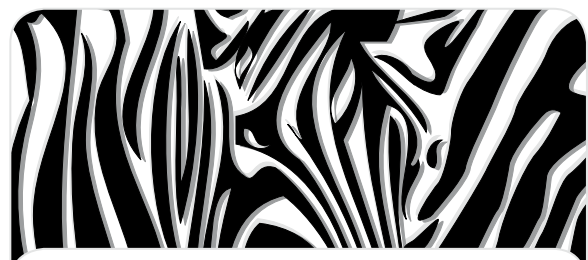
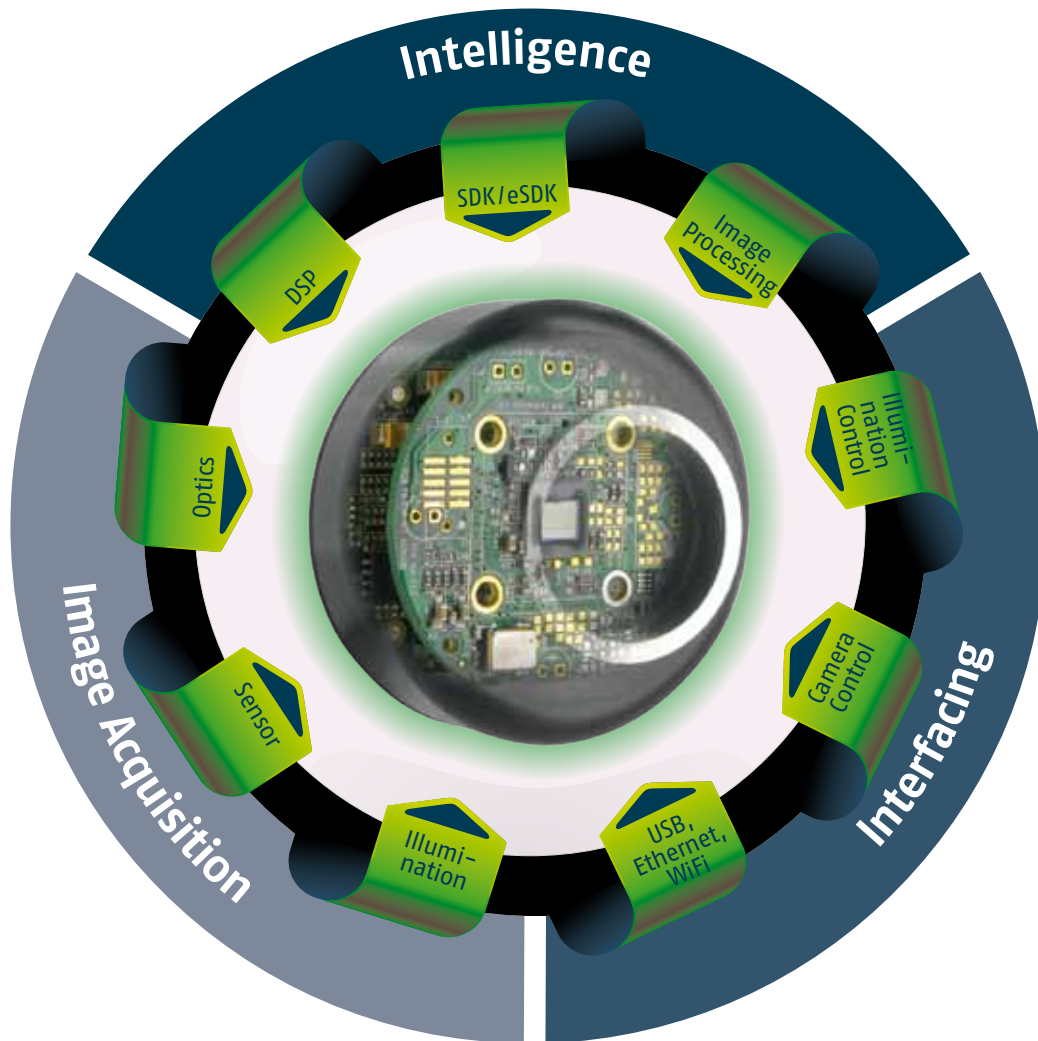


MaxxVision®

Viel vor. Viel dahinter.



Add Vision to Your
Products

www.maxxvision.com



Imaging Diagnostics – Total Vision Solutions.

For more than 16 years, Imaging Diagnostics' team has been providing imaging solutions for a wide range of machine vision applications.

The company's in-house facilities, including

- research and development,
- production and assembly,
- quality assurance, and
- technical support,

enable fast development of professional, quality solutions for many vision related applications in various fields.

ID has successfully integrated its vision solutions into products of leading companies worldwide, including some in Germany, UK, United states and Israel.

Our target is to assist our customers in achieving the best solutions for their applications during all stages:

- system requirements
- components selection
- design and development
- production
- support



„We consider Imaging Diagnostics as a vision solution provider for custom products, helping our customers achieve the best possible product, and supporting them throughout their product development stages in every aspect.“

Ofer Leizerovich, CEO

So erreichen Sie uns.

MaxxVision GmbH
Sigmaringer Straße 121
D-70567 Stuttgart

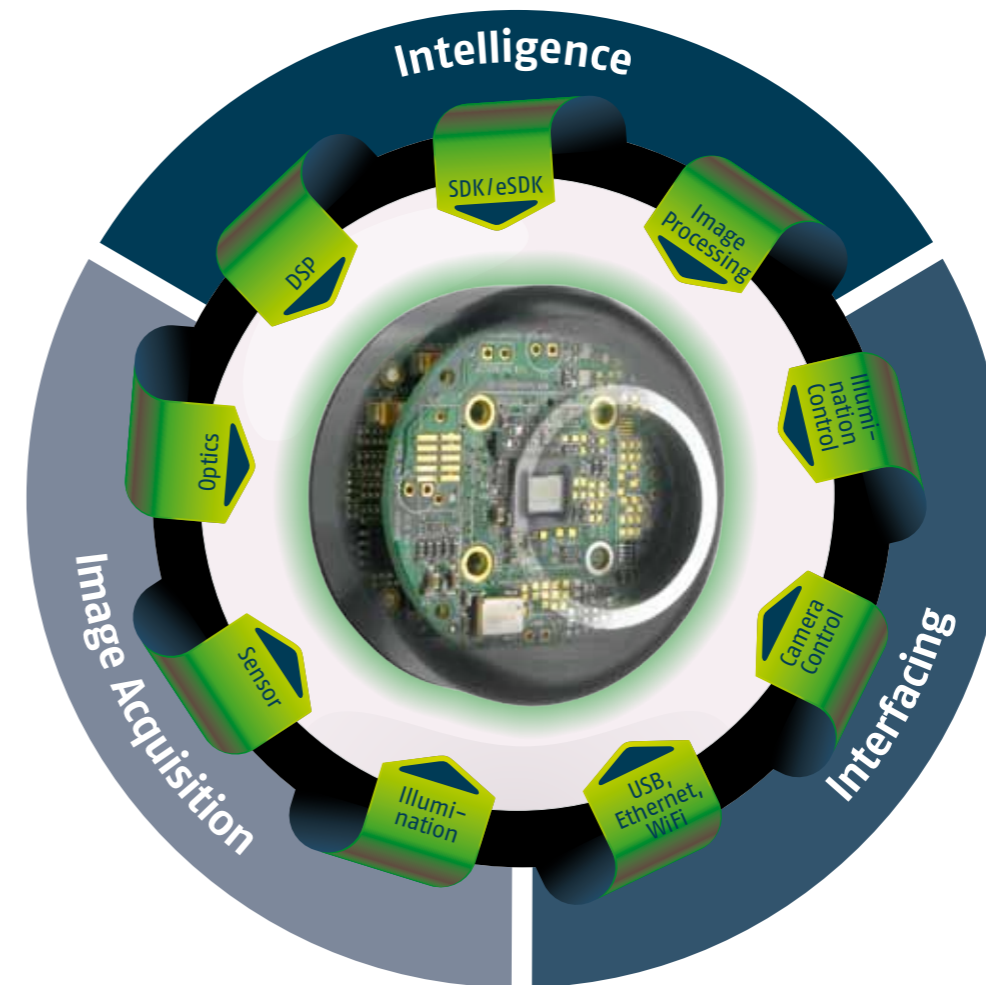
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Imaging Diagnostics Ltd. is certified by IQNet and The Standards Institution of Israel as well as SII and found to comply with the requirements for medical devices according to ISO 9001:2008 and ISO 13485:2003 in development, manufacturing and marketing of advanced imaging products and solutions for machine vision, security and medical applications.

Choose Your Best Solution



Add Vision to Your Products.

Intelligence

- DSP
- SDK / eSDK
- Image Processing

Image Acquisition

- Sensor
- Optics
- Illumination

Interfacing

- USB / Ethernet / WiFi
- Camera Control
- Illumination Control



Focusing on Your Vision

Focusing on Your Vision

Intelligence

- DSP
- Real Time Image Processing
- Gain Control
- Autofocus
- LUT
- Data Encryption
- AWB

- SDK
- Camera Initialization
- Camera Setting
- Image Capture/Live
- Dll-Library
- Examples
- Remote Firmware Update

- eSDK
- Developing Framework
- Visual DSP ++
- Components Documentation
- DSP-Library
- Examples

Image Acquisition

- Sensor
- B/W and Color
- WVGA~10 Mpixel
- Filter / Protection Glass
- Board / Housing

- Optics
- C- / CS- / S-Mount
- Micro
- Fixed Focus / Zoom
- Manual / Auto

- Illumination
- Standard / Customized

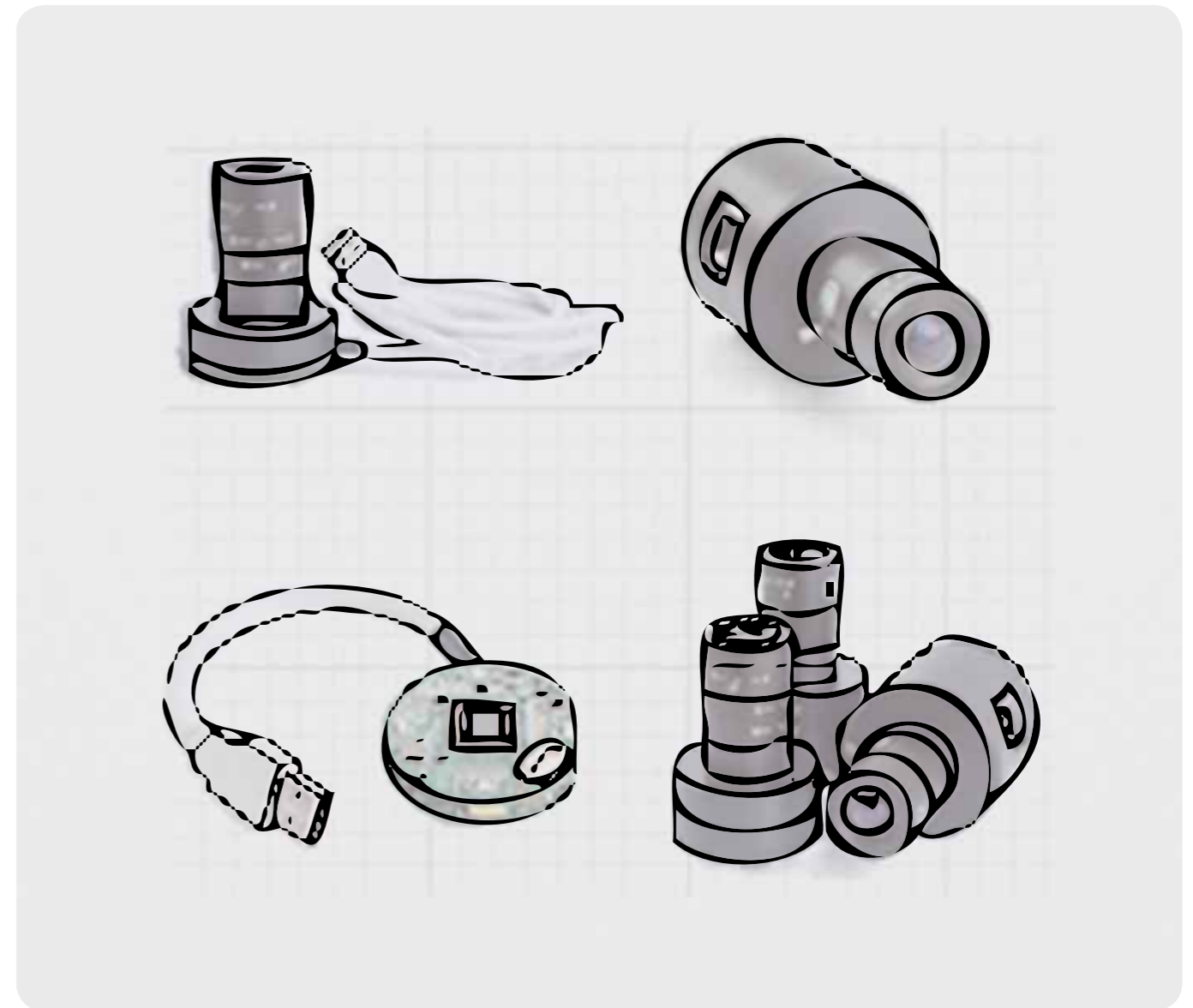
Interfacing

- Databus
- USB 2.0
- Ethernet
- WiFi
- I2C, SPI
- UART

- Camera Control
- Multiple Camera
- I/O
- Trigger

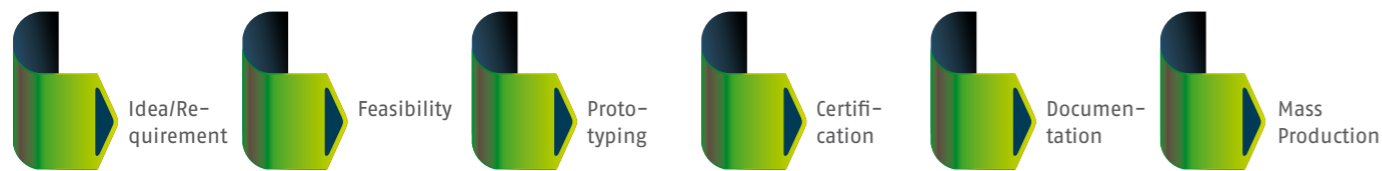
- Illumination Control
- Strobe Control
- Pulse Width Modulation (PWM)

Smart Cameras to Fit Any Need.



Process Chain

Process Chain



Empower Your Vision

Empower Your Vision

Flexibility | Value-Added-Services | Quality

On Demand Systems

On Demand Solutions

On Demand Accessoires

On Demand Systems

On Demand Solutions

On Demand Accessoires

Camelot – Versatile and Adaptable



Work Smarter not Harder

- Features:**
- Analog devices BF54x DSP up-to 600MHz
 - 64 MB Ram, 16 MB Flash
 - Programmable GPIOs and PWM
 - Versatile Embedded and PC SDK for Designing Custom Solutions
 - External Trigger and Strobe support
 - Multiple Camera Support

- Design:**
- Compact size
 - C/CS Mount or Micro Lenses
 - Stackable/Modular Solution

- Image Features:**
- Video Output: 8, 10, 12 bit
 - Various image sensors supported
 - 3-60 fps
 - WVGA to 10MP resolutions
 - 8-12 bit image capture
 - Real Time Image Processing
 - AGC, AWB
 - Image quality enhancements
 - Custom FOV and Sub Sampling

- Connectivity:**
- USB 2.0
 - Ethernet
 - UART
 - I2C, SPI
 - WIFI / Bluetooth

	WVGA	1.3MP	3MP	5MP	10MP
Sensor	1/3"	1/2"	1/2"	1/2.5"	1/2.3"
Resolution	752x480	1280x1024	2048x1536	2592x1944	3848x2748
FPS	Camelot 60	30	12	8.4	4
Dynamic range	>55dB Linear >100dB HDR	68.2dB	61dB	70.1dB	65.2dB
Pixel Size	6.0x6.0µm	5.2x5.2µm	3.2x3.2µm	2.2x2.2µm	1.67x1.67µm
Shutter	Global	Rolling	Rolling	Rolling	Rolling
Responsivity	4.8V/lux-sec (550nm)	2.1V/lux-sec (550nm)	>1.0V/lux-sec (550nm)	1.4V/lux-sec (550nm)	0.31V/lux-sec (550nm)
Monochrome/Color	Both	Mono Only	Both	Both	Both
Analog Gain	1x-4x in 0.0625 steps	1x-15x in 0.125 steps	1x-8x in 0.125 steps	1x-8x in 0.125 steps	1x-32x in 0.02 steps
Digital Gain	25 tiles 1x-64x	n.a.	1x-16x	1x-16x	1x-7x
Region of Interest, ROI, Configuration	Custom User Defined				
Image Acquisition	Continuous and Trigger (External of SW) Controlled				
Defect Pixel Correction	Yes				
Binning	Vertical and Horizontal 2x, 4x and User Defined				
Sub Sampling	Vertical and Horizontal 2x, 4x and User Defined				
Image Buffer	For image acquisition, processing and readout				
Video Output	USB, Ethernet, UART, SPI, Custom (Bluetooth, WIFI, etc.)				
Output Resolution	Selectable 8, 10 bit, 12 bit (12 bit for 5Mp and 10Mp)				
I/O Interface	Camelot	9 Programmable GPIO Pins, 7 Programmable PWM Pins, Programmable Trigger Input and Strobe Output			
Sensor Position	Factory Aligned and Stable				
Testing	100% Factory Tested for all Specifications				

Camelot M12 Auto Focus Camera



... For more accuracy and flexibility in your application!

- Features:**
- Based on the Camelot 5MP Camera
 - Auto and Manual Focus adjustment
 - Accepts any standard M12 Lens
 - 1.5mm Movement with 3000 steps
 - Embedded encoder for accurate and repeated focus position
 - RS-232C-Steuerung
 - No additional liquid medium affecting transmission, clarity or temperature sensitivity
 - Integrated into the camera hardware and software – no external hardware required
 - Available with USB/Ethernet interface
 - Custom interfaces on demand

- Applications:**
- Biometrics
 - Kiosks
 - Diagnostics
 - Dermatology
 - Inspection
 - and much more ...

	WVGA	1.3MP	3MP	5MP	10MP
Sensor	1/3"	1/2"	1/2"	1/2.5"	1/2.3"
Resolution	752x480	1280x1024	2048x1536	2592x1944	3848x2748
FPS	Camelot 60	30	12	8.4	4
	IDM-500 60	n.a.	n.a.	7	3
Dynamic range	>55dB Linear >100dB HDR	68.2dB	61dB	70.1dB	65.2dB
Pixel Size	6.0x6.0µm	5.2x5.2µm	3.2x3.2µm	2.2x2.2µm	1.67x1.67µm
Shutter	Global	Rolling	Rolling	Rolling	Rolling
Responsivity	4.8V/lux-sec (550nm)	2.1V/lux-sec (550nm)	>1.0V/lux-sec (550nm)	1.4V/lux-sec (550nm)	0.31V/lux-sec (550nm)
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Digital Gain	25 tiles 1x-64x	n.a.	1x-16x	1x-16x	1x-7x
Region of Interest, ROI, Configuration	Custom User Defined				
Image Acquisition	Continuous and Trigger (External of SW) Controlled				
Defect Pixel Correction	Yes				
Binning	Vertical and Horizontal 2x, 4x and User Defined				
Sub Sampling	Vertical and Horizontal 2x, 4x and User Defined				
Image Buffer	For image acquisition, processing and readout				
Video Output	USB, Ethernet, UART, SPI, Custom (Bluetooth, WIFI, etc.)				
Output Resolution	Selectable 8, 10 bit, 12 bit (12 bit for 5Mp and 10Mp)				
I/O Interface	Camelot	9 Programmable GPIO Pins, 7 Programmable PWM Pins, Programmable Trigger Input and Strobe Output			
	IDM-500	3 Programmable GPIO Pins, Trigger Input and Strobe Output			
Sensor Position	Factory Aligned and Stable				
Testing	100% Factory Tested for all Specifications				

Custom Auto Focus Camera



... for more accuracy and flexibility in your application!

- Features:**
- Custom design of auto focus cameras
 - Uses Off-The-Shelf Lenses
 - Unique design using Canon DSLR motorized focus lenses
 - Integrated into the camera hardware and software – no external hardware required
 - Auto or Manual focus done in the firmware
 - Available with USB or Ethernet models
 - Custom interfaces on demand

- Application:**
- Security
 - Remote barcode reading
 - Biometrics
 - Kiosks
 - Diagnostics
 - Dermatology
 - Inspection
 - and much more ...

On Demand Systems

On Demand Solutions

On Demand Accessoires

On Demand Systems

On Demand Solutions

On Demand Accessoires

IDM 500 Low Cost / Ultra-Compact



The Smartest USB 2.0 Camera Just Got Smaller

Features:

- Powerful Analog devices BF52x DSP, up-to 600Mhz
- 16 MB Ram, 1 Mb Flash
- Programmable GPIO
- External Trigger and Strobe
- Extensive PC SDK
- Embedded EVK for developing on camera and stand alone applications

Design:

- Ultra compact: 30x30x19mm
- Connections on side of Enclosure
- C/CS Mount or Micro Lenses
- Board level Option

Image Features:

- Video Output: 8, 10, 12 bit
- WVGA, 5Mp, 10Mp
- 3-60 fps
- Real Time Image Processing
- AGC, AWB for high quality image
- Custom FOV and Sub Sampling

	WVGA	1.3MP	3MP	5MP	10MP
Sensor	1/3"	1/2"	1/2"	1/2.5"	1/2.3"
Resolution	752x480	1280x1024	2048x1536	2592x1944	3848x2748
FPS	IDM-500 60	n.a.	n.a.	7	3
Dynamic range	>55dB Linear >100dB HDR	68.2dB	61dB	70.1dB	65.2dB
Pixel Size	6.0x6.0µm	5.2x5.2µm	3.2x3.2µm	2.2x2.2µm	1.67x1.67µm
Shutter	Global	Rolling	Rolling	Rolling	Rolling
Responsivity	4.8V/lux-sec (550nm)	2.1V/lux-sec (550nm)	>1.0V/lux-sec (550nm)	1.4V/lux-sec (550nm)	0.31V/lux-sec (550nm)
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Region of Interest, ROI, Configuration	Custom User Defined				
Image Acquisition	Continuous and Trigger (External or SW) Controlled				
Defect Pixel Correction	Yes				
Binning	Vertical and Horizontal 2x, 4x and User Defined				
Sub Sampling	Vertical and Horizontal 2x, 4x and User Defined				
Image Buffer	For image acquisition, processing and readout				
Video Output	USB, Ethernet, UART, SPI, Custom (Bluetooth, WIFI, etc.)				
Output Resolution	Selectable 8, 10 bit, 12 bit (12 bit for 5Mp and 10Mp)				
I/O Interface	IDM-500	3 Programmable GPIO Pins, Trigger Input and Strobe Output			
Sensor Position	Factory Aligned and Stable				
Testing	100% Factory Tested for all Specifications				

IDM 100 Low Cost Board Level Vision Sensor + DSP Power!



Fits into your Device and your Budget

Features:

- On Board 16 KB RAM
- 128 KB Flash
- Powerful analog devices Blackfin DSP up-to 400Mhz
- UART interface
- GPIOs

Design

- Single board
- Compact size: 24 x 24mm
- 640x480 VGA Sensor
- 2 On-board LEDs
- Mounted F2.8 Adjustable Lens

Applications

- Barcode Reading
- Pattern Recognition
- Color Detection
- Level and Edge Detection
- Object Counting
- Biometrics
- Intensity Calculations
- Motion Detection
- One time use cameras

Customer Story

Customer Story



Camelot for Industrial Applications

Background

Printed Circuit Boards, PCB, are used in virtually every electronic device today. Surface Mount Technology, SMT, is the method in which the components are mounted directly onto the surface of PCBs using soldering paste. The soldering paste deposition utilizes a screen printing process with a stainless steel or nickel stencil. **Precise alignment** and **exact amounts** of solder paste is necessary for developing functioning circuit boards.

Problem

Exerra, a developer and manufacturer of off-line stencil and screen printers, required a vision system for their eP25 that could **accurately verify** the presence and orientation of a particular surface mount component and at the same time, **reliably check the quality** of the solder connecting the surface mount component to the circuit board.

Solution

Imaging Diagnostics created the optimal vision solution by providing a series of cameras for Exerra's eP25 off-line stencil and screen printers designed to address the complex issues involved in soldering **identification and verification** under extremely difficult industrial conditions.

Imaging Diagnostics integrated **USB2.0 cameras** into an intuitive interface enabling users to define the entire PCB or as many **Areas of Interest, AOI**, as desired. Each area is presented as an icon on a graphical representation of the PCB, and can be magnified for **close-up verification**. Each type of defect is displayed on the screen in a unique color, making it easy to identify various types of problems. The frequency and level of inspection is **user-defined** and can be executed after every printing and stencil cleaning cycle. The inspection system generates both **statistical and graphical reports**, featuring **automated alerts** when measurements exceed defined tolerances.



Camelot in Rapid Medical Diagnostics

Background

Malaria and other infectious diseases are rampant in developing countries, and medical facilities are unable to keep up with the growing need for constant, **immediate and accurate** diagnostic testing.

Diamed Rapid Tests were developed to reach this critical market, providing quick on-site diagnoses to replace costly laboratory testing.

Problem

Although rapid malaria tests are 90% accurate, the results are difficult to read and there is a high instance of user error, resulting in misdiagnosis and improper treatment. A solution was needed to help field technicians **accurately diagnose** patients and begin treatment on time.

Solution

Diamed turned to Imaging Diagnostics to develop an embedded vision solution to process test results using **image analysis**, thereby eliminating the potential for human error and misdiagnosis.

In order to satisfy Diamed's battery power and size constraints of a hand held portable device, Imaging Diagnostics needed to provide a **compact camera** that possesses the requisite **imaging sensitivity** along with the processing ability to enable **quantitative determination** of the level of infection at **low power consumption**.

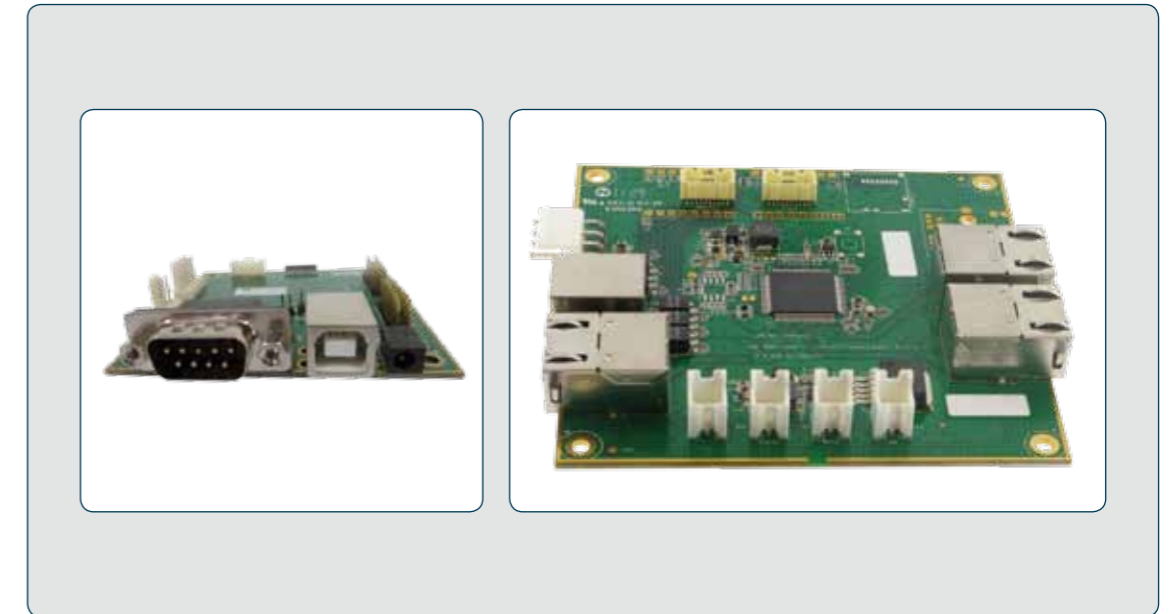
Utilizing a professional USB 2.0 camera, Imaging Diagnostics **developed and produced a fully working product in only six months** enabling Diamed to fill the demand for an accurate, easy to use and cost-effective testing device.

Camelot and IDM-500 Accessories

Camelot and IDM-500 Accessories

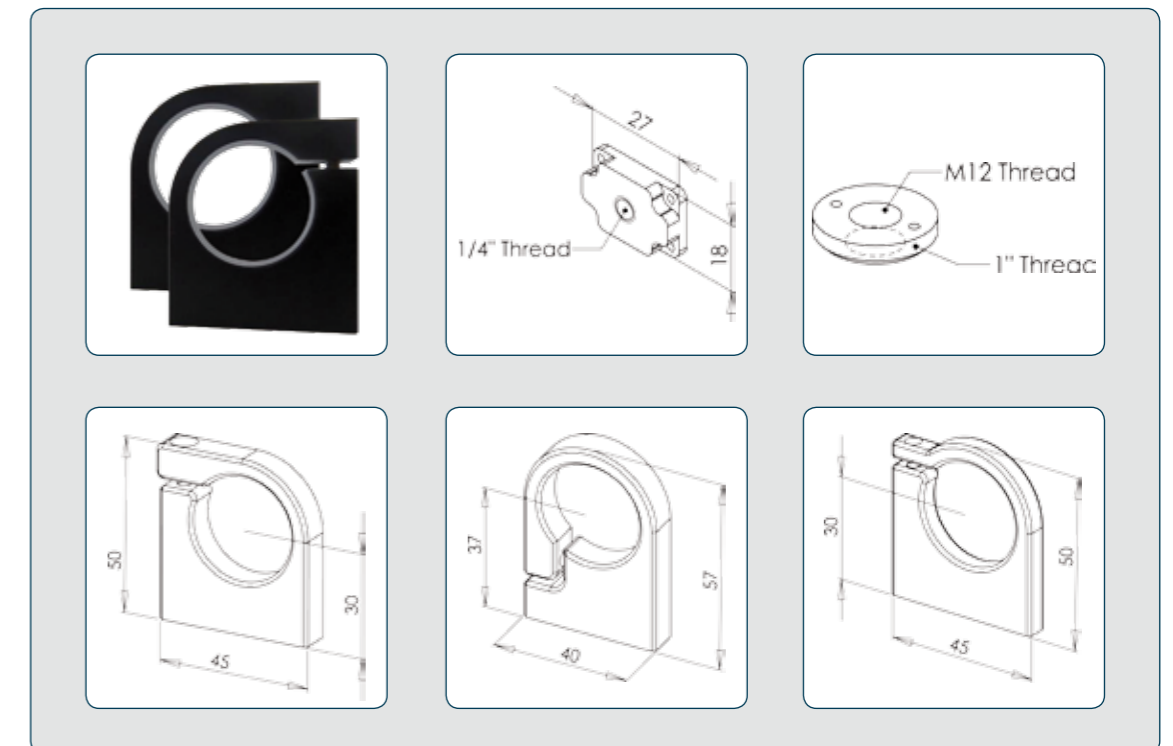
Camelot and IDM-500 IO/Development Boards

Includes UART, COM and JTAG connections. All 16 GPIO and PWM Pins of the Molex connector are mapped. Can be used as 5V power source for Ethernet cameras.



Camera Holders and Adaptors

ID supplies a variety of camera holders and adaptors with screw-on bases to fit all types of tripods and stands



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