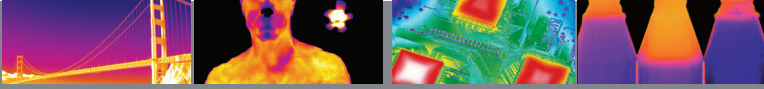


ThermoVision® A320 Research Package

INFRARED CAMERA SYSTEM



The ThermoVision A320 Research Package is an affordable, accurate and intelligent solution for Research and Development applications. Easy to use, this thermal imager clearly displays the thermal characteristics of products and processes – delivering critical information needed to cost-effectively solve design problems and improve reliability.



- > Ethernet Connectivity
- > Integrated Researcher™ Software
- > Longwave Imaging Performance
- > Compact, Rugged, and Lightweight
- > Real-Time Digital Video Recording
- > Precision Non-contact Temperature Measurement
- > Maintenance-free, Uncooled, Microbolometer Detector
- > Simultaneously Access Data From Multiple Cameras

Affordable Research Package

The ThermoVision A320 Research Package consists of a rugged IR camera and the ThermoCAM Researcher Software. It provides an affordable, flexible and powerful solution for real-time thermal analysis.

Instant Non-contact Temperature Measurement

The A320 Research Package was designed from the ground up to deliver accurate thermographic imaging and repeatable temperature measurement. Each thermal image is built from over 76,000 individual picture elements that are sampled by the camera's on-board electronics and software to measure temperature.

Optics and Focus Options

The A320 comes standard with a built-in 25° lens. Additional fields of view can be achieved with optional 15° and 45° lenses. Each A320 lens can focus manually by hand or automatically via a built in motorized focus mechanism.

Compact, Rugged, and Lightweight

Compact and lightweight, this portable yet powerful research device fits easily on a test bench and can be easily carried to other locations for fast, mobile data acquisition and analysis.

Ethernet Data Transfer

The A320 Research Package is equipped with a 100MBit, RJ-45, Gigabit Ethernet connection with a data rate into the Researcher software of 5Hz.

Easy Operation: Plug and Play

The A320 Research Package is a simple solution due to its plug and play set-up. Simply connect the camera to a PC and produce high-quality real-time radiometric images. The camera can be fully controlled from the PC. Alternatively, images can be viewed on a stand alone video monitor by using the camera's composite video output (NTSC or PAL).

ThermoCAM Researcher: Powerful, Real-time Storage and Analysis Software

ThermoCAM Researcher has been developed for use in scientific environments where detailed thermal analysis of dynamic events is required. It offers powerful built-in measurement and analysis functions (isotherms, spot measurements, line profiles, area histograms, image subtraction capability, and more) for fast and extensive temperature analysis.

Tailored To Your Application

FLIR Systems offers a complete series of accessories, including optics, enclosures, data systems, and software tools, to suit the most demanding applications from the lab to the production line.

ThermoVision® A320 Research Package Specifications

Imaging Performance	
Field of View/Min. Focus Distance	Built in 25° × 18.8°/0.4m (1.3 ft.)
Focusing	Auto focus, motorized manual
Detector Type	Focal Plane Array (FPA), uncooled microbolometer
Spectral Range	7.5 to 13.0 μm
Pixel Resolution	320×240
Measurement	
Temperature Ranges	-20°C to +120°C (-4°F to 248°F) 0°C to +350°C (32°F to 662°F) Optional +250°C to +1200°C (482°F to 2192°F)
Thermal Sensitivity (NETD)	<0.07°C (<0.14°F) @ +30°C (+86°F)
Accuracy (% of Reading)	±2°C or ±2%
Automatic Emissivity Calculator	Variable from 0.1 to 1.0
Individual Emissivity Settings	Per region of interest
Measurement Corrections	Reflected ambient, distance, relative humidity, external optics. Automatic, based on user input.
Image Presentation	
Digital Output	100MBit Ethernet
Frame Rate to Researcher	5 Hz
Gigabit Ethernet Output	16-bit radiometric
Analog Output	RS170 / NTSC

Power Source	
AC Operation	AC adapter 110/220 VAC, 50/60Hz
DC Operation	10–30V normal polarity protected
Environmental	
Operating Temperature Range	-15°C to +50°C (+5°F to +122°F)
Storage Temperature Range	-40°C to +70°C (-40°F to +158°F)
Humidity (operating and storage)	IEC 60068-2-30/24 h 95% relative humidity +25°C to +40°C (+77°F to +104°F)
Encapsulation	IP 40 (IEC 60529)
Bump, Operational	25 g (IEC 60068-2-29)
Vibration, Operational	2 g (IEC 60068-2-6)
EMC	EN 61000-6-2:2001 (Immunity) EN 61000-6-3:2001 (Emission), FCC 47 CFR Part 15 Class B (Emission)
Physical Characteristics	
Size	70×70×170mm
Weight	0.7 kg
Mounting	¼"-20 and 2×M4 on three sides
Interchangeable Lenses/Options	
Field of View	15° telephoto lens 45° wide angle lens
Lens Recognition	Automatic lens recognition and measurement corrections

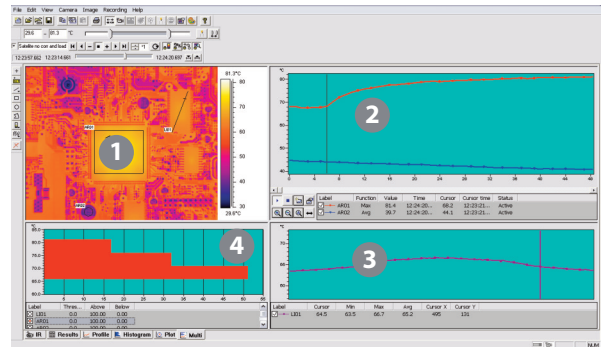
User Configuration Table		
TYPE	FUNCTION	REMARK
Digital Input	TTL level • Shutter disable • V-sync in	Isolation and relay function in external module
Digital Output	TTL level • Program control • V-sync out	Isolation and relay function in external module

ThermoVision A320



- 1 **Composite Video:** PAL/ NTSC
- 2 **100 Mb Ethernet:** Supporting TCP/IP protocol and WEB-server, http. MPEG-4 streaming. Power over Ethernet.
- 3 **Power Connector, ScrewTerminal 2-pole:** 12/24 V, 12W.
- 4 **Digital I/O Connector, ScrewTerminal 6-pole:** Digital Out: 2 outputs, opto-isolated, 10–30V supply, 100 mA. Digital In: 2 inputs, opto-isolated, 10–30V.

ThermaCAM Researcher Software



- 1 Real-time, Playback, Static Image Display
- 2 Temperature vs. Time plotting
- 3 Line Profile Temperature Graph
- 4 Histogram Analysis



The Global Leader in Infrared Cameras

1 800 464 6372

www.infraredresearchcameras.com

Specifications subject to change. ©Copyright 2007, FLIR Systems, Inc. All rights reserved. A320RES 100907