InfReC
InfraRed Camera

Avio

High Resolution - Multi-Purpose Infrared Thermal Imaging Camera

InfReC R300SR series

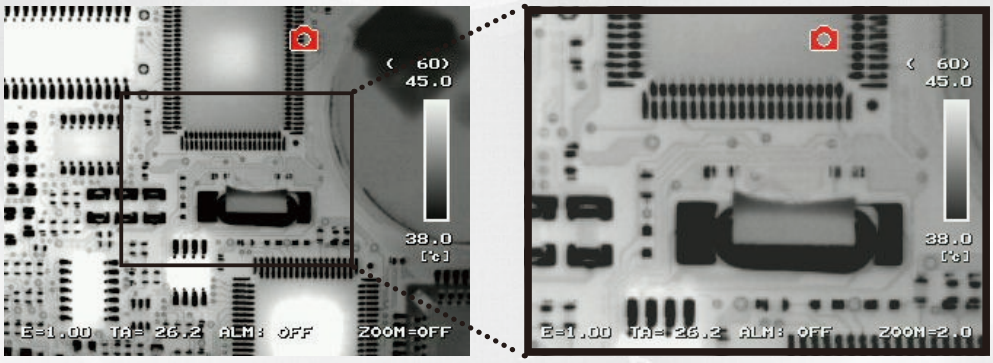
Highly Sensitive, High Resolution, High Quality Thermal Image Capturing for Thermographers.

World's First Development (1)

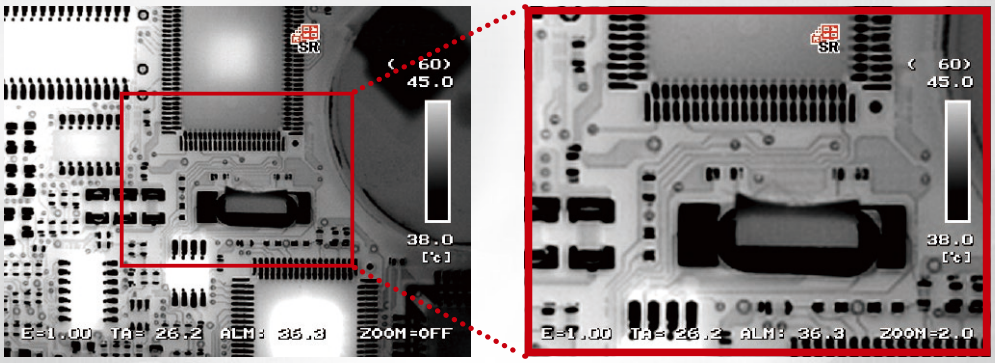
Onboard Super Resolution Processing Improves Thermal Image Quality Using 4x Pixel Count Enhancement.

Super Resolution Images are Instantaneously Replayed on Camera View Screen Immediately After Shooting Without a PC.

Sensor format image (320 x 240 pixels)



Super Resolution mode image (640 x 480 pixels)



(1): As of 2012 November 14th according to our research.

Model R300SR High Resolution Thermal Images Surpass ALL Infrared Thermal Imaging Cameras in this Class by use of Avio's Multi-Frame Super Resolution Processing.

- Super Resolution (SR) mode 640 x 480 pixels.
- Highest in Class Thermal Sensitivity (NETD) of 0.025℃ (Model R300SR-S) .
- Spatial Resolution corresponds to 0.8mrad (Super Resolution (SR) mode).
- Additional Super Resolution Image Clarity is Provided by Included PC Software.

NIPPON AVIONICS CO.,LTD.
An NEC Group Company

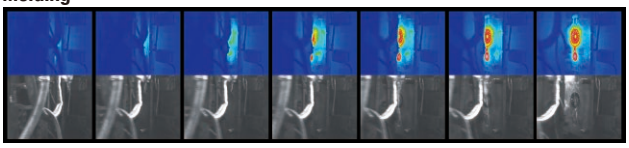
LASER RADIATION
DO NOT STARE INTO BEAM
CLASS 2 LASER PRODUCT

Both Thermal and Visual Images are Captured Simultaneously

Transfer Thermal Images to a PC at 60 fps via USB2.0. *5

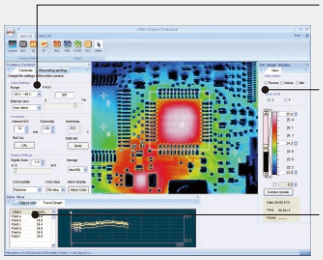
Capture Real-time and Visual Images and Simultaneously Analyze Thermal Image.

Molding



On-line Analysis Software is Standard accessory.*

Rich functions in both On-line and Off-line

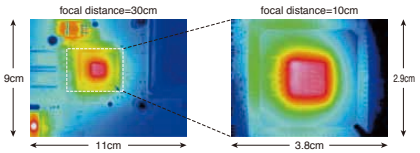


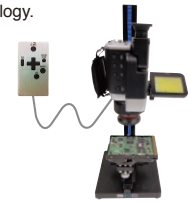
- **Camera Control**
  Control focus, set temperature measuring range and perform calibration, etc. via PC.
- **Real-time image display and recording**
  Display thermal image, visual image and fusion image simultaneously in real-time and record to PC (HDD).
  *Optional for R300SR-S/R300SR-SD
- **Real-time measurement**
  Display temperatures of measuring points and max/min/average in specified boxes.

Close-up Focus with Standard Lens

Realize 80µm Minimum Spatial Resolution at 10 cm distance (SR mode)

Use the Model R300SR series standard Lens with 10 cm close-up focus lens capability, 80µm Spatial Resolution is Achieved with Avio's Multi-frame Super Resolution Technology.

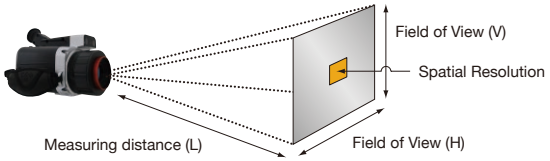




Measuring Distance and F.O.V.

Field of View and Spatial Resolution are the same magnificaiton with measuring distance.

Lens Type			2x Telephoto Lens	Standard Lens	0.5x Wide Angle Lens
L=1m	Field of View (H) x (V)		19x15cm	38x29cm	76x57cm
	Spatial Resolution	Normal Mode	0.6mm	1.2mm	2.4mm
		Super Resolution (SR mode) *1	0.4mm	0.8mm	1.6mm



Specifications

	Item		R300SR	R300SR-D	R300SR-H	R300SR-HD	R300SR-S	R300SR-SD
Basic Performance	Measuring Range		-40 to 500°C		-40 to 2000°C		-40 to 120°C	
	Sensitivity (NETD)		0.03°C at 30°C (with S/N improvement)				0.025°C at 30°C (with S/N improvement)	
	Accuracy		±1°C *2				±2°C or ±2%	
	Frame Rate		60Hz	8.5Hz	60Hz	8.5Hz	60Hz	8.5Hz
	Spectral Range		8 to 14µm					
	Detector Pixels		320(H)×240(V) pixels					
	Recording Pixels		Standard : 320(H)×240(V) pixels, SR mode : 640(H)×480(V) pixels *3					
	Field of View		22°(H)×17°(V) (with standard lens)					
	Spatial Resolution		Standard : 1.2 mrad, SR mode : equivalent to 0.8 mrad *1 (with standard lens)					
	Focal Distance		10cm to infinity (with standard lens) *4					
Image Display	Auto Functions		Auto-scale, Auto-focus, Full-auto					
	Color Pallet		Olive, Rainbow, Iris, Brightness, Hot iron, Hot white, Hot black					
	Gradation		256/32/16/8 tones					
	Visual Camera		CMOS camera 3.1M pixels Fusion, Picture-In-Picture, Alpha Blending, Split-Screen					
	Display Functions	Digital Zoom	1 to 4 times continuous zoom (with display positioning scroll)					
		Grid Overlay	Provided					
		Multi-Image-Display	Display 9 images (replay mode)					
	Image Quality Improvement	Averaging	Off / Σ4/ Σ8/ Σ16(with ghost rejection)					
		Edge Enhancement	Provided					
Measuring Functions	Point Temperature		10 Movable Points					
		Temperature Search	MAX, MIN					
		Delta Temperature	Provided					
	Temperature Display in Assigned Region		MAX, MIN and AVG in Box (for up to 5 Boxes)					
	Line Profile		Horizontal, Vertical or Horizontal & Vertical					
	Alarm function		Alarm Sound, Alarm Display, Color Alarm(ISO), Ext Alarm Output, Alarm Recording					
	Temperature Correction Function		Emissivity, Environment/Background, Distance, NUC					
		Emissivity	Multi-Point Correction, Emissivity Reverse Calculation, Emissivity Table					
Storage / Output	Storage Device		SD Card, Compatibility SDHC					
	Data Storage		Still Image : JPEG with Temperature Data (14 bit), Movie : SVX file (exclusive), Visual Image Simultaneously Recorded					
		Super Resolution	Provided					
		Quick Panoramic Image	Horizontal Equivalent to 70°, Vertical Equivalent to 52°					
		External Trigger	Provided					
		Interval Recording	3s to 60min, Visual Image Simultaneously Recorded					
		Movie Recording	Max 10 fps in SD Card	Max 8.5 fps in SD Card	Max 10 fps in SD Card	Max 8.5 fps in SD Card	Max 10 fps in SD Card	Max 8.5 fps in SD Card
		Voice Annotation	30sec Recording/Replay per Image					
		Text Annotation	Annotate up to 128 Characters with each Thermal Image Import Characters from SD Card					
	Interface	USB2.0	Mass-Storage/Image Transfer (Thermal Image Max 60Hz, Visual Image Max 7.5Hz)*5*6				Mass-Storage *6	
		Video output	NTSC or PAL					
		Alarm output	Provided (Contact Closure. No Voltage)					
		External trigger input	Provided (Pulse Signal)					
Auxiliary Measuring Functions	Graphical User Interface's Supported Language		English, French, Spanish, German, Italian, Portuguese, Russian, Finnish, Danish, Norwegian, Swedish, Dutch, Chinese (Traditional, Simplified), Korean and Japanese.					
	Display		3.5" LCD Monitor (with Tilt and Brightness Adjustment), Color View Finder (with Tilt Mechanism)					
	Auxiliary	Laser Pointer	Provided (Class-2 Red color)					
		LED Light	Provided					
		Wired Remote Control Unit	Provided					
Others	Environment Resistance	Operating temperature / Humidity	-15°C to 50°C, 90%RH					
		Vibration / Shock	29.4m/sec²(3G), 294m/sec²(30G)					
		Dust / Splash Proof	IP54					
	Battery Operation		2hours (typ), Rechargeable Li-Ion battery,					
	Dimensions		Approx. 121mm(H) × 105mm(W) × 193mm(D) (excluding projections)					
	Weight		Approx. 1.3kg (including Battery Pack)					
	Standard Accessories		AC Adapter ×1, Battery Charger ×1, Rechargeable Li-Ion Battery ×1, SD Card ×1, USB Cable ×1, Wristband ×1, Grip Belt ×1, Software ×1, Operation Manual ×1, and Carrying Case ×1					
	Standard Software		InfReC Analyzer NS9500Pro(Including NS9500Std)				InfReC Analyzer NS9500Std	

*1 This increased resolution results from detecting characteristic points within all frames acquired by the SR process and removing such effects as those caused by hand vibration.
*2 Operating Temperature : 10 to 40°C *3 Static image only *4 For specified Temperature Accuracy : 30 to cm to infinity
*5 R300SR-D/R300SR-HD:Thermal Image Max 8.5Hz, Visual Image Max 7.5Hz
*6 Real-Time Image Transfer for PC monitor and capture supported when used with NS9500Pro
(bundled with R300SR/R300SR-D/R300SR-H/R300SR-HD, optional for R300SR-S/R300SR-SD)

Options

Options	Model	Specifications / Remarks
2x Telephoto Lens	IRL-TX02C-B	11°(H) x 8.5°(V)
0.5x Wide Angle Lens	IRL-WX02C-B	44°(H) x 34°(V)
72µm Close-up Lens	IRL-C072UB-B	Working distance: 56mm For R300SR/R300SR-D/R300SR-H/R300SR-HD Only
AC Adaptor	RC45-09-110V/220V	110v or 220v
Rechargeable Battery Pack	T2UR18650F5928	(2500mAh) Driving Hours:2 Hours(typical)
Battery Charger	NC-LSC05-110V/220V	110v or 220v
LCD Hood	IRU-F01A	
Tripod(medium)	104118	
NS9500Std Upgrade	NS9500 PRO-B-U	From NS9500Std to NS9500Pro

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WARNINGS & CAUTIONS

- Before using this product, please carefully read the provided Operation Manual "WARNINGS" & "CAUTIONS" section to ensure proper operation.
- Please do not place the product in high temperature, high humidity or high inert gas environments.

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