

High Resolution - Multi-Purpose Infrared Thermal Imaging Camera

InfReC R300SR series

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

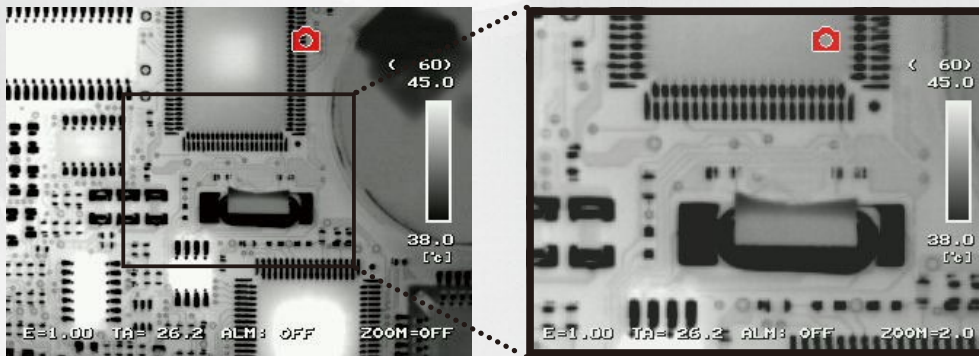
World's First Development (1)

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

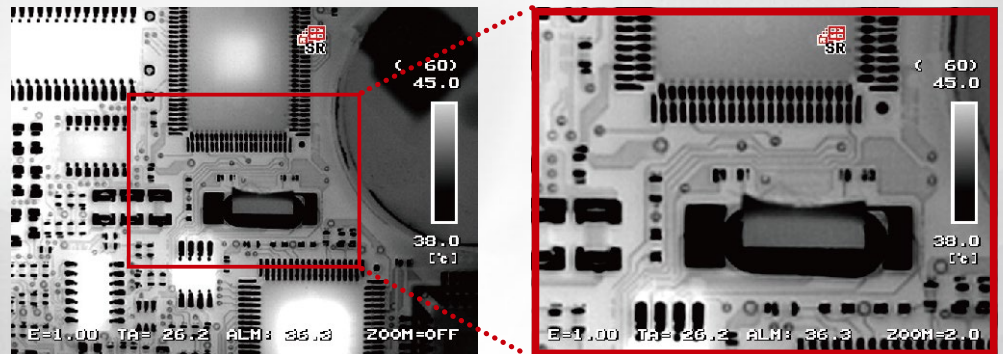
Super Resolution Images are Instantaneously Replayed on Camera View Screen Immediately After Shooting Without a PC.



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°C (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



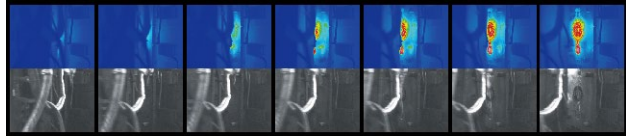
Both Thermal and Visual Images are Captured Simultaneously

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

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

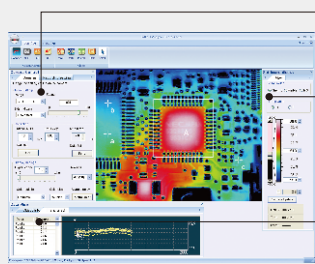


Molding



On-line Analysis Software is Standard accessory.*

Rich functions in both On-line and Off-line

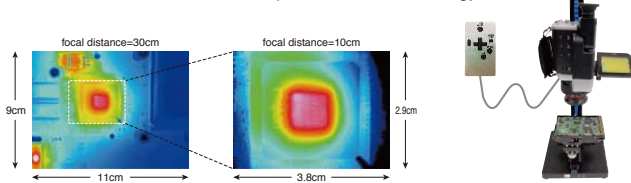


- Camera Control**
 Control focus, set temperature measuring range and perform calibration, etc. via PC.
- Real-time image display and recording**
 Display thermal image, visual image and fusion image simultaneously in real-time and record to PC (HDD).
 *Optional for R300SR-S/R300SR-SD
- Real-time measurement**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

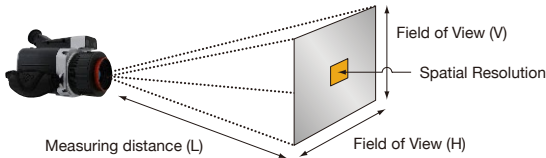
Use the Model R300SR series standard Lens with 10 cm close-up focus lens capability, 80μm Spatial Resolution is Achieved with Avio's Multi-frame Super Resolution Technology.



Measuring Distance and F.O.V.

Field of View and Spatial Resolution are the same magnification 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



* Listed specifications, appearance and design are subject to change without notice. * Company and commodity names are trade names or registered trade marks of each company. * NIPPON AVIONICS Co., Ltd. will not be responsible for any damage of infrared detectors due to incoming strong light (e.g. laser) through lens(es). * This product is subject to Japanese Export Control Law. Depending on its destination, prior assessment and authorization may be required. When exporting from country of initial purchase destination, please be sure to follow that country's export regulations as it may require an export permit beforehand.

Specifications

Item	R300SR	R300SR-D	R300SR-H	R300SR-HD	R300SR-S	R300SR-SD
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 (Range 1) *2					
Frame Rate	60Hz	8.5Hz	60Hz	8.5Hz	60Hz	8.5Hz
Spectral Range	8 to 14μm					
Detector Pixels	320(H)x240(V) pixels					
Recording Pixels	Standard : 320(H)x240(V) pixels, SR mode : 640(H)x480(V) pixels *3					
Field of View	22°(H)x17°(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					
Auto Functions	Auto-scale, Auto-focus, Full-auto					
Color Palette	Olive, Rainbow, Ins, 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	Yes				
Image Quality Improvement	Multi-Image-Display	Display 9 images (replay mode)				
	Averaging	Off / Σ4 / Σ8 / Σ16 (with ghost rejection)				
Point Temperature	Edge Enhancement	Yes				
	Temperature Search	10 Movable Points				
Temperature Display in Assigned Region	Temperature Search	MAX, MIN				
	Delta Temperature	Yes				
Line Profile	MAX, MIN and AVG in Box (for up to 5 Boxes)					
Alarm function	Horizontal, Vertical or Horizontal & Vertical					
Temperature Correction Function	Alarm Sound, Alarm Display, Color Alarm(ISO), Ext Alarm Output, Alarm Recording					
Emissivity	Emissivity, Environment/Background, Distance, NUC					
	Multi-Point Correction, Emissivity Reverse Calculation, Emissivity Table					
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	Yes				
Quick Panoramic Image	Horizontal Equivalent to 70°, Vertical Equivalent to 52°					
External Trigger	Yes					
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	Yes (Contact Closure. No Voltage)				
Graphical User Interface's Supported Language	Yes (Pulse Signal)					
	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	Yes (Class-2 Red color)				
	LED Light	Yes				
	Wired Remote Control Unit	Yes				
Environment Resistance	Operating temperature / Humidity	-15°C to 50°C, 90%RH				
	Vibration / Shock	29.4m/sec ² (3G), 294m/sec ² (30G)				
	Dust / Splash Proof	IP54				
Battery Operation	2hours (typ), Rechargeable Li-Ion battery.					
Dimensions	Approx. 121mm(H) x 105mm(W) x 193mm(D) (excluding projections)					
Weight	Approx. 1.3kg (including Battery Pack)					
Standard Accessories	AC Adapter x1, Battery Charger x1, Rechargeable Li-Ion Battery x1, SD Card x1, USB Cable x1, Wristband x1, Grip Belt x1, Software x1, Operation Manual x1, and Carrying Case x1					
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 Environmental 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	RC60G-09D-110V/120V	110v or 220v
Rechargeable Battery Pack	2UR18650F	(2500mAh) Driving Hours:2 Hours(typical)
Battery Charger	NC-LSC05-110V/220V	110v or 220v
LCD Hood	IRU-F01A	
NS9500Std Upgrade	NS9500PRO-B-U	From NS9500Std to NS9500Pro

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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