Wahl
HEAT SPY®

NEW! Wahl 150 & 170 Series Imagers

Instantly find Hot or Cold Spots
Withstands 2 Meter Drop Test!

IR / Visible Light / Picture-in-Picture / SpyLite™

Touch Screen for easy access of menu functions

-4° to 662°F (-20° to 350°C) and 212° to 1202°F (100° to 650°C)

60Hz* or 9Hz Frame Rate

Field of View: 25° x 19°

3.2 Megapixel CMOS Sensor

Every Pixel Calibrated

Unlimited Phone Support with every Heat Spy!

Model 150: Thermal Sensitivity ≤ 0.05°C
Resolution: 160 x 120 with 19, 200 Pixels

Model 170: Ultra High Thermal Sensitivity ≤ 0.04°C
Resolution: 384 x 288 with 110, 592 Pixels
Extended Temperature Option to 1200°C or 2000°C

- **SpyLite™** - only temperatures over or under preset point shown thermally over visible image
- **Picture-in-Picture** - all temperatures shown thermally over visible image
- **Large 3.6" LCD Touch Screen Display** - for quick and easy use of menu functions
- **Dual LED "Head Lights"** - easily light subject even in low light conditions
- **Ergonomic design** - with easy grip, trigger and hand strap for easy scanning
- **Thermal - Visible - PIP - SpyLite Image Save**
- **Thermal - Visible - Video Recording**
- **"z" models - 60 Hz or "a" models - 9 Hz** (Factory Set)("a" models for use outside USA)

- **Laser Aiming** - pinpoints hot or cold spots
- **Engineered to withstand 2 meter Drop Test**
- **Optional Lenses** - increase functionality
  Telephoto: 2X and 4X**
  Wide Angle: 0.5X and Ultra Wideangle: 0.25X**
- **Real Time Image and Data transfer** - through Ethernet to Windows PC to manage settings and files, or view live video output
- **Bluetooth** - Wireless transfer of files to PC, or connect headset to record and play back verbal image annotation (Earphone/RS232)
- **Advanced Heat Spy Report and Analysis Software** - included for quick and professional reports with precise image and temperature analysis on any point in an image.

TWO YEAR 2 WARRANTY

IP54 COMPLIANT
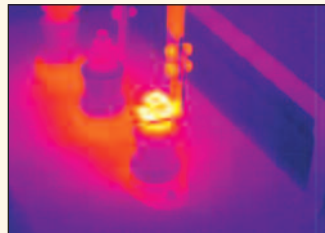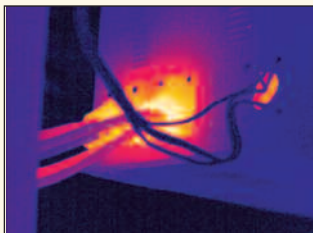
Find problems quickly, easily, and safely with the Wahl 150 and 170 Series

*Export Licensing Fee on 60Hz models may be required for your country, subject to US Government approval. No Export License required on 9Hz models. **Model 170 only.

Heat Spy® is a registered trademark of Wahl Instruments, Inc.

Specifications subject to change without notice

ISO 9001:2008 CERTIFIED QUALITY MANAGEMENT SYSTEM

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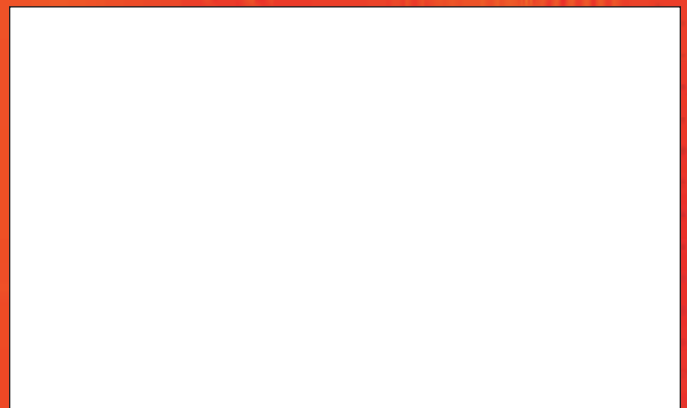
PW1283
03/15 Rev A
Revised 06/15

150 • 170 Series Thermal Imagers Specifications

Model Number	a150	z150	a170	z170
Frame Rate	9Hz	60Hz*	9Hz	60Hz*

Image Performance

	a150	z150	a170	z170
Detector Type	Uncooled Microbolometer Focal Plane Array (FPA)			
Detector Resolution	160 x 120		384 x 288	
Number of Pixels	19,200		110,592	
Field of View (FOV)	25° x 19°			
Spatial Resolution (IFOV)	2.73 mrad		1.37 mrad**	
Thermal Sensitivity	≤ 0.05 @ 30°C		≤ 0.04 @ 30°C Ultra High Sensitivity	
Focus Range	0.5 m to ∞			
Focus Type	Manual			
IR Digital Zoom	X2 or X4			
Spectral Range	8 - 14μm			
Visible Light Camera	3.2 Megapixel CMOS Sensor, Dual LED Head Lights			
Telephoto Lens Option Factory Upgrade	2X for 12.5° x 9.5° FOV			
	NA		4X for 6.25° x 4.75° FOV	
Wide Angle Lens Option Factory Upgrade	0.5X for 50° x 38° FOV			
	NA		0.25X for 100° x 76° FOV	

Image Display

Thermal/Visible Light Image	Fast switch between Thermal, Visible Light, or Picture-in-Picture [1] or SpyLite [2]			
LCD Display	High Resolution 3.6" Color LCD Touch Screen, 640 x 480			
Image Control	**11 Display Color Palettes:** Ironbow; Negative Grayscale; Positive Grayscale; Amber; Hot Metal; Cool Metal; Rainbow Green-Red; Rainbow Blue-Red; Rainbow Black-White; High Contrast Blue-Yellow; and High Contrast Violet-White			
	Image Adjustment: Auto Ranging / Manual Level and Span / Adjustable Display Brightness and Contrast Control			

Measurement Analysis

	a150	z150	a170	z170
Measurement Range User Selectable via Menu	-4° to 662°F (-20° to 350°C) 212° to 1202°F (100° to 650°C)		-4° to 662°F (-20° to 350°C) 212° to 1202°F (100° to 650°C)	
Extended Temperature Option	NA		752° to 2192°F (400° to 1200°C) or 752° to 3632°F (400° to 2000°C)	
Measurement Accuracy	Greater of ±2% of reading or ±2°C. Instrument is not calibrated below -10°C.			
Measurement Correction	Auto / Manual			
Measurement Mode	Spots, Areas, Lines, Isotherms, Delta T, Alarms (Multiple Audible and Visible)			
# of Measurement Spots	Up to 5 Moveable Spots, including Hot and Cold Seeking			
# of Measurement Areas	Up to 5 Movable and Sizeable Areas (Max, Min and Avg Temperatures)			
# of Measurement Lines	Up to 2 Moveable Lines, 1 Vertical, 1 Horizontal; Image Temperature Profile Lines			
Emissivity Correction	Adjustable from 0.01 to 1.00 with Built-in Emissivity Table			
Reflected Temperature Compensation	Auto with manual reflected Temperature Adjustment			
Atmospheric Transmission Correction	Automatic Correction according to user input Object Distance, Humidity, and Temperature			
Alarm	High and Low Temperature Audible and Visible Alarm; Isotherm Visible Alarm			
Temperature Scale	User Selectable: °C, °F, and K			
User Settings	Date/Time, Temperature Unit, Brightness/Contrast, LCD Brightness and 8 Languages: English; Spanish; German; Portuguese; Korean; Russian; Simplified Chinese; Traditional Chinese			

Model Number	a150	z150	a170	z170
Frame Rate	9Hz	60Hz*	9Hz	60Hz*

Image Storage

Removable Storage	8GB Micro SD, max 32GB			
Storage Mode	Manual Single Image Save or Programmable Auto Save to Micro SD Card, Single Thermal Image and Visible Image Save (with link option), Thermal, Visible, Picture-in-Picture [2] and SpyLite [3] Video Save			
File Format (Thermal)	JPEG / H.264 (Both with Radiometric information)			
File Format / (Visible Light)	JPEG, MPEG-4			
Voice Annotation	Maximum 60 seconds per image, Microphone or Bluetooth Headset			
Text Annotation	Yes, from Predefined Inspection List			

Laser

Laser Pointer	Class 2, < 1mW / 635nm, Red			

Record

Report Analysis Software	Yes			
Video Output	User Selectable PAL and NTSC			
Freeze Frame/Save Image	Freeze Frame and Save Image, Thermal and/or Visible to SD Card			

Interface

Micro SD Card Slot	Yes			
Mini-USB	Yes			
Network	Real time image and data transfer through Ethernet to Windows PC to manage settings and files, or view live video output			
Bluetooth	Wireless transfer of files to PC, or connect headset (not included) to record and play back verbal image annotation (Earphone/RS232)			
Video	Yes			
Power	DC 12V			

Environment

Ambient Operating Temp	5° to 122°F (-15° to 50°C)			
Storage Temperature	-13° to 140°F (-25° to 60°C)			
Humidity	≤ 90% non-condensing			
IP Rating	IP54			
Drop Test	2 meters			

Power

Power / Operating Time	1 Rechargeable Lithium Ion Battery, 2 Batteries provided for approx 3 hours continuous operation per battery			
Power Save Mode	Selectable Time Interval Auto Sleep to save battery, Auto Shut Off			
Charging System	Auxillary Charging Kit with: 12V DC Car Charger, AC/DC Power Supply/Charger with International Plugs			

General Info

Housing	Impact Resistant Molded Plastic & Hand Strap (fits either side); Dual Headlights; Microphone; Tripod Mounting/1/4"-20 Thread			
Dimensions	Width: 4.13 in. (105mm) x Length: 9.64 in. (245mm) x Height: 9 in. (230mm)			
Weight (w/o battery)	2.16 lbs (0.98 Kg)			
Software Compatibility	Microsoft Windows 2000, Windows XP, Vista, and 7			
Included Accessories	Carrying Case with Shoulder Strap; Hand Strap; Display Sun Shade; Lens Cap; 2 Rechargeable Lithium Ion Batteries; External AC Battery Charger; Auxiliary Charging Kit with: 12V DC Car Charger; AC/DC Power Supply/Charger with International Plugs; Video Out Cable; Ethernet Cable; Heat Spy Report & Analysis Software; Micro SD Card and Reader; Manual.			
Optional Accessories	Tripod Extension			

Safety Certificates

Shock Test/Vibration Test	25G, IEC68-2-29 / 2G, IEC68-2-6			
Immunity Tests/Emission Limits	Yes / Yes			

Specifications subject to change without notice

* Export Licensing Fee on 60Hz models may be required for your country, subject to US Government approval. No Export License required on 9Hz models.

** 384 x 288 is not directly convertible to 640 x 480 imager display. Image is displayed as a 320 x 240 image. Full 384 x 288 resolution image, (1.09 mrad), downloads to computer.

[1] Picture-in-Picture - all temperatures shown thermally over visible image
[2] SpyLite - only temperatures over or under preset point shown thermally over visible image

Heat Spy® is a registered trademark of Wahl Instruments, Inc.

TWO YEAR 2 WARRANTY   **IP54 COMPLIANT**

PW1283
03/15 Rev A
Revised 06/15

Register your product at www.palmerwahl.com/register

Heat Spy Thermal Imagers are available from:

Wahl® HEAT SPY®

NEW! Wahl CHIEF INSPECTOR

Highest level of Resolution
Designed for the Professional

BEST-IN-CLASS!

The a70 and z70 models include a 384 x 288 array with 110,592 pixels — 44% more pixels than 320 x 240 thermal imagers with 76,800 pixels.

Fully calibrated, high resolution camera captures clear, sharp images!

Easily load images to an iPad® using an SD adapter. The thermal images can be imported and stored in the regular photo application found on the iPad®, or used with a picture application like iPhoto®. The images can then be shared with other applications on the iPad®, offering the flexibility of easy to prepare reports.

Two temperature modes allow you to switch between the ranges of -4° to 356°F (-20° to 180°C) or 212° to 1112°F (100° to 600°C) to select the temperature range required for your application.

Temperature readings are always accurate. Quick stabilization circuitry enables the camera to acclimate to sudden ambient temperature changes in just a few minutes, compared to 30 - 45 minutes with other cameras.

Simultaneously captures both a thermal and visible light picture, or either individually, with one pull of the trigger. View or download images to included Wahl Report Writer software, or an iPad®, with selectable voice recording, up to 45 seconds per picture.

Thermal line analysis allows the user to select a target of interest as a temperature reference point, and show a relative comparison as a percentage between the target temperature and the temperatures in the surrounding area. This enables the user to quickly find potential problem areas in need of further attention.

The **z70** frame rate is 30Hz. The **a70** features a 9Hz frame rate for export without license restrictions.

TWO YEAR **2** WARRANTY
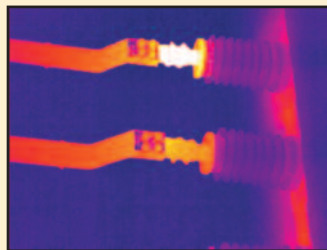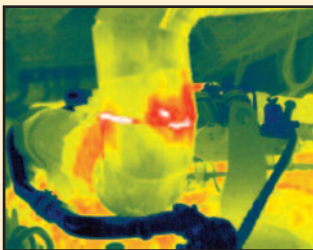
IP54

Find problems quickly, easily, and safely with the Wahl z70

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PW1282
May 2013 Rev A

a70 • z70 CHIEF INSPECTOR Specifications

Model Number	a70	z70
Frame Rate	9Hz	30Hz*

Sensor Info

Detector	Uncooled Microbolometer Focal Plane Array (EPA)
Detector Resolution	384 x 288
Spectral Range	8 - 14μm
Thermal Sensitivity	≤ 0.06 @ 30°C

Image Performance

LCD Display	High Resolution 3.5" Color LCD Screen, 640 x 480
Visible Light Camera	1.3 Megapixel CMOS Sensor

Lens Parameter

Field of View	25° x 19°
Focus Range	0.1 m to ∞ and beyond
Focus Type	Manual
Spatial Resolution	1.37 mrad**

Measurement Analysis

Measurement Range	-4° to 356°F (-20° to 180°C) or 212° to 1112°F (100° to 600°C) Low/High Temperature User Switchable:
Measurement Accuracy	Greater of ±2% of reading or ±2°C Instrument is not calibrated below -10°C.
Image Control	**11 Display Color Palettes:** Ironbow; Negative Grayscale; Positive Grayscale; Amber; Hot Metal; Cool Metal; Rainbow Green-Red; Rainbow Blue-Red; Rainbow Black-White; High Contrast Blue-Yellow; and High Contrast Violet-White
	Image Adjustment: Auto Ranging / Manual Level and Span / Adjustable Display Brightness Control
Measurement Correction	Auto Correction of Microbolometer with Adjustable Time Interval or Push Button Manual
Measurement Mode	Spots, Areas, Lines, Isotherms, Delta T, Alarms (Multiple Audible and Visible)
# of Measurement Spots	1 Hot, 1 Cold, plus 2 Adjustable
# of Measurement Areas	Up to 3 Movable and Sizeable Areas (Max, Min and Avg Temperatures)
# of Measurement Lines	Up to 2 Moveable Lines, 1 Vertical, 1 Horizontal; Image Temperature Profile Lines
T Reflect	Manual Adjustment
T Correct	Manual Adjustment
IR Digital Zoom	X 2 or X 4
Thermal/Visible Image	Toggle between Thermal and Visible Light
Alarm	High and Low Temperature Audible and Visible Alarm; Isotherm Visible Alarm
Temperature Scale	User Selectable:°C, °F, and K
User Settings	Date/Time, Temperature Unit, Brightness/Contrast, LCD Brightness, and 11 Languages: English; Spanish; French; German; Italian; Portuguese; Korean; Japanese; Russian; Simplified Chinese; and Traditional Chinese
Emissivity Range	Adjustable from 0.01 to 1.00 with Built-in Emissivity Table

Model Number	a70	z70

Image Storage

Removable Storage	2GB SD / Time Stamped
Storage Mode	Manual Single Image Save or Programmable Auto Save to SD Card
File Format (Thermal)	JPEG plus Temperature in 14 bit data
File Format/Size (Visible)	JPEG / 100K (Typical Value)
Voice Annotation	Maximum 45 seconds per image
Text Annotation	NA

Laser

Laser Pointer	Class 2, < 1mW / 635nm, Red

Record

Report Analysis Software	Yes
Video Output	User Selectable PAL and NTSC
Freeze Frame/Save Image	Freeze Frame and Save Image, Thermal and/or Visible to SD Card

Environment

Ambient Operating Temperature	5° to 122°F (-15° to 50°C)
Storage Temperature	-4° to 140°F (-20° to 60°C)
Humidity	≤ 90% non-condensing
IP Rating	IP 54

Power

Power	1 Rechargeable Lithium Ion Battery
Operating Time	2 Batteries provide approx 4 hours operation
Power Save Mode	Selectable Time Interval Auto Sleep to save battery, Auto Shut Off
Charging System	External AC Battery Charger included; In Camera Charging with optional AC/DC Battery Charger; 12V DC Car Charger

General Info

Housing	Impact Resistant Molded Plastic and Wrist Strap
Mounting	Hand Held with Tripod mounting / 1/4"-20 Thread
Dimensions	Width: 4.5 in. (115mm) x Length: 5.9 in. (150mm) x Height: 9 in. (230mm)
Weight (w/o battery)	1.65 lbs (0.75 Kg)
Software Compatibility	Microsoft Windows 2000, Windows XP, Vista, and Windows 7
Included Accessories	Carrying Case; Wrist Strap; Lens Cap; 2 Rechargeable Lithium Ion Batteries; External AC Battery Charger; Video Out Cable; Heat Spy Report & Analysis Software; SD Card/Reader; User Manual.
Optional Accessories	Auxiliary Charging Kit with: 12V DC Car Charger, AC/DC Power Supply/Charger and International Plugs

Safety Certificates

Shock Test	25G, IEC68-2-29
Vibration Test	2G, IEC68-2-6
Immunity Tests	Yes
Emission Limits	Yes

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Wahl HEAT SPY®

z50 INSPECTOR

Designed for the pro, save and export thermal and digital images with easy report writing software.

z30 DETECTOR

Designed for on the spot routine maintenance inspections.

First upgradeable camera *after purchase*. Maximize scalability by upgrading your camera with up to 15 configurations - *at any time!*

First *user* upgradeable camera. Maximize value by easily upgrading your z30 Detector to a z50 Inspector - *in the field!*

FEATURES

Upgrade both models with a High Temperature option, Wide Angle Lens and / or Telephoto Lens - at any time!

"z" speed at 30 Hertz captures clear, sharp images!

Camera acclimates quickly. Sudden ambient temperature changes won't slow you down!

Every Pixel is individually calibrated!

"Double Vision" provides simultaneous capture of both a Thermal and Digital picture, and can include up to a 45 second voice recording. (z50 Series only)

Hands-free flashlight (optional) screws into camera to brighten dark areas for clear digital pictures. Operates on it's own internal battery, enabling longer camera battery life.
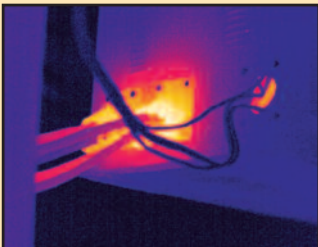
We are so confident that you will love this new camera that we are offering a 48 hour money back guarantee! (USA Customers only)

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*Buy it, you'll like it; 48 hour Money Back Guarantee**

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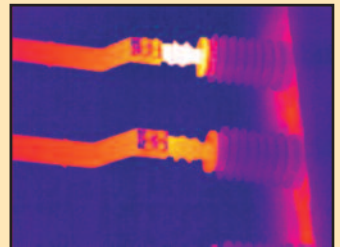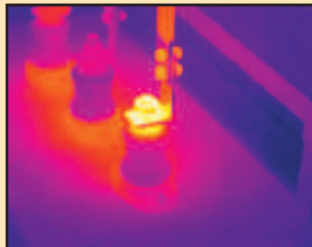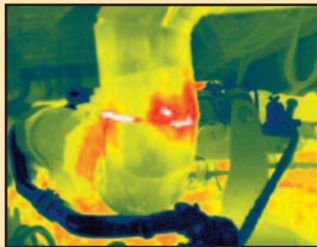
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Digital version of catalog may differ from printed version.

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PW1280z
October 2011 Rev C

Specifications	z30 Series Detector	z50 Series Inspector
UPGRADE Model	Upgrade to z50 Inspector - in the Field!	Full Feature Series
Measurement Range	-4° to 356°F (-20° to 180°C)	
UPGRADE to High Temperature	212° to 1112°F (100° to 600°C) (User Upgradeable in the Field)	
Temperature Accuracy	Greater of ± 2% of reading or ± 2°C. Instrument is not calibrated below -10°C.	
Temperature Scale	User Selectable °C, °F, and K	
Number of Measurement Spots	1 Hot Seeking, 1 Cold Seeking, 2 Adjustable	
Field of View	17.5° x 13°	
Detector Resolution	160 X 120	
Spectral Range	8-14µm	
Thermal Sensitivity	≤ 0.1°C @ 30°C	
LCD Display	High Resolution 3.5" Color LCD Screen, 640 x 480	
IR Digital Zoom	X 2	
Frame Rate	"z" models - 30Hz* (may be subject to export licensing fee)	
Display Color Palettes	**4 Color Palettes:** Ironbow; Negative Grayscale; Rainbow Blue-Red; High Contrast Blue-Yellow (Additional Palettes with Upgrade)	**11 Color Palettes:** Ironbow; Negative Grayscale; Positive Grayscale; Amber; Hot Metal; Cool Metal; Rainbow Green-Red; Rainbow Blue-Red; Rainbow Black-White; High Contrast Blue-Yellow; and High Contrast Violet-White
Image Adjustment	Auto Ranging / Manual Level and Span / Adjustable Display Brightness Control	
Languages	**11 Languages:** English; Spanish; French; German; Italian; Portuguese; Korean; Japanese; Russian; Simplified Chinese; and Traditional Chinese	
Laser Pointer	Class 2 < 1mW / 635nm, Red	
Auto Correction	Auto Correction of Microbolometer with Adjustable Time Interval or Push Button Manual	
Measurement Mode	Spots, Delta T, High Temp Alarm (Audible/Visible) (Additional capabilities with Upgrade)	Spots, Areas, Lines, Isotherms, Delta T, Alarms (Multiple Audible/Visible)
Number of Measurement Areas	(Available with Upgrade)	Up to 3 Movable & Sizeable Areas (Max, Min & Avg)
Emissivity Correction	Adjustable from 0.01 to 1.00 (Built-in Emissivity Table with Upgrade)	Adjustable from 0.01 to 1.00 with Built-in Emissivity Table
T Reflect	Manual Adjustment	
T Correct	(Available with Upgrade)	Manual Adjustment
Visible Light Camera	(Available with Upgrade)	1.3 Megapixel CMOS Sensor
Thermal/Visible Light Image	(Available with Upgrade)	Toggle between Thermal and Visible Light
Alarm	High Temperature Audible and Visible Alarm (Additional functions with Upgrade)	High Temperature Audible and Visible Alarm Isotherm Visible Alarm
UPGRADE Optics	Wide Angle (35° x 26° FOV), and/or Telephoto (8.75° x 6.5° FOV) (Factory Upgradeable options)	
Report Analysis Software	(Available with Upgrade)	Yes
Image Storage	(Available with Upgrade)	2GB SD / Time Stamped
Freeze Frame/Save Image	Freeze Frame only (Additional capabilities with Upgrade)	Freeze Frame and Save Image, Thermal and/or Visible to SD Card
Storage Mode	(Available with Upgrade)	Manual Single Image Save or Programmable Auto Save to SD Card
Voice Annotation	(Available with Upgrade)	Maximum 45s per image
File Format (Thermal)	(Available with Upgrade)	JPEG plus Temperature in 14 bit data
File Format / Size (Visible)	(Available with Upgrade)	JPEG / 60K (Typical value)
Video Output	User Selectable PAL and NTSC	
Dimensions/Weight w/o battery	Width: 4.5 in. (115mm) x Length: 5.9 in. (150mm) x Height: 9 in. (230mm) / 1.65 lbs (0.75 Kg)	
Power / Operating Time	1 Rechargeable Lithium Ion Battery / 2 Batteries provided, approx. 3 hours operation per battery	
Charging System	External AC Battery Charger included; In Camera Charging with optional AC/DC Battery Charger	
Ambient Operating Temperature	5° to 122°F (-15° to 50°C)	
Storage Temperature	-4° to 140°F (-20° to 60°C)	
Humidity/IP Rating	≤ 90% non-condensing / IP54	
Included Accessories	Carrying Case; Wrist Strap; Lens Cap; 2 Rechargeable Lithium Ion Batteries; External AC Battery Charger; Video Out Cable; Report & Analysis Software; SD Card & Reader; User Manual; (30 Series upgrade)	
Options	Auxiliary Charging Kit with: 12V DC Car Charger, AC/DC Power Supply/Charger and International Plugs	

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Specifications subject to change without notice

a50 INSPECTOR

Designed for the pro, save and export thermal and digital images with easy report writing software.

a30 DETECTOR

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First upgradeable camera *after purchase*. Maximize scalability by upgrading your camera with up to 15 configurations - *at any time!*

First *user* upgradeable camera. Maximize value by easily upgrading your a30 Detector to a a50 Inspector - *in the field!*

FEATURES

Upgrade both models with a High Temperature option, Wide Angle Lens and / or Telephoto Lens - at any time!
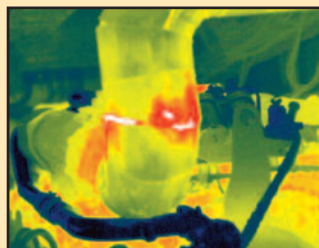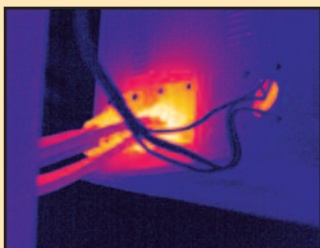
"a" speed at 9 Hertz captures clear, sharp images!

Camera acclimates quickly. Sudden ambient temperature changes won't slow you down!

Every Pixel is individually calibrated!

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Hands-free flashlight (optional) screws into camera to brighten dark areas for clear digital pictures. Operates on it's own internal battery, enabling longer camera battery life.

Find problems quickly, easily, and safely with the Wahl Heat Spy.

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PW1280a
October 2011 Rev C

Specifications	a30 Series Detector	a50 Series Inspector
UPGRADE Model	Upgrade to a50 Inspector - in the Field!	Full Feature Series
Measurement Range	-4° to 356°F (-20° to 180°C)	
UPGRADE to High Temperature	212° to 1112°F (100° to 600°C) (User Upgradeable in the Field)	
Temperature Accuracy	Greater of ± 2% of reading or ± 2°C. Instrument is not calibrated below -10°C.	
Temperature Scale	User Selectable °C, °F, and K	
Number of Measurement Spots	1 Hot Seeking, 1 Cold Seeking, 2 Adjustable	
Field of View	17.5° x 13°	
Detector Resolution	160 X 120	
Spectral Range	8-14μm	
Thermal Sensitivity	0.1°C @ 30°C	
LCD Display	High Resolution 3.5" Color LCD Screen, 640 x 480	
IR Digital Zoom	X 2	
Frame Rate	"a" models - 9Hz* (no export licensing fee)	
Display Color Palettes	**4 Color Palettes:** Ironbow; Negative Grayscale; Rainbow Blue-Red; High Contrast Blue-Yellow (Additional Palettes with Upgrade)	**11 Color Palettes:** Ironbow; Negative Grayscale; Positive Grayscale; Amber; Hot Metal; Cool Metal; Rainbow Green-Red; Rainbow Blue-Red; Rainbow Black-White; High Contrast Blue-Yellow; and High Contrast Violet-White
Image Adjustment	Auto Ranging / Manual Level and Span / Adjustable Display Brightness Control	
Languages	**11 Languages:** English; Spanish; French; German; Italian; Portuguese; Korean; Japanese; Russian; Simplified Chinese; and Traditional Chinese	
Laser Pointer	Class 2 < 1mW / 635nm, Red	
Auto Correction	Auto Correction of Microbolometer with Adjustable Time Interval or Push Button Manual	
Measurement Mode	Spots, Delta T, High Temp Alarm (Audible/Visible) (Additional functions with Upgrade)	Spots, Areas, Lines, Isotherms, Delta T, Alarms (Multiple Audible/Visible)
Number of Measurement Areas	(Available with Upgrade)	Up to 3 Movable & Sizeable Areas (Max, Min & Avg)
Emissivity Correction	Adjustable from 0.01 to 1.00 (Built-in Emissivity Table with Upgrade)	Adjustable from 0.01 to 1.00 with Built-in Emissivity Table
T Reflect	Manual Adjustment	
T Correct	(Available with Upgrade)	Manual Adjustment
Visible Light Camera	(Available with Upgrade)	1.3 Megapixel CMOS Sensor
Thermal/Visible Light Image	(Available with Upgrade)	Toggle between Thermal and Visible Light
Alarm	High Temperature Audible and Visible Alarm (Additional functions with Upgrade)	High Temperature Audible and Visible Alarm Isotherm Visible Alarm
UPGRADE Optics	Wide Angle (35° x 26° FOV), and/or Telephoto (8.75° x 6.5° FOV) (Factory Upgradeable options)	
Report Analysis Software	(Available with Upgrade)	Yes
Image Storage	(Available with Upgrade)	2GB SD / Time Stamped
Freeze Frame/Save Image	Freeze Frame only (Additional functions with Upgrade)	Freeze Frame and Save Image, Thermal and/or Visible to SD Card
Storage Mode	(Available with Upgrade)	Manual Single Image Save or Programmable Auto Save to SD Card
Voice Annotation	(Available with Upgrade)	Maximum 45s per image
File Format (Thermal)	(Available with Upgrade)	JPEG plus Temperature in 14 bit data
File Format / Size (Visible)	(Available with Upgrade)	JPEG / 60K (Typical value)
Video Output	User Selectable PAL and NTSC	
Dimensions/Weight w/o battery	Width: 4.5 in. (115mm) x Length: 5.9 in. (150mm) x Height: 9 in. (230mm) / 1.65 lbs (0.75 Kg)	
Power / Operating Time	1 Rechargeable Lithium Ion Battery / 2 Batteries provided, approx. 3 hours operation per battery	
Charging System	External AC Battery Charger included; In Camera Charging with optional AC/DC Battery Charger	
Ambient Operating Temperature	5° to 122°F (-15° to 50°C)	
Storage Temperature	-4° to 140°F (-20° to 60°C)	
Humidity/IP Rating	≤ 90% non-condensing / IP54	
Included Accessories	Carrying Case; Wrist Strap; Lens Cap; 2 Rechargeable Lithium Ion Batteries; External AC Battery Charger; Video Out Cable; Report/Analysis Software; SD Card & Reader; User Manual; (30 Series upgrade)	
Options	Auxiliary Charging Kit with: 12V DC Car Charger, AC/DC Power Supply/Charger and International Plugs	

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Specifications subject to change without notice

Wahl Heat Spy®
z Series Thermal Imaging Cameras
Money Back Guarantee* (MBG)
Models z30, z50, z70, z150, & z170

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Wahl believes that if you buy one of the units listed above you will be completely satisfied with the products performance. If not, return the unit in ths case with all of the accessories in "like new" condition within 48 hours of receipt, and we will credit you the full amount of your purchase, no questions asked. *(This includes the cost of the unit, accessories and ground shipping only)* Thus, you can be assured that the thermal imaging camera will perform as expected. If you are not satisfied, contact Wahl to receive an RMA number so you can return the unit at no cost to you. Call 1-800-421-2853 or 828-658-3131.

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