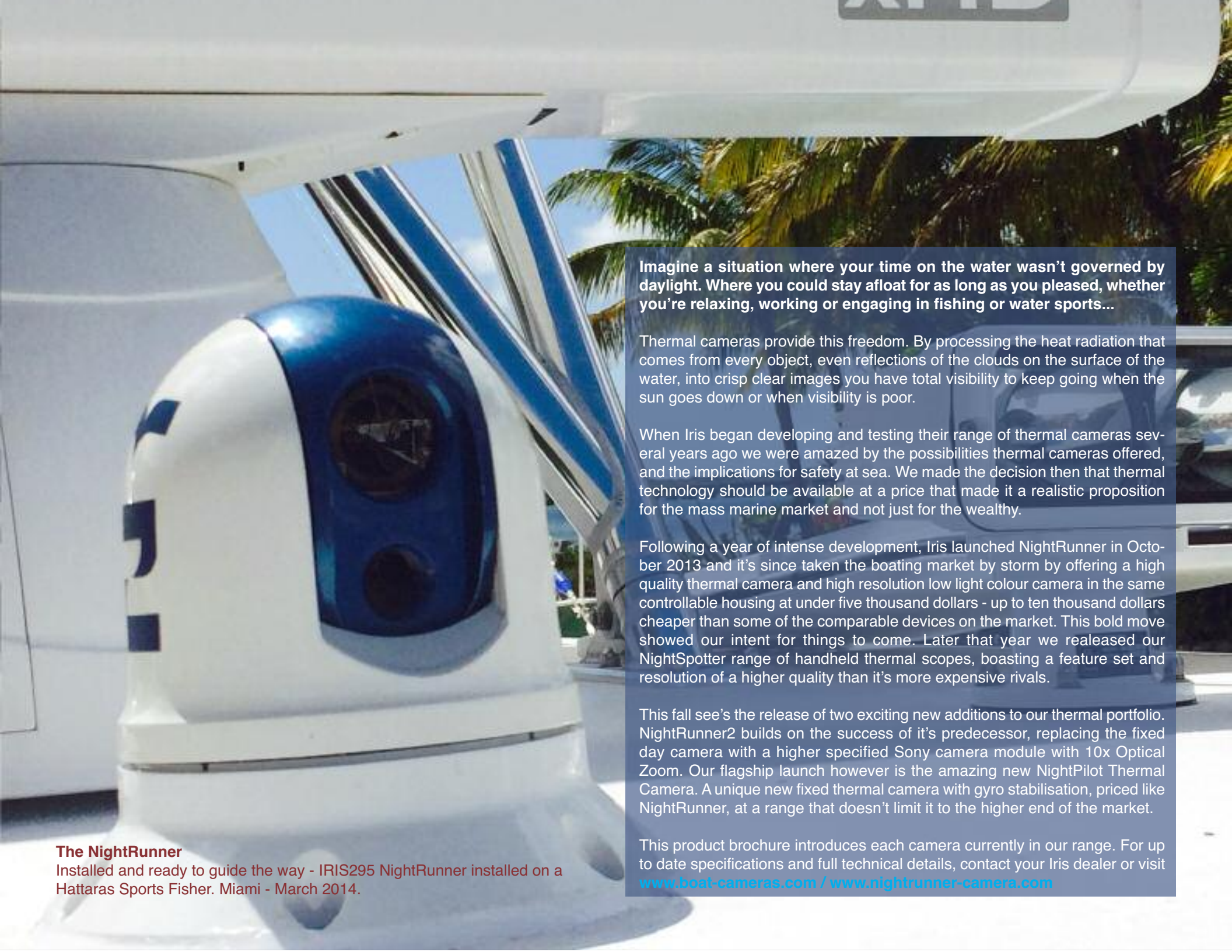




**THERMAL**  
CAMERAS



Imagine a situation where your time on the water wasn't governed by daylight. Where you could stay afloat for as long as you pleased, whether you're relaxing, working or engaging in fishing or water sports...

Thermal cameras provide this freedom. By processing the heat radiation that comes from every object, even reflections of the clouds on the surface of the water, into crisp clear images you have total visibility to keep going when the sun goes down or when visibility is poor.

When Iris began developing and testing their range of thermal cameras several years ago we were amazed by the possibilities thermal cameras offered, and the implications for safety at sea. We made the decision then that thermal technology should be available at a price that made it a realistic proposition for the mass marine market and not just for the wealthy.

Following a year of intense development, Iris launched NightRunner in October 2013 and it's since taken the boating market by storm by offering a high quality thermal camera and high resolution low light colour camera in the same controllable housing at under five thousand dollars - up to ten thousand dollars cheaper than some of the comparable devices on the market. This bold move showed our intent for things to come. Later that year we released our NightSpotter range of handheld thermal scopes, boasting a feature set and resolution of a higher quality than it's more expensive rivals.

This fall see's the release of two exciting new additions to our thermal portfolio. NightRunner2 builds on the success of it's predecessor, replacing the fixed day camera with a higher specified Sony camera module with 10x Optical Zoom. Our flagship launch however is the amazing new NightPilot Thermal Camera. A unique new fixed thermal camera with gyro stabilisation, priced like NightRunner, at a range that doesn't limit it to the higher end of the market.

This product brochure introduces each camera currently in our range. For up to date specifications and full technical details, contact your Iris dealer or visit [www.boat-cameras.com](http://www.boat-cameras.com) / [www.nightrunner-camera.com](http://www.nightrunner-camera.com)

### **The NightRunner**

Installed and ready to guide the way - IRIS295 NightRunner installed on a Hattaras Sports Fisher. Miami - March 2014.



**Childs Play!**

Phoebe Ella Navigates the Inter Coastal with the New NightSpotter Scope.  
Fort Lauderdale September 2014.



# **NR<sup>2</sup>**

**NIGHTRUNNER**

**With NEW Improved Daylight  
Camera Featuring 10x Optical  
and 10x Digital Zoom!**

Introducing NightRunner2, the Worlds most Affordable Dual Payload, Thermal / Daylight Pan Tilt Zoom camera from Iris Innovations - Now with 10x Optical Zoom!

Nightrunner represents a revolution in marine thermal imaging, designed specifically for cruising, sports fishing and sailing applications but suitable for vessels of any size due to it's compact form factor, light weight and low cost.

Featuring a highly sensitive Vanadium Oxide Thermal Core with  $17\mu\text{m}$  Pitch and a thermal sensitivity of less than 50mK, NightRunner features a high quality US made QVGA (320x240) thermal engine and a new 700TVL Sony Effio-P low light colour camera module with 10x Optical and 10x Digital Zoom.

The cameras are built into a our, compact 116 series housing with dual payload dome and NEW integrated fixing base for easy installation and reinforced mounting. The fully controllable housing allows for 360° continuous rotation, 180 tilt, standby position and is fully tested for shock, vibration, sand and dust ingress.

If this weren't enough, we've also developed an all new Easy Cable solution which takes all the pain and expense out of installation. Where other cameras require seperate power, video and data cables, costing significant amounts of money and casuing nightmares for installers, NightRunner simply requires a single, inexpensive CAT5 cable. Simply plug and go! At the other end of the cable, a simple breakout adapter is supplied to introduce the cameras power and data feeds, and to deliver the video signal to your monitor or chartplotter. A 2 meter video patch cable is supplied along with 50 foot, waterproof CAT5 cable. Specially designed extension cables packs are also available for extending cables runs in a 'plug and play' configuration for added simplicity.



**TWO CAMERAS, ONE THERMAL, ONE HIGH RESOLUTION LOW-LIGHT IN A CONTROLLABLE PAN/TILT HOUSING FOR \$4,500.00**



# NP<sup>®</sup>

## NIGHT PILOT

GYRO STABILISED FORWARD LOOKING THERMAL CAMERA

**Gyro Stabilisation at a Price that can't be beaten, without compromising on features....**

The New NightPilot from Iris features state of the art three sensor technology to deliver high end gyro stabilisation in a stylish and unique, rugged housing.

NightPilots thermal core features established 320x240 resolution with an impressive 17m pixel pitch to deliver sharp night vision imaging around the clock and in any weather.

Vessels can be identified at over 2km's away, and a person can be spotted at around 1km.

With a smooth 8x digital zoom feature, reversible palette and an impressive thermal sensitivity of <50mK, NightPilots thermal core offers features usually found in thermal devices four times the price.

But when you factor in the lightning fast gyro stabilisation,, NightPilot really does blow away the competition, without blowing the bank....

# KEEP A LEVEL HEADING

**Nightpilot from Iris Delivers High Speed Gyro Stabilised Thermal Imaging at a fraction of the cost of it's competitors...**

Introducing the stylish, new NightPilot camera from Iris. NightPilot is designed primarily to be a forward facing night vision camera for safe navigation at night, but can also be used anywhere on board to provide a stabilised navigation and safety aid, in total darkness...

When Gyro mode is selected, the cameras inner dome is driven to counter wave motion by an amazing, lightning fast new silent motor system so you always get to see clear, stable images. The 320x240 thermal core features an 8x digital zoom function and the colour palette can be inversed to provide crystal clear thermal images in different environmental conditions.

NightPilot also features a handy Trim function to allow the user to set horizons, addressing installation considerations, and also countering boat position at different speeds - such as when the boat is raised up out of the water whilst planning.

## **NightPilots Key Features Include:**

Stylish new Waterproof Design measuring only 10"(wide) x 5"(depth) x 6" (high)

Single connector for simple installation.

140° Tilt Operation (70° in each direction from horizon)

User Adjustable Trim feature to counter shifted horizon when planning and for uneven installations.

320x240 Resolution Thermal Core with 17 $\mu$ m Pixel Pitch and <50mK Thermal Sensitivity. 19mm Lens f1.1 (16° x 12°)

3 Sensor Inertia Measurements for Rapid and Accurate Gyro Control. Maximum motor speed (maximum motor speed 360° per second).

Built in Heater with Automatic Temperature Operation

<b>MODEL:</b>	<b>IRIS295-2 NightRunner 2</b>
<b>Dimensions</b>	160mm (High) x 172mm Diameter
<b>Weight</b>	1.4Kg
<b>Material</b>	UV Stabilised ABS Plastic / Anodysed Aluminium Base
<b>Pan Movement</b>	360° Continuous Rotation 0.05~70° to 0.05~240°/Sec (Max)
<b>Tilt Movement</b>	210° with Auto Tilt at Azimuth 0.03~38° to 0.03~140°/Sec (Max)
<b>Fixings</b>	6pcs 6x30mm Anodysed Self Tapper (Supplied)
<b>Connections</b>	Waterproof RS45 Supplied with 50ft CAT5e Cable.
<b>Power Consumption</b>	8~36VDC (24VDC Recommended). 1.5A Max
<b>Video Output</b>	1V P~P Composite Video 75Ω Impedence
<b>Synchronization</b>	Internal
<b>Temperature Range</b>	-30°C ~ +50°C
<b>Environmental</b>	IP66
<b>Thermal Core</b>	17μm 320x240 Uncooled VOx Core
<b>Thermal Attributes</b>	8~14μm Spectral Band / <50mK Sensitivity
<b>Zoom Control</b>	Thermal: 8x (12 Steps)
<b>Daylight Camera</b>	Sony Effio CCD (960H)
<b>Picture Elements</b>	NTSC: 976x494 / PAL: 976x582
<b>Resolution</b>	700TVL
<b>Lens</b>	10x Optical F/2 f-5mm ~ 50mm
<b>Mirror Image</b>	Horizontal & Vertical
<b>Digital Image Stabilisation</b>	ON
<b>Wide Dynamic Range</b>	D-WDR
<b>Dynamic Noise Control</b>	2D / 3D DNR
<b>Gain Control</b>	H: 51.8°(W)~5.86(T) / V: 39.1°(W)~4.4°(T)
<b>Serial Data Control</b>	RS485 / Pelco D with Iris Extended Features
<b>Shock &amp; Vibration</b>	IEC60945 MIL STD 810E
<b>Sand &amp; Dust</b>	IEC60945 MIL STD 810E
<b>Thermal Range</b>	Vessel (2.3m Wide): D@2380m / R@500m Human (1.8m High): D@1000m / R@200m
<b>Thermal Palette Control</b>	White Hot / Black Hot Switchable

<b>MODEL:</b>	<b>IRIS255 NightPilot</b>
<b>Dimensions</b>	10" Wide x 5" Depth x 6" High
<b>Weight</b>	1.1Kg
<b>Material</b>	UV Stabilised ABS Plastic
<b>Tilt Movement</b>	140° Tilt Range - 70° in each Direction from Horizon.
<b>Fixings</b>	4pcs 6x30mm Anodysed Self Tapper (Supplied)
<b>Connections</b>	Waterproof Circular Multipole Connector
<b>Power Consumption</b>	8~36VDC (24VDC Recommended). 1A Max
<b>Video Output</b>	1V P~P Composite Video 75Ω Impedence
<b>Synchronization</b>	Internal
<b>Temperature Range</b>	-30°C ~ +60°C
<b>Environmental</b>	IP66
<b>Thermal Core</b>	17μm 320x240 Uncooled VOx Core
<b>Thermal Attributes</b>	8~14μm Spectral Band / <50mK Sensitivity
<b>Zoom Control</b>	Thermal: 8x (12 Steps)
<b>Mirror Image</b>	Horizontal & Vertical
<b>Gyro Stabilisation</b>	3 Sensor IMU
<b>Trim Controls</b>	Trim Up / Down and Calibrate
<b>Thermal Core Lens</b>	19mm Fixed Athermalized f1.1 16° x 12°
<b>Control Options</b>	IRIS555 Dedicated NightPilot Controller
<b>Serial Data Control</b>	RS485 / Pelco D with Iris Extended Features
<b>Shock &amp; Vibration</b>	IEC60945 MIL STD 810E
<b>Sand &amp; Dust</b>	IEC60945 MIL STD 810E
<b>Thermal Range</b>	Vessel (2.3m Wide): D@2380m / R@500m Human (1.8m High): D@1000m / R@200m
<b>Thermal Palette Control</b>	White Hot / Black Hot Switchable



MODEL:	IRIS240 / 241 NightSpotter Handheld
Resolution	IRIS240: 384 x 288 IRIS241: 160 x 120
Spectral Range	8~14 $\mu$ m Spectral Band / <50mK Sensitivity
Focal Length	IRIS240: 19mm IRIS241: 14.8mm
Frequency	25Hz
Digital Zoom	IRIS240: x2 & x4 IRIS241: x2
Colour Palettes	White Hot, Black Hot, Red Hot
Battery	Built in - Rechargeable (Charger Supplied)
Charging Options	Mains Charger, USB Charge, Car Charger
Battery Life	>8 Hours Between Charges
Illuminator	Built in High Bright LED Torch
Fixings	1/4" Whitworth
Battery Details	3.7V Lithium ION - Single Cell
Video Output	1VP~P Composite Video Output 75 $\Omega$
Screen	LCOS
Eyepiece	Monocular - Diopter Adjustable
Detection Range Human	IRIS240: 400m IRIS241: 300m
Recognition Range Human	IRIS240: 200m IRIS241: 150m
Operating Temperature	-30 ~ 60 $^{\circ}$ C
Shock	25G, IEC68-2-29
Vibration	2G, IEC68-2-6
Environmental	IP66
Accessories	Rugged Waterproof Storm Case
Field of View	IRIS240: 28.36 $^{\circ}$ x 21.46 $^{\circ}$ IRIS241: 15.39 $^{\circ}$ x 11.57 $^{\circ}$

MODEL:	IRIS216 / 316
Dimensions	160mm (High) x 172mm Diameter
Weight	1.4Kg
Material	UV Stabilised ABS Plastic / Anodysed Aluminium Base
Pan Movement	360 $^{\circ}$ Continuous Rotation 0.05~70 $^{\circ}$ to 0.05~240 $^{\circ}$ /Sec (Max)
Tilt Movement	210 $^{\circ}$ with Auto Tilt at Azimuth 0.03~38 $^{\circ}$ to 0.03~140 $^{\circ}$ /Sec (Max)
Fixings	6pcs 6x30mm Anodysed Self Tapper (Supplied)
Connections	10ft Umbilical Tail with Power, Video, Data Breakout
Power Consumption	8~36VDC (24VDC Recommended). 1.5A Max
Video Output	1V P~P Composite Video 75 $\Omega$ Impedence
Synchronization	Internal
Temperature Range	-30 $^{\circ}$ C ~ +50 $^{\circ}$ C
Environmental	IP66
Thermal Core	216: 17 $\mu$ 384x288 Uncooled Amorphous Silicon 316: 17 $\mu$ 640x480 Uncooled Amorphous Silicon
Thermal Attributes	8~14 $\mu$ m Spectral Band / <50mK Sensitivity
Zoom Control	Continuous Digital 8x
Frequency	Low Frequency Option: 8.3Hz(N) / 9Hz (P) High Frequency Option: 30Hz(N) / 25Hz (P)
Picture Elements	216: 110, 592 / 316: 307,200
Scans & Tours	45 $^{\circ}$ , 90 $^{\circ}$ , 180 $^{\circ}$ , 360 $^{\circ}$ Scans
Lens	216: 18mm (30 $^{\circ}$ HFOV)/ 316: 25mm (
Mirror Image	Horizontal & Vertical
Thermal Range 216	Vessel (2.3m Wide): D@1300 / R@400m Human (1.8m High): D@480m / R@134m
Thermal Range 316	Vessel (2.3m Wide): D@2496m / R@800m Human (1.8m High): D@897m / R@232m
Serial Data Control	RS485 / Pelco D with Iris Extended Features
Shock & Vibration	IEC60945 MIL STD 810E
Sand & Dust	IEC60945 MIL STD 810E
Scene Modes	Day Mode, Night Mode, Marina Mode, Man-Over-Board Mode, Fog Mode
Thermal Palette Control	Mono, Red, Blue, Green, Ironbow, Isotherm, High Contrast, Hot Metal, Rainbow - All reversible



IRIS216 Installed - New Jersey Summer 2013

# IRIS216

**384\*288 RESOLUTION**

The IRIS216 fully controllable PTZ camera is simply head and shoulders above the competition. Imagine being able to spot and identify objects several kilometers away. Imagine the ability to detect & follow objects at night in virtually complete darkness! With the IRIS116 you can, thanks to an immensely powerful, true Day / Night Sony camera engine, complete with 26x Optical Zoom, 10x Digital Zoom & unrivalled low light processing. Even the faintest ambient light is enough to drive the highly sensitive CCD sensor. Unlike most PTZ's available, the IRIS116 packs it's top end features into an ultra-compact 16cm x 13cm, anticorrossion housing that's been especially designed to withstand the harsh marine conditions as well as complement the stylish aesthetic demanded in luxury marine applications.

Fitted with a fixed 25mm lens, Digital Image Stabilisation and boasting the highest zoom ratio available for a marine thermal camera of its class, the new 316 VGA range deliver a massive detection range of 2370 meters with a recognition range of nearly 800 meters. The IRIS316 VGA range delivers extremely sharp thermal video imaging in absolute darkness. Available in low (7.5Hz NTSC / 8.3Hz PAL) or high (30Hz NTSC / 25Hz PAL) refresh rates. Fitted with a high resolution uncooled Amorphous Silicone camera engine, the IRIS316 boasts 5 built in viewing modes to suit environmental conditions, continuous digital zoom and a built in Man Over Board feature. The IRIS316 VGA Thermal Camera gives you the power to see in complete darkness and through adverse weather and is the perfect addition to your on board safety and security systems.

# IRIS316

640\*480 RESOLUTION



# NB

NIGHTSPOTTER



Original Image



x2 Digital Zoom



x4 Digital Zoom



The New range of NightSpotter hand scopes from Iris are lightweight and compact meaning maximum portability and maximum flexibility.

Delivering crystal clear thermal images in total darkness, NightSpotter helps you see obstacles, vessels and other objects such as rocks, buoys and floating debris, otherwise invisible at night.

NightSpotter's portability means it can be deployed where and when you need it in a matter of seconds. The ultimate, low cost on board safety aid.

NightSpotter is available in either 240x160 or 384x288 resolutions and key features include:

- 19mm Lens (IRIS240) / 14.8mm Lens (IRIS241)
- Field of View: 28.36° x 21.46° (IRIS240) / 15.39° x 11.57° (IRIS241)
- Digital Zoom: x2, x4 (IRIS240) / x2 (IRIS241)
- Spectral Range: 8~14 $\mu$ m
- Thermal Sensitivity: <50mK
- Refresh Rate: 25Hz
- Black Hot, White Hot, Red Hot Colour Palettes
- Composite Video Out
- Built in High Bright LED Torch
- IP67 Waterproof
- Adjustable Focus and Eyepiece
- 8 Hour Battery Operation (Rechargeable)



NightSpotter Rugged Equipment Case  
Available Separately

# CONTROLLERS

WATERPROOF JOYSTICK CONTROLLERS: IRIS595 (NIGHTRUNNER), 507 & 516



## IRIS595

### NightRunner Controller

Waterproof panel mount joystick.  
2 Axis Proportional Micro Joystick  
8 Menu Driven Feature Keys  
LCD Display  
Supports Multiple Camera Control  
RS485 Serial Data Communication  
Supports Multiple Controller Set-Ups



## IRIS507

### Thermal Controller


Waterproof panel mount joystick.  
3 Axis 'Chunky' Joystick  
2 x Feature Keys  
Proportional Speed Control  
Single Camera Only  
RS485 Serial Data Communication  
Supports IRIS216 & IRIS316 - limited features.



## IRIS516

### Multi-Camera Controller

Waterproof panel mount joystick.  
2 Axis Proportional Micro Joystick  
8 Menu Driven Feature Keys  
LCD Display  
Supports Multiple Camera Control  
RS485 Serial Data Communication  
Supports Multiple Controller Set-Ups

A wide-angle photograph of a sunset over a body of water. The sun is a bright, glowing orb in the upper right quadrant, casting a long, shimmering path of light across the water's surface. The sky is filled with soft, golden clouds. In the background, a line of palm trees and other vegetation is silhouetted against the bright sky. In the foreground, the dark, choppy wake of a boat is visible, with two people's heads and shoulders partially submerged in the water. The overall mood is serene and golden.

### Fort Lauderdale August 2014

The waters in and around Fort Lauderdale provide an excellent testing ground to put our products through their paces.

Whether designing exciting new on board cameras or refining our existing range, our test boat Iris2 allows us to test in harsh open water conditions whilst the calmer Inter Coastal channel offers low thermal contrast conditions which are extremely useful when testing the properties of our thermal range.

[www.boat-cameras.com](http://www.boat-cameras.com) / [www.boat.camera](http://www.boat.camera)



IRIS<sup>®</sup>

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