PRODUCT BROCHURE
Iris have been designing and manufacturing marine cameras and accessories since 2003. Whereas we’ve mainly focused on the luxury / leisure marine market until now, 2019 saw Iris expand its focus further into commercial and professional marine markets.

As well as our exciting range of New Ruggedised PTZ and Night Vision cameras detailed over the next few pages, we have designed a number of new products for more professional applications.

Using marine grade stainless steel, we’ve taken our best selling X60 range of miniature fixed cameras and produced the SX60 – a range of tiny, solid, multi-purpose cameras, available in analogue, HD and IP formats to suit a range of applications with uncompromising performance and quality.

We’ve also taken our IRISx90 bullet style stainless steel camera and incorporated our new range of miniature thermal imaging cores to produce possibly the toughest and most affordable fixed night vision camera available anywhere in the world. The IRIS092, available in 384x288 and 640x512 resolutions.

We are most excited about our New Sentinel range of super-tough controllable cameras, featuring analogue, IP and multiple thermal night vision options – including the revolutionary new Sentinel C Colour Thermal Range (see pages 6&7).

Our firm position within the leisure / luxury marine market hasn’t shifted and now we are sure our customers in the commercial marine, emergency services and military industries will soon be able to benefit from our increasing range of rugged cameras, night vision aids and ancillary products.

Introduction...

We’ve also taken our IRISx90 bullet style stainless steel camera and incorporated our new range of miniature thermal imaging cores to produce possibly the toughest and most affordable fixed night vision camera available anywhere in the world. The IRIS092, available in 384x288 and 640x512 resolutions.

We are most excited about our New Sentinel range of super-tough controllable cameras, featuring analogue, IP and multiple thermal night vision options – including the revolutionary new Sentinel C Colour Thermal Range (see pages 6&7).

Our firm position within the leisure / luxury marine market hasn’t shifted and now we are sure our customers in the commercial marine, emergency services and military industries will soon be able to benefit from our increasing range of rugged cameras, night vision aids and ancillary products.

Introduction...
In developing the cameras robust form factor we’ve taken design cues from our best selling NightRunner range of cameras and applied a host of improvements to deliver a solid yet lightning fast controllable housing, with smooth, accurate positioning.

Sentinels machined aluminium housing has been anodised and powder coated for additional protection. Cooling fans and window heaters have been added as standard. Additionally, we’ve made a number of improvements to the cameras thermal management, making the camera as effective in sub-zero temperatures as well as in the tropics.

As ever, we’ve designed the Sentinel with the installer in mind as well as the cameras overall performance. The cameras single connector is now centered whereas before it was off-set and now connects to a new umbilical cable designed for our new combined power, video and data cable that will facilitate much longer cable runs without the voltage drop restrictions that are inherent with balun based transmission systems.

The camera ships with a handy interface box into which you can connect your controller, system power and the video output meaning only one power connection is required and everything connects to a single point for easy system management.

The NEW Sentinel range of cameras from Iris has been designed to offer customers the most comprehensive choice of vision technologies available on the market.

Iris have manufactured Thermal Imaging cameras for over ten years, supplying some of the worlds leading OEM boat builders, fire truck manufacturers, law enforcement agencies (on and off the water) and private boat owners. With Sentinel, like its predecessor, NightRunner, we’ve worked hard to deliver industry leading performance at a price within the realms of the wider boating market.

Our new 17µm Vanadium Oxide sensor delivers with superb clarity, especially when combined with our ICE™ image processing algorithms which dynamically analyse the video to sharpen edges, improving the picture further still.

Sentinel is now also available as an IP camera for networked systems. For hybrid systems our IP models also feature composite video out and serial data connectivity to make it a truly versatile solution. Finally, we can also offer the cameras with a Tilt Axis Gyro Stabilised option for ultimate functionality.

But perhaps our most exciting new development is a completely new night vision technology we call Super Low Light (SLL)...
Sentinel
Professional PTZ Cameras for Extreme Environments

Key Features:
- Available in multiple formats to suit your requirements and budget.
- Single & Dual Payload Models.
- Thermal Imaging, Super Low-Light, HD IP and High Resolution Analogue Modules.
- Tilt Axis Gyro Stabilisation Option Available
- New Colour Thermal Technology (Sentinel C Models)
- New ICE+™ Image Enhancement
- Rugged Aluminium Housing, Anodised and Powder Coated.
- Built In Heater & Cooling Fan.
- Fast, Smooth PTZ Control.
- Side Entry Cable / Magnetic Base Option
- 12VDC / 24VDC Operation
- IP66 Environmental Protection

Iris Sentinel cameras are available in a number of different formats depending on your requirement and budget, and are built to withstand the toughest of environments.

Featuring a wealth of new features to give you added confidence when navigating in total darkness, Sentinel cameras are widely used by fishermen, boat-owners, emergency services and law enforcement agencies alike.

The new line up of Sentinel cameras has been conceived to suit a multitude of applications and scenarios. Sentinel Thermal cameras work as well during the day as they do at night and are especially good for detecting people and other objects otherwise missed by radar in the water. Sentinel High Definition IP cameras deliver super-sharp video, even in low light, and the New Sentinel C Colour Thermal Models use the very latest in digital video processing technology to blend thermal ‘hot spot’ video over the top of a high resolution colour camera to enable the operator to discriminate between objects in all conditions. Sentinel C cameras also feature our New ICE+™ image enhancement technology to draw defined edges around objects making them easy to pick out in low thermal contrast scenes. To compliment Sentinels standard wealth of features, each camera is also available with a tilt axis gyro stabilised option to compensate for vessel movement.

Sentinel cameras feature rugged aluminium housings which are anodised and powder coated to provide excellent protection against corrosion. Scaled pan and tilt control is employed for precise positioning and movement is super smooth. All cameras feature built in environmental management to prevent overheating, condensation and freezing up.

Thermal imaging models feature multiple colour palettes, ICE™ & ICE+™ Image Contrast Enhancement, 17µ sensor and a thermal sensitivity of less than 50mK.

Applications:
- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing, Sports Fishing & Hunting
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications
**Sentinel**

**Professional PTZ Cameras for Extreme Environments**

---

### Camera Options:

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Payload 1</th>
<th>Resolution</th>
<th>Lens</th>
<th>Zoom</th>
<th>Payload 2</th>
<th>Resolution</th>
<th>Lens</th>
<th>Zoom</th>
<th>Illumination</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-118</td>
<td>Analogue</td>
<td>550TVL</td>
<td>3.4 - 122.4mm</td>
<td>36x Optical / 12x Digital</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>S-458</td>
<td>Network IP</td>
<td>2.0 Megapixel</td>
<td>4.5mm - 150mm</td>
<td>36x Optical / 10x Digital</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>S-X100</td>
<td>Super Low-Light</td>
<td>1280 x 1024</td>
<td>Various</td>
<td>4x Digital (stepped)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Not Required</td>
</tr>
<tr>
<td>S-290</td>
<td>Thermal (Analogue) Vox Microbolometer, 7µm, 38kHz, &lt;50µm</td>
<td>384 x 288</td>
<td>19mm 16.5” H x 14.7” V</td>
<td>4x Digital (stepped)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Not Required</td>
</tr>
<tr>
<td>S-390</td>
<td>Thermal (Analogue) Vox Microbolometer, 7µm, 38kHz, &lt;50µm</td>
<td>640 x 512</td>
<td>20mm 16” H x 14” V</td>
<td>4x Digital (stepped)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Not Required</td>
</tr>
<tr>
<td>S-4290</td>
<td>Thermal (IP) Vox Microbolometer, 7µm, 38kHz, &lt;50µm</td>
<td>384 x 288</td>
<td>20mm 16” H x 14” V</td>
<td>4x Digital (stepped)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Not Required</td>
</tr>
<tr>
<td>S-4390</td>
<td>Thermal (IP) Vox Microbolometer, 7µm, 38kHz, &lt;50µm</td>
<td>640 x 512</td>
<td>20mm 16” H x 14” V</td>
<td>4x Digital (stepped)</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>Not Required</td>
</tr>
<tr>
<td>S-295</td>
<td>Thermal (Analogue) Vox Microbolometer, 7µm, 38kHz, &lt;50µm</td>
<td>384 x 288</td>
<td>20mm 16” H x 14” V</td>
<td>4x Digital (stepped)</td>
<td>Analogue</td>
<td>800 TVL</td>
<td>S = 50mm</td>
<td>10x Optical / 10x Digital</td>
<td>Not Required</td>
</tr>
<tr>
<td>S-395</td>
<td>Thermal (Analogue) Vox Microbolometer, 7µm, 38kHz, &lt;50µm</td>
<td>640 x 512</td>
<td>20mm 16” H x 14” V</td>
<td>4x Digital (stepped)</td>
<td>Analogue</td>
<td>800 TVL</td>
<td>S = 50mm</td>
<td>10x Optical / 10x Digital</td>
<td>Not Required</td>
</tr>
<tr>
<td>S-C295</td>
<td>Analogue Day Module</td>
<td>400 TVL</td>
<td>8mm</td>
<td>4x Digital (stepped)</td>
<td>Thermal (as S-295)</td>
<td>384 x 288</td>
<td>19mm</td>
<td>4x Digital (stepped)</td>
<td>Not Required</td>
</tr>
<tr>
<td>S-C395</td>
<td>Analogue Day Module</td>
<td>400 TVL</td>
<td>8mm</td>
<td>4x Digital (stepped)</td>
<td>Thermal (as S-395)</td>
<td>640 x 512</td>
<td>19mm</td>
<td>4x Digital (stepped)</td>
<td>Not Required</td>
</tr>
</tbody>
</table>

### Analogue Details:

- **Pan Details:** Continuous Rotation 0~360˚ 0.5˚/s ~ 80˚/s
- **Tilt Details:** -25˚ ~ +90˚ (Auto Reverse) 0.5˚ ~ 60˚/s
- **Video Format:** IV P-P Composite Analogue Video 75Ω - PAL / NTSC
- **Presets / Patrols & Patterns:** 100 Presets, 6 Patrols (up to 16 presets each), 4 Patterns
- **Communications Interface:** RS485 Serial Data
- **Protocols:** Pelco D, Iris Variant, 9600 Baud
- **Power:** +12VDC / +48VDC Max Consumption 36W (LED’s ON)
- **Weight:** 3KG
- **Operating Temperature:** -50˚C ~ +65˚C / Humidity: 10% ~ 95% RH
- **Environmental:** IP66 / TVS 4000V Overvoltage / Lightning Protection

### IP Model Details:

- **Pan Details:** Continuous Rotation 0~360˚ 0.5˚/s ~ 80˚/s
- **Tilt Details:** -25˚ ~ +90˚ (Auto Reverse) 0.5˚ ~ 60˚/s
- **Video Compression:** H.265 / H.264
- **Frame Rate:** Main: 2MP - Max 30fps; Sub: 2MP - 30fps; Third: D1 - 30fps
- **Communications Interface:** 1RJ45 10M/100M Base-TX Ethernet (Additional RS485 Serial Data Connection - Pelco D / Iris Variant)
- **Protocols:** ONVIF2.4, L2TP, IPv4, IGMP, ICMP, ARP, TCP, UDP, DHCP, IP-P, PTP, RTP, RTSP, DNS, DDNS, NTP, FTP, UPnP, HTTP, SMTP, SIP
- **Power:** +12VDC / +48VDC Max Consumption 36W (LED’s ON)
- **Weight:** 3KG
- **Operating Temperature:** -50˚C ~ +65˚C / Humidity: 10% ~ 95% RH
- **Environmental:** IP67 / TVS 4000V Overvoltage / Lightning Protection

---

**Iris Innovations Ltd.**

Units 15 & 43 Fareham Innovation Centre, Metersor Way, Lee on Solent, Hampshire PO13 9FU, United Kingdom

Tel: +44(0)2392 556509, email: irisuk@boat-cameras.com, web: [www.boat-cameras.com](http://www.boat-cameras.com)
**Sentinel-C**

**Colour-Thermal Dual Payload Professional Day/Night Vision Gyro Camera**

- Dual Payload - Colour & Thermal Cores
- 384x288 (C295) / 640x512 (C395) Thermal Resolutions
- Multiple Colour Palette Options
- ICE+™ Super-Enhanced Image Processing
- Tilt Axis Gyro Stabilisation
- Blends Thermal Night Vision over Low Light Image to highlight Thermal Aspects of Scene
- Processes Thermal Image to Enhance Edges - Perfect for Increasing Visibility in Low Thermal Contrast Situations
- Rugged Aluminium Housing, Anodised and Powder Coated.
- Built In Heater & Cooling Fan.
- Fast, Smooth PTZ Control.
- Side Entry Cable / Magnetic Base Option
- 12VDC / 24VDC Operation
- IP66 Environmental Protection

**Key Features:**

**Applications:**

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing, Sports Fishing & Hunting
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Iris’s Dual Sensor Enhanced Sentinel-C Range delivers next level awareness to boaters navigating at night, in light fog and now, utilising Iris’s new ICE+ Edge Processing algorithms, in scenes of low thermal contrast.

**Edge+**

All thermal cameras experience limitations when there is a low thermal contrast (i.e., in hot or cold weather where object temperatures are becoming close to the ambient temperature). Iris’s New Edge+ technology blends the image from the cameras low-light visible module with the thermal image and uses complex software algorithms to determine, pick out and enhance object edges, then overlay them onto the image from the thermal sensor. The result is a multi-spectrum composite image with clearly defined object edges and colour thermal video.

As well as Edge+ enhanced visibility, Sentinel C cameras can also overlay colour thermal hotspot information onto the extremely sensitive visible camera image, so objects can now be shown with enhanced clarity with only starlight required.

With their extremely sensitive visible modules and thermal cores, and thermal overlay and Edge+ overlay modes, Sentinel C cameras, available in 640x512 and 384x288 resolution deliver 4-in-1 functionality offering extreme value for money whilst delivering superior awareness to boaters, fishermen, crew and search and rescue professionals.

Sentinel cameras feature rugged aluminium housings which are anodised and powder coated to provide excellent protection against corrosion. Scaled pan and tilt control is employed for precise positioning and movement is super smooth. All cameras feature built in environmental management to prevent overheating, condensation and freezing up.

---

Iris Innovations Ltd.
Units 15 & 43 Fareham Innovation Centre, Meteor Way, Lee-on-Solent, Hampshire PO13 9FU. United Kingdom
Tel: +44(0)2392 556509. email: irisuk@boat-cameras.com. web: www.boat-cameras.com
### Sentinel-C

**Colour-Thermal Dual Payload Professional Day/Night Vision Gyro Camera**

![Image of Sentinel-C](image)

**Specifications:**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Payload 1</th>
<th>Payload 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>S-C295</td>
<td>Analogue Day Module</td>
<td>Thermal Uncooled FPA - Shutterless</td>
</tr>
<tr>
<td></td>
<td>800 TVL</td>
<td>384 x 288</td>
</tr>
<tr>
<td></td>
<td>8mm</td>
<td>19mm</td>
</tr>
<tr>
<td></td>
<td>50° HFOV</td>
<td>50° HFOV</td>
</tr>
<tr>
<td></td>
<td>4x Digital (stepped)</td>
<td>4x Digital (stepped)</td>
</tr>
<tr>
<td>S-C395</td>
<td>Analogue Day Module</td>
<td>Thermal Uncooled FPA - Shutterless</td>
</tr>
<tr>
<td></td>
<td>800 TVL</td>
<td>640 x 480</td>
</tr>
<tr>
<td></td>
<td>8mm</td>
<td>19mm</td>
</tr>
<tr>
<td></td>
<td>50° HFOV</td>
<td>32° HFOV</td>
</tr>
<tr>
<td></td>
<td>4x Digital (stepped)</td>
<td>4x Digital (stepped)</td>
</tr>
</tbody>
</table>

- **Pan Details:** Continuous Rotation 0°-360° 0.5°/s - 80°/s
- **Tilt Details:** -25° ~ +90° (Auto Reverse) 0.5° ~ 60°/s
- **Video Format:** 1V P-P Composite Analogue Video 75Ω - PAL / NTSC
- **Presets / Patrols & Patterns:** 100 Presets, 6 Patrols (up to 18 presets each), 4 Patterns
- **Communications Interface:** RS485 Serial Data
- **Protocols:** Pelco D, Iris Variant, 9600 Baud
- **Power:** +12VDC / +24VDC. Max Consumption 36W (LED’s ON)
- **Weight:** 3KG
- **Operating Temperature:** -50° C ~ +65° C / Humidity: 10% ~ 95% RH
- **Environmental:** IP66 / TVS 4000V Overvoltage / Lightning Protection
- **Thermal Sensitivity / Range:** <50mK / 8~14µ
- **Thermal Pixel Pitch:** 17µm
- **Visible Camera Illumination:** 0.05 Lux
- **Housing Material / Colour:** Aluminium Body, Anodised & Powder Coated. White/Black Standard - Bespoke Colours Available - POA
- **Gyro Stabilisation:** Tilt Axis

**Operation Modes:**

- **Day Mode:** Low Light Visible Camera
- **Night Mode:** Thermal Camera
- **Fusion A Mode:** ICE+ Edge Enhancement from Daylight Camera overlaid onto Thermal Image
- **Fusion B Mode:** Day Camera Image Overlaid with Hotspots from Thermal Camera
- **PIP A Mode:** Full Screen Daylight Camera with Thermal Cam Insert
- **PIP Mode B:** Full Screen Thermal Camera with Day Camera Insert

**Colour Palettes:**

- 12 Colour Palettes (Thermal Core)

---

**Pan Details:**

- Continuous Rotation 0~360˚ 0.5˚/s ~ 80˚/s

**Tilt Details:**

- -25˚ ~ +90˚ (Auto Reverse) 0.5˚ ~ 60˚/s

---

**Iris Innovations Ltd.**

Units 15 & 43 Fareham Innovation Centre, Meteor Way, Lee on Solent, Hampshire PO13 9FU, United Kingdom

Tel: +44(0)2392 556509. Email: irisuk@boat-cameras.com. Web: www.boat-cameras.com
IRIS-Sx60
316 Marine Grade Stainless Steel Static Dome Camera

Key Features:
- Available in multiple formats to suit your requirements
- Machined from 316 Marine Grade Stainless Steel.
- Available in Brushed (standard), High Polish or Custom Painted Finish*
- High Definition 1920 x 1080 Resolution (Digital Models)
- High Resolution 1000 TVL (Analogue Model)
- Built In Infra Red LED Illumination (10m Range)
- PoE Option (IRISS460 IP Model)
- Extremely Low Power Consumption
- IP66 Environmental Protection

Applications:
- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Iris’s SX60 range of miniature marine grade stainless steel cameras are available in multiple formats and deliver the highest quality video and to suit your application.

The range comprises a high resolution analogue solution designed for maximum compatibility with most marine chart plotters (IRISS060), a high definition TVI model which delivers 1920x1080 resolution in real time† (IRISS160) and a high definition 2MP IP camera which is directly compatible with Raymarine chart plotters (running LH2 / LH3 software) and Furuno Timezero v4.1 and above.

The SX60’s 316 stainless steel housing provides the ultimate protection in the harsh marine environment, and is therefore the perfect solution for deck monitoring aboard work boats, fishing vessels and passenger vessels, whilst fitting in equally as well with the high end aesthetic of luxury vessels and mega yachts.

Measuring only 58mm high by 60mm in diameter, the SX60 range is small enough to provide unobtrusive surveillance and also for use in areas where space is tight, such as engine rooms or anchor wells.

Whether you need a high quality and rugged camera as part of your on board surveillance system, for engine room, deck and companion way monitoring or as a robust and stylish docking or backup camera, the IRIS-Sx60 range of cameras is the perfect solution.

* Non Standard Finishes may incur additional costs
† May Require Additional Converter Hardware Depending on Model Of MFD
IRIS-Sx60
316 Marine Grade Stainless Steel Static Dome Camera

**Camera Options:**

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Format</th>
<th>Resolution</th>
<th>Lens</th>
<th>Horizontal Field of View</th>
</tr>
</thead>
<tbody>
<tr>
<td>S060</td>
<td>Analogue</td>
<td>1000TVL</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV 2.8mm: 120˚ HFOV</td>
</tr>
<tr>
<td>S160</td>
<td>HD-TVI</td>
<td>1920 x 1080</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV 2.8mm: 120˚ HFOV</td>
</tr>
<tr>
<td>S460</td>
<td>IP</td>
<td>1920 x 1080</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV 2.8mm: 120˚ HFOV</td>
</tr>
</tbody>
</table>

**Specifications:**

<table>
<thead>
<tr>
<th></th>
<th>IRIS-S060</th>
<th>IRIS-S160</th>
<th>IRIS-S460</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>1/3&quot; Sony CCD Sensor</td>
<td>1/4&quot; CMOS Sensor</td>
<td>1/4&quot; CMOS Sensor</td>
</tr>
<tr>
<td>Resolution</td>
<td>1000 TVL</td>
<td>1920x1080</td>
<td>Variable - 1920x1080P (MJP) Max</td>
</tr>
<tr>
<td>Interface</td>
<td>NA</td>
<td>RJ45 10/100 Base T Ethernet</td>
<td>RJ45 10/100 Base T Ethernet</td>
</tr>
<tr>
<td>Video Processing</td>
<td>1VP-P CVBS Composite Video 75Ω</td>
<td>HD-TVI / HD-CVI / AHD Switchable</td>
<td>H.264 Codec / Dual Stream</td>
</tr>
<tr>
<td>Protocols / Video Format</td>
<td>PAL / NTSC Selectable</td>
<td>HD-TVI / HD-CVI / AHD</td>
<td>TCP / UDP / HTTP / Multicast / UPnP / RTSP / ONVIF</td>
</tr>
<tr>
<td>Onvif</td>
<td>NA</td>
<td>NA</td>
<td>Profile S v2.4</td>
</tr>
<tr>
<td>Bitrate</td>
<td>NA</td>
<td>NA</td>
<td>VBR / CBR 32kbps ~ 8Mbps</td>
</tr>
<tr>
<td>Illumination</td>
<td>6 x 850nm Infra Red - 10 meter Range</td>
<td>6 x 850nm Infra Red - 10 meter Range</td>
<td>6 x 850nm Infra Red - 10 meter Range</td>
</tr>
<tr>
<td>Lens / Field of View</td>
<td>3.6mm Standard (80˚HFOV) / 2.8mm Option</td>
<td>3.6mm Standard (80˚HFOV) / 2.8mm Option</td>
<td>3.6mm Standard (80˚HFOV) / 2.8mm Option</td>
</tr>
<tr>
<td>Mirroring</td>
<td>Horizontal &amp; Vertical - Configure via OSD Menu</td>
<td>Horizonal &amp; Vertical - Configure via Browser</td>
<td>Horizontal &amp; Vertical - Configure via Browser</td>
</tr>
<tr>
<td>Automatic Gain Control</td>
<td>Supported / Multiple Levels</td>
<td>Supported / Multiple Levels</td>
<td>Supported / Multiple Levels</td>
</tr>
<tr>
<td>Compatibility</td>
<td>All MFD’s with Composite Video Input, TV via AV Input</td>
<td>MFD’s with Digital (HDMI/DVI) Input with TVI-HDMI Converter, MFD’s via IRIS NVR/HVR</td>
<td>Raymarine / Axiom (LH4 or higher), Furuno Timezero v4.1 and higher PC based systems, MFD’s with digital (HDMI / DVI) Input, MFD’s via IRIS NVR/HVR, IE Browser</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-30 ~ +60˚C</td>
<td>-30 ~ +60˚C</td>
<td>-30 ~ +60˚C</td>
</tr>
<tr>
<td>Connections</td>
<td>Video: BNC 75Ω Female Connector / DC Power Socket</td>
<td>Water Resistant RJ45 Socket / Non PoE with DC Power Socket</td>
<td>Water Resistant RJ45 Socket / Non PoE with DC Power Socket</td>
</tr>
<tr>
<td>Material</td>
<td>316 Stainless Steel</td>
<td>316 Stainless Steel</td>
<td>316 Stainless Steel</td>
</tr>
<tr>
<td>Power</td>
<td>12VDC &lt; 200mA Max</td>
<td>12VDC &lt; 200mA Max</td>
<td>12VDC &lt;200mA Max</td>
</tr>
<tr>
<td>Weight &amp; Dimensions</td>
<td>0.420Kg / 59.5mm ø x 52.93mm H</td>
<td>0.420Kg / 59.5mm ø x 52.93mm H</td>
<td>0.420Kg / 59.5mm ø x 52.93mm H</td>
</tr>
<tr>
<td>Environmental</td>
<td>IP66</td>
<td>IP66</td>
<td>IP66</td>
</tr>
</tbody>
</table>

Iris Innovations Ltd. Units 15 & 43 Fareham Innovation Centre, Meteor Way, Lee on Solent, Hampshire PO13 9FU, United Kingdom Tel: +44(0)2392 556509. Email: irisuk@boat-cameras.com. Web: www.boat-cameras.com
IRIS-x60
Wide Angle Fixed Micro Dome Camera

Key Features:
- Available in Analogue, Hi-Def Analogue (TVI/CVI/AHD) and IP Formats
- IP Model (460) directly compatible with Raymarine (LH2 and above), Axiom, Furuno TimeZero 4.1 and above MFD’s
- TVI/CVI Model Features 1080P Real Time Resolution
- IP Model (460) 12vDC and PoE
- Extremely Compact - Only 6cm Diameter
- Built In Infra Red Illumination
- High Quality Housing - Anodised and Powder Coated
- IP66 Environmental Protection

Applications:
- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Iris’s best Selling x60 range of miniature marine dome cameras, launched originally in 2006 is one of the most versatile on board camera options on the market, available in analogue, high definition analogue (HD-TVI / HD-CVI / AHD) and IP formats.

Measuring only 60mm in diameter and 58mm high and able to withstand a wide range of temperatures and environmental conditions, the camera is perfect as a back-up camera, for engine room monitoring, as a docking camera and for cockpit and companionway monitoring. In fact IRISx60 cameras can be used for pretty much any on board surveillance and monitoring application.

The analogue version of the camera (part number IRIS065) is available in PAL or NTSC formats and in standard or mirror image options.

The IRIS066 model features 4-in-1 video options and can be selected between analogue, HD-TVI, HD-CVI and AHD. Anologue Hi-Def formats (such as HD-TVI) produce 1080P quality high definition video in real time and aren’t susceptible to network latency delays. When configured to HD-TVI, the IRIS066 can be used in conjunction with Iris’s Hybrid recorders and Quad switchers to provide an HDMI feed, compatible with plotters such as Simrads NSO and Garmin’s 8000 series MFDs.

If you need an IP solution, the IRIS460 outputs high definition 2MP 1080P resolution video, compatible with Raymarine Lighthouse 2 and above, Furuno TimeZero v4.1 and above and other MFD’s when connected via an IRIS Hybrid recorder (HDMI compatibility required - such as Garmins 8000 range). Compatibility with other major chart plotter manufacturers is scheduled throughout 2020. Supplied as standard with a 3.6mm lens (80˚HFOV) and available with a 2.5mm (110˚) option.
For when size really does matter, Iris introduce their compact, high resolution fixed day/night dome cameras, the IRIS035.

Measuring an amazingly compact 48mm x 48mm, the IRIS035 is the smallest marine camera available. But despite its miniature size, it is also one of the most highly spec’d.

The IRIS035 features a 540TVL high resolution camera module in its discreet and compact housing, along with 12 micro-LED’s that allow visibility of up to 8 meters in complete darkness. To boost picture clarity further, in low light conditions the camera switches from colour to monochrome.

And if this wasn’t enough, we’ve modified our design as a response to customer requests in order to fit an ultra wide 2.3mm lens, providing an amazing 120˚ horizontal field of view! Now, with a single IRIS035 you can achieve the same field of view previously only possible by using 2 separate cameras, representing astounding value for money!

Because the camera is so small, feature packed and indeed rugged – with an IP66 rating, the IRIS035 is ideal as a docking camera, back-up camera, engine room camera and/or part of an integrated on board security system.

The IRIS035 is available in PAL and NTSC analogue formats and in standard view or mirror view options, and is directly compatible with all chart plotters with analogue video inputs.
IRIS

4K HD Mid Range IR LED Hybrid Fixed Dome Camera

Key Features:
- Dual Format (CVBS Analogue & IP) Hybrid Camera
- Ultra High Definition 3840 x 2160 Resolution (IP Mode) 8MP
- H.264 / H.265 / MJPEG Compression
- Wide Dynamic Range / Digital Noise Reduction
- User Selectable Resolutions / Multi Stream (IP Mode)
- High Resolution 1000 TVL (Analogue Mode)
- PoE IEEE.802.3af / +12VDC
- Digital Zoom/Focus & Autofocus (IP Mode)
- 3.3mm –12mm Lens / 97.5˚–38.5˚ HFOV
- High Power Infra Red LED ( 30m Range )
- Stylish, Rugged Form Factor (IRISx60 Style)
- IP67 Environmental Protection

Applications:
- Luxury Motor Yachts
- Work Boat & Commercial Shipping
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

The latest model in the IRISx8 range, the new x83 Hybrid Fixed Dome Camera from Iris boasts an impressive 8MP resolution for applications where the very highest picture quality is required. Video resolution can be set to lower definitions if required and the camera features a CVBS anaolgue video output for maximum compatibility.

Styled around the best selling IRISx60 dome camera, the x83 replaces the IRIS080 whilst conforming to the styling of our well known dome form factor.

The x83 features a user definable 3.3mm–12mm zoom lens, which is controllable from cameras browser interface. The camera also supports manul and automatic focus.

For operation at night and in low light, the x83 features a built in high power infra red LED array to provide visibility up to 30 meters.

For convenience and ease of installation the camera can be powered via Power over Ethernet (PoE) or with a 12VDC supply, and draws less than 9.5W maximum (LED ON).

The IRISx83 is the latest in Iris’s expanding range of stylish and hard wearing multi-purpose, high definition cameras and is suitable for many applications ranging from on board security and people monitoring, engine room safety, companionway monitoring, forward and aft viewing and deck monitoring.

The IRISx83 is ONVIF compliant and can be used in conjunction with IRIS’s HVR range of digital recorders and hubs.
IRISx83
4K HD Mid Range IR LED Hybrid Fixed Dome Camera

Specifications:

<table>
<thead>
<tr>
<th>Specification</th>
<th>IRISx83</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>1/2.5” CMOS</td>
</tr>
<tr>
<td>Source Image Size</td>
<td>3840 x 2160</td>
</tr>
<tr>
<td>Electronic Shutter</td>
<td>1/25S ~ 1/10000S</td>
</tr>
<tr>
<td>Iris Type</td>
<td>Fixed Iris</td>
</tr>
<tr>
<td>Min. Illumination</td>
<td>0.024 lux @ F1.2, AGC ON; 0 lux with IR ON</td>
</tr>
<tr>
<td>Lens</td>
<td>Motorized Zoom Lens; 3.3~12mm @ F1.4, Horizontal Field of View (HFOV) 97.5˚ ~ 38.5˚</td>
</tr>
<tr>
<td>Video Compression</td>
<td>H.264 / H.265 / MJPEG (H.264 Compression Standard - Baseline Profile / Main Profile / High Profile)</td>
</tr>
<tr>
<td>Bitrate</td>
<td>VBR/CBR 128Kbps ~ 10Mbps</td>
</tr>
<tr>
<td>Resolution</td>
<td>8MP (3840 x 2160), 2K (2560 x 1440), 3MP (2304 x 1296), 1080P (1920 x 1080), 720P (1280 x 720), D1, CIF, 480 x 240</td>
</tr>
<tr>
<td>Main Stream</td>
<td>Main Stream: 60Hz: 8MP/2K/3MP/1080P/720P (1<del>10fps) / 50Hz: 8MP/2K/3MP/1080P/720P (1</del>25fps)</td>
</tr>
<tr>
<td>Sub Stream</td>
<td>60Hz: 1080P (1<del>5fps) / 720P (1</del>10fps) / D1 (1<del>25fps) / 60Hz: 1080P (1</del>5fps) / 720P (1<del>10fps) / D1 (1</del>25fps)</td>
</tr>
<tr>
<td>Third Stream</td>
<td>60Hz: 720P (1<del>30fps) / D1 (1</del>10fps) / CIF (1<del>10fps) / 480x240 (1</del>30fps) / 50Hz: 720P (1<del>25fps) / D1 (1</del>25fps) / CIF (1<del>25fps) / 480x240 (1</del>25fps)</td>
</tr>
<tr>
<td>Physical Interface</td>
<td>Network: 10/100 Mbit/SEC</td>
</tr>
<tr>
<td>Video Output</td>
<td>CVBS - 1VP-P Composite Video 75Ω - PAL / NTSC Switchable</td>
</tr>
<tr>
<td>Network / Interface Protocols</td>
<td>UDP, IPv4, IPv6, DHCP, NTP, RTSP, PPPOE, DDNS, SMTP, FTP, SNMP, 802.1x, UPnP, HTTPS, Qos / ONVIF, GB-T28181-2011</td>
</tr>
<tr>
<td>Power</td>
<td>DC12V / PoE (IEEE802.3af) / Consumption &lt;9.5W</td>
</tr>
<tr>
<td>Operating Environment</td>
<td>-30 ºC ~ 65 ºC, Humidity &lt;95% (non condensing)</td>
</tr>
<tr>
<td>Ingress Protection</td>
<td>IP67</td>
</tr>
<tr>
<td>Weight</td>
<td>Approx 0.70Kg</td>
</tr>
<tr>
<td>Dimensions</td>
<td>Footprint: 113.05mm ø x 117.1mm Height</td>
</tr>
</tbody>
</table>

Iris Innovations Ltd. Units 15 & 43 Fareham Innovation Centre, Meteor Way, Lee on Solent, Hampshire PO13 9FU, United Kingdom
Tel: +44(0)2392 556509, email: irisuk@boat-cameras.com, web: www.boat-cameras.com
For extreme applications, Iris’s new IRIS092 fixed thermal imaging camera delivers unparalleled vision at night and in low light situations. The IRIS092 is the perfect tool for spotting obstacles at sea, on board deck, engine room and companionway safety and finding people or animals in zero light.

Developed as part of Iris’s marine range, the IRIS092 is also used by police authorities, fire, search and rescue services, wind farm support vessel operators and aquaculture businesses around the world.

The IRIS092’s key benefit is its solid marine grade stainless steel case which makes it one of the world’s toughest night vision cameras.

Available in either 384x288 or 640x512 resolution, the IRIS092 is enhanced further by Iris’s ICE™ Image processing feature which dynamically analyses each video frame to enhance object edges, making them easier to spot. The camera also features multiple colour palettes and 4x digital zoom.

At sea, the IRIS092 is perfect as a forward facing camera for spotting channel markers and buoys, floating debris and objects undetectable by radar. As an aft facing camera, the IRIS092 can help docking at night and monitor tenders and other objects under tow. It’s extremely small form factor also makes it ideal for monitoring engine rooms.

The IRIS092 is extremely compact, rugged and delivers excellent value for money, costing less than any other thermal camera in its class.
## Specifications:

<table>
<thead>
<tr>
<th></th>
<th>IRIS092</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>Uncooled Amorphous Silicone Microbolometer</td>
</tr>
<tr>
<td>Resolution</td>
<td>Sensor Resolution 400x300</td>
</tr>
<tr>
<td>Pixel Pitch</td>
<td>17µm</td>
</tr>
<tr>
<td>Video Processing</td>
<td>1VP-P CVBS Composite Video 75Ω</td>
</tr>
<tr>
<td>Protocols / Video Format</td>
<td>PAL / NTSC Selectable</td>
</tr>
<tr>
<td></td>
<td>30Hz/60Hz (NTSC, 360x240, 120x240)</td>
</tr>
<tr>
<td></td>
<td>25Hz/50Hz (PAL, 384x288, 360x288)</td>
</tr>
<tr>
<td>Focal Length</td>
<td>15mm/f1.0</td>
</tr>
<tr>
<td>Focus / Zoom</td>
<td>Fixed Focus / Digital Zoom 4x Continuous</td>
</tr>
<tr>
<td>Spectral Range</td>
<td>8~14µm</td>
</tr>
<tr>
<td>Field of View</td>
<td>25˚ x 19˚</td>
</tr>
<tr>
<td>Mirroring</td>
<td>Horizontal / Vertical</td>
</tr>
<tr>
<td>Colour Palettes</td>
<td>10 Palettes</td>
</tr>
<tr>
<td>Image Enhancement</td>
<td>IRIS ICE® Image Contrast Enhancement</td>
</tr>
<tr>
<td>Compatibility</td>
<td>All MFD’s with Composite Video Input, TV via AV Input, Composite DVR’s / Video Switchers</td>
</tr>
<tr>
<td>Communication</td>
<td>RS485 Serial Data Communication / Iris Protocol</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-40 ~ +70˚C</td>
</tr>
<tr>
<td>Connections</td>
<td>Video BNC 75Ω Female Connector / DC Power Socket / 6 Pin Body Mount Connector Option</td>
</tr>
<tr>
<td>Material</td>
<td>316 Stainless Steel</td>
</tr>
<tr>
<td>Power</td>
<td>12VDC &lt; 200mA Max</td>
</tr>
<tr>
<td>Weight &amp; Dimensions</td>
<td>Weight: Xkg / Camera Body 92mm x 64mm</td>
</tr>
<tr>
<td>Environmental</td>
<td>IP66 (IEC 60529)</td>
</tr>
</tbody>
</table>
IRIS-x90
316 Marine Grade Stainless Steel Static Pipe Style Cameras

Key Features:
- Available in multiple formats to suit your requirements
- Machined from 316 Marine Grade Stainless Steel.
- High Polish Finish
- High Definition 1920 x 1080 Resolution (Digital Models)
- High Resolution 1000 TVL (Analogue Model)
- Built In Infra Red LED Illumination (10m /20m Range)
- Submersible Option Available
- PoE IEEE.802.3af (IRISS490 IP Model)
- Compatible with Raymarine / Axiom (L2 and Higher)
- Extremely Low Power Consumption
- IP66 Environmental Protection

Applications:
- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Iris’s x90 range of marine grade stainless steel cameras are available in multiple formats and deliver the highest quality video and to suit your application.

The range comprises a high resolution analogue solution designed for maximum compatibility with most marine chart plotters (IRISS090), a high definition TVI model which delivers 1920x1080 resolution in real time† (IRISS1090) and a high definition 2MP IP camera (IRIS490) which is directly compatible with Raymarine chart plotters (running LH2 / LH3 software).

The x90’s 316 stainless steel housing provides the ultimate protection in the harsh marine environment, and is therefore the perfect solution for deck monitoring aboard work boats, fishing vessels and passenger vessels, whilst fitting in equally as well with the high end aesthetic of luxury vessels and mega yachts.

Equipped with high power infra red LED’s, the x90 series provides high definition video cover even at night to a range of 20 meters.

Measuring only 58mm high by 60mm in diameter, the SX60 range is small enough to provide unobtrusive surveillance and also for use in areas where space is tight, such as engine rooms or anchor wells.

Whether you need a high quality and rugged camera as part of your on board surveillance system, for engine room, deck and companion way monitoring or as a robust and stylish docking or backup camera, the IRISx90 range of cameras is the perfect solution, favoured by luxury boat owners and commercial vessel operators alike.

† May Require Additional Convertor Hardware Depending on Model Of MFD
IRIS-x90
316 Marine Grade Stainless Steel Static Pipe Style Cameras

IRIS090 Dimensions

IRIS490 / 1090 Dimensions

Camera Options:

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Format</th>
<th>Resolution</th>
<th>Lens</th>
<th>Horizontal Field of View</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRIS090</td>
<td>Analogue</td>
<td>1000TVL</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV 2.8mm: 102˚ HFOV</td>
</tr>
<tr>
<td>IRIS090</td>
<td>HD-TVI</td>
<td>960 x 1080</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV 2.8mm: 100˚ HFOV</td>
</tr>
<tr>
<td>IRIS490</td>
<td>IP</td>
<td>1920 x 1080</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV 2.8mm: 100˚ HFOV</td>
</tr>
</tbody>
</table>

Specifications:

<table>
<thead>
<tr>
<th>Feature</th>
<th>IRIS090</th>
<th>IRIS1090</th>
<th>IRIS490</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>1/3” Sony CCD Sensor</td>
<td>1/4” CMOS Sensor</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>1000TVL</td>
<td>Variable - 1920x1080P (2MP) Max</td>
<td></td>
</tr>
<tr>
<td>Interface</td>
<td>NA</td>
<td>RJ45 10/100 Base T Ethernet</td>
<td></td>
</tr>
<tr>
<td>Video Processing</td>
<td>1VP-P CVBS Composite Video 75Ω</td>
<td>HD-TVI / HD-CVI / AHD Switchable</td>
<td></td>
</tr>
<tr>
<td>Protocols / Video Format</td>
<td>PAL / NTSC Selectable</td>
<td>HD-TVI / HD-CVI / AHD</td>
<td></td>
</tr>
<tr>
<td>Onvif</td>
<td>NA</td>
<td>Profile S v2.4</td>
<td></td>
</tr>
<tr>
<td>Bitrate</td>
<td>NA</td>
<td>VBR / CBR 32kbps – 8Mbps</td>
<td></td>
</tr>
<tr>
<td>Illumination</td>
<td>6 x 850nm Infra Red - 10 meter Range</td>
<td>2 x High Power Infra Red 850mm - 20 Meter Range</td>
<td></td>
</tr>
<tr>
<td>Lens / Field of View</td>
<td>3.6mm Standard (80˚ HFOV) / 2.8mm Option</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mirroring</td>
<td>Horizontal &amp; Vertical - Configure via OSD Menu</td>
<td>Horizontal &amp; Vertical - Configure via Browser</td>
<td></td>
</tr>
<tr>
<td>Automatic Gain Control</td>
<td>Supported / Multiple Levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compatibility</td>
<td>All MFD’s with Composite Video Input, TV via AV Input</td>
<td>MFD’s with Digital (HDMI/DVI) Input with TVI-HDMI Converter, MFD’s via IRIS NVR/HVR</td>
<td></td>
</tr>
<tr>
<td>Raymarine / Axiom (LH2 or higher), PC based systems, MFD’s with digital (HDMI / DVI) Input, MFD’s via IRIS NVR/HVR, IE Browser</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-30 ~ +60˚C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connections</td>
<td>Video: BNC 75Ω Female Connector / DC Power Socket</td>
<td>Water Resistant RJ45 Socket / DC Power Socket / Female BNC (1080)</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>316 Stainless Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>12VDC &lt; 200mA Max.</td>
<td>PoE IEEE802.3af / 12VDC &lt;200mA Max.</td>
<td></td>
</tr>
<tr>
<td>Weight &amp; Dimensions</td>
<td>0.660Kg / 108mm x 49mm</td>
<td>1.170Kg / 126mm x 64mm</td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>IP66</td>
<td>IP66 Standard / IP68 Submersible Option Available</td>
<td></td>
</tr>
</tbody>
</table>

Iris Innovations Ltd, Units 15 & 43 Fareham Innovation Centre, Miter Way, Lee on Solent, Hampshire PO13 9FU, United Kingdom
Tel: +44(0)2392 556509, email: irisuk@boat-cameras.com, web: www.boat-cameras.com
IRIS-x85

316 Marine Grade Stainless Steel Var-Focal Static Dome Camera

Key Features:
- Available in multiple formats to suit your requirements: CVBS / AHD/TVI / IP
- Machined from 316 Marine Grade Stainless Steel.
- Available in Brushed (standard), High Polish or Custom Painted Finish*
- High Definition 1920 x 1080 Resolution (Digital Models)
- High Resolution 1000 TVL (Analogue Model)
- Built In Infra Red LED Illumination (30m Range)
- PoE Option (IRIS485 IP Model)
- Extremely Low Power Consumption
- IP66 Environmental Protection

Applications:
- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

Iris’s X85 range of vari-focal marine grade stainless steel cameras are available in multiple formats and deliver the highest quality video and to suit your application.

The range comprises a high resolution analogue solution designed for maximum compatibility with most marine chart plotters (IRIS085), a high definition TVI/AHD model which delivers 1920x1080 resolution in real time (IRIS1085) and a high definition 2MP IP camera (IRIS485) which is directly compatible with Raymarine chart plotters (running LH2 / LH3 software).

The x85’s 316 stainless steel housing provides the ultimate protection in the harsh marine environment, and is therefore the perfect solution for deck monitoring aboard work boats, fishing vessels and passenger vessels, whilst fitting in equally as well with the high end aesthetic of luxury vessels and mega yachts.

Each model is fitted with a manually adjustable vari-focal lens which can be set between 2.8mm (XX HFOV) and 12mm (XX HFOV) making the camera extremely versatile and equally useful in close range and longer range applications. High Power Infra Red LED’s are build in to provide up to 30m visibility in the dark.

Measuring only 92.5mm high by 142mm in diameter, the x85 range is small enough to provide unobtrusive surveillance and also for use in areas where space is tight, such as engine rooms.

Whether you need a high quality and rugged camera as part of your on board surveillance system, for engine room, deck and companion way monitoring or as a robust and stylish docking or backup camera, the IRIS-X85 range of cameras is the perfect solution.

* Non Standard Finishes may incur additional costs
† May Require Additional Converter Hardware Depending on Model Of MFD / Screen

Iris Innovations Ltd.
Units 15 & 43 Fareham Innovation Centre, Meteor Way, Lee on Solent, Hampshire PO13 9FU, United Kingdom
Tel: +44(0)2392 556509, email: irisuk@boat-cameras.com, web: www.boat-cameras.com
### IRIS-x85

**316 Marine Grade Stainless Steel Vari Focal Static Dome Camera**

![Camera Diagram](image)

#### Camera Options:

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Payload 1</th>
<th>Resolution</th>
<th>Lens</th>
<th>Horizontal Field of View</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRIS085</td>
<td>Analogue</td>
<td>1000TVL</td>
<td>Vari-Focal 2.8mm-12mm</td>
<td>110˚ (Wide) to 22˚ (Tele)</td>
</tr>
<tr>
<td>IRIS1085</td>
<td>HD-TVI</td>
<td>1920 x 1080</td>
<td>Vari-Focal 2.8mm-12mm</td>
<td>110˚ (Wide) to 22˚ (Tele)</td>
</tr>
<tr>
<td>IRIS485</td>
<td>IP</td>
<td>1920 x 1080</td>
<td>Vari-Focal 2.8mm-12mm</td>
<td>110˚ (Wide) to 22˚ (Tele)</td>
</tr>
</tbody>
</table>

#### Specifications:

<table>
<thead>
<tr>
<th>Camera Model</th>
<th>IRIS085</th>
<th>IRIS1085</th>
<th>IRIS485</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>1/2.8” Sony Exmor CMOS Sensor</td>
<td>1/3” Panasonic CMOS Sensor</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>1280H NTSC / PAL</td>
<td>1080p@30FPS / 1080p@25FPS</td>
<td>1920x1080P Max / Multiple Resolution Options</td>
</tr>
<tr>
<td>Minimum Illumination</td>
<td>Colour Operation: 1.0 Lux / Monochrome: 0.5 Lux / IR LED ON = 0.00 Lux</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lens</td>
<td>2.8mm – 12mm Vari-Focal - Manual Adjustment / DC Auto Iris</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Video Processing</td>
<td>NA</td>
<td>H.264 / MJPEG Dual Streaming Supported</td>
<td></td>
</tr>
<tr>
<td>Bitrate</td>
<td>32kbps – 12Mbps</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frame Rate</td>
<td>Max. 30fps @ 1920x1080P</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Illumination</td>
<td>24pcs 850nm Infra Red LED Illumination</td>
<td></td>
<td></td>
</tr>
<tr>
<td>LAN Interface</td>
<td>NA</td>
<td>RJ45 - 10/100 Base T</td>
<td></td>
</tr>
<tr>
<td>Protocols</td>
<td>NA</td>
<td>HTTP, RTP/RTSP, TCP/IP, FTP, Telnet, RARP, PPPoE, SNMP, PAP, CHAP, DHCP, FTP, SMTP, HTTP Client</td>
<td></td>
</tr>
<tr>
<td>ONVIF</td>
<td>NA</td>
<td>ONVIF Profile S2.4</td>
<td></td>
</tr>
<tr>
<td>Power Over Ethernet</td>
<td>NA</td>
<td>IEEE802.3at</td>
<td></td>
</tr>
<tr>
<td>Mirroring</td>
<td>Horizontal / Vertical Mirroring (through on-screen menu system)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>AGC</td>
<td>Supported: OFF / LOW / MID / HIGH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamic IP</td>
<td>NA</td>
<td>NA</td>
<td>DDNS / UPnP Supported</td>
</tr>
<tr>
<td>Motion Detection</td>
<td>Supported: ON/OFF 4 Zones</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>Tested to EN60529 IP66</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>Marine Grade 316 Stainless Steel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating Temp.</td>
<td>-20 to +55˚C / 10˚ to 85˚ Humidity</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MFD Compatibility</td>
<td>Compatible with all MFD’s with Composite Video Inputs</td>
<td>Compatible with all MFD’s featuring Hi-Def (HDMI / DVI) Input via IRIS HVR System / HDMI: T</td>
<td>Directly Compatible with Raymarine MFD’s running LINX and above operating system / IRIS HVR Systems</td>
</tr>
<tr>
<td>Power</td>
<td>12VDCx10%</td>
<td>IEEE802.3at PoE / 12VDCx10%</td>
<td></td>
</tr>
<tr>
<td>Weight &amp; Dimensions</td>
<td>1.3KG / 92.5mm x 142mm Diameter</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* Non Standard Finishes may incur additional costs
† May Require Additional Converter Hardware Depending on Model Of MFD / Screen

---

Iris Innovations Ltd, Units 15 & 43 Fareham Innovation Centre, Metzer Way, Lee on Solent, Hampshire PO13 9FU, United Kingdom
Tel: +44(0)2392 556599, email: irisuk@boat-cameras.com, web: www.boat-cameras.com
Mini Recess Mount Fixed Domes, Analogue, IP & AHD Models

Available in multiple formats to suit your requirements
- Machined from 316 Marine Grade Stainless Steel.
- High Polish Finish
- High Definition 1920 x 1080 Resolution (Digital Models)
- High Resolution 1000 TVL (Analogue Model)
- PoE IEEE 802.3af (IRISS490 IP Model)
- Compatible with Raymarine / Axiom (L2 and Higher)
- Extremely Low Power Consumption
- Small, Compact and Discreet
- White Powder Coat Bezel Option
- IP66 Environmental Protection

Key Features:
- Available in multiple formats to suit your requirements
- Machined from 316 Marine Grade Stainless Steel.
- High Polish Finish
- High Definition 1920 x 1080 Resolution (Digital Models)
- High Resolution 1000 TVL (Analogue Model)
- PoE IEEE 802.3af (IRISS490 IP Model)
- Compatible with Raymarine / Axiom (L2 and Higher)
- Extremely Low Power Consumption
- Small, Compact and Discreet
- White Powder Coat Bezel Option
- IP66 Environmental Protection

Introducing the IRISx36 range of recess mount, micro dome marine cameras from Iris Innovations.

For maximum compatibility the x36 series is now available in three formats:
- IRIS036 Hi-Resolution Analogue Sensor, 1000TVL with composite video output
- IRIS436 Hi-Def Ethernet IP Camera
- IRIS1036Hi-Def Real Time iHD Digital Video Output

For the first time ever, the x36 range offers customers a choice of video formats to suit their MFD or monitoring solution. The IRIS036 will interface directly with any chart plotter that features a composite video input. Its 1000TVL resolution is the highest available for an analogue camera, and it also boasts on screen configuration functionality to set the camera up exactly as required - including a video mirror switch for rear view applications. Set up is carried out via an integrated thumb stick built into the cable tail.

The IRIS1036 Analogue Hi-Def model outputs 1920x1080 resolution video in AHD, TVI or CVI format which provides stunning real time high definition video †.

Finally, the IRIS436 is an IP camera that will interface with Raymarines network MFD’s such as the new Axiom family and other devices running LightHouse 2 and 3 software and Furuno Timezero 4.1 and above. The camera is available with a 12VDC input as standard or with IEEE802.3af Power over Ethernet as an option.

† May require HDMI convertor or use in conjunction with IRIS HVR / DVR products.

Iris Innovations Ltd.
Units 15 & 43 Fareham Innovation Centre, Meteor Way, Lee on Solent, Hampshire PO13 9FU, United Kingdom
Tel: +44(0)2392 556509. email: irisuk@boat-cameras.com. web: www.boat-cameras.com
## IRISx36 Dimensions

**IRISx36 Dimensions**

**IRIS036**
- **Format:** Analogue
- **Resolution:** 1000TVL
- **Lens:** 3.6mm Standard, 2.8mm Option
- **Horizontal Field of View:** 3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV

**IRIS1036**
- **Format:** HD-TVI
- **Resolution:** 1920 x 1080
- **Lens:** 3.6mm Standard, 2.8mm Option
- **Horizontal Field of View:** 3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV

**IRIS436**
- **Format:** IP
- **Resolution:** 1920 x 1080
- **Lens:** 3.6mm Standard, 2.8mm Option
- **Horizontal Field of View:** 3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV

**IRIS-S060**
- **Format:** Analogue
- **Resolution:** 600TVL
- **Lens:** 3.6mm Standard, 2.8mm Option
- **Horizontal Field of View:** 3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV

**IRIS-S160**
- **Format:** HD-TVI
- **Resolution:** 1920 x 1080
- **Lens:** 3.6mm Standard, 2.8mm Option
- **Horizontal Field of View:** 3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV

**IRIS-S460**
- **Format:** IP
- **Resolution:** 1920 x 1080
- **Lens:** 3.6mm Standard, 2.8mm Option
- **Horizontal Field of View:** 3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV

### Camera Options:

<table>
<thead>
<tr>
<th>Model No.</th>
<th>Format</th>
<th>Resolution</th>
<th>Lens</th>
<th>Horizontal Field of View</th>
</tr>
</thead>
<tbody>
<tr>
<td>IRIS036</td>
<td>Analogue</td>
<td>1000TVL</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV</td>
</tr>
<tr>
<td>IRIS1036</td>
<td>HD-TVI</td>
<td>1920 x 1080</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV</td>
</tr>
<tr>
<td>IRIS436</td>
<td>IP</td>
<td>1920 x 1080</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV</td>
</tr>
<tr>
<td>IRIS-S060</td>
<td>Analogue</td>
<td>600TVL</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV</td>
</tr>
<tr>
<td>IRIS-S160</td>
<td>HD-TVI</td>
<td>1920 x 1080</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV</td>
</tr>
<tr>
<td>IRIS-S460</td>
<td>IP</td>
<td>1920 x 1080</td>
<td>3.6mm Standard</td>
<td>3.6mm: 80˚HFOV, 2.8mm: 120˚HFOV</td>
</tr>
</tbody>
</table>

### Specifications:

<table>
<thead>
<tr>
<th>Sensor</th>
<th>1/3” Sony CCD Sensor</th>
<th>1/4” CMOS Sensor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>1000 TVL</td>
<td>1920 x 1080</td>
</tr>
<tr>
<td>Interface</td>
<td>NA</td>
<td>RJ4S 10/100 Base T Ethernet</td>
</tr>
<tr>
<td>Video Processing</td>
<td>YPbPr CVBS Composite Video (75Ohm)</td>
<td>HD-TVI / HD-CVI / AHD Selectable</td>
</tr>
<tr>
<td>Protocols / Video Format</td>
<td>PAL / NTSC Selectable</td>
<td>HD-TVI / HD-CVI / AHD</td>
</tr>
<tr>
<td>Onvif</td>
<td>NA</td>
<td>Profile 5 v2.4</td>
</tr>
<tr>
<td>Bitrate</td>
<td>NA</td>
<td>VBR / CBR 32kbps – 8Mbps</td>
</tr>
<tr>
<td>Illumination</td>
<td>NA</td>
<td>NA</td>
</tr>
<tr>
<td>Lens / Field of View</td>
<td>3.6mm Standard (80˚HFOV) / 2.8mm Option</td>
<td></td>
</tr>
<tr>
<td>Mirroring</td>
<td>Horizontal &amp; Vertical - Configure via OSD Menu</td>
<td>Horizontal &amp; Vertical - Configure via Browser</td>
</tr>
<tr>
<td>Automatic Gain Control</td>
<td>Supported / Multiple Levels</td>
<td></td>
</tr>
<tr>
<td>Compatibility</td>
<td>All MFD’s with Composite Video Input, TV via AV Input</td>
<td>MFD’s with Digital (HD/HDMI) Input with TVI-HDMI Converter, MFD’s via IRIS NVR/HiVR</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>-30 ~ +60˚C</td>
<td>-30 ~ +60˚C</td>
</tr>
<tr>
<td>Connections</td>
<td>Video BNC 75Ω Female Connector / DC Power Socket</td>
<td>Water Resistant RJ45 Socket / DC Power Socket / Female BNC (108Ω)</td>
</tr>
<tr>
<td>Material</td>
<td>316 Stainless Steel / Acrylic Dome</td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>12VDC &lt; 200mA Max.</td>
<td>PoE IEEE802.3af / 12VDC &lt;200mA Max.</td>
</tr>
<tr>
<td>Weight &amp; Dimensions</td>
<td>Weight: 0.25Kg / Dimensions: 86.5mm x 58mm (Panel Cut Out 62mm)</td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>IP66</td>
<td></td>
</tr>
</tbody>
</table>

---

IRIS Innovations Ltd., Units 15 & 43 Fareham Innovation Centre, Meteor Way, Lee on Solent, Hampshire PO13 9FU, United Kingdom
Tel: +44(0)2392 556509, email: irisuk@boat-cameras.com, web: www.boat-cameras.com
**IRISx106**

**Mini Recess Mount PTZ Domes, Analogue, IP & AHD Models**

Key Features:

- Available in multiple formats to suit your requirements
- Bezel Machined from 316 Marine Grade Stainless Steel.
- High Polish or White Powder Coat Finish
- High Definition 1920 x 1080 Resolution (Digital Models)
- High Resolution 1000 TVL (Analogue Model)
- PoE IEEE 802.3af (IRISS490 IP Model)
- Compatible with Raymarine / Axiom (L2 and Higher) (Video)
- Extremely Low Power Consumption
- Small, Compact and Discreet
- 10x Optical and 10x Digital Zoom
- Surface Mount Bracket Option Available (IRIS-BRK106)
- IP66 Environmental Protection

Applications:

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

The IRISx106 range of multi-format miniature, controllable cameras are the smallest marine PTZ cameras available on the market and provide fast, smooth variable speed control in a variety of formats to suit your requirements:

**IRIS106**
High Resolution Analogue Sensor with 1000TVL Resolution / Composite (CVBS) video output - PAL / NTSC switchable.

**IRIS1106**
Analogue Hi-Def (HD-TVI / HD-CVI / AHD) selectable with 1920x1080P level Resolution. Use in conjunction with Iris TVI/ HDMI convertor module to interface with chartplotters supporting HDMI inputs (Garmin 8xxx series, Simrad NSO etc). Real Time HD video.

**IRIS4106**
2MP High Definition Network IP Camera. Compatible (video only) with Raymarine / Axiom MFD’s running LightHouse 2 (or above) interface.

x106 cameras can be powered via 12VDC or PoE (4106) and are very quick and easy to install.

The 4106 supports up to 32 viewers at any one time and can be configured to output different resolutions at various frame rates.

The x106 range of cameras delivers high quality video in multi formats and is an extremely versatile device. Perfect for deck and companionway monitoring, on board security and for situation awareness and surveillance applications.
IRIS Innovations Ltd. Units 15 & 43 Fareham Innovation Centre, Meteor Way, Lee on Solent, Hampshire PO13 9FU. United Kingdom
Tel: +44(0)2392 556509. email: irisuk@boat-cameras.com. web: www.boat-cameras.com

IRISx106
Mini Recess Mount PTZ Domes, Analogue, IP & AHD Models

Specifications:

<table>
<thead>
<tr>
<th></th>
<th>IRIS-106</th>
<th>IRIS-1106</th>
<th>IRIS-4106</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensor</td>
<td>1/3&quot; Panasonic CMOS Sensor</td>
<td>1/4&quot; Omnivision OVP712 Sensor</td>
<td></td>
</tr>
<tr>
<td>Resolution</td>
<td>1000 TVL</td>
<td>1920x1080</td>
<td>Variable - 1920x1080 [3MP] Max</td>
</tr>
<tr>
<td>Interface</td>
<td>NA</td>
<td>RJ45 10/100Base T Ethernet</td>
<td></td>
</tr>
<tr>
<td>Video Processing</td>
<td>1VP-CVBS Composite Video 75Ω</td>
<td>HD-TVI / HD-CVI / AHD Switchable</td>
<td>H.264 Codec / Dual Stream</td>
</tr>
<tr>
<td>Protocols / Video Format</td>
<td>PAL / NTSC Selectable</td>
<td>HD-TVI / HD-CVI / AHD</td>
<td>TCP/UDP/HTTP/Multicast/UPnP/RTSP/ONVIF</td>
</tr>
<tr>
<td>Onvif</td>
<td>NA</td>
<td>NA</td>
<td>Profile S v2.4</td>
</tr>
<tr>
<td>Bitrate</td>
<td>NA</td>
<td>NA</td>
<td>VBR / CBR 32kbps – 8Mbps</td>
</tr>
<tr>
<td>Lens / Field of View</td>
<td>F1.8 / F = 4.9 – 49mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Zoom Level</td>
<td>Optical Zoom: 10x / Digital Zoom: 10x</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pan Details</td>
<td>360° Continuous Rotation / Speed 0.5 – 300° sec</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tilt Details</td>
<td>0~90° / Speed 0.5 – 300° sec</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mirroring</td>
<td>Horizontal &amp; Vertical - Configure via OSD Menu</td>
<td>Horizontal &amp; Vertical - Configure via Browser</td>
<td></td>
</tr>
<tr>
<td>Automatic Gain Control</td>
<td>Supported / Multiple Levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compatibility</td>
<td>All MFD’s with Composite Video Input, TV via AV Input</td>
<td>MFD’s with Digital (HDMI/DV) Input with TVI-HDMI Converter, MFD’s via IRIS NVR/HVR</td>
<td>Raymarine / Axiom (LH2 or higher), PC based systems, MFD’s with digital (HDMI / DV) Input, MFD’s via IRIS NVR/HVR, IE Browser</td>
</tr>
<tr>
<td>Operating Temperature</td>
<td>–30 ~ +60°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Connections</td>
<td>Video: BNC 75Ω Female Connector / DC Power Socket</td>
<td>Water Resistant RJ45 Socket / DC Power Socket / Female BNC [100Ω]</td>
<td></td>
</tr>
<tr>
<td>Material</td>
<td>316 Stainless Steel Bezel / Acrylic Dome / ABS Plastic Body</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Power</td>
<td>12VDC &lt; 0.8A Max.</td>
<td>PoE IEEE802.3at / 12VDC &lt;0A Max.</td>
<td></td>
</tr>
<tr>
<td>Weight &amp; Dimensions</td>
<td>Weight: 1.1Kg / Dimensions: Bezel OD = 154mm, Panel Cutout = 122mm, Depth Behind Panel = 58mm (IRIS4106 = Allow additional space for RJ45 Connector – Draft = 73mm</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental</td>
<td>IP66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Iris Innovations Ltd. Units 15 & 43 Fareham Innovation Centre, Meteor Way, Lee on Solent, Hampshire PO13 9FU. United Kingdom
Tel: +44(0)2392 556509. email: irisuk@boat-cameras.com. web: www.boat-cameras.com
IRIS730/740
Multi-Format Range of Through Hull Cameras

Key Features:
- IRIS740 Model Compatible with Raymarine MFD’s (Axiom / LH2 and above) and Furuno Time Zero v4.1 and above.
- IRIS740 Model PoE and 12VDC
- IRIS730 Model features multiple formats - CVBS (Analogue) / HD-TVI / HD-CVI and AHD. PAL/NTSC Switchable
- HD-TVI/CVI & AHD provide Hi-Def Video in Real Time without Network Latency Problems
- Rugged Hard Anodised Case
- Aluminium Bronze Bezel
- IP68 Waterproof
- Plug and Play Connectivity
- Low Power

Introducing Iris’s 7xx series of Through Hull Cameras, providing fantastic sub surface visibility in Analogue, HD-TVI / HD-CVI / AHD and IP Formats

The IRIS740 delivers crisp 1920 x 1080P Resolution 2MP Hi-Def video onto compatible chartplotters and on-board computer based systems and with optional PoE, installation couldn’t be simpler. The IRIS740 is currently compatible with Raymarine (LH2 and above), Axiom and Furuno Timezero v4.1 and above, with more MFD models currently in development. IRIS740 features PoE and 12VDC.

For viewing on all chartplotters with composite video input, TV’s with AV input or for interfacing into a PC via a video capture device, the IRIS730 features a high resolution analogue camera with SONY EFFIO-P chipset, 1000TVL resolution, WDR (Wide Dynamic Range) and DNR (Digital Noise Reduction) processing as well as user configurable setup parameters via a plug in configuration key pad.

The IRIS730 can also be configured to output HD-TVI / HD-CVI and AHD analogue High Definition formats, providing up to 1920x1080P resolution in real time (without the latency issues sometimes apparent with IP systems). Set to TVI and use in conjunction with Iris HVR’s or Video Switchers with HDMI output for real time high definition on MFD’s with digital inputs, such as Garmins 8000 series chart plotters.

Iris’s Through Hull cameras have an aluminium bronze bezel, hard anodized body and reinforced, scratch resistant, optically clear lens window.

Iris Through Hull cameras produce excellent, high resolution video and are ideal as part of a sports fishing monitoring system, for sub-surface security, monitoring running gear or simply as a camera for watching the amazing world beneath the waves!
## Specifications:

<table>
<thead>
<tr>
<th>Feature</th>
<th>IRIS730 (CVBS MODE)</th>
<th>IRIS730 (HD-TVI/CVI/AHD MODE)</th>
<th>IRIS740 IP Model</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sensor</strong></td>
<td>1/3&quot; Panasonic CMOS Sensor</td>
<td>1/4&quot; CMOS Sensor</td>
<td></td>
</tr>
<tr>
<td><strong>Resolution</strong></td>
<td>1000 TVL</td>
<td>1920x1080</td>
<td>Variable ~ 1920x1080P (3MP) Max</td>
</tr>
<tr>
<td><strong>Interface</strong></td>
<td>NA</td>
<td>RJ45 10/100 Base T Ethernet</td>
<td></td>
</tr>
<tr>
<td><strong>Video Processing</strong></td>
<td>1VP-P CVBS Composite Video 75O</td>
<td>HD-TVI / HD-CVI / AHD Switchable</td>
<td>H.264 Codec / Dual Stream</td>
</tr>
<tr>
<td><strong>Protocols / Video Format</strong></td>
<td>PAL / NTSC Selectable</td>
<td>HD-TVI / HD-CVI / AHD</td>
<td>TCP/IP/HTTP/Multicast/IPv6/PnP/RTSP/ONVIF</td>
</tr>
<tr>
<td><strong>Onvif</strong></td>
<td>NA</td>
<td>NA</td>
<td>Profile 5 v2.4</td>
</tr>
<tr>
<td><strong>Bitrate</strong></td>
<td>NA</td>
<td>NA</td>
<td>VBR / CBR 32kbps ~ 8Mbps</td>
</tr>
<tr>
<td><strong>Illumination</strong></td>
<td>NA</td>
<td>NA</td>
<td></td>
</tr>
<tr>
<td><strong>Lens / Field of View</strong></td>
<td>3.6mm Standard (80° HFOV) / 2.5mm (120° HFOV) Option Available</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mirroring</strong></td>
<td>Horizontal &amp; Vertical - Configure via OIS Menu</td>
<td>Horizontal &amp; Vertical - Configure via Browser</td>
<td></td>
</tr>
<tr>
<td><strong>Automatic Gain Control</strong></td>
<td>Supported / Multiple Levels</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Compatibility</strong></td>
<td>All MFD’s with Composite Video Input, TV via AV Input</td>
<td>MFD’s with Digital (HDMI/DVI) Input with TV-HDMI Converter, MFD’s via IRIS NVR, HVR, via IRIS Switcher (TV)</td>
<td>MFD’s with Digital (HDMI/DVI) Input, MFD’s via IRIS NVR, TV via IRIS Switcher (TV)</td>
</tr>
<tr>
<td><strong>Operating Temperature</strong></td>
<td>-30 ~ +60°C</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Connections</strong></td>
<td>Video: BNC TSO Female Connector / DC Power Socket</td>
<td>Water Resistant RJ45 Socket / DC Power Socket / Female BNC (1296)</td>
<td></td>
</tr>
<tr>
<td><strong>Material</strong></td>
<td>Hard Anodised Black Aluminium 6082 (HE30) Body / Aluminium Bronze Bezel. Supplied with Rubber Washers to insulate housing from hull.</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Power</strong></td>
<td>12VDC &lt; 0.2A Max</td>
<td>PolE IEEE802.3af / 12VDC &lt;5A Max</td>
<td></td>
</tr>
<tr>
<td><strong>Weight &amp; Dimensions</strong></td>
<td>Bezel ø: 118mm / Panel Cut Out ø:60mm / Overall Length: 128mm / Depth Behind Panel: 120mm : Weight: 1.555Kg</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td>IP68</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Screen Shotes from User Interface showing Numbered Alarm Zones and Corresponding Temperature Details

Colour Coded Thermal Range Key Shown on Right Hand Side.

Maximum 9 x Alarm Zones Supported.

Key Features:
- 256 x 192 Resolution
- 20 Spots/ 2Line/ 16 Detection Areas
- <65mK Thermal Sensitivity
- IP & Analogue Output
- NMEA Alarm Compatibility
- Visible Camera & Thermal Camera
- 8-14um Spectral Range
- Overlay Thermal Image onto Visible
- Wide Angle (136˚ Visible/95˚ Thermal)
- Motion / Disk / I/O / Temperature Alarms
- Digital Image Enhancement
- IP66 Environmental Protection

Applications:
- Engine Room Monitoring
- Deck / Companion Way Monitoring
- Electrical Cabinet Monitoring
- Data-Center Monitoring
- Process / Manufacturing Monitoring
- Thermal management Applications
- Monitoring Illegal Encroachment
- Gas and Liquid Leakage Monitoring

The IRIS-IX8 Thermal Monitoring Camera provides boat owners, engineers, managers and mechanics peace of mind by monitoring critical equipment on board or in other hazardous environments. Use the IRIS-IX8 to keep check on engines, exhaust manifolds, shaft bearings and other vital equipment on board before serious problems develop.

The IX8 isn’t limited to marine applications. The camera is a vital tool for any process or application where temperature could be an issue, such as data center and control room monitoring, within electrical cabinets and as part of manufacturing and production lines. The IX8 can be used as a presence detection tool for monitoring Illegal Encroachment into protected areas.

The IX8 uses dual sensor visible and thermal imaging technology to build a picture and then monitors the scene for changes in temperature. Users can define zones on screen over specific areas and alarms can be set both to notify min, max and average temperatures and to send alarms when pre-defined thresholds are breached. The IX8 can send alarm notifications on-screen, via email or SMS message. The IRIS-IX8 camera supports up to 9 alarm zones and features an impressive 256x192 thermal resolution - far higher than competitors models.

Footage from the IRIS-IX8 camera can be viewed on computer, mobile device or via a compatible chart plotter via an IP or analogue connection. The IX8 is a low power device, has a waterproof rugged case to prevent moisture intrusion and drop damage.
IRIS-HVR-X
Hybrid Digital / Network Video Recorder Range

Key Features:
- Available in 4, 8 & 16 Channels
- Hybrid Design Supports Analogue, HD-TVI & IP Cameras
- Simple, Intuitive Interface
- Easy Remote Access - View and Control Cameras via Smartphone / Tablet / PC / Mac
- Multiple Alarms
- Motion Detection
- Quick Eject Drive Bay
- Quick & Easy Video Export
- Solid State Drive - Anti Vibration
- Low Power Consumption

Central to any on board CCTV and security system is the digital recorder. Iris's new range of hybrid recorders are designed with solid state technology to make them suitable for use on board boats or all sizes and other mobile applications. Each model is housed in a moisture proof enclosure and waterproof field connectors are supplied.

Available in three sizes, the HVR-X (where X denotes the number of camera inputs, 4, 8 or 16) supports standard composite video (analogue) cameras, high definition HD-TVI cameras and network IP cameras.

The user interface is simplistic an intuitive, yet extremely powerful and supports all the features usually associated with high end network recorders, such as plug and play connectivity, remote access via a VPN connection, motion detection and pre and post event recording.

Searching for events is also easy using an intuitive 'per channel' timeline. Simply move the time line to the desired position then export your video to a connected USB drive.

The HVR-X also features a ‘Quick Eject’ caddy and is supplied with a solid state 2.5” drive.

View your cameras across your network using the XMEYE app or on your chart plotter - the HVR-X features both analogue (RCA) and HDMI digital outputs.

The HVR-X also features motion detection and up to four external alarms which can be configured to notify you via the software interface, email or SMS.

Applications:
- On Board Security
- Vehicles and Rapid Deployment
- Remote Security Applications
- Harsh Environments
**Key Features:**

- Panel Mount Waterproof Case
- Stylish Black Hard Anodised Finish
- Dynamic Menu System for Function Access
- Responsive 2 Axis Proportional Speed Thumbstick
- Supports Up To 6 Cameras and 18 Monitors
- Pelco D and Pelco D (Iris Variant) Protocols
- RS485 Serial Data
- Wide Operating Voltage - 6–36VDC
- Clear Backlit LCD Screen
- Easy, Intuitive Menu System for Feature Access

**Applications:**

- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

---

Control up to 16 on board PTZ and Thermal cameras with the stylish IRIS595 panel mount joystick.

Featuring a responsive 2 axis proportional speed thumbstick and 8 feature buttons, the IRIS595 can drive Iris’s complete range of PTZ and Thermal cameras and also interface with our hybrid video recorder range and matrix switchers to select 16 cameras to 16 monitors.

The IRIS595 is very easy to install, with 2 wires for DC power and 2 wires for RS485 serial data and transmits Pelco D protocol and Iris Variant data. High end power circuitry means the device can be operate between 6–36VDC and also features reverse voltage protection.

The 8 feature buttons navigate through the devices dynamic intuitive menu system to access all the extended features built into Iris PTZ and Thermal PTZ cameras.
IRIS-TE1 & IRIS596  
Control Surfaces

IRIS-TE1  
Rotary Encoder with Touch Screen Control

Iris’s new TE1 Rotary Controller with touch-screen allows you to access and control the extended functions of your Iris Cameras and Video switchers in a robust and stylish form.

A full colour touchscreen is used to select and present camera functions as well as perform camera selection when used with an Iris recorder or switcher.

The TE1 is perfect for augmenting pan and tilt control of your Iris camera via a supported MFD. Use your chart plotter touch screen to drive the camera and the TE1 to select and control extended features such as thermal colour palettes, zoom control, image contrast enhancement, preset and home position selection and much more.

The TE1 is easy to install and build into a marine grade 316 stainless steel bezel. With an IP67 rating, the TE1 can be used both internally and externally.

IRIS-596  
Rugged Proportion Control Joystick Controller

Small, robust and extremely versatile, the new IRIS596 joystick controller with proportional speed functionality is perfectly suited for both leisure and commercial applications.

The tactile joystick features proportion speed control and a build in push-axis, increasing the units control potential.

6 tri-state buttons with LED feedback allow selection of up to 18 features / values making it an extremely versatile device, used to select thermal colour palettes, user presets and home positions and much more.

The IRIS596 features integrated spring fasteners which can be adjusted and tightened making it very simple to install. In addition, the 596 is waterproof so it can be installed both internally and externally.
**Key Features:**
- Display 4 Camera Inputs & Quad View on Your MFD
- Analogue (CVBS) & HD-TVI with HDMI Output Models
- Analogue Model (IRIS608) features 2 x Composite Outputs
- Split Screen & PiP Displays
- Supplied with 1 x Compact Waterproof Keypad
- Keeps Messy Wiring Out of Site
- 2 x Keypad Ports (Additional Keypads Sold Separately)
- Robust Moisture Resistant Case
- Keypad IP66 & UV Stabilised
- Keypad measures 7cm x 7cm

**Applications:**
- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

If you want to display multiple images at once on your screen then you’re going to need a Quad Switcher. With 4 camera inputs, 2 outputs and now supporting multiple split screen and picture in picture options, the IRISx604 is essential for on board situational awareness and especially for keeping an eye on all angles of your vessel at once whilst docking.

The IRIS604 Quad Switcher gets stowed away, well out of view, and is controlled using the IRIS540 keypad (supplied), which is waterproof, UV stabilised and only measures 74mm². Multiple keypads can be added during installation to increase control options.

The IRIS604 supports standard analogue video (CVBS) compatible with all chart plotters with composite video inputs and can also be supplied in HD format to support HD-TVI camera inputs with a single HDMI Hi-Def digital output (IRIS1604 Model)*

Our new switcher keypads are now shipped with a built in RJ45 socket, which means installers no longer have to spend time extending cables. Simply run your own CAT5/CAT6 cable as required**.

The IRIS604 can display individual camera inputs, all 4 cameras in a quad formation, split screen and picture-in-picture presets. Images can even be frozen on screen for detailed analysis.

Predominantly designed as a component of a multicamera docking system, the feature rich IRISx604 can also be used as a vital component of any on board security system.

*Interfaces directly with HDMI inputs. For other digital inputs such as DVI / HD-SDI adapters are available. Contact Iris for further details.

**Use shielded CAT5 when extending cables.
**IRIS608 / IRIS1608**

8ch Analogue Switcher / 8ch HD-TVI Video Switcher with Panel Mount Keypad

---

**Key Features:**
- Display 8 Camera Inputs on Your Chart Plotter
- Analogue (CVBS) & HD-TVI with HDMI Output Models
- Analogue Model (IRIS608) features 2 x Composite Outputs
- HD-TVI Model Features 1 x HDMI Output
- Supplied with 1 x Compact Waterproof Keypad
- Keeps Messy Wiring Out of Site
- 2 x Keypad Ports (Additional Keypads Sold Separately)
- Robust Moisture Resistant Case
- Keypad IP66 & UV Stabilised
- Keypad measures 74mm x 74mm

**Applications:**
- Work Boat & Commercial Shipping
- Luxury Motor Yachts
- Fishing & Sports Fishing
- Ferry Boats & Passenger Vessels
- Law Enforcement & Emergency Services
- Rapid Deployment Applications
- Vehicle & Transport Applications

The IRIS1608 is the world's first dedicated marine Hi-Def video switcher and features eight camera inputs which can be switched to the HDMI output to display real-time video from your high definition Iris cameras on a suitable chart plotter or HD TV.

Compatible with all chart plotters that feature a digital input*, TV's with HDMI inputs and other HDMI enabled media, the IRIS1608 comprises a rugged control box and a low-profile, compact, waterproof keypad. The control box is installed safely out of sight so there are no unsightly cables whilst the keypad provide a simple, elegant control interface.

The 1608 is shipped with a keypad included and there is a second port on the control box so you can connect an additional pad should you need to switch video from multiple positions.

The IRIS608 is an analogue only model featuring 2 x composite video outputs and is compatible with all MFD's supporting analogue video.

Our new switcher keypads are now shipped with a built-in RJ45 socket, which means installers no longer have to spend time extending cables. Simply run your own CAT5/CAT6 cable as required**.

The keypad measures a mere 74mm² and is UV stabilised. Our switchers have been designed exclusively for the boating market and there’s nothing else like them!

*Interfaces directly with HDMI inputs. For other digital inputs such as DVI / HD-SDI adapters are available. Contact Iris for further details.

**Use shielded CAT5 when extending cables.

---

Iris Innovations Ltd. Units 15 & 43 Fareham Innovation Centre, Meteor Way, Lee on Solent, Hampshire PO13 9FU. United Kingdom
Tel: +44(0)23 92 556509. Email: irisuk@boat-cameras.com. Web: www.boat-cameras.com