

IRIS404

Marine IP Network Camera

Basic Operation Manual

Regulatory Information

Disposal of Waste Equipment by Users in Private Household in the European Union.



This symbol on the product or its packaging indicates that it must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment

by handing it over to a designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling please contact your local city office, your household waste disposal service or the shop where you purchased the product.



This device has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance

with the instructions, may cause harmful interference to radio or television reception. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause interference to radio and television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: Reorientate or relocate the receiving antenna; Increase the separation between the equipment and the receiver, connect the equipment to an outlet on a different circuit from that to which the receiver is connected; consult the dealer or an experienced radio / TV technician for help.



We hereby declare that the product is in compliance with the essential requirements and other relevant provisions of European Directive 2014/30/EC, the RoHS Directive 2011/65/EU.



This camera conforms to compatibility standards as outlined by ONVIF, PSIA, CGI & ISAPI



IRIS404 User Guide

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IN THE EVENT OF ANY CONFLICTS BETWEEN THIS MANUAL AND THE APPLICABLE LAW, THE LATER PREVAILS.

Warnings & Important Product Information

WARNING: Installation and Operation



This product must be installed and operated in accordance with these instructions. Failure to do so may result in poor product performance, damage to the product or vessel and or personal injury. Installation should only be carried out by qualified personnel or by persons competent in electrical systems.

WARNING: Power Supply and Grounding



Ensure the boats power supply is switched off during installation. Ensure suitably rated circuit breakers / fuses are used in the installation of the product in accordance with the electrical values shown in the technical specifications of the product. Never switch on power until the power connections are correctly terminated in accordance with the information provided in this document. Do not connect or disconnect the product with the power supply switched on. Never disconnect the DC ground with the power supply on.

WARNING: Wiring terminations



Where the products video, power and data terminations are extended, ensure that suitable connectors are used and that the point of termination for each cable is adequately protected against moisture ingress. Ensure correct polarity is strictly observed. Do not cut or remove cable connectors without prior permission from Iris Innovations Limited.

WARNING: Do Not Open the Unit



There are no user serviceable parts within the product so there is no need to open the device. The product has been certified to IP66 standards, however, submersion or the product or exposure to high pressure washing will invalidate the warranty.

WARNING: Disclaimer



This product is intended to be used only as an aid to navigation and must never be used as an alternative to correct navigational practices and judgements made on the basis of approved navigation methods. It is the users responsibility to observe correct and proper navigational skill when using this product. Only officially approved charts and notices to mariners contain the current information required for safe navigation.

Operating the camera or viewing the video input whilst the vessel is moving could cause a distraction and result in accidental collision resulting in property damage, injury or death. Iris Innovations cannot be held liable for any incidental, special, indirect or consequential damages whether resulting from the use, misuse or inability to use this product.

CAUTION: Switch Camera Off When Not in Use.



To prolong the operation life of the the cameras sensor we strongly advise that power to the camera is routed via a dedicated switch.

CAUTION: Service and Maintenance



This product contains no user serviceable parts. Please refer all maintenance and repair issues to your authorised Iris Innovations dealer. Any unauthorised work to the product may affect the warranty.

CAUTION: Care and Cleaning

This product is a sensitive piece of electronic, imaging equipment and must be handled and treated accordingly. Do not drop or shake the unit during installation. Avoid exposure of the imager to direct sunlight where possible as this may degrade the cameras performance over time.

When cleaning the device, ensure power is switched off. Clean the camera housing with a soft cloth. Moisten the cloth and use a mild detergent if required. The lens window has a protective coating which may suffer damage as a result of improper cleaning. To clean the lens window use a soft cotton cloth. Moisten with clean water if necessary. For further advise on cleaning the lens window, contact Iris Innovations.

INFORMATION: Product Disposal and Recycling

Dispose of this product in accordance with the WEEE Directive. The Waste Electrical and Electronic Equipment (WEEE) Directive requires the recycling of waste electronic and electrical equipment. Iris Innovations supports the WEEE policy and politely request you observe correct disposal methods. For further information on how to correctly dispose of this product please contact Iris Innovations.

Please recycle unwanted packaging and documentation. The cardboard carton, all paper manuals and documents and the protective plastic bag in which the camera is shipped are widely recyclable. Please check with your local recycling plant for confirmation.

Introduction

Thanks for buying the IRIS404 Marine IP Network Camera.

Manufactured from lightweight anodised and powder coated aluminium, the IRIS404's compact and waterproof form factor make it an ideal choice for many on board monitoring and leisure applications, such as deck, companionway and engine room monitoring, Sports Fishing 'Tag and Release' recording and situational awareness monitoring.

The IRIS404 produces superb, true high definition 1920 x 1080P images with High Profile H.264 compression to minimize network latency issues. An intuitive user interface provides facility to alter Brightness, Contrast, Saturation and image orientation as well as a number of alarm notification settings such as motion detection and line crossing.

Dual streams are available with definable resolution and bit rate settings.

The camera is fitted with a 4mm fixed megapixel lens which provides an 85° Horizontal Field of View (HFOV) and a powerful infra-red LED ring which operates automatically in low light conditions to give up to 30 meters visibility at night.

Connection to the camera is via a rugged, IP68 rated, waterproof RJ45 connector and the camera is powered via IEEE802.3af Power over Ethernet*.

On the underside of the housing is a 1/4" Whitworth connection for attaching to your bracket for maximum flexibility.

* 12VDC and 24VDC Non PoE versions available - please contact your Iris dealer for more information.

Overview of Key Features

Here's a brief list of some of the IRIS404's key features:

- 1920 x 1080 True 2MP HD Resolution
- High Performance LED - 30 Meter Range
- Mechanical IR Cutout filter for True Day / Night Operation
- Power over Ethernet (PoE) IEEE802.3af
- 12VDC / 24VDC Optional
- IP67 Ingress Protection
- Small, Compact Housing
- Waterproof Ethernet Connector
- Suitable for Multiple Applications, such as on-board security, sports fishing, engine room monitoring and vehicle monitoring.
- Wide Operating Temperature Range
- Password Protected.

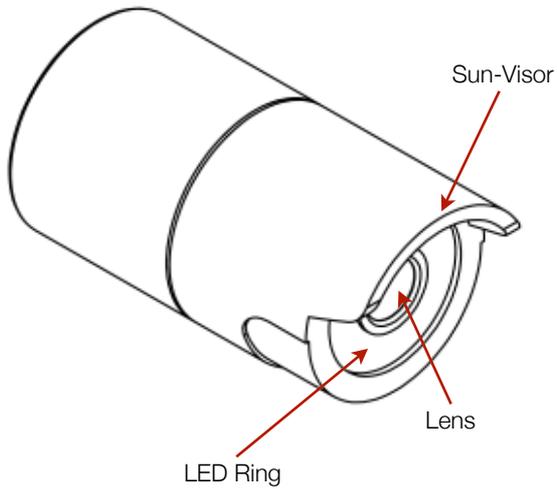
Contents of Package

Please unpack your IRIS404 and check to make sure the following items are included. If there are any items missing please contact your Iris dealer:

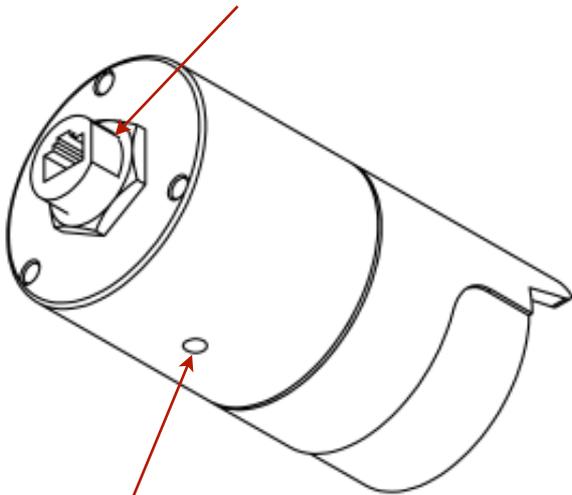
- 1 x IRIS404 Marine IP Camera
- 1 x Field Installable Waterproof RJ45 Connector
- 1 x Instruction Manual

Camera Overview

The diagram below details the various parts of your camera:



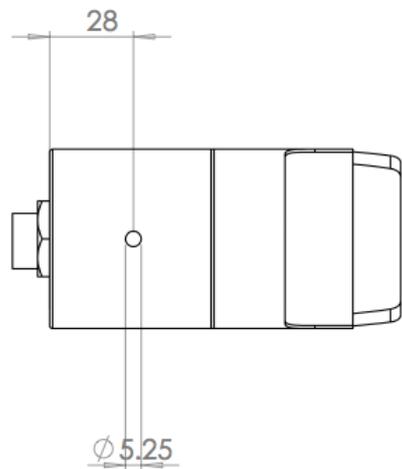
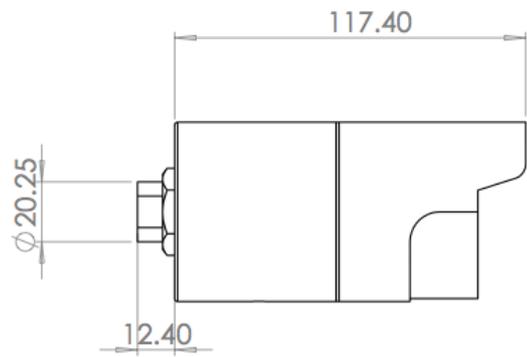
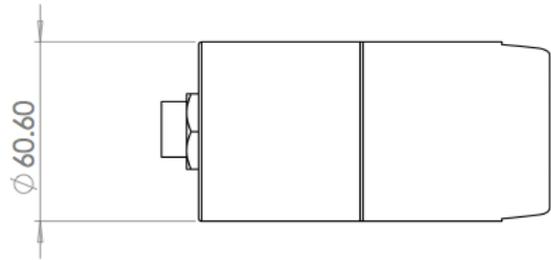
Waterproof RJ45 Socket (PoE Versions)*



1/4" Whitworth Threaded Fixing Point for Mounting

Camera Dimensions

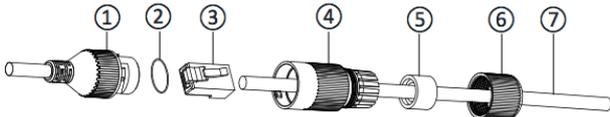
Key dimensions of the IRIS404 shown below in mm.



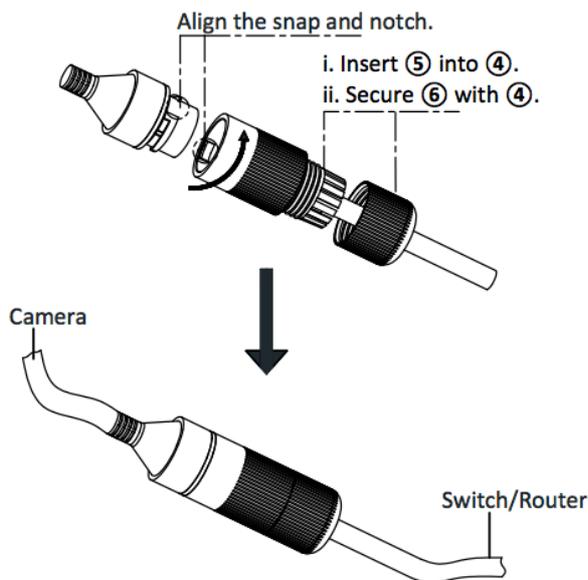
*Non PoE versions of the camera feature a glanded cable entry.

How to fit Field Installable Waterproof RJ45 Jacket

When installing in an external location, or any position that will be prone to moisture ingress or harsh weather, it is important the the waterproof RJ45 connector (supplied) is used to protect the cameras connections.



Part No	Description
1	Cameras Network Interface Socket
2	O Seal
3	RJ45 Network Connector
4	Waterproof Endcap
5	Rubber Gasket
6	Lock Nut
7	Network cable to Router / Switch / Hub / etc..



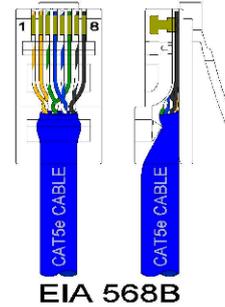
Method

Step.1:

Feed the plug-less network cable (7) through the lock nut (6), waterproof rubber gasket (5) (ensuring the rubber gasket inset ridge faces the end-cap (4)).

Step.2:

Crimp an RJ45 Network plug (3) onto the end of the cable in accordance with the diagram below, taking care to ensure the wires are terminated in the correct order and are not crossed.



Pin No	Wire Colour
1	White / Orange
2	Orange
3	White / Green
4	Blue
5	White / Blue
6	Green
7	White / Brown
8	Brown

Step.3:

Place the O Seal (2) onto the end of the cameras network interface socket (1).

Step.4:

Insert the network plug (3) into the cameras network interface socket (1).

Step.5:

Insert the waterproof rubber gasket (5) into the waterproof end-cap (4) and secure lock nut (6) with the waterproof end cap (4).

Step.6:

Align the snap on the waterproof end-cap (4) with the notch on the cameras network interface socket (1) and then secure the waterproof end-cap (4) to the cameras network interface socket (1).

Mounting the Camera

On the underside of the cameras housing is an industry standard 1/4" Whitworth (1/4-20 UNC) threaded hole for connecting photographic / CCTV mounting brackets / tripods.

Once you have sighted your camera in order to achieve the desired view, fix your mount to the camera and then fix your mount in accordance with the manufacturers instructions. Iris accept no responsibility for the security and performance of any third party mounting equipment.

It is strongly recommended that you sight your camera before fixing into position.

Ensure the camera is mounted in such a way that it is not prone to exposure to excessive moisture, and so that it is not facing sunlight or any other direct light source.

When mounting, also consider the cameras connector and allow sufficient space for an adequate bite of cable from the camera.

Do not stretch cables or subject them to stresses which may lead to the breakdown of the outer sheath.

Do not install the camera in locations prone to exposure to chemicals, gases or extremes of temperature.

We also recommend that you test and configure the camera as required prior to locking in place.

Configuring the Camera over the LAN

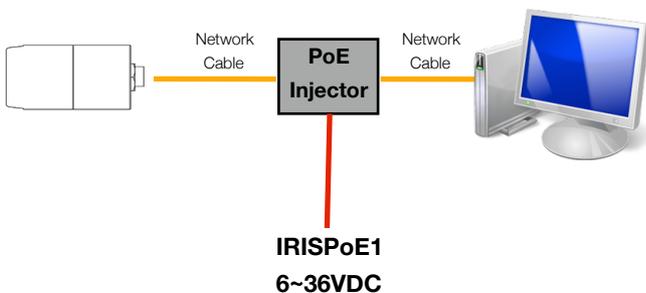
WARNING: Stay Secure!



When connecting any device to a network with access over the internet brings risks to the security of your network and your data. Your IRIS404 features built in User Name and Password authentication but it is also your responsibility to strengthen your network security where ever possible. Please contact your IT expert for further advise. Iris cannot provide support with any aspect of your network security, other than the cameras built in security settings.

Basic Setup: Single Camera / Computer

The diagram below shows a very basic setup, with a single camera being viewed on a PC (or laptop).



Use a standard 568B ethernet CAT5 cable to hook your computer up to the PoE injector, and then another 568B cable to hook the camera up to the injector.

With this type of installation, you must ensure the IP address of the camera is in the same range as the network adapter in your computer used to communicate with the camera. Consult documentation for your computer for information on how to view (and edit) your network adapter IP address.

The camera is set as default to DHCP, which means it has no IP address set, and awaits for a router on your network to assign the address.

To find your camera on the network, use an IP camera discovery tool, or an ONVIF Device Manager. A discovery tool called SADP can be downloaded from our website. Once downloaded and installed, run the tool to find your camera. Once your camera is found you can change its address within the tool to fit into the IP address range of your network adapter. Further details are shown on page X.

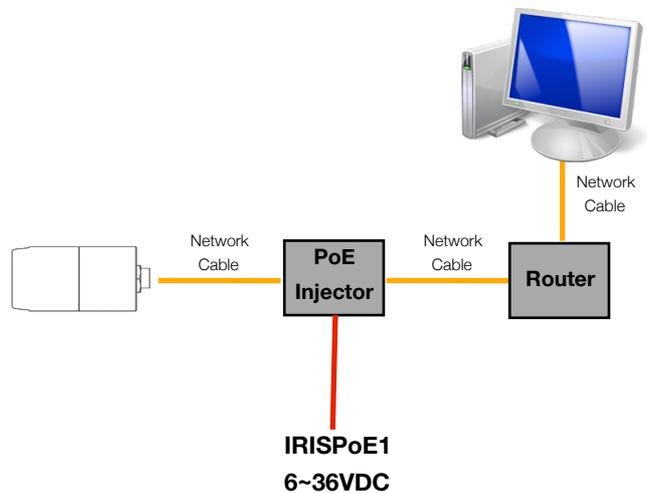
A great Onvif Device Manager can be found here: <https://sourceforge.net/projects/onvifdm/>

Once you've downloaded and installed the Device Manager software, open the program and then click the REFRESH button at the bottom of the device list on the left hand side. If everything is hooked up correctly, the details of your camera, including its IP address, will be displayed in the list.

If the cameras IP address falls outside the range of the IP address of your computers network adapter, you'll have to change the address on your adapter so it corresponds with the address of the camera. Once this is done (and you'll usually need to reboot your computer) you should simply be able to open your web browser, type the IP address of the camera into the address bar and access the camera. From here, if required, you can change the IP address of the camera as desired - back to the original address range of your computer for example. If you do this, then you will also have to change the address of your network adapter back to its previous range.

Basic Setup: Single Camera / Computer via Router using DHCP (default)

The diagram below shows a simple one camera / one computer device, but this time a router is used to manage your network devices and address allocation.



As mentioned previously, the camera as default is set to obtain its IP address automatically via DHCP. This means that once connected, your router will detect the device and assign it an IP address within its designated range (refer to the documentation for your router for further details). You must also ensure the network adapter for your computer is set to obtain its address via DHCP.

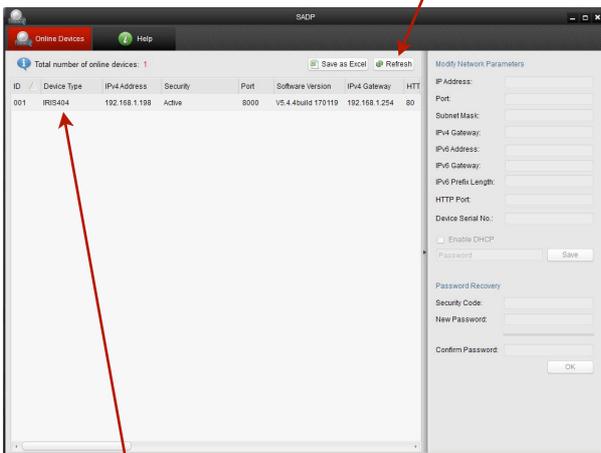
Using the SADP Software Tool to Discover Cameras

SADP is a software discovery tool for IP cameras, including the IRIS404. It can be downloaded from: <http://www.boat-cameras.com/products/ip-cameras> (scroll down to the IRIS404 panel and click on downloads).

NOTE: SADP is a Windows Only tool.

Using the SADP tool you can not only discover cameras connected to your network but also set the IP address, or switch to DHCP and change the device password.

1. Download the setup.exe to your computer (Windows Only).
2. Double click on the setup.exe icon to install to your computer. Follow the prompts during installation.
3. Once installed, double click on the SADP Tool icon to open tool.
4. To discover your camera, click on the Refresh button as shown in the screen grab below:



5. The tool will now scan your network for any connected cameras. Once a camera has been found, it's details will display in the device list as highlight above.
6. The panel on the right side of the window shows Network Parameters for the highlighted camera. To change any of these values, ensure the camera is highlighted in the device pane. Once highlighted, the values in the Network Parameter panel will become editable.

Default Camera Settings

IP Address:

By default the camera is set to DHCP which means it waits to obtain its IP address automatically from your router. To change the IP address to a fixed address, uncheck the DHCP box. Doing so will live up the IP Address, Subnet Mask and Port details for you to input as required.

User Name & Password

By default, the user name and password are set as follows:

User Name: admin

Password: iris2017



WARNING:

We strongly recommend that you change your security settings in order to maintain your network security.

Passwords should be a minimum of 8 characters, and can include upper case and lower case letters, numbers and special characters.

Accessing your Camera via a Web Browser

System Requirements:

Operating System: Microsoft Windows XP SP1 and higher / MAC OSX version 10.6.8 or higher

CPU: 2.0 GHz or higher

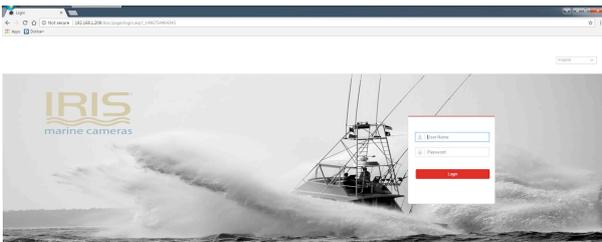
RAM: 1GB or higher

Display: 1024x768 resolution or higher

Web Browser: Internet Explorer 8.0 and higher, Apple Safari 5.0.2 and higher, Mozilla Firefox 5.0 and higher and Google Chrome 18 and higher.

Steps:

1. Open your web browser
2. Enter the cameras IP address in the browsers address bar and press ENTER
3. Once presented with the cameras login panel, input the correct user name and password



The screen grab above shows the IRIS404 login panel.

WARNING:



After 7 failed login attempts (Admin) and 5 failed attempts (user / operator) the device IP address will be locked for 30 minutes.

INFORMATION:



Depending on your browser, it may be necessary to install plug-ins from the camera in order to view the live video. Follow the on screen instructions accordingly.

Following the installation of any plug ins it may be necessary to re-start the browser and log back into the camera to view.

Operation

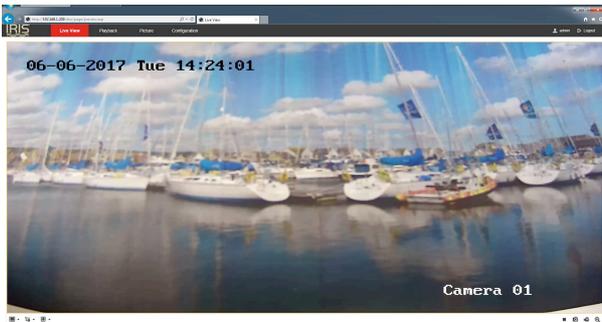
Once logged into the camera, you will be presented with the main viewing screen as shown below.

The main part of the screen is taken up by the camera viewing window.

Across the top of the window are tabs which link you to the following pages:

- Live View (Default)
- Playback - Enters playback search window
- Picture - Enters Picture search window
- Configuration - Enters the Set Up Page

On the right hand side of the tab bar is displayed the current user level of the person logged in and the Logout button.



Below the main viewing window there are a line of buttons to control the following features, from left to right:

(Left Hand Side)

- Aspect Ratio
- Stream Type - Stream 1 or 2
- Plug-in Switch - Starts / Stops Plug-ins

(Right Hand Side)

- Stop Live Stream - Pauses video
- Snapshot - Takes a snapshot of the live stream
- Start Recording - Starts Recording (Press again to stop)
- Digital Zoom - Once selected, use the cursor to define a region of interest. This will fill the screen. To zoom in further repeat this process. To exit out to normal view, de-select this function by clicking on it.

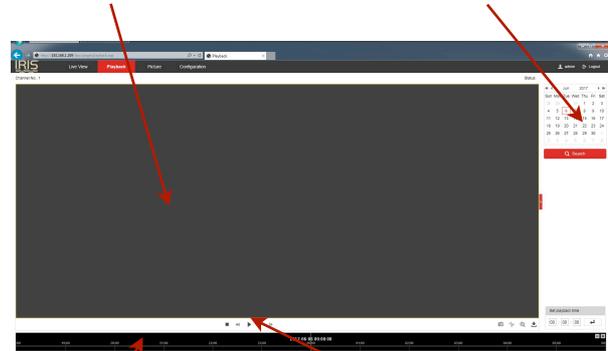
Playback Window:

The playback window, shown below is used to search for recorded footage and to play it back.

The screen is split into 3 areas as shown:

Event Playback pane

Date Search pane



Timeline Search Panel

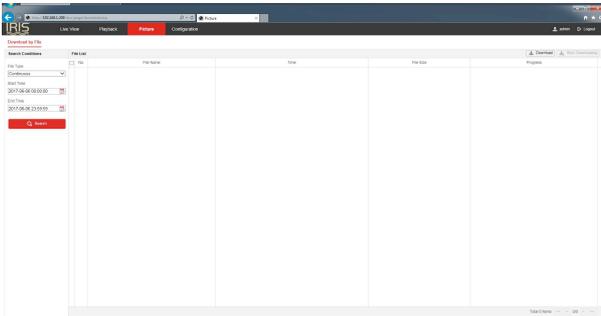
Video Controls

Searching for recordings is as simple as selecting the desired date in the Date Search Pane and then scrolling through the Timeline to your desired time, or until you can see activity markers, which depict the duration of the recording on the Timeline. Different types of recording are colour coded thus:

- Yellow - Manual Recording
- Green - Command Recording
- Magenta - Alarm Recording
- Blue - Continuous Recording

Picture Window:

The Picture Window (shown below) is used to search, review and download saved snapshots. The camera can store up to 4000 snapshots.



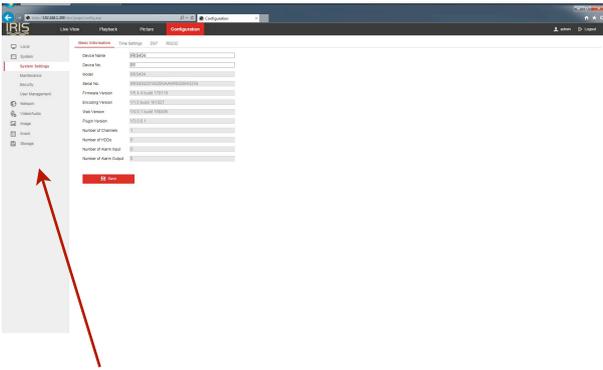
Picture Window - Manage Stored Snapshots

To search for snapshots, use the START and STOP date search parameters on the left hand side of the screen to define your desired timeframe. There is also a drop down box where you can filter the various types of snapshot (Alarm, Manual etc).

Once the desired timeframe has been defined, a list of files will be presented in the main browser window. From here you can select your desired file and hit the Download button to copy onto your computer.

Configuration

The cameras configuration window is shown below.



Within the configuration window there are the following submenus accessed from the panel on the left hand side:

- Local
- System
- Network
- Video / Audio
- Image
- Event
- Storage

Local Settings

Defines Live View parameters such as protocol, performance, image format etc and recording settings and pictures clip settings, such as maximum file size and defines recording path.

System Menu

The system menu is split further into the following sub sections:

• System Settings

This is split again into the following tabs:

Basic Info: Device name, serial number and firmware information

Time Settings: Set time zone, NTP settings (if used) and manual time settings.

Daylight Saving: Set Daylight Saving Time parameters (if required).

RS232: Not Applicable

• Maintenance

Split into the following tabs:

Upgrade & Maintenance: Reboot, restore factory defaults, export parameters, import configuration files, firmware upgrade.

Log: System history logs, with start and end time search parameters.

System Service: Enable / Disable IR LED's.

• Security

Split into the following tabs:

Authentication: RTSP Authentication settings

IP Address Filter: For blocking / allowing specific IP addresses to connect to the camera.

Security Service: Enable / Disable illegal login lock

• User Management

Split into the following tabs:

User Management: Add / Modify / Delete user accounts and define access level.

Online Users: Displays details of any users currently connected to the camera.

Network Menu

The Network Menu is split into two sub sections:

• Basic Settings

This is split again into the following tabs:

TCP/IP: Define network address details, DHCP settings & DNS server details

DDNS: Define DDNS server details.

Port: Define camera port details.

NAT: Define Network Address Translation details.

Configuration

Continued....

Network Menu

- **Advanced Settings**

This is split again into the following tabs:

FTP: Define FTP upload address, port, security and file transfer details.

Email: Define list of email recipients, authentication and SMTP details for sending frames on alarm activity.

Platform Access: Define domain details for network managed operation / cloud access.

HTTPS: Displays and enables certificate details

QoS: Defines bandwidth prioritization, assigning priority to Video/Audio streams, Event/Alarm data and Management Access data. Set values as required between 0~63 (63 being the highest priority).

802.1x: Manages network security authentication.

Video / Audio

The system menu is split further into the following sub sections:

- **Video:** Configure video streaming parameters, set resolution, bit-rate, video quality/encoding methods etc.
- **R.O.I:** Regions of Interest can be drawn on the screen and assigned a value (between 1~6) to determine the level of encoding within the set area. R.O.I's are an effective way of attributing higher levels of encoding for important areas within a frame.

Image

The Image menu is split further into the following sub sections:

- **Display Settings:** Configure display parameters such as brightness, contrast, saturation etc, Iris Performance (in Exposure Settings tab), Day/Night switching operation and sensitivity, Backlight settings, white balance, Digital Noise Reduction (in Image Enhancement tab) and configure video adjustment features such as

Mirror & Flip, Video Standard (PAL/NTSC) and Capture Mode.

- **OSD Settings:** Switch On/Off camera titles, including time and date information and set text overlay parameters.
- **Privacy Mask** Enable and Define Privacy Masks.

Event

The Event menu is split further into the following sub sections:

- **Basic**

This is split again into the following tabs:

Motion Detection: Enable & Define areas within the frame that will trigger motion alarms, set alarm 'Live' schedule (ie, arming schedule) and set alarm notification actions (in Linkage Method).

Video Tampering: Enable & Define video tampering alarm regions and sensitivity, and set alarm notification actions (in Linkage Method).

Exception: Define actions when a 'Normal Operation' exception occurs, such as HDD Full, HDD Error, Network Disconnect, IP Address Conflict and Illegal Login.

- **Smart Event**

Smart events employ a degree of analytics to provide a higher level of alarm detection. This category is split further into the following two categories:

Intrusion Detection: Used to detect people, vehicles and other objects within pre-defined regions. Configure the actions to take on Alarm Activity within the Linkage Method tab.

Line Crossing Detection: Detects people, vehicles etc which cross a pre-defined line and determines the action to take on Alarm Activity within the Linkage Method tab.

Storage

The Storage menu is split further into the following sub sections:

- **Schedule Settings**

This is split again into the following tabs:

Record Schedule: Define recording schedule for all types of recording (continuous, motion, motion alarm and event).

Capture: Define schedule and parameters for video snap-shots (captures) including image resolution and number of frames to be captured per event (as well as dwell time in milliseconds between each snapshot).

- **Storage Management**

This is split again into the following tabs:

HDD Management: Displays details of connected hard drives and enables users to determine capacity for video recording and picture storage.

Net HDD: Determines IP address, file storage paths and type of network storage.

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