



Centurion HD Installation/Configuration Manual



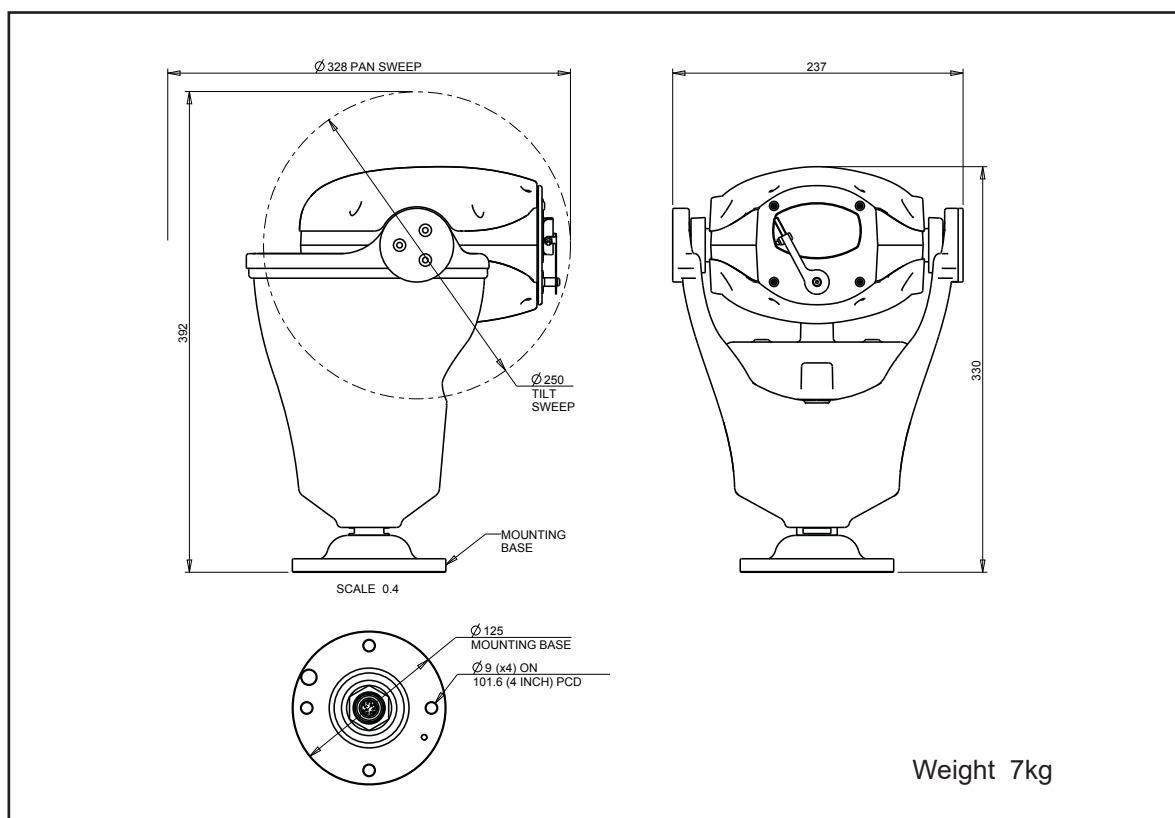
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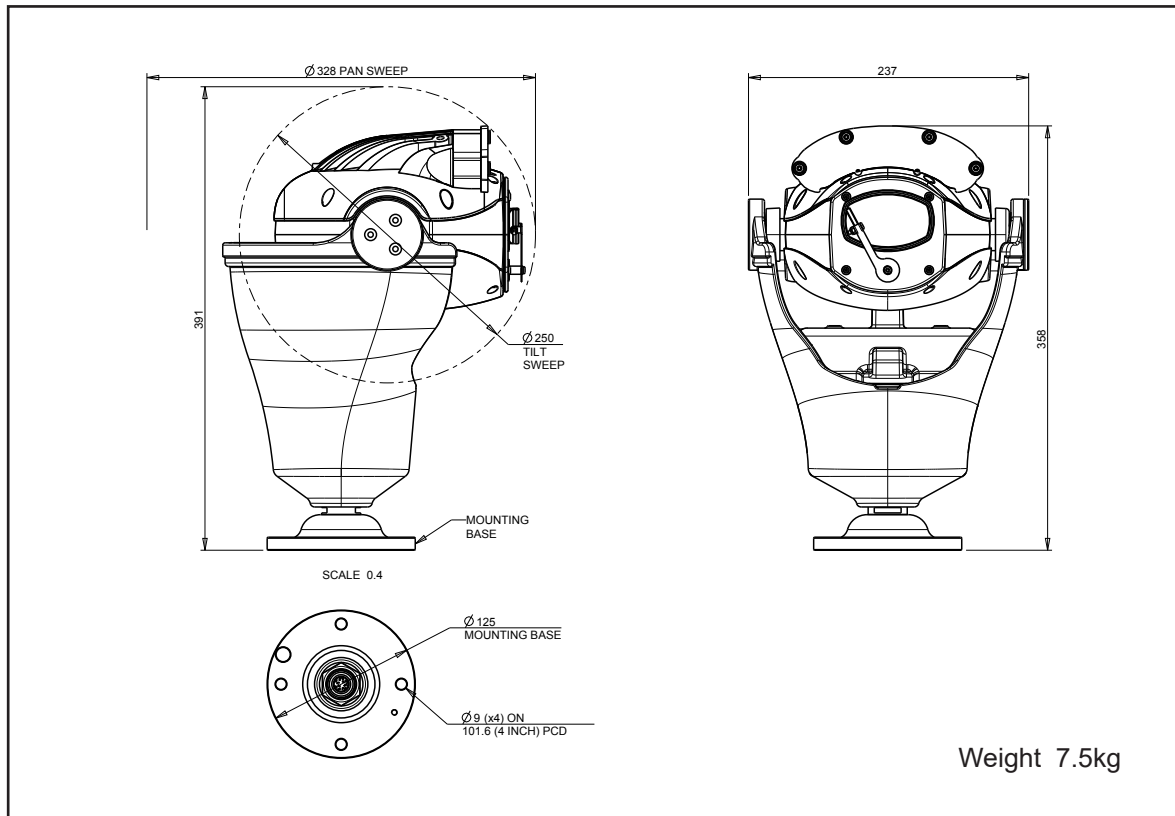
1 Safety and Precautions

1. Please read these notes before attempting to operate the 360 Vision Centurion HD, and keep for future reference.
2. DO NOT disassemble or remove covers. This will break the water seals and invalidate the warranty.
3. All servicing and repairs must be handled by 360 Vision Technology.
4. Avoid pointing the camera directly towards a bright light source (sunlight), or expose the camera to intensive light situations as this may damage the camera pick-up device.
5. Installation should be carried out by suitably qualified personnel, in accordance with local codes of practice and regulations.
6. 360 Vision Technology Limited accept no liability for any damage caused by incorrect or improper installation.
7. To prevent risk of injury caused by the Centurion HD or mounting options becoming detached, fit a suitable safety chain or lanyard.
8. Connection of data signals and power should only be made using a pre-made Centurion Composite cables.
9. Use only 360 Vision Centurion HD power supplies. These have suitable terminals for all the wires in the Centurion composite cable.
10. Please handle the Centurion HD with care, as improper handling may cause damage within this unit.

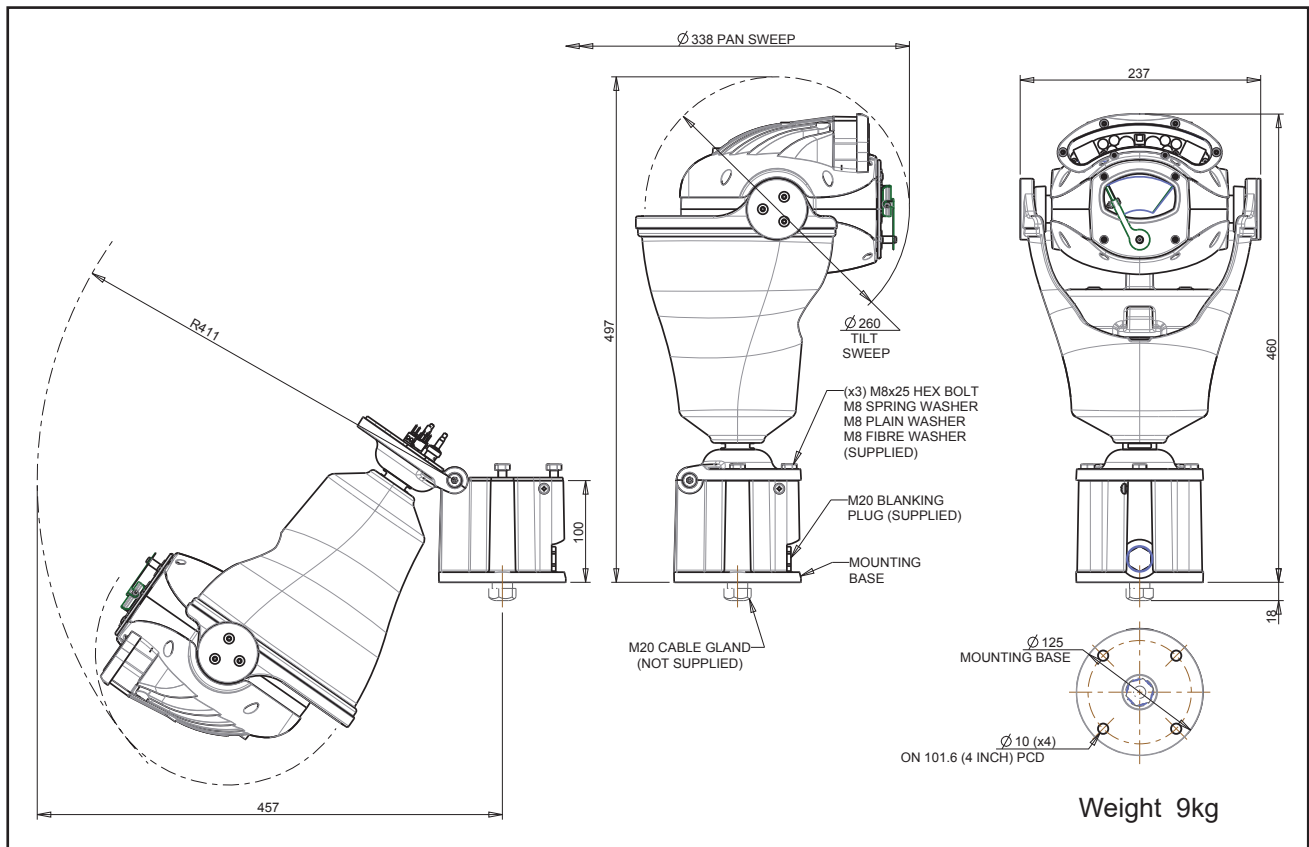
2 Housing Dimensional Drawing



Centurion

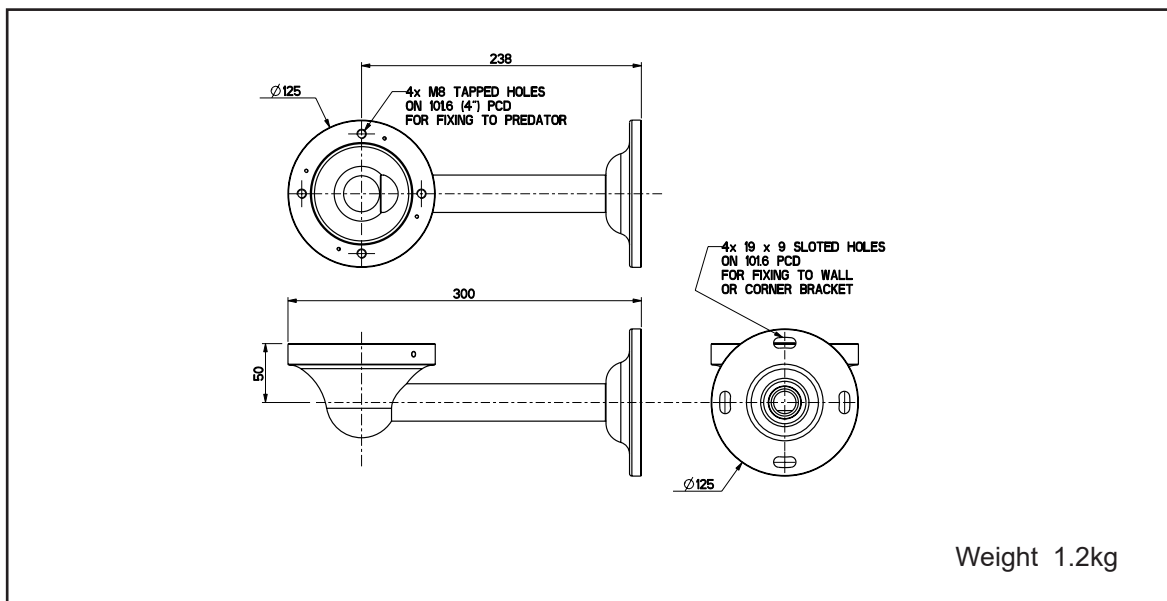


Centurion Single LED Array - Covers IR80, & IR110WL versions.

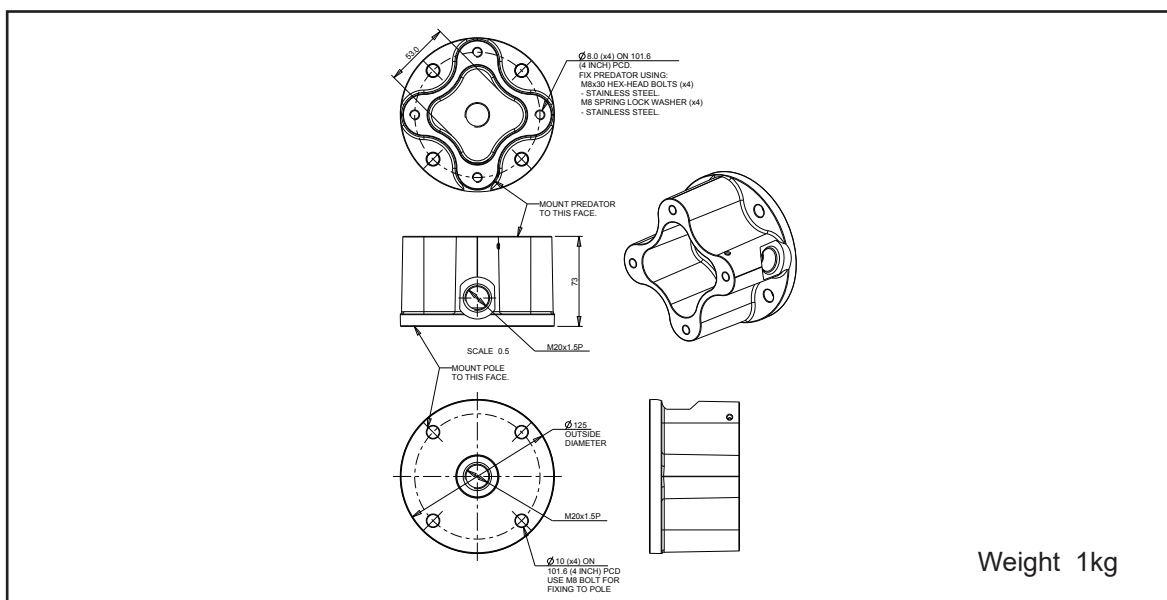


Centurion HMA with LED Array

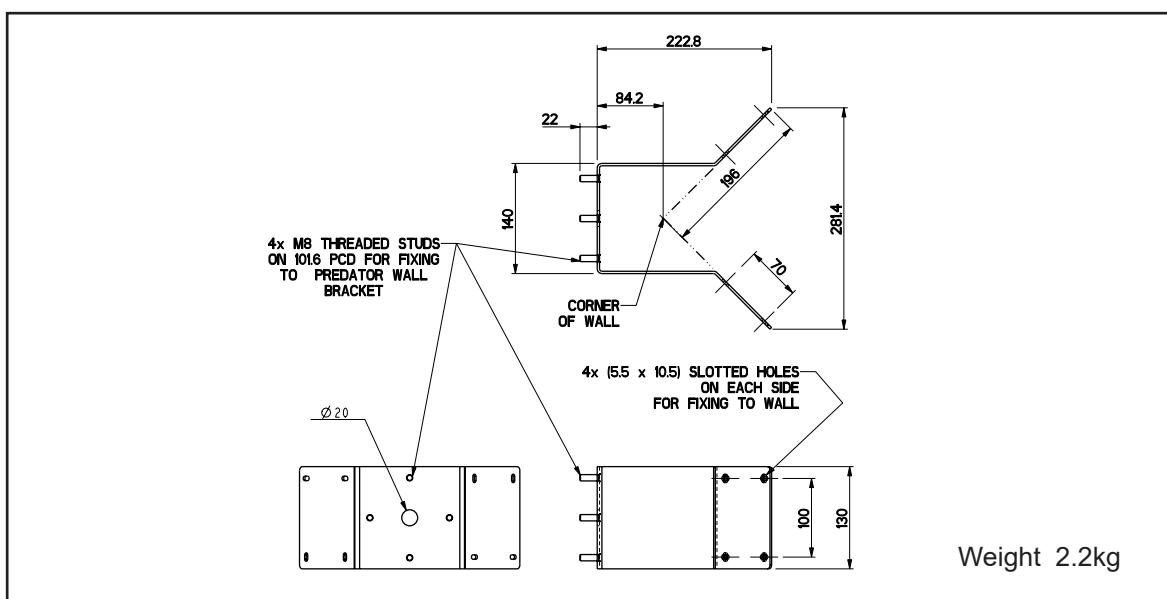
3 Bracket Dimensional Drawing



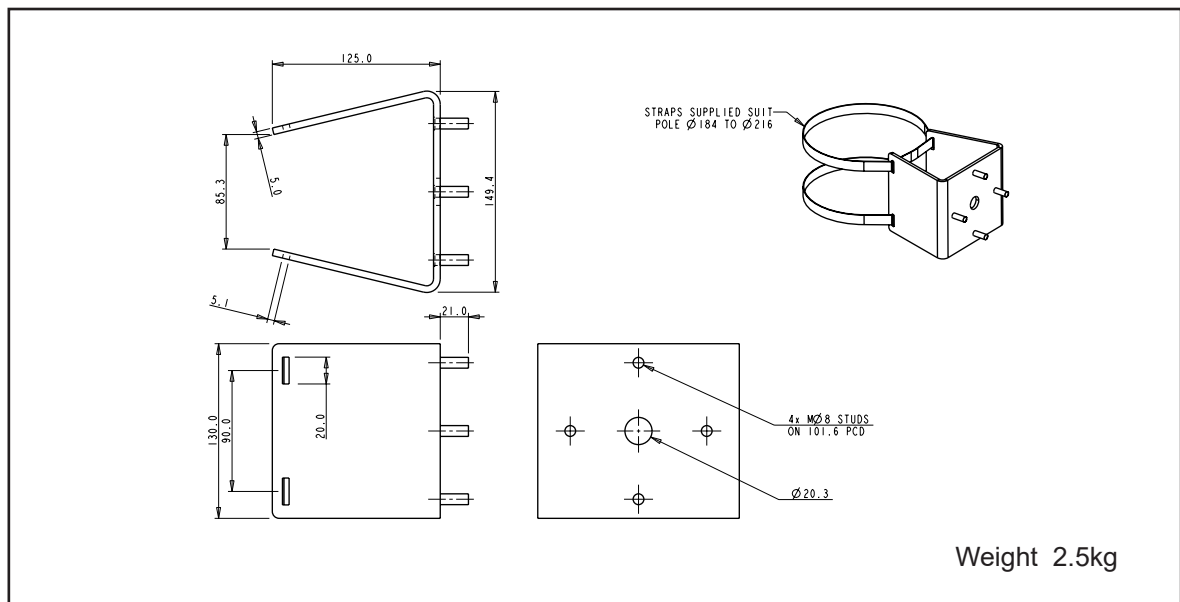
Centurion Wall Bracket



Centurion PMA Bracket



Centurion Corner Bracket



Centurion PMB Bracket

4 Connections

Centurion Composite Cable

This pre-made Centurion Composite Cable is available in 3m, 10m, 25m and 40m lengths. It contains video coax, power and data cables. One end is fitted with the IP68 12-way connector for direct connection to the Centurion, the other is supplied with all cables stripped and tinned ready to be connected to the two-part connectors which are supplied with the Centurion HD power supply.

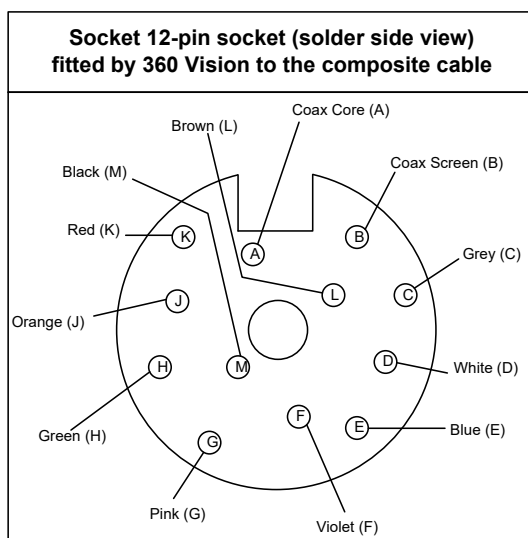
Connecting the composite cable to the Centurion HD

Route the cable through the brackets and cable glands before connecting it to the Centurion HD. Ensure that the pins and sockets are lined up correctly, insert the connector and tighten the locking ring to make the connector water tight.

It is important that the water should not be allowed to pool around the connector, as this will increase the risk of contamination and corrosion which may cause poor connections.

The connector on the base of the Centurion HD is rated IP68, when it is correctly connected and the locking ring is tight.

Centurion HD 12-way connector pin-out.

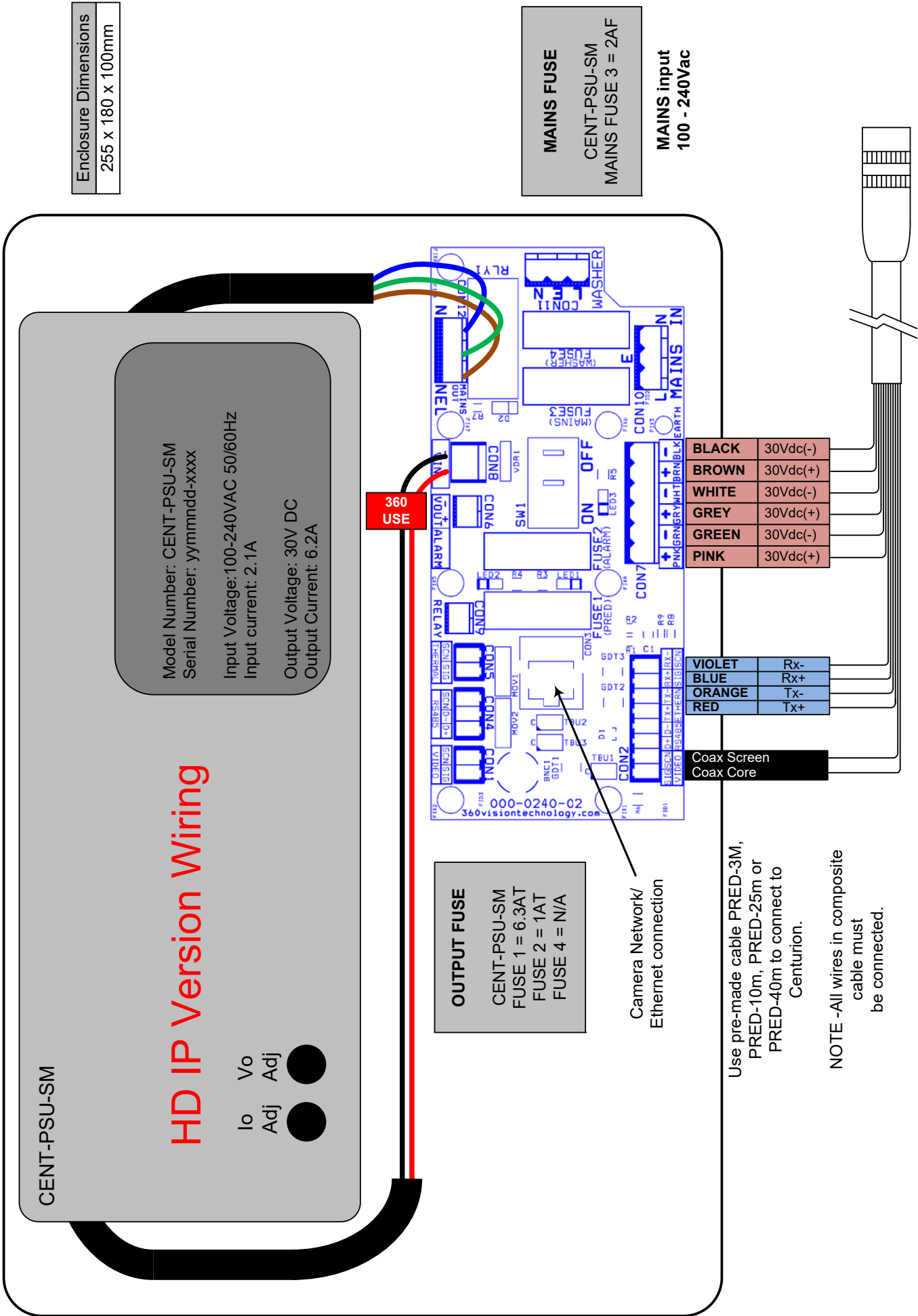


Cables for Ethernet Connection to Centurion HD IP Power Supply

Use CAT5, CAT5e or CAT6 cable for Ethernet Connections to Centurion HD power supply (PRED-PSU-UNI).

| Maximum Distance from Network Switch/Router to PRED-PSU-UNI | | | |
|---|----------------|----------------|----------------|
| Using PRED-3m | Using PRED-10m | Using PRED-25m | Using PRED-40m |
| 100m | 100m | 50m | 3m |

When using PRED-25M or PRED-40M the distance can be increased to 100m if a Network Switch is fitted local to the Centurion HD Power Supply.



5 Connections to Centurions with HMA

When the HMA (Hinged Mount Adaptor) is fitted to the Centurion HD, the 'Centurion Composite Cable' is not used. Connections between the power supply and Centurion use conventional cables as detailed below.

30Vdc Power connections between Centurion PSU and Centurion that is fitted with HMA

| Cable Size | No IR | IR80 | IR110WL |
|---------------------|-------|------|---------|
| 0.75mm ² | 85m | 32m | 32m |
| 1.00mm ² | 113m | 43m | 43m |
| 1.25mm ² | 141m | 54m | 54m |
| 1.50mm ² | 170m | 65m | 65m |
| 2.50mm ² | 283m | 108m | 108m |
| 3.00mm ² | 340m | 130m | 130m |
| 4.00mm ² | 450m | 173m | 173m |

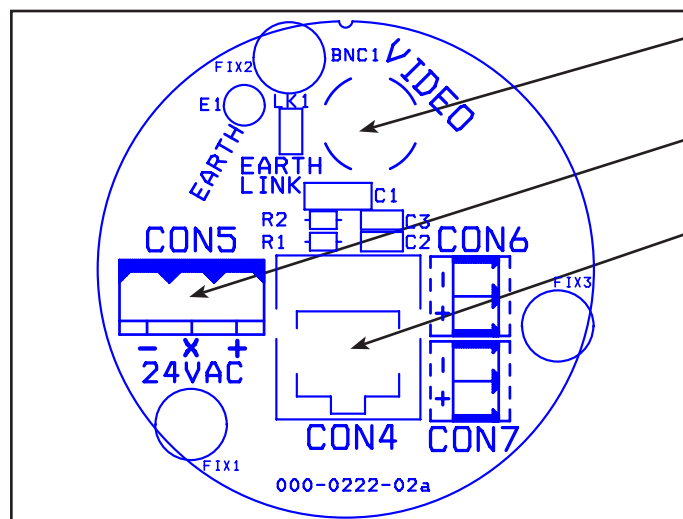
Ethernet connections between Centurion PSU and Centurion that is fitted with HMA.

The Ethernet connection uses standard CAT5, CAT5e or CAT6 cables fitted with RJ45 connectors.

| RJ45 | CAT5, CAT5e, CAT6 Cable | Signal |
|-------|-------------------------|--------|
| Pin 1 | White with Orange Band | Tx+ |
| Pin 2 | Orange | Tx- |
| Pin 3 | White with Green Band | Rx+ |
| Pin 4 | Blue | |
| Pin 5 | White with Blue Band | |
| Pin 6 | Green | Rx- |
| Pin 7 | White with Brown Band | |
| Pin 8 | Brown | |

Gain access to connectors in the HMA

- Ensure that the fixed part of the HMA is securely bolted to the top of the pole.
- The hinged part of the HMA (Hinged Mount Adapter) is fastened to the fixed part using three M8x25 long hex head bolts. Use a spanner (13mm) to remove the three bolts. Each bolt is fitted with a split spring lock washer, a plain metal washer (which prevents the split washer from damaging the fibre washer) and a fibre washer (which prevents the paint on the hinged part from being damaged unnecessarily).
- Open the hinge taking care that the gasket is not damaged and support the weight of the Centurion. Gently open the HMA until the lanyard is able to take the weight. If the lanyard appears to support the weight of the Centurion, there is no need to continue to support the Centurion. The connection circuit board (PCB-000-0222-xx) can now be seen.

**Analogue Camera output**

Not Fitted.

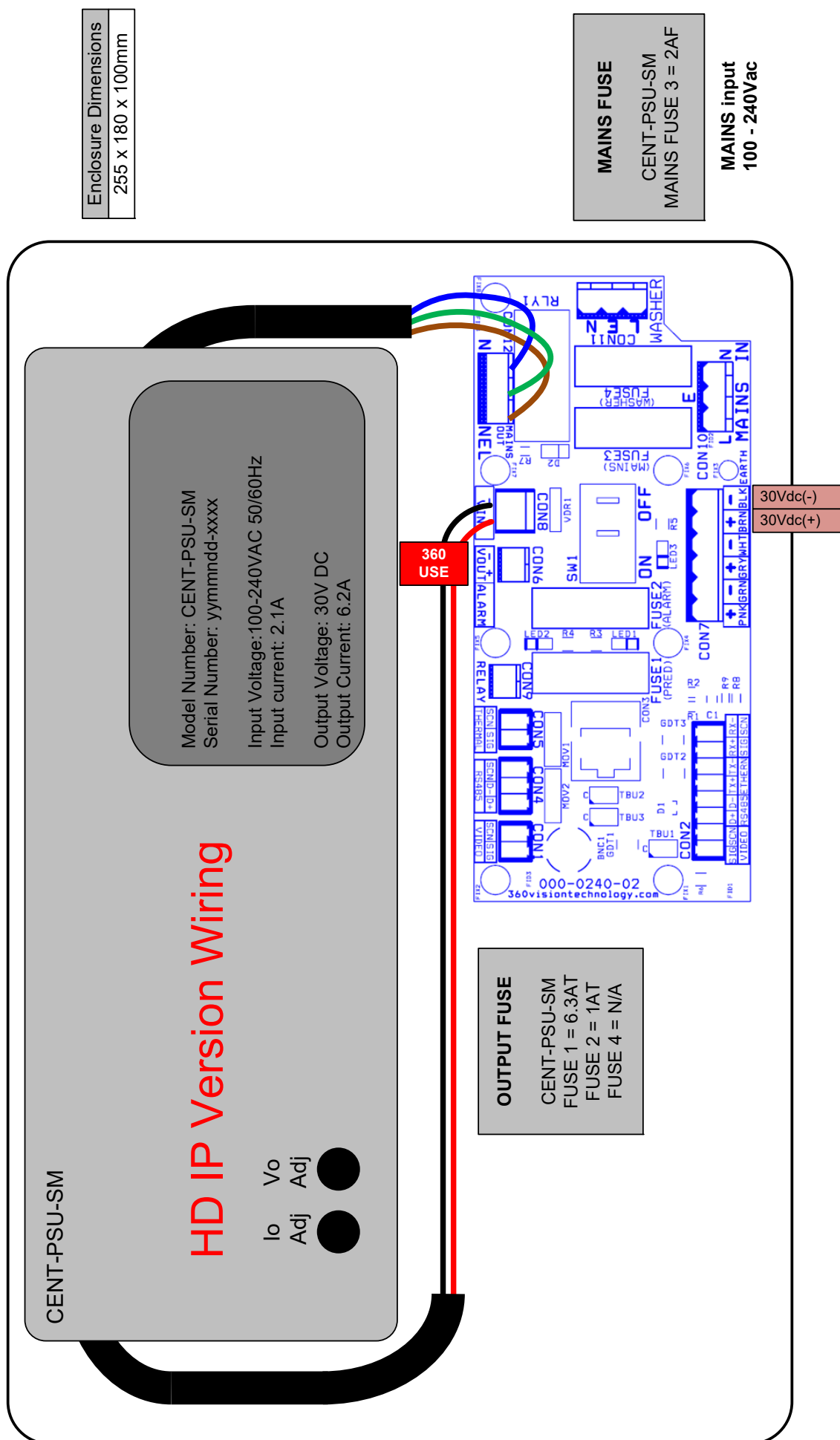
Power Connections

Connect 24Vac/30vdc to CON5.

Ethernet Connections

Connect Ethernet cable to HD HMA Centurion connection board using a RJ45 connector (CON4).

Please make sure there is adequate spare cable for when the camera is resting on the lanyard, failure to do this could damage the connector circuit board.



Centurion HD Configuration

6 Locating the Centurion HD on your Network

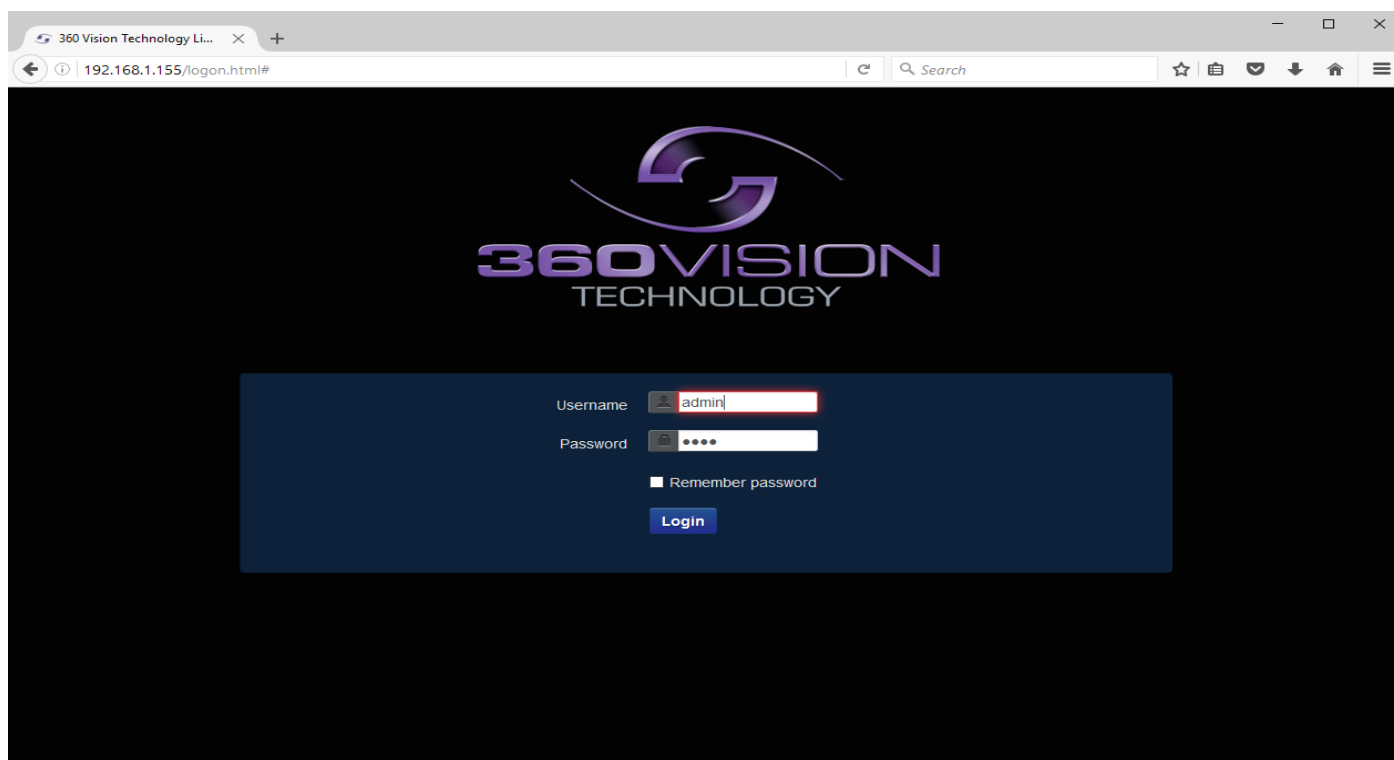
| | |
|--------------------|---------------|
| Default IP Address | 192.168.1.187 |
| Subnet | 255.255.255.0 |
| Gateway | 192.168.1.4 |

Using the DVR management software, 'Onvif Device Manager' or 360 Vision Discovery Tool (which can be found on the CD supplied or from the 360 Vision Technology technical support) to find the IP address of the Centurion HD. Note the ports used by the Centurion HD are:-

| Protocol | Port |
|---------------|--------------|
| ONVIF/HTTP | 80 TCP |
| RTP Stream 1 | 6970 TCP/UDP |
| RTCP Stream 1 | 6971 TCP/UDP |
| RTP Stream 2 | 6972 TCP/UDP |
| RTCP Stream 2 | 6973 TCP/UDP |
| RTSP | 554 TCP |
| 360 SDK | 3600 TCP |
| 360 Event | 9001 TCP |

7 Connecting to the Centurion HD

Type in the IP address of the Centurion HD into the address bar of Windows Internet Explorer and install the plug-ins as required. The web page of the camera will then appear.



Centurion HD Web Page Login screen

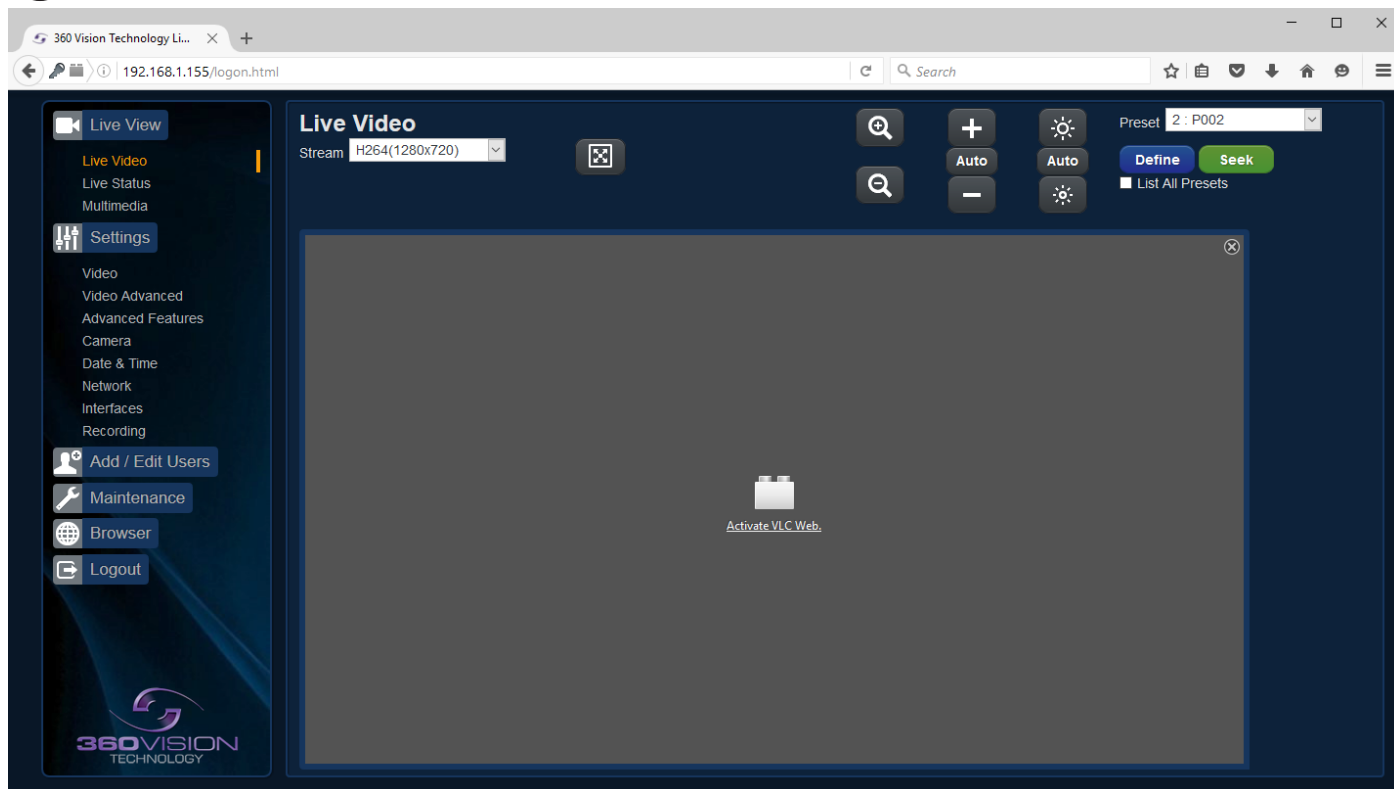
Enter the User Name (default is **admin**)
Enter the Password (default is **9999**)

If you select the box 'Remember Password' it could compromise the security of the Centurion HD camera.

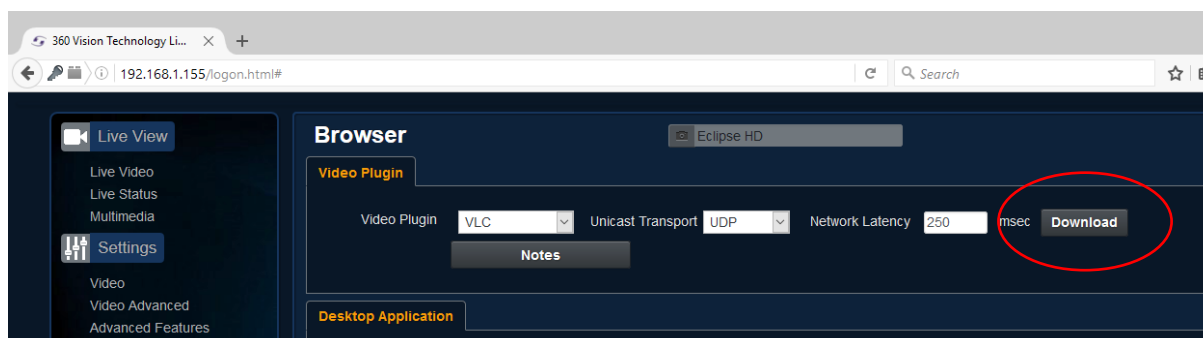
Select Submit



The camera web page uses VLC as the video player.



VLC video plugin file can be downloaded from the camera if it is not installed on the connecting PC/laptop
(See Browser - page 18)

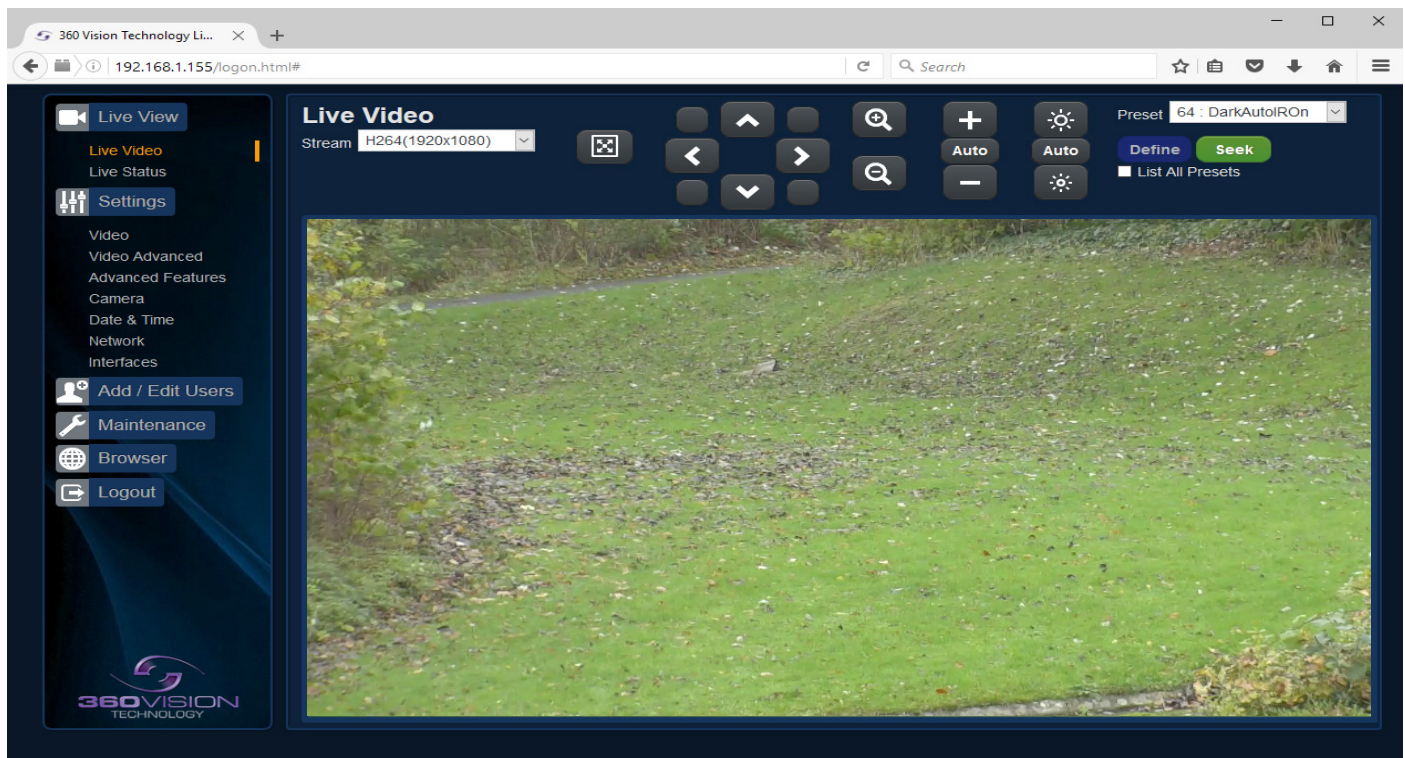


There are six main tabs on the left of the web page/screen.

- 1 Live View
- 2 Settings
- 3 Add/Edit Users
- 4 Maintenance
- 5 Browser
- 6 Logout

7.1 Live View

7.1.1 Live Video



The Live Video page offers options to:-

- Stream - Choose required stream from drop down selection.
- 1x Display - Use to show selected stream as full screen.
- Zoom In/Out - This will operate the optical and digital zoom (if digital zoom is enabled).
(See Camera - Digital Zoom - page 20)
- Focus +/-/Auto - This will operate the manual focus near, far or automatically focus as required.
(See Camera - AF AI when PTZ - page 20)
- Iris +/-/Auto - This will operate the manual iris open, close or automatic as required.
(See Camera - AF AI when PTZ - page 20)
- Pan/Tilt - Use the up down left and right buttons to move the camera to the desired position.
- Preset Seek/Define - This will allow admin and operator user levels to seek or define presets (Viewer user level can only seek presets). (See Advanced Features - Presets - page 18)
- List all presets - Use to show all presets or programmed presets in drop down selection box.

7.1.2 Live Status

Status page shows information relating to the camera status.

The screenshot shows the 'Live Status' page for a 'Centurion HD' camera. The left sidebar contains navigation links: Live View, Live Status (selected), Settings, Add / Edit Users, Maintenance, Browser, and Logout. The main content area displays camera information and current status.

Live Status Centurion HD

Refresh Manual 5 sec 10 sec 30 sec 1 min 5 min

Camera : 'Centurion HD'

| | | | |
|-------------|-------------------------|------------------|----------------------|
| Camera Time | Wed Nov 2 12:13:31 2016 | Timezone | Europe/London |
| IP Address | 192.168.1.155 | Firmware Version | CENTURION_HD_1_21_02 |
| Zoom Range | x 30.0 | Hardware Version | 1_08_20 |
| NTP | DISABLED | | |

Current Status

| | | | | | |
|----------------|----------|-----------------|----------|---------------|---------|
| Pan Position | 174.00 ° | Pan Proportion | -3.33 % | Pan Moving | HALTED |
| Tilt Position | 33.78 ° | Tilt Proportion | -62.47 % | Tilt Moving | HALTED |
| Zoom Position | x 3.13 | Zoom Proportion | 7.34 % | Zoom Moving | HALTED |
| Current Preset | 0 | Night Mode | FALSE | Night Presets | ENABLED |
| Focus Mode | AUTO | | | | |
| Iris Mode | AUTO | | | | |
| Sensor Mode | COLOUR | Focus Range | AMBIENT | | |
| White Lights | OFF | IR Lights | OFF | | |
| Wiper | OFF | Washer | OFF | | |
| Power Use | ACTIVE | Attack Detect | INACTIVE | | |

Video Streams

| | | |
|------------|----------|----------|
| | Stream 1 | Stream 2 |
| CODEC | H264 | - |
| Resolution | 1080P | - |

Status page, top section.

The screenshot shows the 'Live Status' page for a 'Centurion HD' camera, displaying the bottom section of the status information.

Live Status Centurion HD

Refresh Manual 5 sec 10 sec 30 sec 1 min 5 min

Video Streams

| | | |
|-----------------|----------|----------|
| | Stream 1 | Stream 2 |
| CODEC | H264 | - |
| Resolution | 1080P | - |
| Frame Rate | 25 | - |
| Bit Rate (kbps) | 4000 | - |
| Rate Control | CVBR | - |

Streaming

| Time | IP Address | Port |
|------|------------|------|
|------|------------|------|

System

| | | | |
|------------------|--------------|----------------|---|
| Uptime | 0 d 0 h 29 m | Storage | 92 MB used, 3624 MB free |
| Network Transmit | 4.088 Mb/s | Transmit Total | 0 errors, 0 dropped, 354 MB, 248975 packets |
| Network Receive | 0.014 Mb/s | Receive Total | 0 errors, 0 dropped, 3 MB, 32330 packets |

Frame Statistics

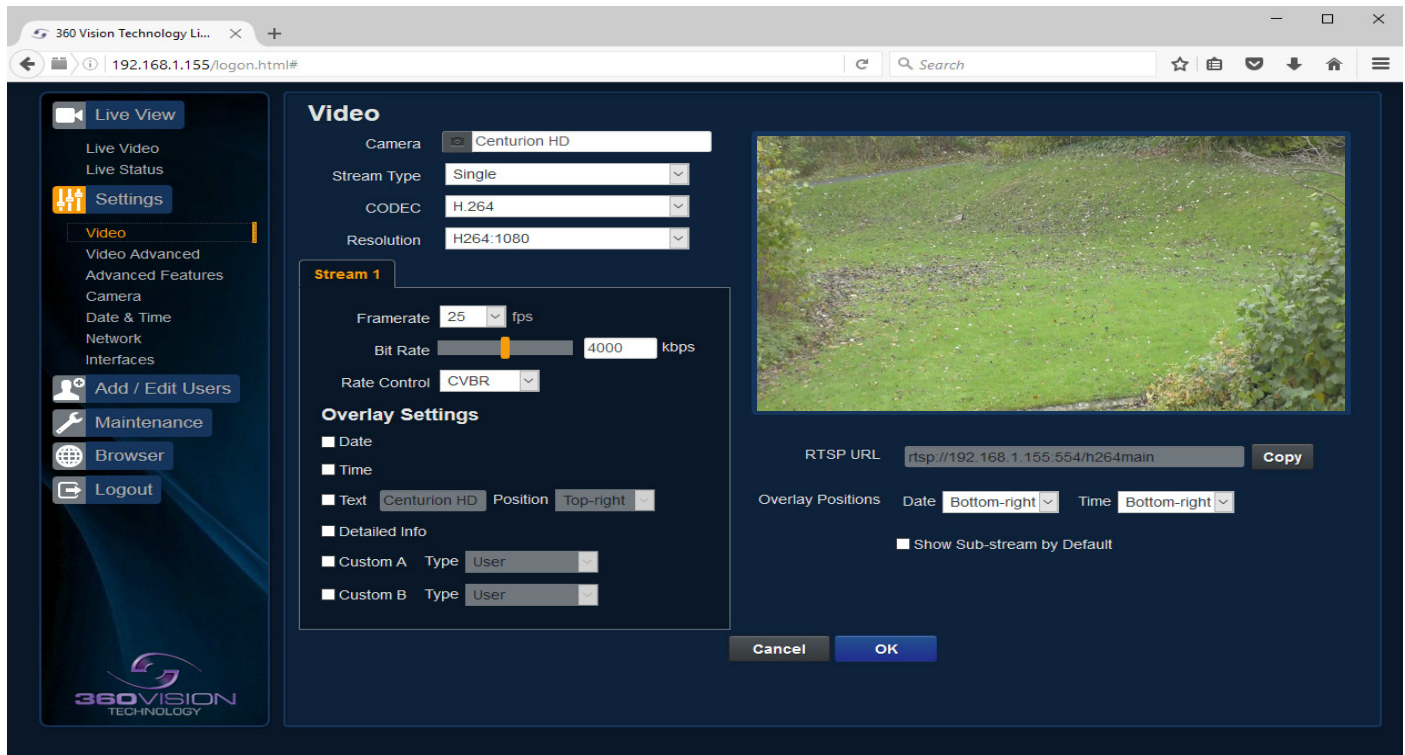
| | | | |
|-----------------|--------|--------------------|--------|
| Frame Size | Bytes | Transmission Time | ms |
| Frame Average | 19992 | P-Frame Average | 4.536 |
| I-Frame Average | 114806 | I-Frame Average | 34.285 |
| Max | 115748 | I-Frame Max (FU-A) | 62.097 |

Status page, bottom section.

- Refresh - Select an automatic page refresh option.
- Camera - Shows information relating to the camera time & date settings, the version of codec and mainboard software loaded
- Current Status - Shows the camera function information, ie PTZ positions, wiper and lamp activity etc
- Video Streams - Shows the current video streams configuration.
- Streaming - Shows the IP address on the PC that is receiving the video streams.
- System - Shows how long the camera has been powered, how much bandwidth it is using etc
- Frame Statistics - Gives information about the video stream, how big the frames are, how big the I frames are, how long it is taking to transmit the frames.

7.2 Settings

7.2.1 Video



The Video page, offers options to setup:-

- Camera - Add or edit the camera name.
- Stream Type - Choice of single or dual video streams.
- CODEC - Choose which compression format, the stream will use.
(See page 32 for table of options).
- Resolution - Set what resolution the stream will use. (See page 32 for table of options).

Stream Tabs, offer options to:-

- Framerate - Configure how many frames per second (fps) the stream uses.
(Also see section - Camera - Sensor Frame Rate - page 20).
- Bit Rate - Set the bit rate that the stream will use. Type in figure in Kbps. (E.g. 4000Kbps is 4Mbps)
- Rate Control - Configure the rate control of the stream, choices are VBR (Variable), CBR (Constant), and CVBR (Constrained Variable, limited to 8Mbps).

Overlay Options

- Date - Selecting this option will show the date as text on the video stream.
(See section - Date/Time - page 22).
- Time - Selecting this option will show the time as text on the video stream.
(See section - Date/Time - page 22).
- Text - Selecting this option will show the selected text on the video stream. Positions available are top left or right of the image.
- Detailed Info - This will show the information about the stream on the video.

- Custom A - Current Preset - Used to show the stored preset text when the camera is at the preset position. Text will be shown on top line of video.
- Custom B - Current Preset - Used to show the stored preset text when the camera is at the preset position. Text will be shown on second from top line of the video.

RTSP URL

- Copy - Use this option to copy the RTSP URL

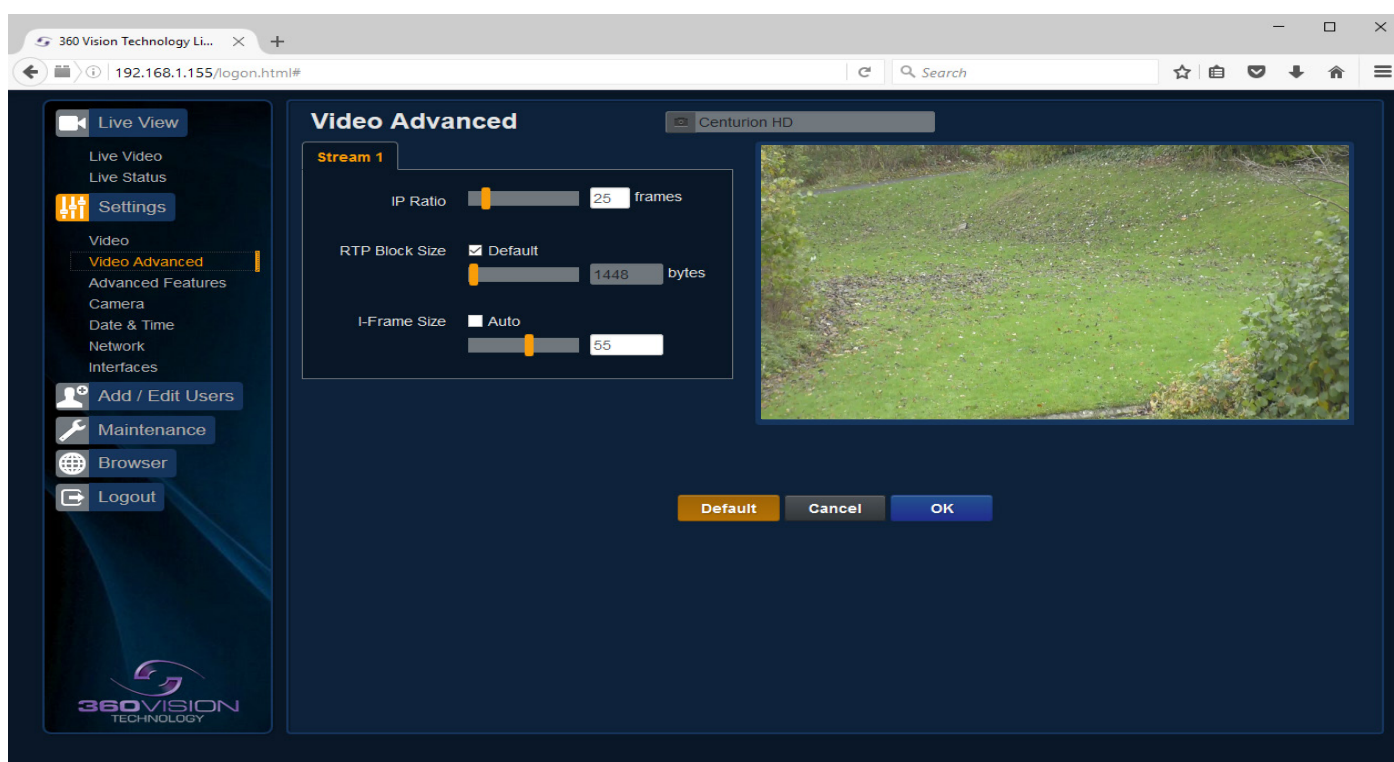
Overlay Options

- Date Position - Choose date text to bottom right or left of the image.
- Time Position - Choose time text to bottom right or left of the image.
- Show Sub-stream - Shows second sub-stream if enabled.

OK to program the new settings into the Centurion HD.

Cancel to abandon the changes to the video settings.

7.2.2 Video Advanced



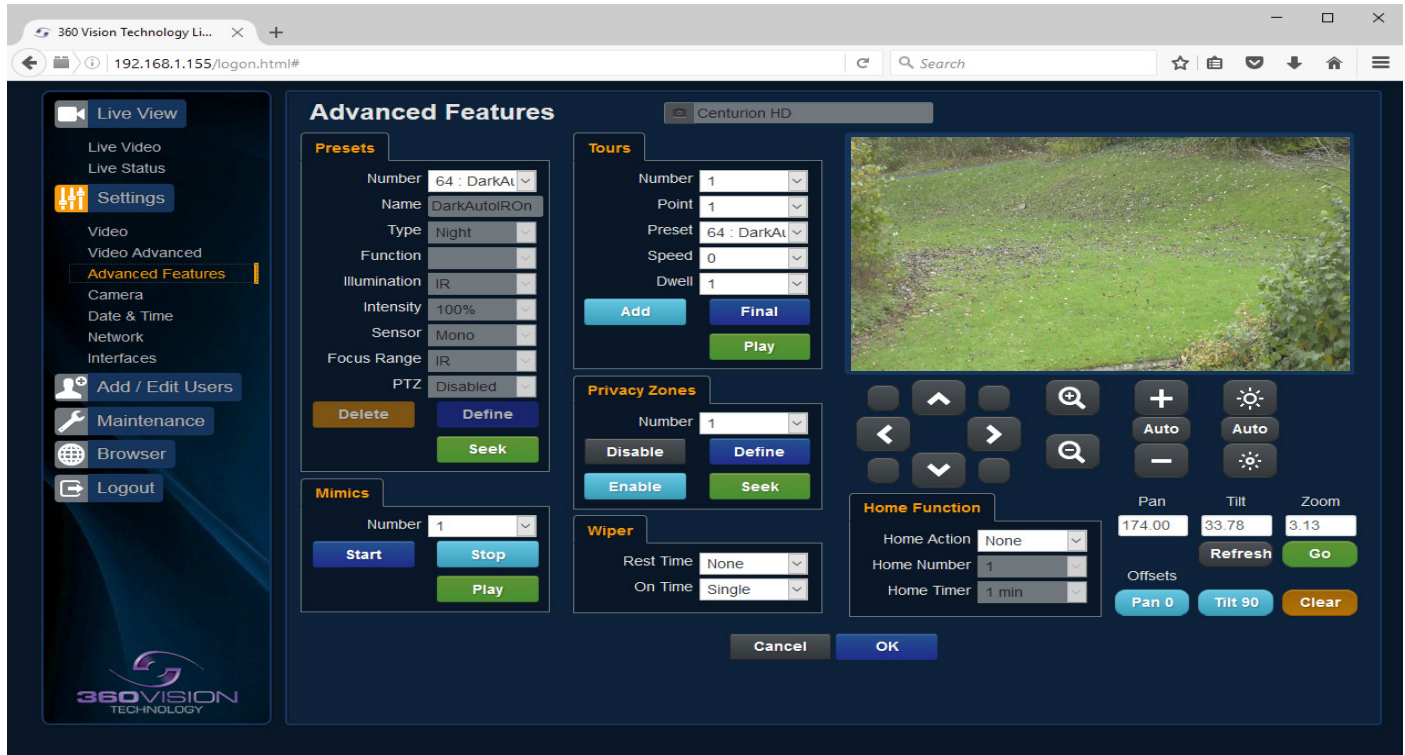
| | Stream 1 | |
|--|----------------|---|
| IP Ratio/GOP value (Type in a number) | 25 (default) | E.g. 1 'i-frame' every 25th image. |
| RTP Block Size | 1448 (default) | Range 0 (Ethernet MTU), 1440 to 65500 |
| I Frame Size | 55 | Range 0 to 99 (average frame size x value/10 = i frame size) |

OK to program the new settings into the Centurion HD.

Cancel to abandon the changes to the video advanced settings.

Default is used to factory reset the video stream settings.

7.2.3 Advanced Features



The Advanced Features page, offers options to:-

- Camera - Cannot be edited, shows label/name given to the camera.
(See section Video - Camera - page 14).

A 'Preset' is a stored view. When a preset is defined, it will store the pan, tilt, zoom, focus and iris positions. Use the up, down left and right buttons to move the camera to the desired position and then use the zoom buttons to set the image as required.

Set Preset using the following options:-

- Preset - Choose from a list of presets using the drop down box.
- Name - Edit the preset name to suit/help identify the position.
- Type - Options available are:-
 - Night - Allows different options to be used for the preset that include lamps
(See also Camera - Night Presets page 20)
 - Simple - For setting a simple PTZ preset, no lamp options.
 - Wiper - Set the preset to activate the wiper.
 - Re-Map - Choose which function/preset you want to re-map to the new preset number above.
 - Tour - Set the preset to start or stop a preset tour.
 - Mimic - Set the preset to start or stop a mimic tour.
 - User - Used on systems supporting 360 SDK.
 - Auxiliary - Can be used to recall an auxiliary command. (See Interfaces - Auxiliary page 24).
- Function - Function option will change to suit the above type.
- Illumination - Choice of illumination for preset with night presets function enabled. Options are IR, White Light and off.
- Intensity - Set lamp intensity for the preset using the illumination chosen above.
- Sensor - Presets have the choice of being either colour or mono, when the scene is dark.
- Focus Range - Sets how the camera will focus when in mono. Options are ambient or IR. The Focus Range setting will set the camera focus, (when in mono) to suit the light source in the scene.
If this is set incorrectly the image may not be in focus, when in mono at night.
- PTZ - Camera can be set to pan, tilt and zoom or not. This can be used to operate the sensor or lamp function.
- Seek - Use this to test the preset.
- Define - Use this to set/define the preset.
- Delete - Use this to delete/remove the preset.

Mimics

When a mimic tour is started, the Centurion HD will perform all the actions which were defined when the mimic was programmed. Up to four mimic tours can be defined.

- Play - Starts the selected mimic tour.
- Start - Use this to start programming a mimic tour. Move the camera, seek presets and/or use the lens to define the actions to be saved for the mimic.
- Stop - Use to end the programming of the mimic tour into the Centurion HD.

The mimic and preset tours will repeat continuously until manually interrupted either by an alarm or user intervention.

Preset Tour

A tour of presets is stored in the Centurion HD as a list of tour points. Each tour point consists of a preset number, the dwell time for which the Centurion HD will pause and the speed parameter that will be used to seek the preset. Each of the four tours of presets can contain between 2 and 90 points.

When programming a tour of presets it is necessary to first store all the required presets into the Centurion HD and to define the required dwell times and speeds of travel that you will require the Centurion HD to use when the tour is started.

A maximum of four individual tours of presets can be stored in each Centurion HD. Each tour can have between 2 and 90 points, each point can be a preset in the range 1 to 101. Different points can use any preset number, including repeats of ones that have been used before. The speed that the camera will travel at to reach the preset can be in the range 1°/sec (slowest) to 100°/sec (fastest). To seek the preset at maximum speed, set speed to 0. The delay (dwell) at each point is defined in seconds, range 1 to 100.

- Play - Starts the selected preset tour.
- Add - Use to add a new point to the tour.
- Final - Use to indicate that this point is the last point in the tour.

Privacy Zones

A privacy zone can be used to obscure a scene with in an image e.g. private residence.

Use the drop down box to select the privacy zone preset 1 to 24. Move the camera so that the scene to be obscured is in the centre of the image. Use zoom to set the size of the privacy zone.

- Define - Defines the image as a privacy zone preset.
- Seek - Seeks the selected privacy zone preset.
- Enable - Sets the selected privacy zone preset as a privacy zone.
- Disable - Disables the privacy zone of the selected privacy zone preset.

Up to eight privacy zones can be viewed at the same time. The privacy zone feature is not available when the camera is within 20° of the camera pointing vertically up or down.

Wiper

- Rest Time - Set wiper rest time.
- On Time - Set time period for how long wiper will run.

Home Function

The camera will perform an action (goto preset, start preset or mimic tour), after a period of inactivity.

- Home Action - This sends the camera to a preset, tour or mimic.
- Home Number - This sets the preset, tour or mimic the camera will go to/start.
- Home Timer - This sets the time for the period of inactivity.

PTZ position co-ordinates are also shown, use the refresh button to refresh the data if the camera has been moved.

PTZ position co-ordinates can also be added manually, use the go button to send the camera to the coordinates set.

Pan/Tilt Offset

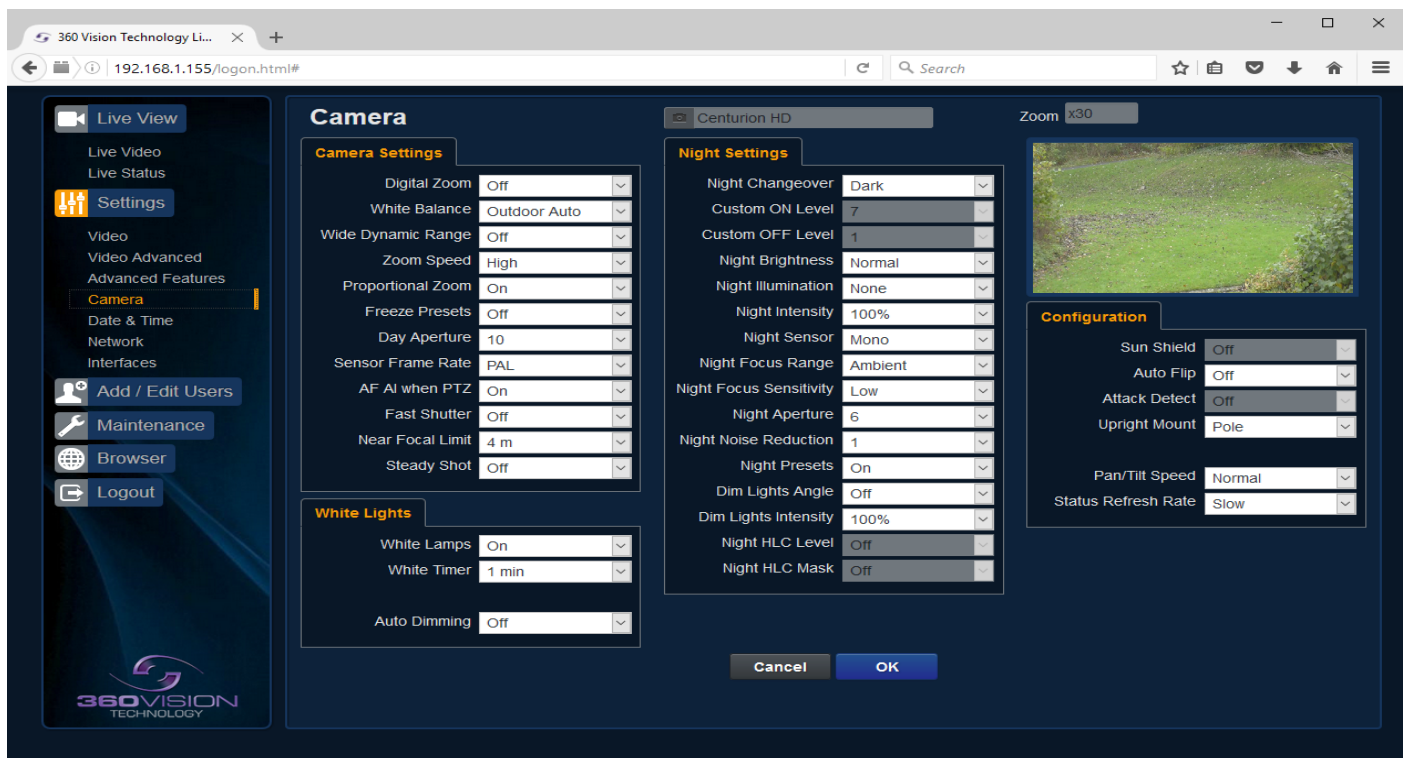
Used to set current pan/tilt to zero.

- Set - Set current position to zero.
- Clear - Clear current zero position.

OK to program the new settings into the Centurion HD.

Cancel to abandon the changes to the advanced feature settings.

7.2.4 Camera



- Camera - Cannot be edited, shows label/name given to the camera.
(See section Video - Camera - page 14).

The Camera page, offers options to:-

- Digital Zoom - Enable digital zoom. Default is off.
- White Balance - Select White Balance settings to suit camera location.
(See page 33 for table of options).
- Wide Dynamic range - Enable WDR. Options available are ON, Auto and Off. Default is Auto.
- Zoom speed - Select zoom speed of the lens. Options are slow, medium, high and highest. Default is high.
- Proportional Zoom - Automatically reduces/increases pan/tilt speed depending on zoom ratio. Default is on.
- Freeze Preset - This option freezes the image, when moving between presets. This can help reduce the bandwidth. Default is off.
- Day Aperture - Can be used to increase the picture detail. Default is 10.
- Sensor Frame Rate - Can be used to set the camera to suit 25fps (PAL) or 30fps (NTSC). Unit must be rebooted for settings to apply. Default is PAL.
- AF/AI when PTZ - Auto focus/iris will activate when PTZ is used, can be switched off. Default is on.
- Fast Shutter - Select fast shutter is using the Centurion HD camera on a ANPR system. Default is off.
(See page 33 for table of options).

- Near Focal Limit - Can be used to set the near focal limit. This will help in scenes where the camera is focusing on objects near to the camera, causing the camera to be out of focus on distant objects. Default is 4m.
- Steady Shot - Can be used to reduce camera shake from the picture.

Steady Shot – The viewed picture is made from a window which shows part of the full picture from the camera sensor. This means that part of the picture is wasted. The viewed part of the picture is moved automatically to use some of the wasted part so that the observed picture is stable and has compensated for the vibrations and minor movements of the Centurion HD. The maximum amount of picture stability is achieved for all zoom settings. The part of the picture that is wasted reduces the resolution of the viewed picture when the camera is set to 1080P and steady shot is selected. When the camera is set to 720P it is usual for no resolution to be lost when steady shot is selected.

Stable Zoom – In this mode, when the picture is zoomed fully out (wide angle) the steady shot feature has no effect. As the picture is zoomed out the effect of the vibrations is naturally minimized. As the picture zooms in, the part of the picture that is viewed is a window within the whole (unzoomed) picture. The unused part of the picture is used to allow the viewed part of the picture to be moved automatically to compensate for the vibrations. In this mode, the viewed picture has full resolution for all of the zoom range, but the camera does not compensate for the vibrations when the picture zoom is at or near to the fully zoomed out setting.

Extended Zoom – This option doesn't produce a steady picture, instead of which, a window within the whole picture is viewed i.e. the scaling of the picture is altered slightly which gives the advantage that the normal 30x zoom has been extended to 36x zoom. This is effectively a digital zoom and as such, when 1080P is used, the resolution of the picture has been slightly reduced. When the camera is set to 720P it is usual for full resolution to be achieved for the full range of zoom settings.

White Lights

- White Lamps - Set if white lights are to be used.
- White Timer - Set white light timer, for automatic switch off.
- Auto Dimming - When selected the camera will reduce the lamp power, when looking in scenes where there is too much light.

Night Settings

- Night Changeover - Night Changeover settings can be changed to suit the site requirements. Options are dark, medium, light and custom. Default is dark. *This sets when the camera goes into 'dark mode'.*
 - Custom On Level - Range is 7 to 25. A lower value will set the level on when the scene is brighter, a higher value will set the level on when the scene is darker. Default is 7.
 - Custom Off Level - Range is 1 to 20. A lower value will set the level off when the scene is brighter, a higher value will set the level off when the scene is darker. Default is 1.
 - Night Brightness - This controls the exposure compensation, by artificially brightening the image. Options are normal and auto. Default is normal.
 - Night Illumination - Choose which type of light source is required for when the camera is in dark mode. Options are IR or white light if supported by the camera.
 - Night Intensity - Set what power the lamps will run at. Default is 100%.
 - Night Sensor - Can be set to colour or mono. Default is mono.
 - Night Focus Range - Sets how the camera will focus (when in mono) to suit the light source in the scene. If this is set incorrectly the image may not be in focus.
 - Night Focus Sensitivity - This can be set to normal or low. When it is set to low the method used to focus the camera is suited to low light conditions. Default is low.
 - Night Aperture - Can be used to increase the picture detail. Default is 3.
 - Night Noise Reduction - Used to reduce noise with scenes of low illumination. NR must be set to suit the environment. Default is off.
 - Night Presets - This can be used to set the presets to different settings if required. Default is off.
- (See section Advanced Features - page 18).*

Centurion lamps are used to improve the illumination of distant dark objects. The Centurion lamps are normally set to maximum intensity to increase the distance at which objects can be seen. When the Centurion lamps are ON and the camera tilts downwards to view nearby objects, the illumination could be too bright. This could cause the quality of the image to be reduced. Some Centurions include the 'intelligent lighting' feature which allows the intensity of the illumination to be reduced when the Centurion tilts down below a particular angle (i.e. the 'Dim Light Angle'). Below this angle the power to the lamps is reduced to the percentage value that has been set (i.e. 'Dim Lights intensity').

- Dim Lights Angle - Sets angle when reduced illumination intensity is used.
- Dim Lights Intensity - Sets illumination intensity.
- Night HLC Level - Feature not available.
- Night HLC Mask - Feature not available.

Configuration

- Sun Shield - Feature not available.
- Auto Flip - Use this option to set how the camera behaves when full tilt down is reached.
 - Tilt - Requires a second tilt down command, when at full tilt down to spin camera 180°.
 - Limit - Automatically spins the camera 180° when full tilt down is reached.
- Attack Detect - Feature not available.
- Upright Mount - Can be used to flip the image, so the camera can be used on a pole or a ceiling. Default is pole.
- Pan/Tilt Speed - Can be used to set the pan/tilt speed. Options are Normal, 20%, 40%, 60%, 80% Slower, 20%, 40%, 60% or 80% Faster. Default is normal.
- Status Refresh Rate - Can be used to help speed up telemetry control of the camera, by slowing down the camera internal refresh rate.

OK to program the new settings into the Centurion HD.

Cancel to abandon the changes to the settings.

7.2.5 Date/Time

The screenshot shows the 'Date & Time' configuration page for a 'Centurion HD' camera. The interface is divided into three main sections:

- Camera Time:** Displays the current date and time. The 'Current' section shows 'Date: 02/11/2016' and 'Time: 12:14:47'. The 'Format' section shows 'Date: DD/MM/YYYY' and 'Time: 24-hour'.
- Set Time:** Contains three radio button options:
 - Set manually:** Shows 'Date: 02/11/2016' and 'Time: 12:15:10'.
 - Synchronise with computer time:** Shows 'Date: 02/11/2016' and 'Time: 12:15:11'.
 - Synchronise with NTP server:** Shows 'NTP Server: pool.ntp.org' and 'Calibration: uncalibrated'.
- Timezone:** Shows 'Europe' selected for the region and 'London' for the city. The 'POSIX Timezone' is 'GMT0BST,M3.5.0/1,M10.5.0'. There is a checkbox for 'Automatically adjust for daylight saving time changes' which is checked.

At the bottom of the page, there are 'Cancel' and 'OK' buttons.

- Camera - Cannot be edited, shows label/name given to the camera.
(See section Video - Camera - page 14).
- Time in Camera - Cannot be edited, shows the current date and time of the camera.

- Date Format - Select from the drop down the date format.
- Time Format - Choose 24hr or 12hr time display.

Set Time

The Date/Time page, offers options to:-

- Set Manually - Input time/date manually.
- Synchronize with Computer Time - Put a tick in the button and then click OK, to apply the local computer date/time to the camera.
- Synchronize with NTP Server - Put a tick in the button and then click OK, to apply the local server date/time to the camera.
- NTP Server - Input the address of the time server required, default is pool.ntp.org.

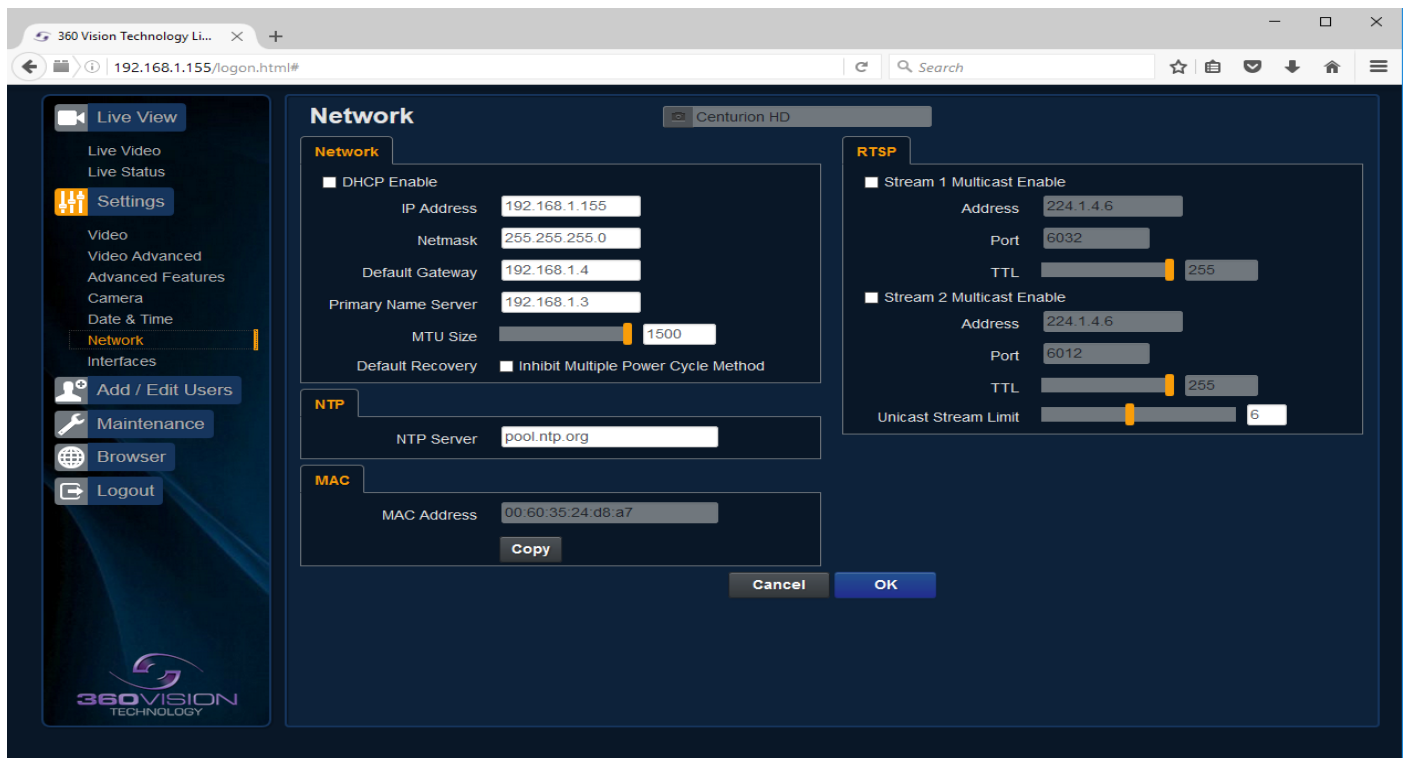
Time Zone

- Time Zone - Select time zone to suit the location of the camera/system.

OK to program the new settings into the Centurion HD.

Cancel to abandon the changes to the settings.

7.2.6 Network



- Camera - Cannot be edited, shows label/name given to the camera.
(See Video - Camera - page 14).

Network

The Network tab, offers options to:-

- DHCP Enable - Allows the camera to be set using a dynamic IP address.
- IP Address - Input a static IP address, if DHCP is not used.
- Netmask - Input the Network Subnet Mask.
- Default Gateway - Input the Network Gateway.
- Primary Name Server - Input the Domain name server, if required.
- MTU Size - Option to change the MTU size, default is 1500 bytes.
- Inhibit Multiple Power Cycle Method - Disables the Network recovery process
(See Network Settings Recovery - page 29)

NTP

- NTP Server - Input the address of the time server required, default is pool.ntp.org.

MAC

- MAC Address - Displays the camera MAC address.

RTSP - (See Stream Tables - page 32).

Tick the box to enable 'multicast'. If the box is not ticked then 'unicast' is selected.

- Multicast Stream 1 - Set IP address and port for stream 1.
- Multicast Stream 2 - Set IP address and port for stream 2.

(See Video - Stream Type - page 32).

RTSP protocols allow 'multicast' or 'unicast' transmission. In addition to the 'multicast' feature being available on the Centurion, the 'multicast' feature must also be available on the receiving device.

Unicast

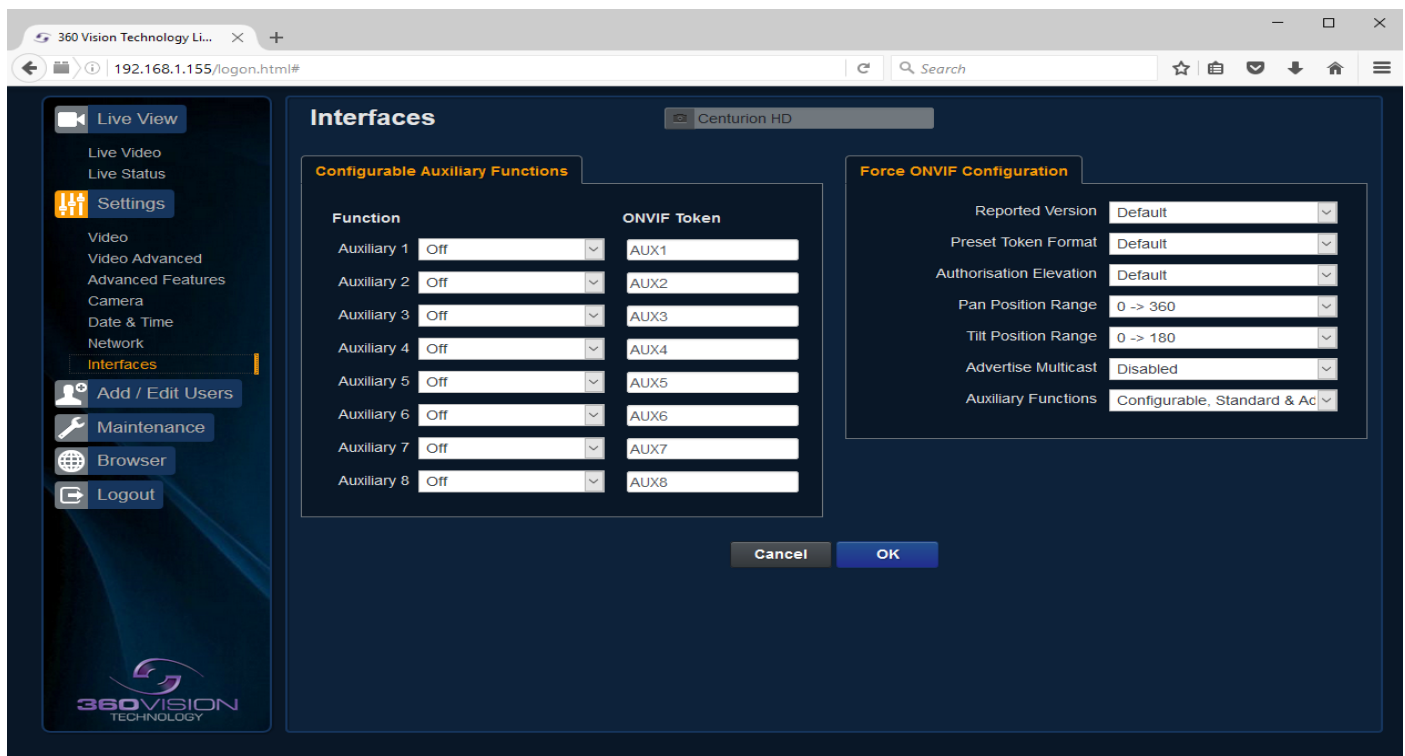
If lots of receivers (users) want to receive video streams from the Centurion HD, each receiver will have a separate video stream. This would increase the network bandwidth used. E.g. five users would require five video streams, that typically will require five times the bandwidth.

Multicast

If the receivers of the video streams are suitable for using 'multicast' and the video streams will all have the same format, then it may be possible to use 'multicast'. In this mode, the CODEC in the Centurion HD chooses a 'new UDP address' (Typically an address which is outside the normal range of addresses for the network to which the Centurion HD is connected) and sends a video stream to the 'new UDP address'. Multiple receivers can then access this single video stream. Consequently the bandwidth that is required by the Centurion HD is typically reduced to the single video stream.

When using 'multicast' all intermediate network-switches and routers must be set to allow the stream from the 'new UDP address' to be routed correctly.

OK to apply the new settings into the Centurion HD.
Cancel to abandon the changes to the network settings.

7.2.7 Interfaces

- Camera - Cannot be edited, shows label/name given to the camera.
(See section Video - Camera - page 20).

Auxiliary Functions

Allows the camera to be configured to use Onvif Auxiliary commands.

Features available are:-

- Force White Light On - Forces white lights on.
- Force White Light Off - Switches off forced white lights.
- Wiper On - Activates wiper.
- Wiper Off - Stops wiper.
- Dark IR Light On - Switch on IR, when dark.
- Dark White Light On - Switch on white light, when dark.
- Dark Lights Off - When dark, switch off all lamps.
- Dark Sensor Mono - Sets the camera to a mono image, when in dark mode.
- Dark Sensor Colour - Sets the camera to a colour image, when in dark mode.
- Dark Focus White - Sets the camera focus (when in mono), to suit the scene when ambient light is present.
- Dark Focus IR - Sets the camera focus (when in mono) to suit the scene when IR light is present.
- De-Fog On - Switches camera De-Fog feature on.
- De-Fog Off - Switches camera De-Fog feature off.
- Force Night Settings - Used to set camera to night/dark settings.
- Force Day Settings - Used to force camera to day/light settings.
- Disable Forced Settings - Switch off forced settings, camera to use settings as per light level.
- Force Mono Settings - Force camera into mono, no lamps, ambient focus range.
- Onvif Token - Used to alter the name of the Onvif Auxiliary token.

Dark relates to when the camera is in dark mode, see section Camera - Night Changeover - page 20.

Force Onvif Version Configuration

- Reported Version - Can be used to change the Onvif version reported by the camera to the VMS, options are:- Default - Onvif 2.40, V2.02, V2.20 & V2.40. Ok setting and then re-boot camera from web page to apply.
- Preset Token Format - Default (Used on certain VMS servers. Uses mix of text and 'P' zero-pad number as preset tokens). Number only (Used on certain VMS servers. Uses numbers as preset tokens). 'P' zero-pad number (Used on certain VMS servers. Uses P001 to P360 as preset tokens).
- Authorisation Elevation - Used on Vicon VMS, allows the anonymous user to be set as admin, viewer or operator.
- Pan/Tilt position Range - Used on VMS systems that use specific pan and tilt operation, used to set the angular position to suit the VMS Onvif position.
- Advertise Multicast - Switch on to advertise the camera supports multicast via onvif. Camera does not support multicast and unicast on the same video stream.
- Auxiliary Functions - Used to set how the VMS will see the Onvif AuxiliaryToken.
 - Configurable - Aux 1 - 8, configurable via web page
 - Standard - Standard Onvif
 - Additional - Additional control commands using the Onvif Standard

OK to apply the new settings into the Centurion HD.

Cancel to abandon the changes to the settings.

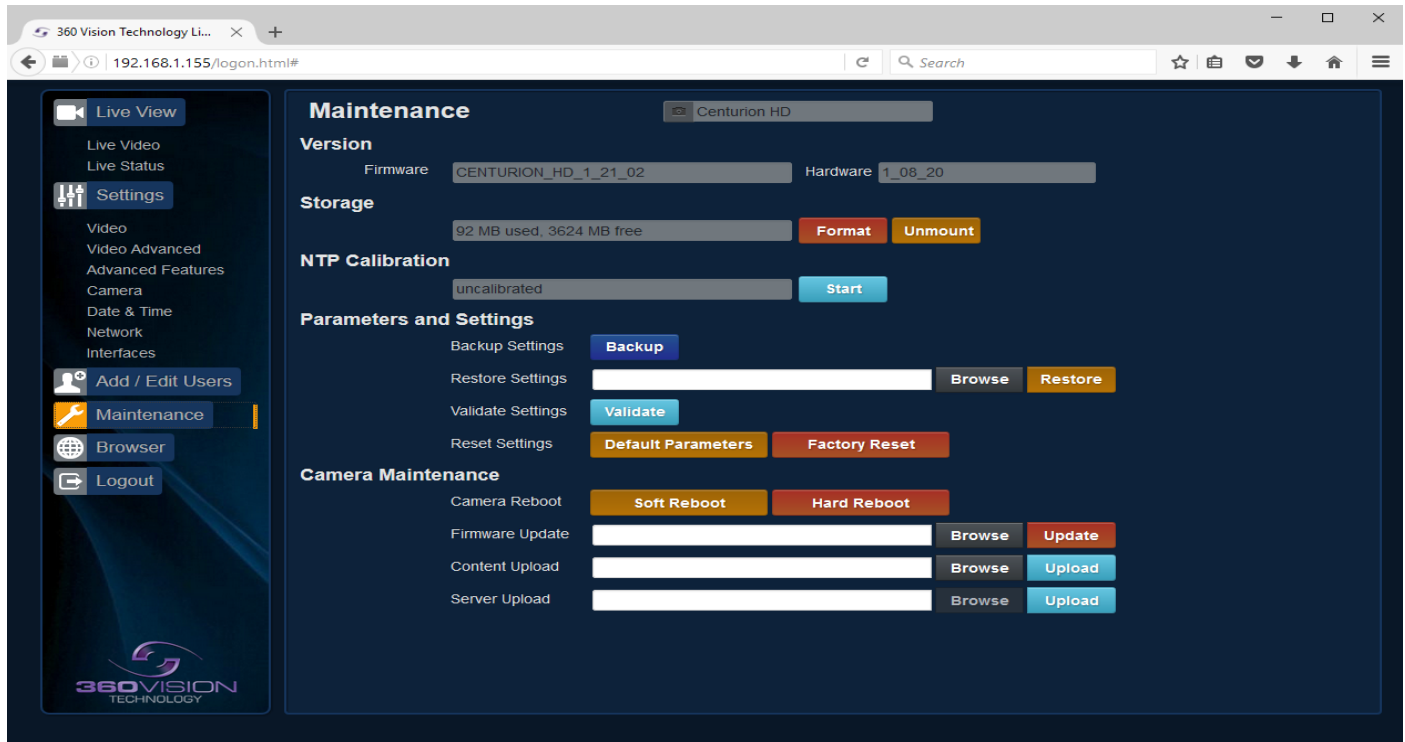
7.3 Add/Edit Users

| User Name | Authority |
|-----------|---------------|
| admin | Administrator |

The Add/Edit Users page, allows the admin user to create both operator and viewer level login details. The admin user login password, can also be changed here. The web page admin password is also the Onvif admin password. Care must be taken, when changing the admin password.

There is no way of recovering the Centurion HD admin password if forgotten.

7.4 Maintenance



- Camera - Cannot be edited, shows label/name given to the camera.
(See Video - Camera - page 14).

Version

- Firmware - Current firmware loaded onto the camera.
- Hardware - Current mainboard software loaded onto the camera.

Storage

- Used and free space on the memory device. Used for the firmware update process.
- Format - You can use this option to format the storage device. Please stay on the web page while it is doing this. Once formatted the unmount button will show as mount. Use this to mount the device so that it can be used by the camera.
- Unmount - Select this option to unmount the storage, once confirmed. The web page will report back that the process is successful.

NTP Calibration

Used to calibrate the codec clock to a NTP server so that the codec time is more accurate.

- Start - Click on this option to start the process. Synchronize with NTP Server option must be selected with access to the NTP server. The process takes approx 20 minutes.

Parameters and Settings

- Backup Settings - Save - Used to save the camera settings.
The file is displayed as CENTURION_HD_YYYYMMDD_HHMM.DAT clicking on this file will download the file to the PC download folder.
- Restore Settings - Browse to the required DAT file and then click restore. The camera will then apply the settings and reboot the camera.
PLEASE NOTE:- All saved camera settings including passwords will be uploaded to the camera.
- Validate Settings - Used to validate the uploaded settings, after the camera reboot process.
- Reset Settings
 - Default Parameters - Reset codec parameters i.e. video stream settings.
 - Factory reset - This will reboot the camera and all the settings, except IP address will be lost.

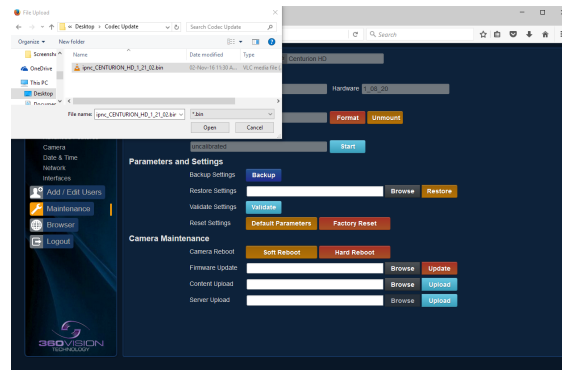
Camera Maintenance

- Camera reboot
 - Soft reset - This will reboot the codec, no settings will be lost.
 - Hard reset - This will reboot the camera, no settings will be lost.
- Firmware Update - Browse to codec file and then click on update. The camera codec will then be updated. The Centurion-HD camera will re-boot once the update has been performed.

DO NOT interfere with this process as it may stop the camera from working.

Contact 360 Vision Technical Support for the link to the codec update files.

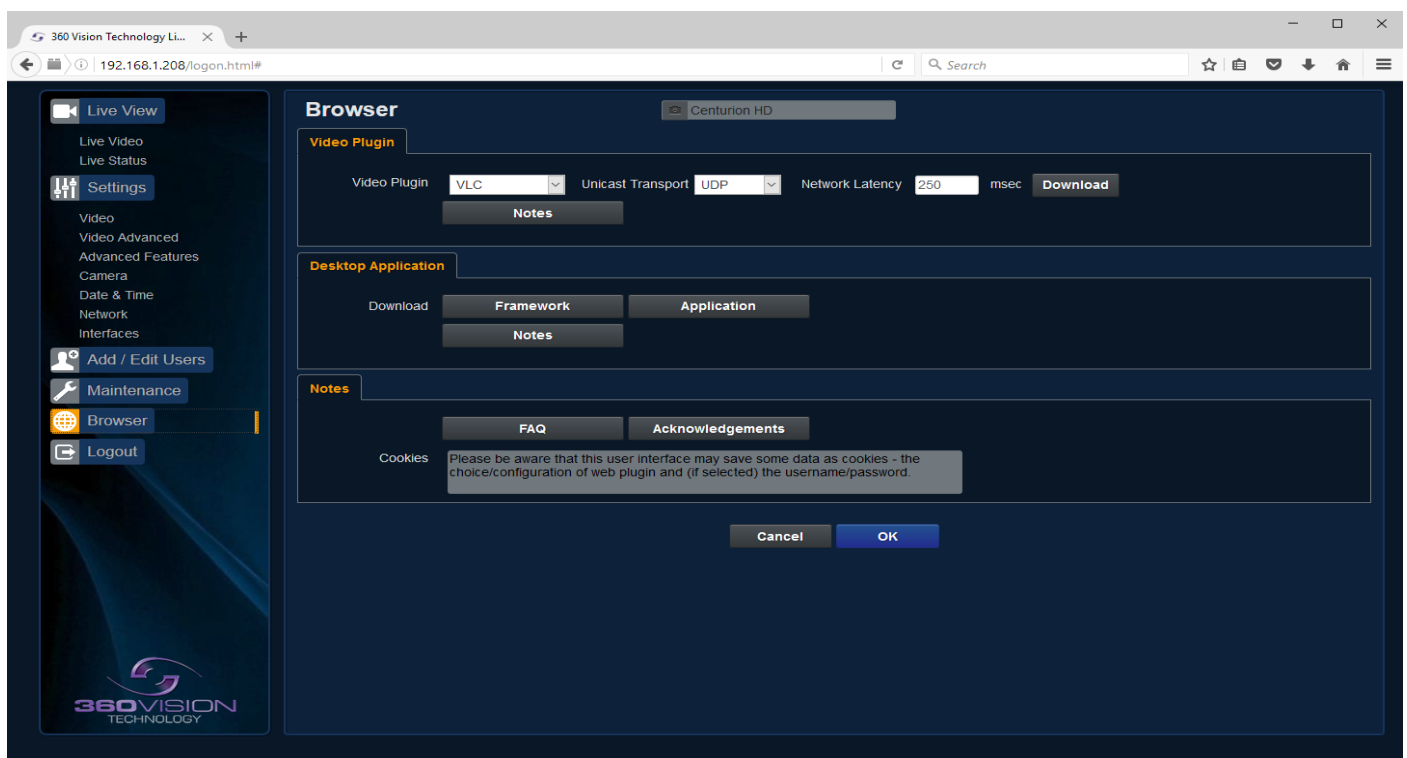
- Content Upload - Upload application software to camera memory.
- Server Upload - Download application files from FTP/HTTP server.



Update Screen

OK to apply the new settings into the Centurion HD.
Cancel to abandon the changes to the maintenance settings.

7.5 Browser



Video Plugin

- Video Plugin - Choose video plugin, choice of VLC, JPEG (every 1 seconds), or IPNC (used on IE).
- Unicast Transport - Choice of UDP or TCP.
- Network Latency - Adjust Video player latency/buffer.
- Download - Download video plugin from the camera.

Desktop Application

- Framework - Download framework to run desktop application.
- Application - Download software for the standalone application.
- Notes - Notes on how to install the desktop application.

OK to apply the new settings into the Centurion HD.

Cancel to abandon the changes to the settings.

8 Network Settings Recovery

When network settings are changed, the IP address, Net Mask and Gateway are validated before they are saved. However if the settings are such that the Centurion HD has settings which mean that it cannot be seen on the user's network, it may become necessary to use the 'Network Settings Recovery' feature as described below.

The 'Network Settings Recovery' IP address may conflict with an IP address that is already defined on the network, it may be necessary to disconnect the Centurion HD from the network and control it locally using a network connection to a laptop so that the IP address can be set to a suitable setting before the Centurion HD is reconnected to the main network.

Procedure for 'Network Settings Recovery'

If necessary disconnect the Centurion HD from the main network.

Turn power to the Centurion HD OFF for 3 seconds.

Turn power to the Centurion HD ON for 4 seconds.

Repeat the above five times.

On the final power ON, leave the power switched on for at least 5 minutes to allow the Centurion HD to initialise.

(See section Locating the Centurion HD on your network - page 12).

9 Special Presets

| | | | |
|--|----------------------|---|---------------------|
| Illumination (When it is dark) | Seek 64 (On) | IR (Mono/colour not changed) | Seek 66 (Off) |
| | Seek 65 (On) | White Lights (Mono/colour not changed, no timer) | Seek 66 (Off) |
| Night Sensor (When it is dark) | Seek 67 (Mono) | | Seek 68 (Colour) |
| Night Focus Range (When it is dark) | Seek 69 (Ambient) | | Seek 70 (IR) |
| Wiper | Seek 81 | Double Wipe | Seek 86 (Stop) |
| | Seek 82 | Permanent Intermittent Wipe | |
| | Seek 83 | Permanent Fast Wipe | |
| | Seek 84 | Timed Intermittent Wipe | |
| | Seek 85 | Timed Fast Wipe | |
| De-Fog | Seek 87 (On) | | Seek 88 (Off) |
| White Lights (When it is dark) | Seek 100 (On) | White Lights (Change to colour, timer used) | Seek 101 (Off) |

10 Important - Care of Painted Surfaces

The powder coating applied to the Centurion HD external housing is recognised as being in the forefront for quality and finish. However, in order to preserve the aesthetic finish it is recommended that the coating is regularly cleaned.

Regular cleaning on a maximum three month interval, using warm and mild detergent must be undertaken. Abrasive cleaners including strong solvent must NOT be used at any time.

In areas where the coating may come in contact with concentrated atmospheric pollutants [marine, chemical and especially bird droppings] it would be prudent to clean more frequently e.g. monthly.

Full documentation of the cleaning schedule MUST be maintained to ensure that a warranty claim can be considered.

If damage occurs to the coating (e.g. the Centurion HD is dropped, scrapped etc.), repairs MUST be carried out immediately.

When the Centurion HD is installed in areas where there is a high risk of damage from birds or their droppings, additional precautions and measures should be used to keep the birds away from the Centurion HD e.g. fit anti-bird spikes.

11 Storage and Handling

Centurions should be handled with care and must not be dropped. When Centurions are inside the transit packaging which is used for despatch from the factory, they should not be stacked to a height of more than two Centurions.

When Centurions are being stored before installation they should be kept in the transit packaging and located in a dry indoor environment preferably between 1°C and 35°C which is dry and dust free. Humidity should such that water vapour is non-condensing. Centurions can be allowed to be outside this range for short periods of time (24 hours maximum) for transport (e.g. in aircraft or vans) but must never be allowed to be outside the normal operating temperature range of -40°C to +60°C even during storage.

Before installation the Centurion should be clean and dry. (If necessary it should be cleaned and dried taking care that the glass is not scratched).

12 Warranty

This information and/or any technical information – whether received verbally or writing – is given in good faith but without warranty and this also applies where proprietary rights of third parties are involved. The information provided does not release you from your obligation to check its validity and to test the products suitability for the intended purpose(s) and use(s). The application, use and installation of the products either in isolation or in conjunction with other products used, provided and installed by you on the basis of the technical advice issued are beyond our control and therefore remain entirely your own responsibility.

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13 PSU Enclosure

| | |
|------------------------------------|-------------------|
| Material | PC/ABS |
| Dimensions (CENT-PSU-SM enclosure) | 255 x 180 x 100mm |

14 1080p Stream Resolutions & RTSP Links

| | Resolution |
|---|---------------------|
| H.264 (<i>rtsp://ipaddress/h264main</i>) | 720p (1280 x 720) |
| | D1 (720 x 576) |
| | SXVGA (1280 x 960) |
| | 1080p (1920 x 1080) |

| | Resolution |
|--|---------------------|
| MPEG4 (<i>rtsp://ipaddress/mpeg4main</i>) | 720p (1280 x 720) |
| | D1 (720 x 576) |
| | SXVGA (1280 x 960) |
| | 1080p (1920 x 1080) |

| | Resolution |
|--|---------------------|
| MJPEG (<i>rtsp://ipaddress/mjpeg</i>) | 1080p (1920 x 1080) |

| | Resolution | |
|--|---------------------|-------------------|
| H.264 (<i>rtsp://ipaddress/h264main</i>) & MJPEG (<i>rtsp://ipaddress/mjpeg</i>) | 720p (1280 x 720) | VGA (640 x 480) |
| | D1 (720 x 576) | D1 (720 x 576) |
| | 720p (1280 x 720) | 720p (1280 x 720) |
| | 1080p (1920 x 1080) | QVGA (432 x 240) |
| | 1080p (1920 x 1080) | D1 (720 x 576) |

| | Resolution | |
|---|---------------------|-------------------|
| MPEG4 (<i>rtsp://ipaddress/mpeg4main</i>) & MJPEG (<i>rtsp://ipaddress/mjpeg</i>) | 720p (1280 x 720) | VGA (640 x 480) |
| | D1 (720 x 576) | D1 (720 x 576) |
| | 720p (1280 x 720) | 720p (1280 x 720) |
| | 1080p (1920 x 1080) | QVGA (432 x 240) |
| | 1080p (1920 x 1080) | D1 (720 x 576) |

| | Resolution | |
|---|---------------------|------------------|
| Dual H.264 (<i>rtsp://ipaddress/h264main</i>) (<i>rtsp://ipaddress/h264sub</i>) | 720p (1280 x 720) | QVGA (432 x 240) |
| | D1 (720 x 576) | D1 (720 x 576) |
| | D1 (720 x 576) | QVGA (432 x 240) |
| | 1080p (1920 x 1080) | QVGA (432 x 240) |
| | 1080p (1920 x 1080) | D1 (720 x 576) |

| | Resolution | |
|---|---------------------|------------------|
| Dual MPEG4 (<i>rtsp://ipaddress/mpeg4main</i>) (<i>rtsp://ipaddress/mpeg4sub</i>) | 720p (1280 x 720) | QVGA (432 x 240) |
| | D1 (720 x 576) | D1 (720 x 576) |
| | D1 (720 x 576) | QVGA (432 x 240) |
| | 1080p (1920 x 1080) | QVGA (432 x 240) |
| | 1080p (1920 x 1080) | D1 (720 x 576) |

| | Resolution | |
|--|---------------------|----------------|
| H.264(<i>rtsp://ipaddress/h264main</i>) & MPEG4(<i>rtsp://ipaddress/mpeg4sub</i>) | D1 (720 x 576) | D1 (720 x 576) |
| | 1080p (1920 x 1080) | D1 (720 x 576) |

15 720p Stream Resolutions & RTSP Links

| | | | |
|---|-----------------------------------|---------------------------------------|-------------------|
| | Resolution | | Resolution |
| H.264 (rtsp://ipaddress/h264main) | 720p (1280 x 720) | MPEG4 (rtsp://ipaddress/mpeg4main) | 720p (1280 x 720) |
| | D1 (720 x 576) | | D1 (720 x 576) |
| | | Resolution | |
| | MJPEG (rtsp://ipaddress/mjpeg) | 720p (1280 x 720) | |
| | Resolution | | |
| H.264 (rtsp://ipaddress/h264main) & MJPEG (rtsp://ipaddress/mjpeg) | 720p (1280 x 720) | VGA (640 x 480) | |
| | D1 (720 x 576) | D1 (720 x 576) | |
| | 720p (1280 x 720) | 720p (1280 x 720) | |
| | 720p (1280 x 720) | D1 (720 x 576) | |
| | Resolution | | |
| MPEG4 (rtsp://ipaddress/mpeg4main) & MJPEG (rtsp://ipaddress/mjpeg) | 720p (1280 x 720) | VGA (640 x 480) | |
| | D1 (720 x 576) | D1 (720 x 576) | |
| | 720p (1280 x 720) | 720p (1280 x 720) | |
| | 720p (1280 x 720) | D1 (720 x 576) | |
| | Resolution | | |
| Dual H.264 (rtsp://ipaddress/h264main) (rtsp://ipaddress/h264sub) | 720p (1280 x 720) | QVGA (432 x 240) | |
| | D1 (720 x 576) | D1 (720 x 576) | |
| | D1 (720 x 576) | QVGA (432 x 240) | |
| | 720p (1280 x 720) | D1 (720 x 576) | |
| | Resolution | | |
| Dual MPEG4 (rtsp://ipaddress/mpeg4main) (rtsp://ipaddress/mpeg4sub) | 720p (1280 x 720) | QVGA (432 x 240) | |
| | D1 (720 x 576) | D1 (720 x 576) | |
| | D1 (720 x 576) | QVGA (432 x 240) | |
| | 720p (1280 x 720) | D1 (720 x 576) | |
| | Resolution | | |
| H.264(rtsp://ipaddress/h264main) & MPEG4(rtsp://ipaddress/mpeg4sub) | D1 (720 x 576) | D1 (720 x 576) | |

16 White Balance and Fast Shutter options

| White Balance Options |
|-----------------------|
| Auto |
| Outdoor |
| Indoor |
| Auto Tracing |
| Indoor A, B & C |
| Sodium |
| Sodium Auto A & B |

| Fast Shutter Options |
|----------------------|
| 1/1000 |
| 1/1250 |
| 1/1750 |
| 1/2500 |
| 1/6000 |
| 1/10000 |

