Predator-DV
Installation/Configuration Manual

Table of Contents

1 Safety and Precautions

1. Please read these notes before attempting to operate the 360 Vision Predator-DV, 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 Predator-DV or mounting options becoming detached, fit a suitable safety chain or lanyard.

8. Use only 360 Vision Predator-DV power supplies.

9. Please handle the Predator-DV with care, as improper handling may cause damage within this unit.

2 Housing Dimensional Drawing
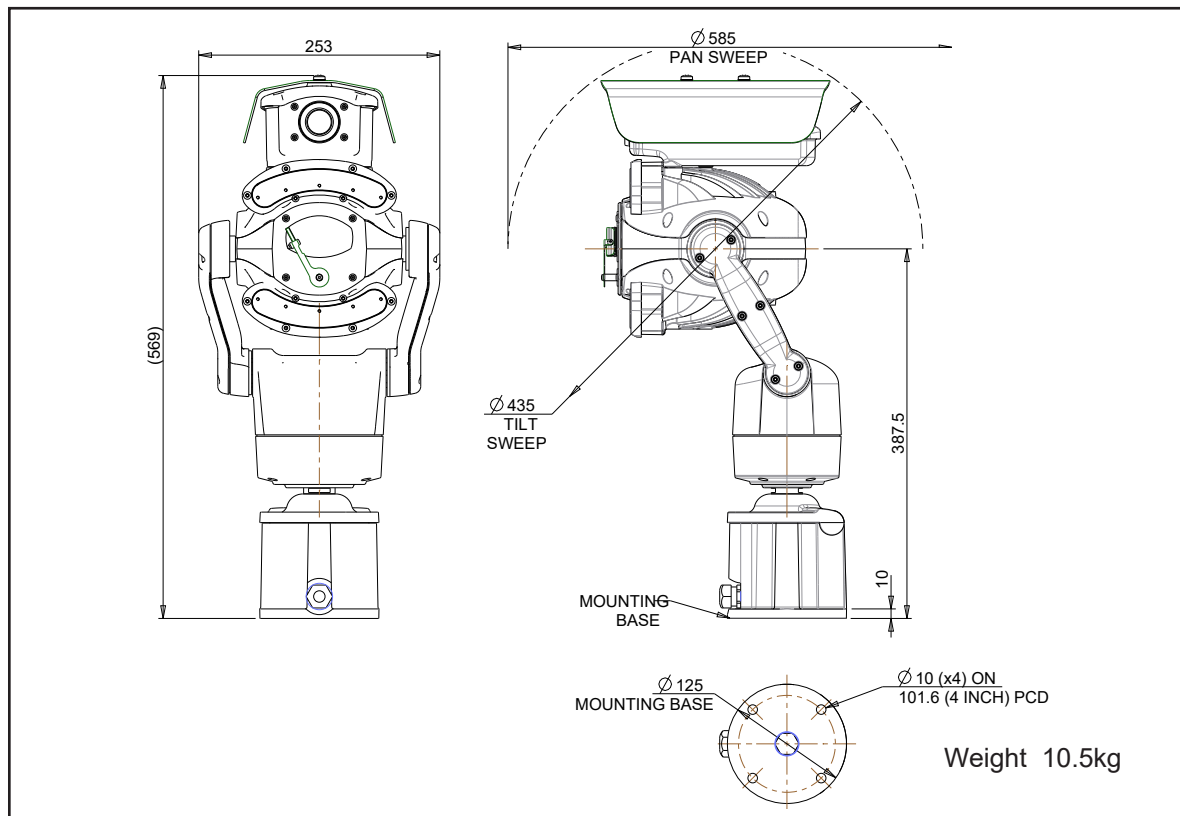
Predator DUALVIEW

3 Bracket Dimensional Drawing
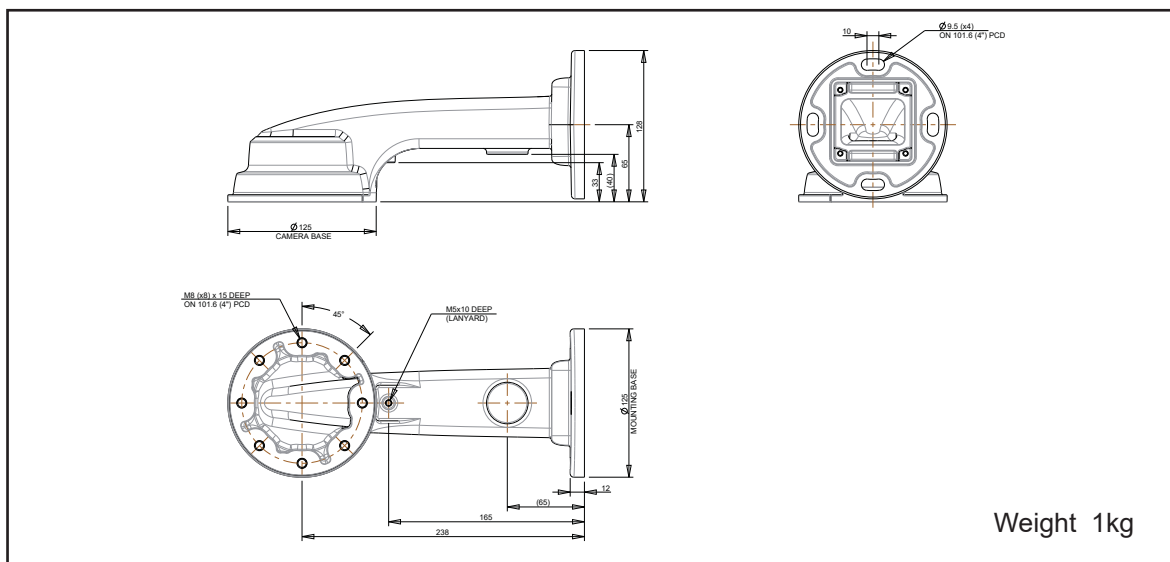
Predator Wall Bracket
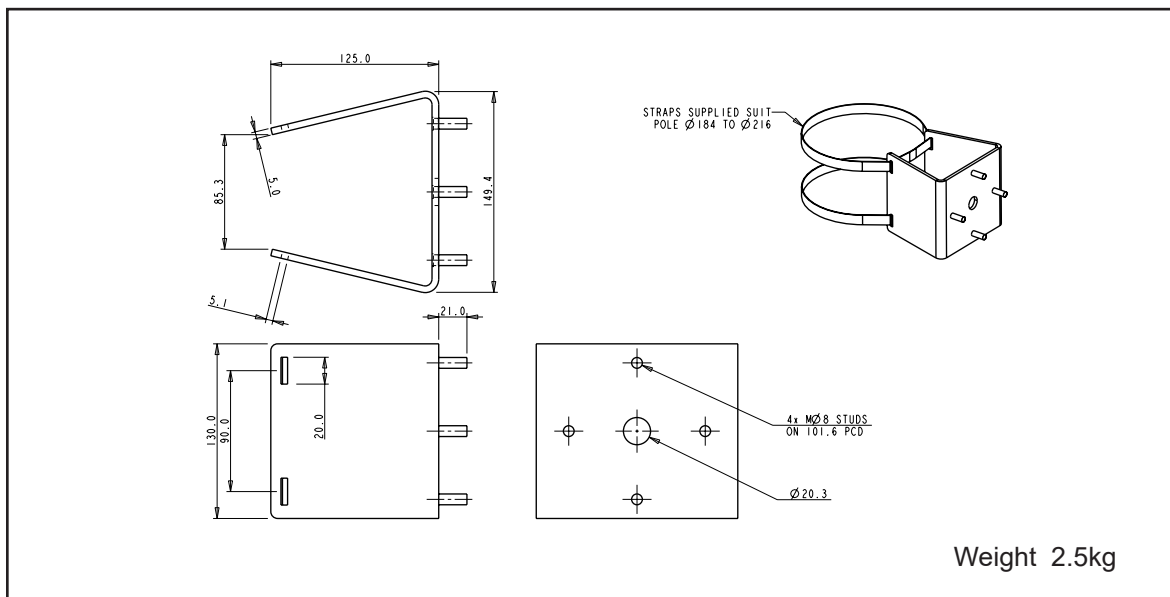
Predator PMB Bracket
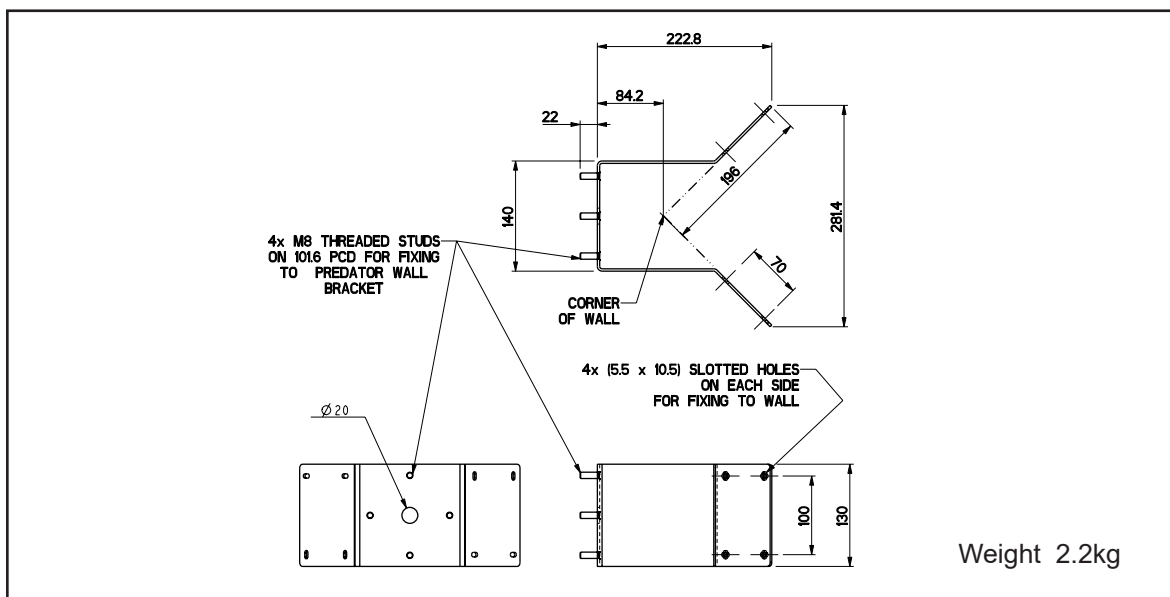
Predator Corner Bracket

Ø8.0 (x4) ON 101.6
(4 INCH) PCD.
FIX PREDATOR USING:
M8x30 HEX-HEAD BOLTS (x4)
- STAINLESS STEEL.
M8 SPRING LOCK WASHER (x4)
- STAINLESS STEEL.

MOUNT PREDATOR
TO THIS FACE.

SCALE 0.5

M20x1.5P

MOUNT POLE
TO THIS FACE.

Ø125
OUTSIDE
DIAMETER

M20x1.5P

Ø10 (x4) ON
101.6 (4 INCH) PCD
USE M8 BOLT FOR
FIXING TO POLE

Weight 1kg
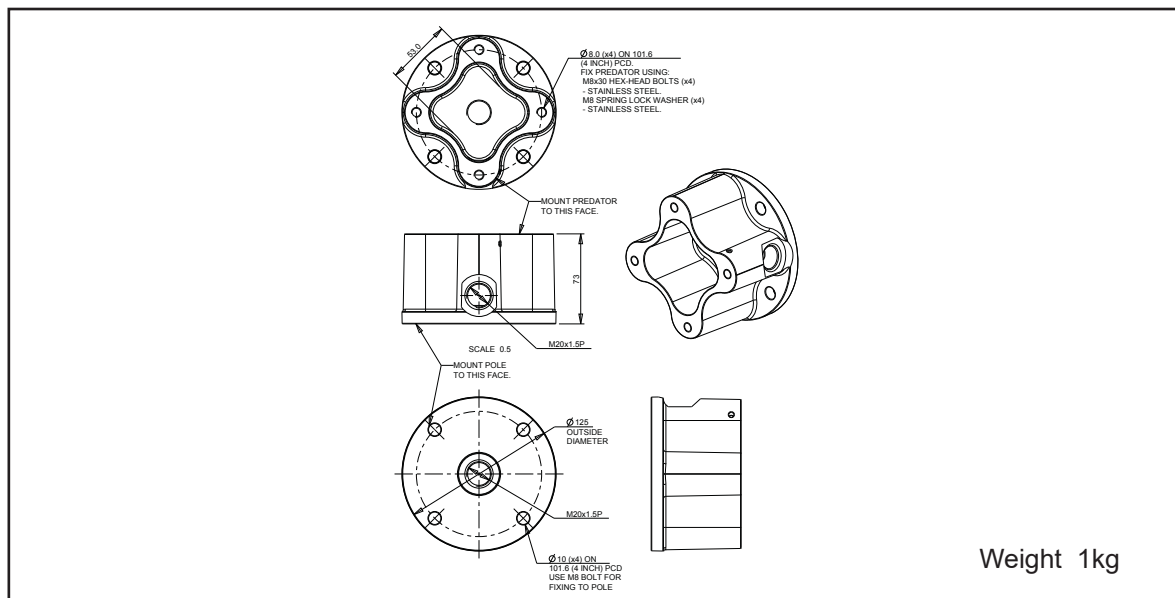
Predator PMA Bracket

4 Connections

Enclosure Dimensions
255 x 180 x 100mm

MAINS FUSE
PRED-PSU-SM
MAINS FUSE 3 = 2AF

MAINS input
100 - 240Vac

PRED-PSU-SM

Model Number: PRED-PSU-SM
Serial Number: yymmndd-xxxx

Input Voltage:100-240VAC 50/60Hz
Input current: 2.1A

Output Voltage: 30V DC
Output Current: 6.2A

Vo Adj

Io Adj

360 USE

To Camera

30Vdc(-)
30Vdc(+)

OUTPUT FUSE

PRED-PSU-SM
FUSE 1 = 6.3AT
FUSE 2 = 1AT
FUSE 4 = N/A

000-0240-02
360visiontechnology.com

5 Connections to Predators with HMA

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

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

Cable Size	No IR	SIR110	SIR140WL	SIR160
0.75mm²	85m	32m	32m	30m
1.00mm²	113m	43m	43m	40m
1.25mm²	141m	54m	54m	50m
1.50mm²	170m	65m	65m	60m
2.50mm²	283m	108m	108m	100m
3.00mm²	340m	130m	130m	120m
4.00mm²	450m	173m	173m	160m

Ethernet connections between Predator PSU and Predator 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 Predator. Gently open the HMA until the lanyard is able to take the weight. If the lanyard appears to support the weight of the Predator, there is no need to continue to support the Predator. The connection circuit board (PCB-000-0247-xx) can now be seen.
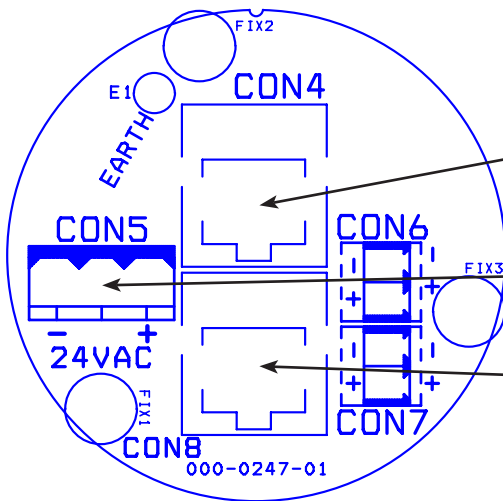
Note
Camera has two separate Ethernet connections and two separate IP addresses. (Default is 192.168.1.187 and .188)

Ethernet Connection Predator (192.168.1.187)
Connect Ethernet cable to HMA Predator Dual View connection board using a RJ45 connector (CON4).

Power Connections
Connect 24Vac/30Vdc to CON5.

Ethernet Connection Affiniti (192.168.1.188)
Connect Ethernet cable to HMA Predator Dual View connection board using a RJ45 connector (CON8).

Please make sure there is adequate spare cable (20cm) for when the camera is resting on the lanyard, failure to do this could damage the connector circuit board.

Predator-DV Configuration
Predator Section

Predator-DV Configuration

6 Locating the Predator-DV 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 Predator-DV. Note the ports used by the Predator-DV 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 Predator-DV

Type in the IP address of the Predator-DV into the address bar of Internet browser and install the plug-ins as required. The web page of the camera will then appear.
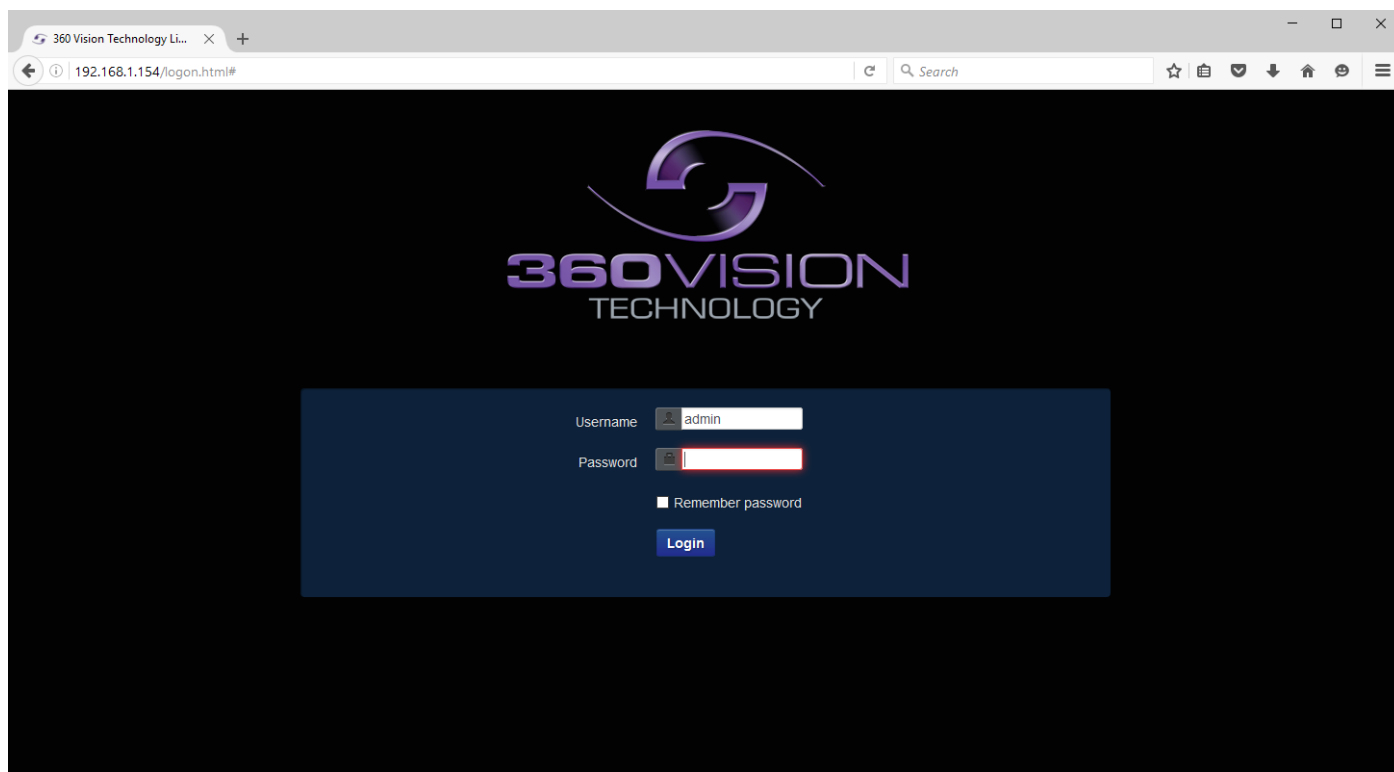
Predator-DV Web Page Login screen

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 Predator-DV camera.

Select Submit
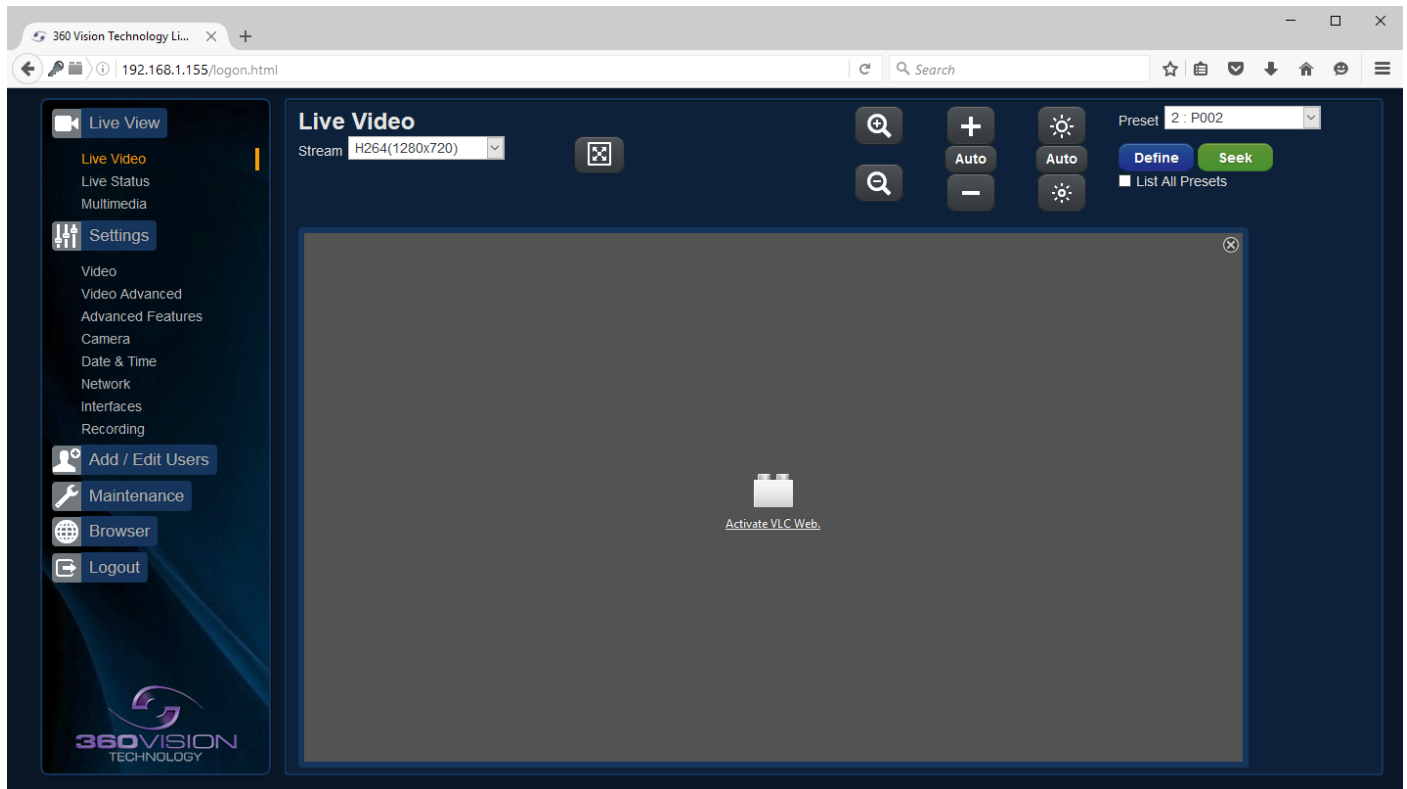
(!) The camera web page uses VLC as the video player.

VLC video plugin file can be downloaded from the camera if it is not installed on the connecting PC/laptop
(See Browser - "8.5 Browser" on page 11)
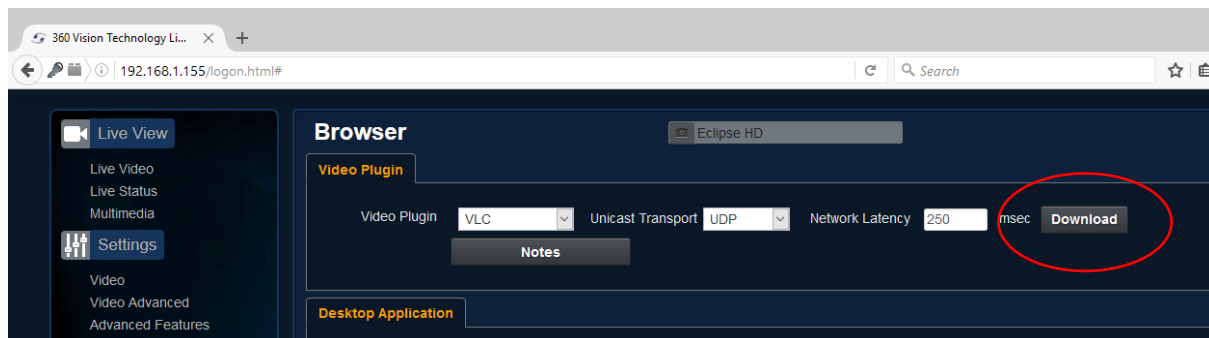
(!) Firefox no longer supports the VLC plug-in. The web page will show JPEG images every second
(See Browser - page 33).
For live video please use the 360 HD Discovery/Config Tool, this can be downloaded from the 360 Vision Technology download section of the web site or requested from technical support.

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
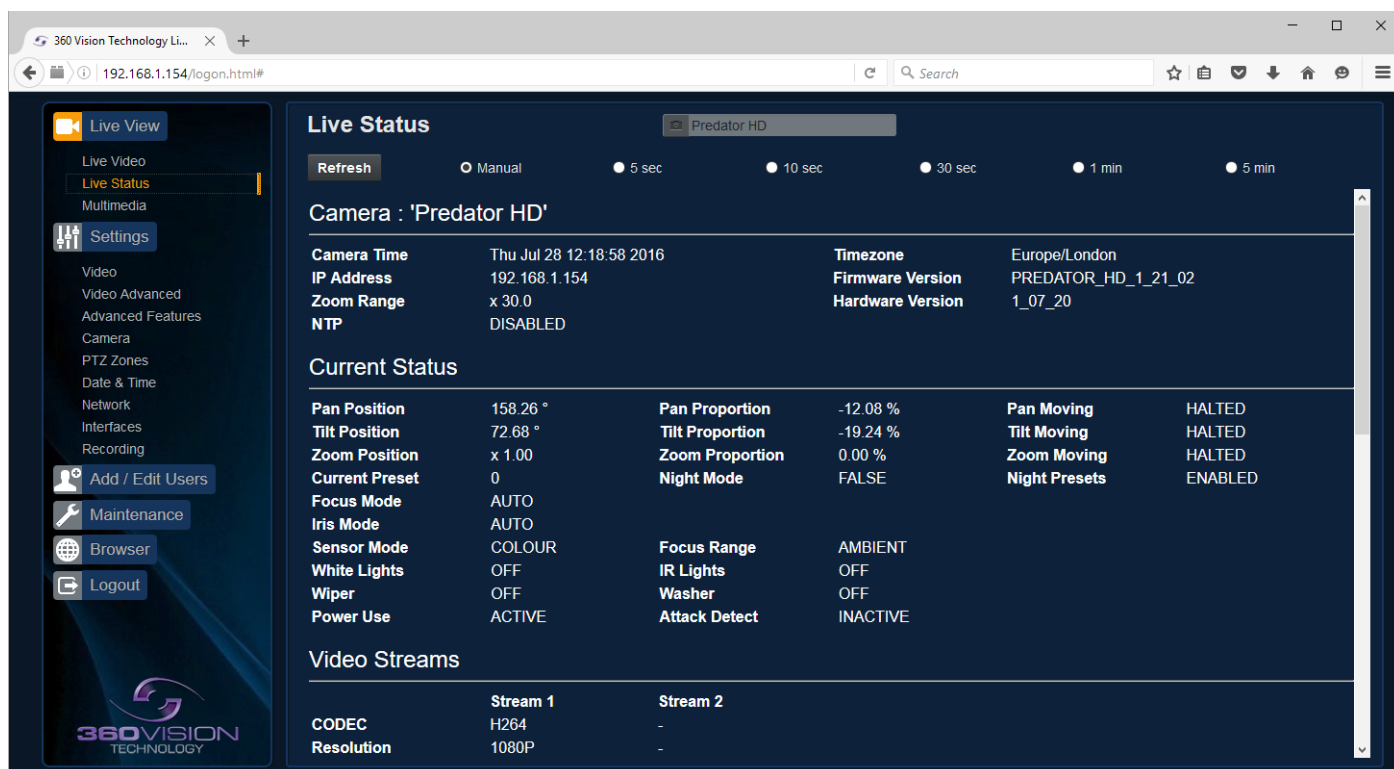
The Live Video page offers options to:-

- Stream - Choose required stream from drop down selection.
- 1x Display - Use to show selected stream as full screen.
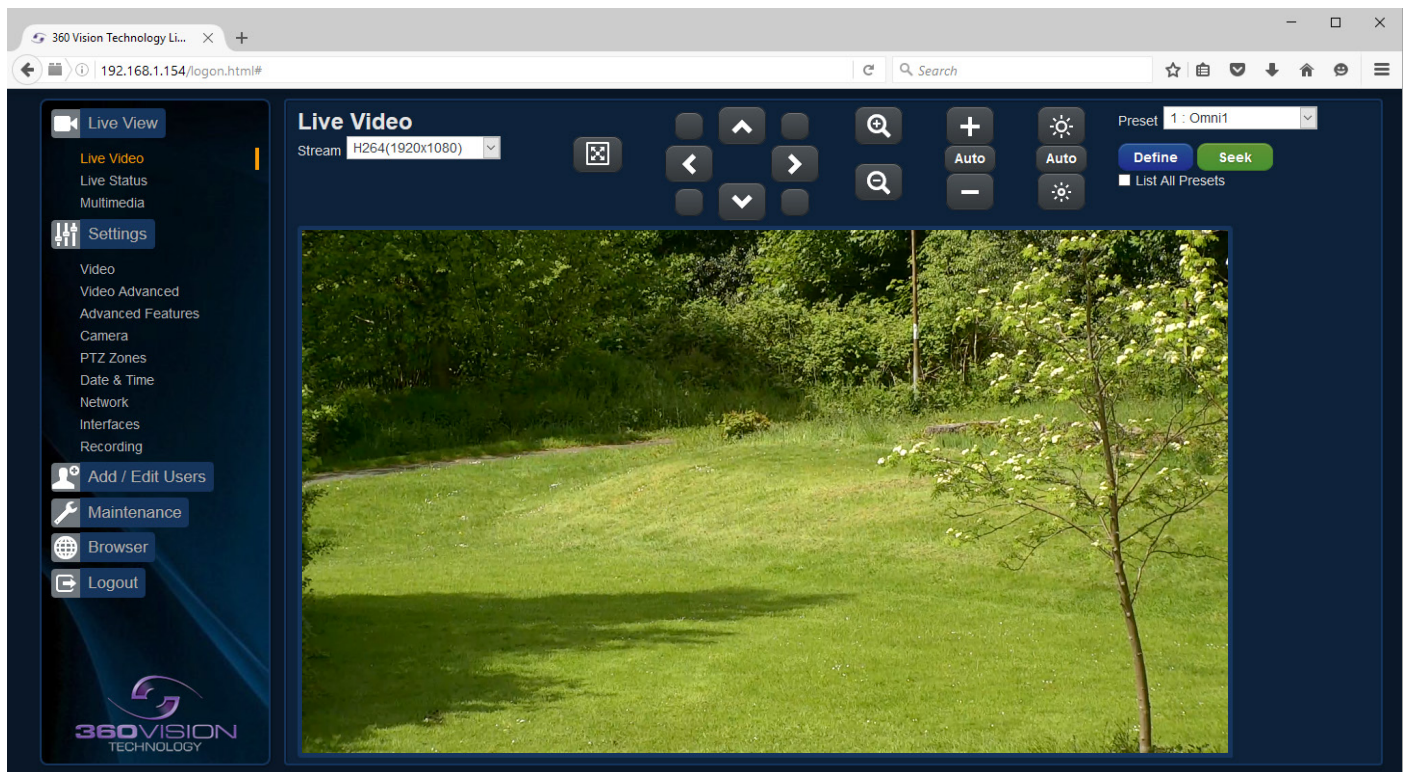- Pan/Tilt - Use the up down left and right buttons to move the camera to the desired position.
- Zoom In/Out - This will operate the optical and digital zoom (if digital zoom is enabled). *(See Camera - Digital Zoom - page 21)*
- Focus +/-/Auto - This will operate the manual focus near, far or automatically focus as required. *(See Camera - AF AI when PTZ - page 21)*
- Iris +/-/Auto - This will operate the manual iris open, close or automatic as required. *(See Camera - AF AI when PTZ - page 21)*
- 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 19)*
- List all Presets - Use to show all presets or programmed presets in drop down selection box.

7.1.2 Status

Status page shows information relating to the camera status.

Status page, top section.

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, i.e. PTZ positions 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.
- Recording - (Only available on Multimedia Edge Recording Predator) - Gives information about the current file being recorded.
- Audio Output - (Only available on Multimedia Edge Recording Predator) - Gives information about the current file being played.

7.1.3 Multimedia
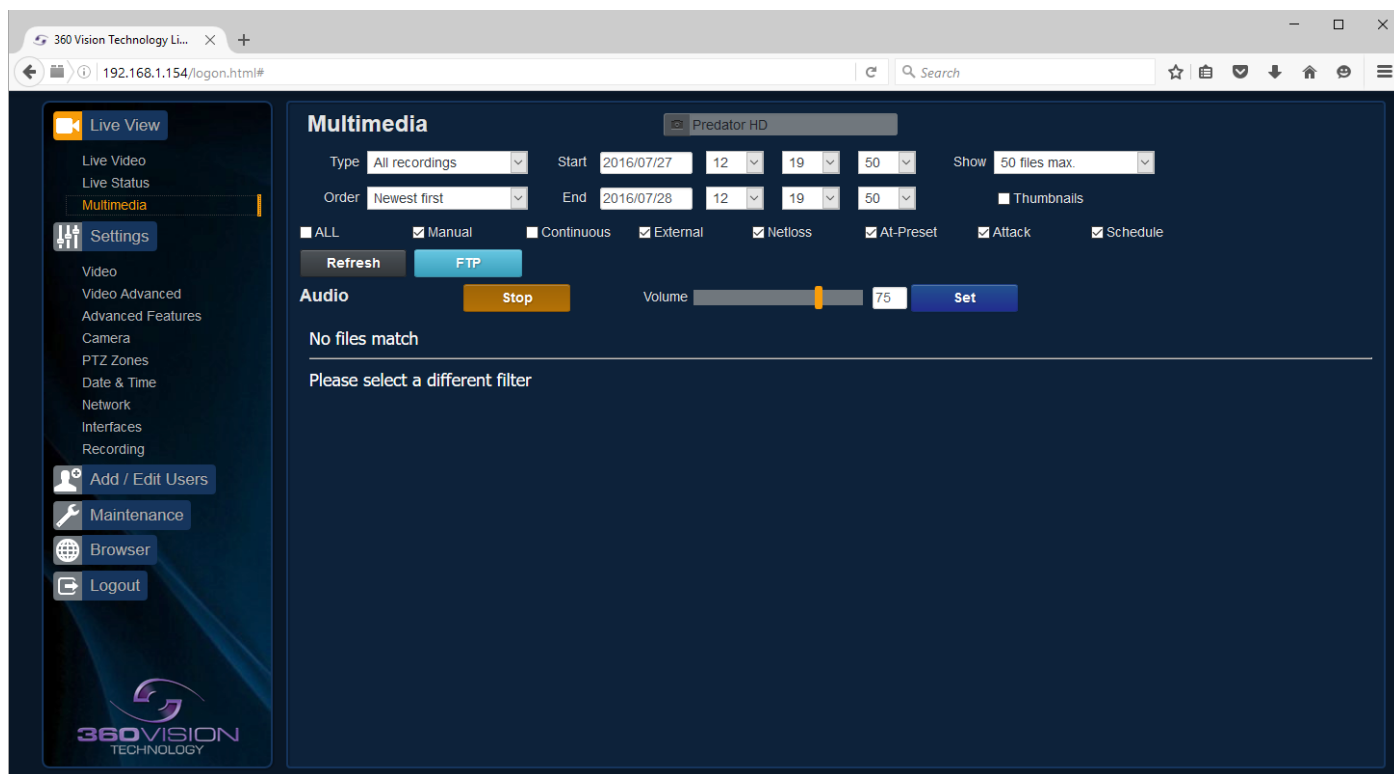
Only available on Multimedia Edge Recording Predator

Multimedia web page offers access to files loaded onto the storage device. This includes recordings which can be filtered to show specific requirements.

- Type - Select which type of file you are interested in, choices are all recordings, video recordings, image recordings and audio files.
- Show - Choose how many files that will displayed on the page.
- Order - Choose what order the files are displayed in, choices are newest or oldest first.
- Filter - Choose what recording trigger is to be used for the filter.
- Refresh - Used to apply any filter changes.
- FTP - Click to send all files in the table to the FTP server *(See Network - page 26).*
- Audio Stop - Stop remote playing of the current audio file.
- Audio Volume - Used to adjust the volume of the current audio file being played remotely.

Remote play requires a horn speaker mounted to the Predator, this is added at time of manufacture and cannot be added retrospectively. Not available on this product.

Selecting remote play will play the audio through the speaker on the camera. Not available on this product. Selecting the audio file name will play the audio through the connected PC audio application.
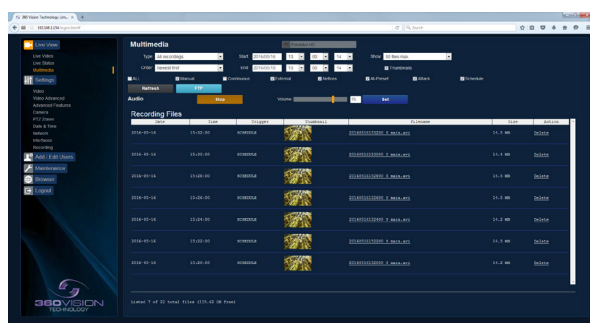
Multimedia Screen with thumbnails
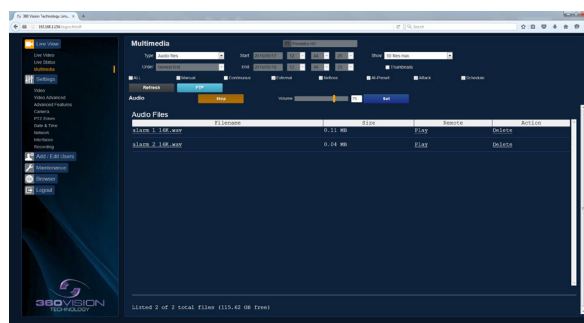
Multimedia Screen showing audio files

7.2 Settings
7.2.1 Video
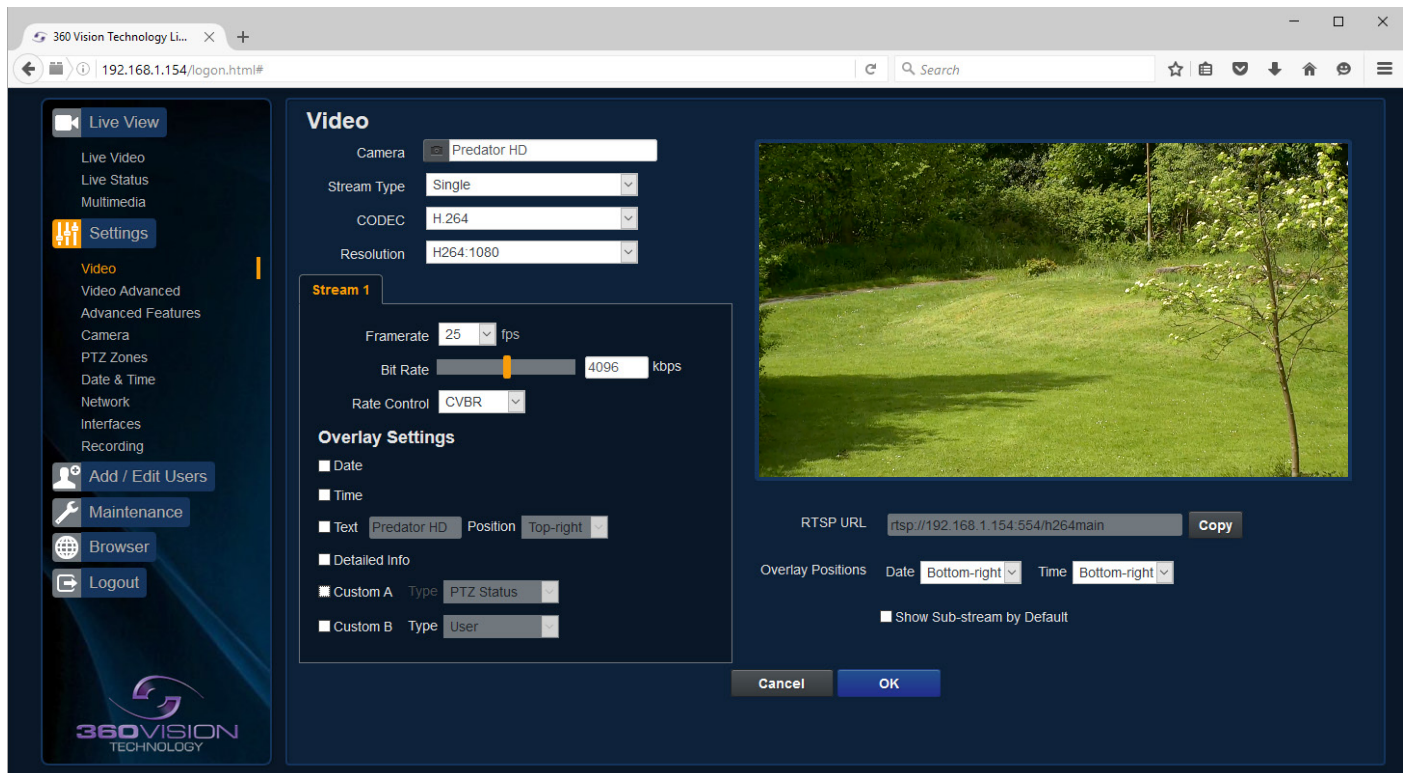
The Video page, offers options to setup:-
- Camera - Add or edit the camera name.
- Stream Type - Choice of single or dual video streams.
- Codec - Choose which compression format, the stream will use. *(See page 56 for table of options).*
- Resolution - Set what resolution the stream will use. *(See page 56 for table of options).*

Stream Tabs, offer options to:-
- Framerate - Configure how many frames per second (fps) the stream uses. *(Also see Camera - Sensor Frame Rate - page 21).*
- 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 Date/Time - page 25).*
- Time - Selecting this option will show the time as text on the video stream. *(See Date/Time - page 25).*
- 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 - Used to enable the option to display text when the camera is operated. See options for text selections below. Text will be shown on top line of video. *(See Advanced Features/PTZ zones - page 19).*
- Custom B - Used to enable the option to display text when the camera is operated. See options for text selections below. Text will be shown on second from top line of the video. *(See Advanced Features/PTZ zones - page 19).*

Text selections available are
- User - For SDK use.
- Zone - Used to show text that has been programmed into the camera setup. *(See Advanced Features/PTZ zones - page 19).*
- PTZ Status - Shows camera PTZ co-ordinates.
- Camera Status - Shows the current state of the camera, what focus, iris and sensor mode the camera is in.

- Pan Compass - Used to display compass readings when the camera is operated.
  (See Advanced Features/PTZ zones - page 19).
- Current Preset - Used to show the stored preset text when the camera is at the preset position.
  (See Advanced Features & PTZ zones - page 19).

RTSP URL
- Copy - Use this option to copy the RTSP URL
- 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 Predator.
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 1440 to 65500
I Frame Size	55 (default)	Range 0 to 99 (average frame size x value/10 = i frame size)

OK to program the new settings into the Predator.
Cancel to abandon the changes to the advanced video settings.
Default is used to factory reset the video stream settings.

7.2.3 Advanced Features
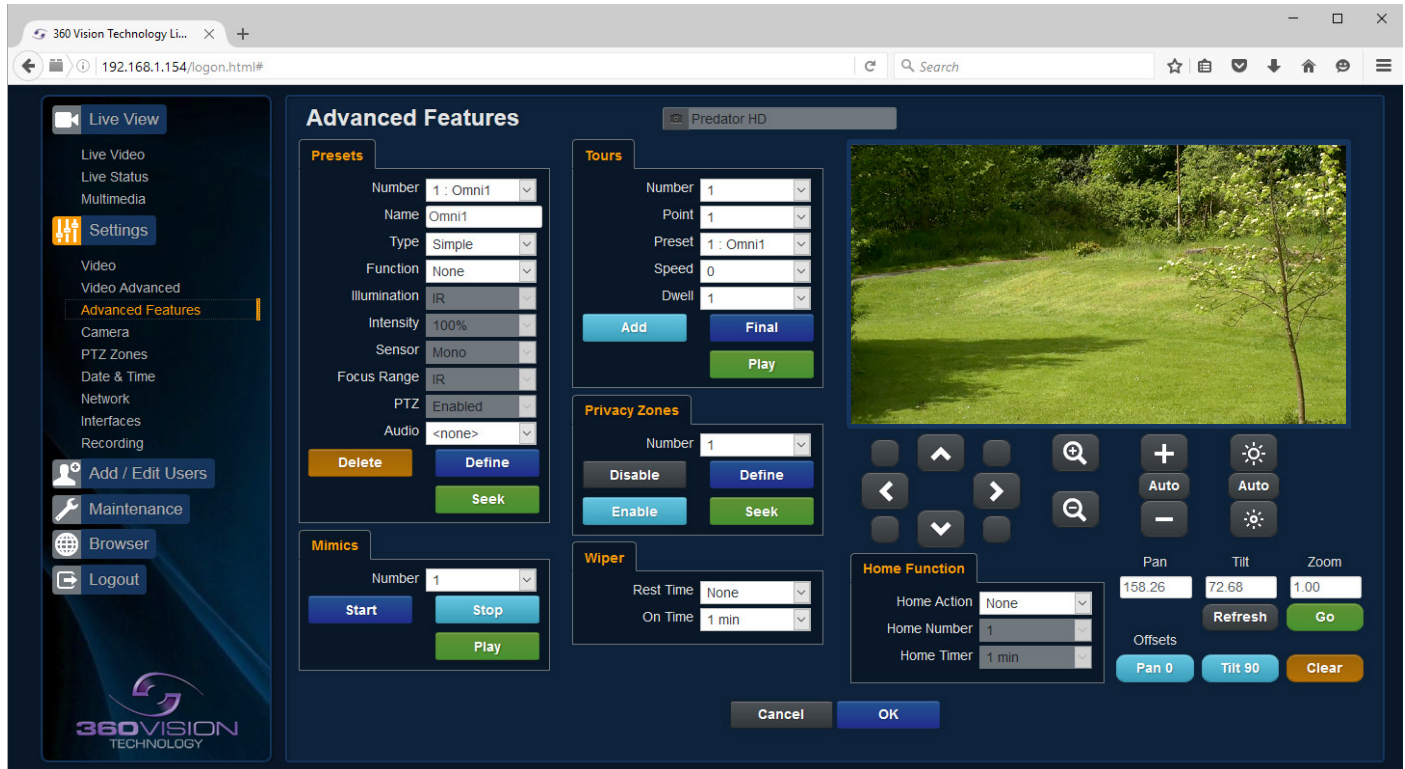
The Advanced Features page, offers options to:-
- Camera - Cannot be edited, shows label/name given to the camera.
  (See Video - Camera - page 17).

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.

Presets
Set Preset using the following options:-
- Number - 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 21).*
  - Simple - For setting a simple PTZ preset, no lamp options.
  - Wiper - Set the preset to activate the wiper.
  - Washer - Set the preset to activate the washer.
  - 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.
  - Audio - Can be used to play a sound. **Only available on Multimedia Edge Recording Predator.**
- 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 function.
- Audio - Choose audio file to be used. **Only available on Multimedia Edge Recording Predator.**

Use the **Seek preset** button to test the preset.
Define preset button to set the above parameters.
Delete preset to remove the preset.

Mimics

When a mimic tour is started, the Predator-DV will perform all the actions which were defined when the mimic was programmed. Upto 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 Predator-DV.

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

Tours

A tour of presets is stored in the Predator-DV as a list of tour points. Each tour point consists of a preset number, the dwell time for which the Predator-DV 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 Predator-DV and to define the required dwell times and speeds of travel that you will require the Predator-DV to use when the tour is started.

A maximum of four individual tours of presets can be stored in each Predator-DV. Each tour can have between 2 and 90 points, each point can be a preset in the range 1 to 360. 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.

Use the pan preset offset to set the camera to 0°, this would be used to set the camera to North if using the pan compass option. *(See Video - page 17).*

Use the clear button to reset the pan or tilt offset settings.

<div align="center">

OK to program the new settings into the Predator.
Cancel to abandon the changes to the advanced feature settings.

</div>

7.2.4 Camera
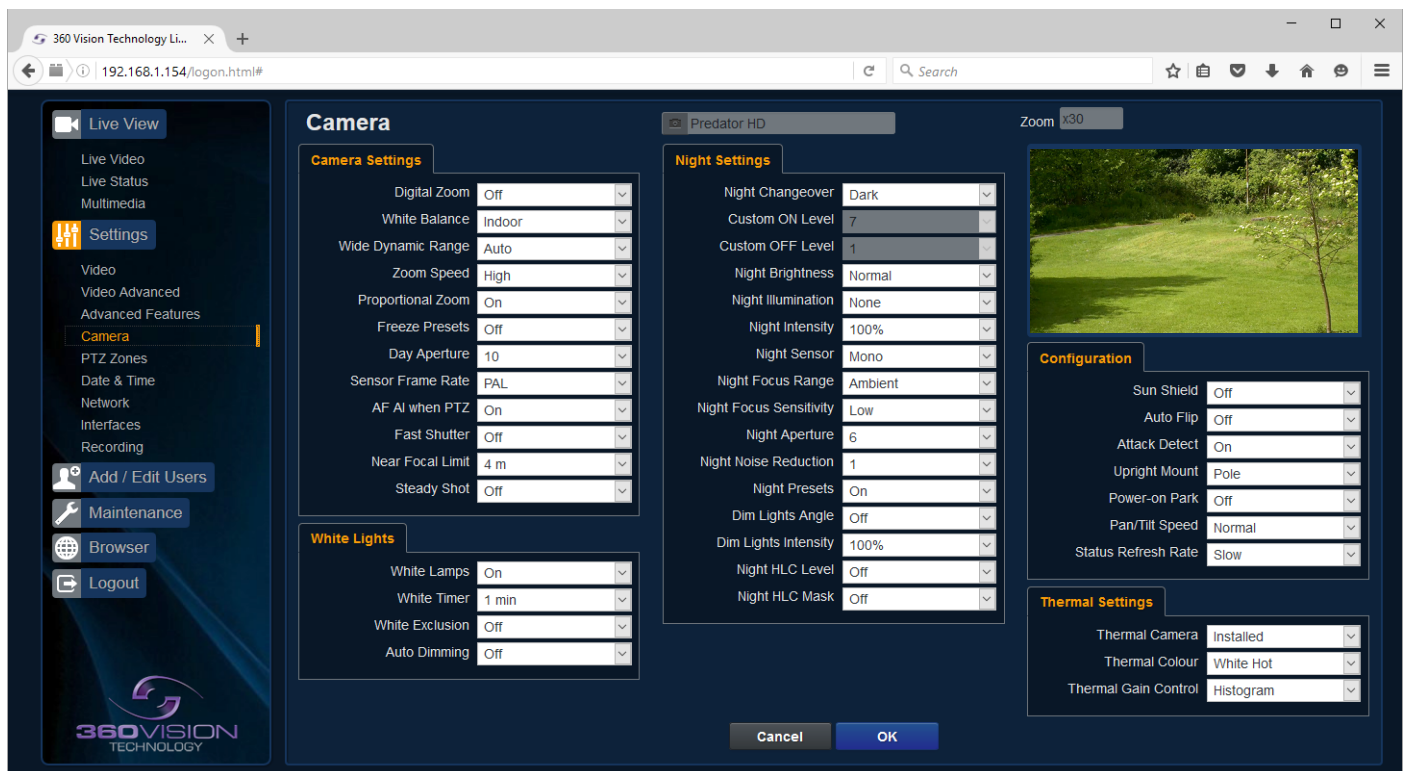
- Camera - Cannot be edited, shows label/name given to the camera.
  (See Video - Camera - page 17).

The Camera page, offers options to:-
Camera Settings
- Digital Zoom - Enable digital zoom. Default is off.
- White Balance - Select White Balance settings to suit camera location.
  (See page 58 for table of options).
- Wide Dynamic range - Enable WDR. Options available are ON, Auto and Off. Default is off.
- 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 or 30fps. 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 Predator-DV camera on a ANPR system. Default is off. *(See page 58 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 Predator-DV. 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.
- White Exclusion - Option to be used if a white light exclusion area is to be used, set area using presets 151 (left) & 152 (right).
- Auto Dimming - When selected the camera will reduce the lamp power, when looking in scenes where there is to 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 1.
- Night Presets - This can be used to set the presets to different settings if required. Default is on. *(See Advanced Features - page 19).*

Predator lamps are used to improve the illumination of distant dark objects. The Predator lamps are normally set to maximum intensity to increase the distance at which objects can be seen. When the Predator 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 Predators include the 'intelligent lighting' feature which allows the intensity of the illumination to be reduced when the Predator 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 - Set a value to help mask high intensity light sources, options are low, medium and high.
- Night HLC Mask - Sets a mask for the light source, options are 1 (white) to 15 (grey).

Configuration
- Sun Shield - Reduces tilt range of the camera for when a sunshield is fitted.
- 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 - Camera will re-initialise camera motors so that camera looks back to the original position, if the camera is physically forced/moved. Default is on.
- Upright Mount - Can be used to flip the image, so the camera can be used on a pole or a ceiling. Default is pole.
- Power on Park - When the camera powers up, it will go to a preset position. Preset 150. Default is off.
- 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 refresh rate.

Thermal Settings
- Thermal Camera - If a thermal camera is fitted this option when enabled will give control options of the thermal camera.
- Thermal Colour - White Hot, Black Hot, Ice and Fire, Glow Bow and Iron Bow.
- Thermal Gain Control - Histogram, Linear and Auto Bright.

OK to program the new settings into the Predator.
Cancel to abandon the changes to the camera settings.

7.2.5 PTZ Zones
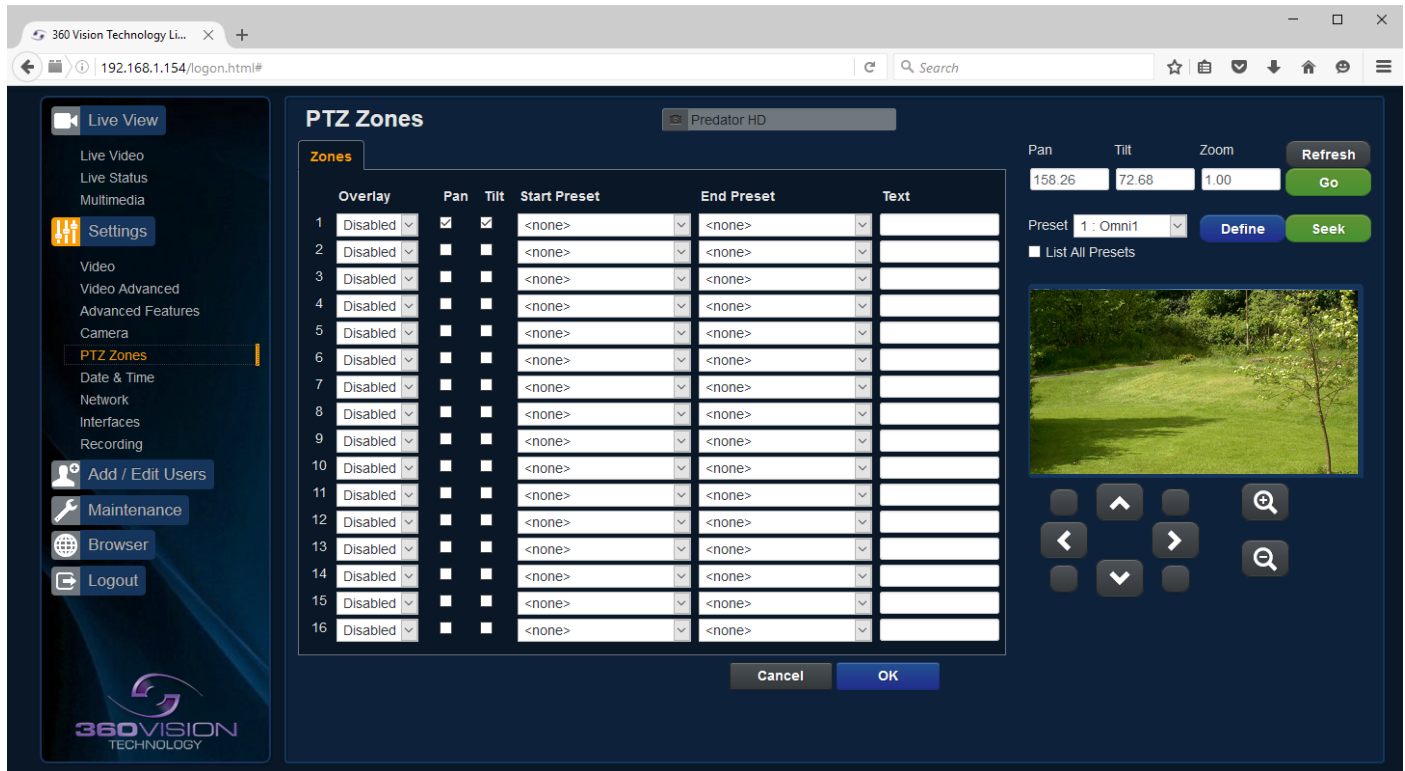
The PTZ zones page, offers options to:-
- Camera - Cannot be edited, shows label/name given to the camera.
  (See Video - Camera - page 17).

Set Text Overlays using the below options *(see also Video - page 17)*:-
- 1-16 - Set up to 16 text overlays.
- Pan - Used to set pan axis as the trigger for the text overlay to be displayed.
- Tilt - Used to set the tilt axis as the trigger for the text overlay to be displayed.
- Start Preset - Set start preset for text overlay.
- End Preset - Set end preset for text overlay
- Text - Input required text for sector zone overlay.

PTZ buttons can be used to move the camera so that simple preset positions can be programmed or recalled.

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.

Use the pan preset offset to set the camera to 0°, this would be used to set the camera to North if using the pan compass option. *(See Video - page 17).*

Use the clear button to reset the pan or tilt offset settings.

- 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 19)*
- List all Presets - Use to show all presets or programmed presets in drop down selection box.

OK to apply the new settings into the Predator.
Cancel to abandon the changes to the PTZ zones settings.

7.2.6 Date/Time

- Camera - Cannot be edited, shows label/name given to the camera.
  (See Video - Camera - page 17).
- Camera Time - 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.

OK to apply the new settings into the Predator.
Cancel to abandon the changes to the date/time settings.

7.2.7 Network
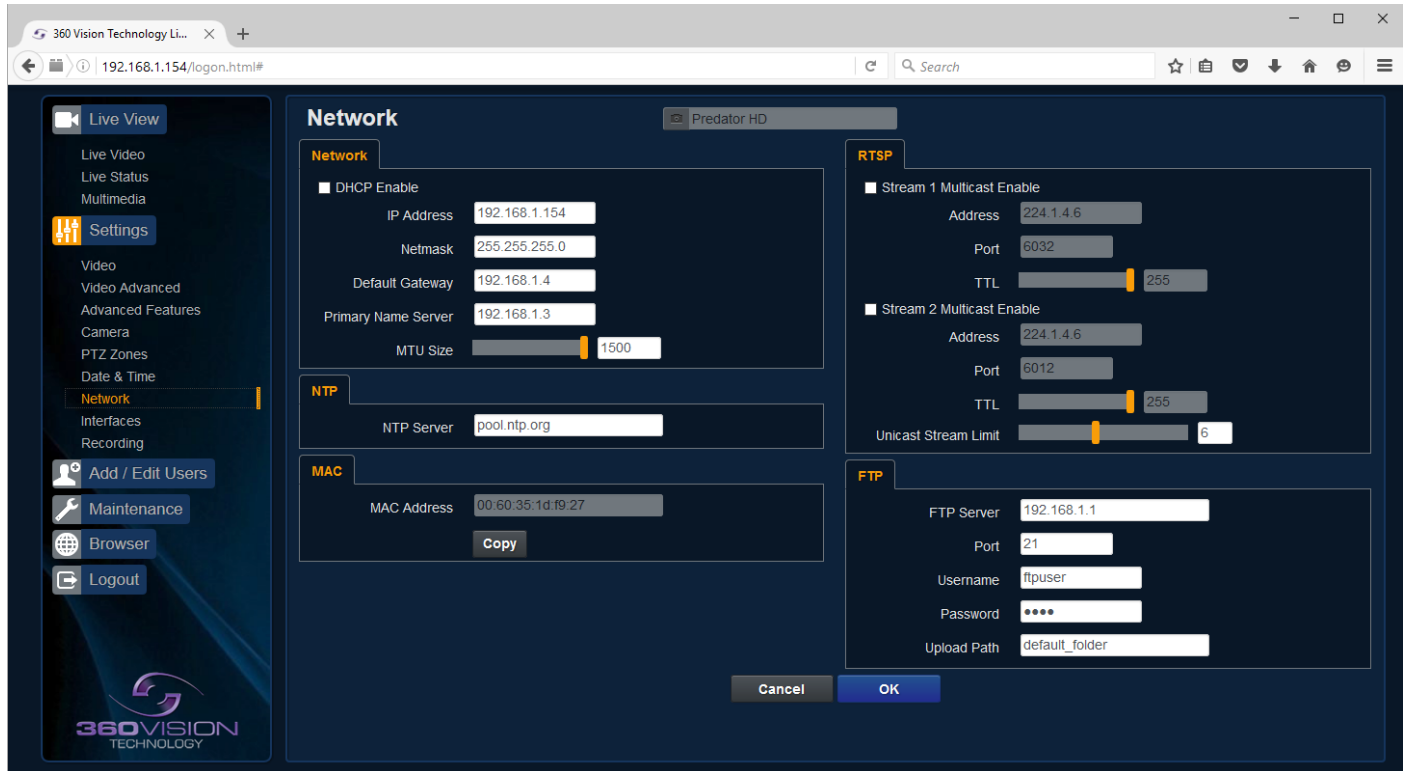
- Camera - Cannot be edited, shows label/name given to the camera.
  (See Video - Camera - page 17).

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.

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 56).*
Tick the box to enable 'multicast'. If the box is not ticked then 'unicast' is selected.

- Multicast Stream 1 - Set IP address, port and TTL for stream 1.
- Multicast Stream 2 - Set IP address, port and TTL for stream 2.
  (See Video - Stream Type - page 56).

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

Unicast
If lots of receivers (users) want to receive video streams from the Predator-DV, 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 Predator-DV chooses a 'new UDP address' (Typically an address which is outside the normal range of addresses for the network to which the Predator-DV 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 Predator-DV 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.

FTP (FTP server is used to transfer video recordings from the camera).
Only available on Multimedia Edge Recording Predator
- FTP Server - Input FTP server IP address, domain name.
- Port - Set port to be used for FTP access, default is 21.
- User Name - FTP server username.
- Password - FTP server password.
- File Upload Path - Set folder name for the file transfer on FTP server.

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

7.2.8 Interfaces
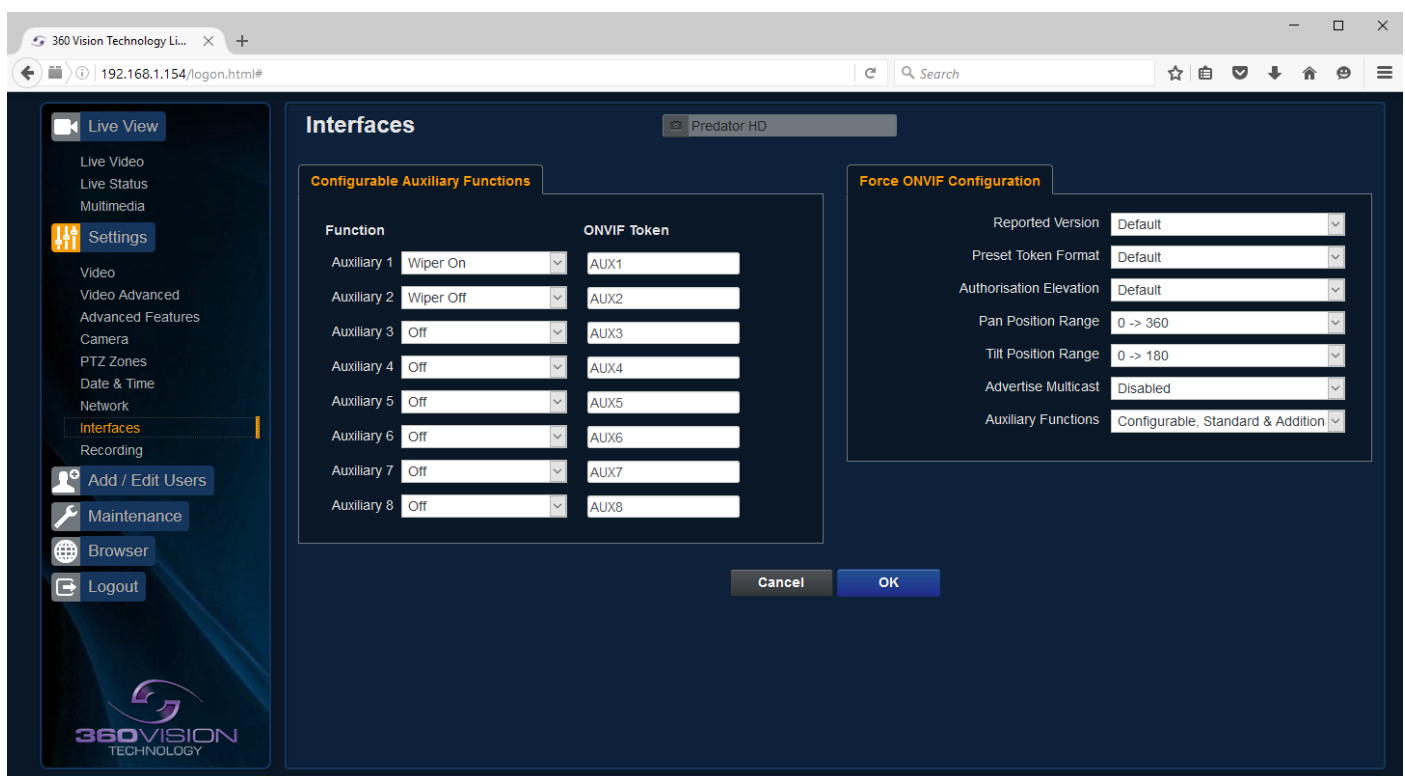
Auxiliary Functions
Allows the camera to be configured to use Onvif Auxiliary commands.
Features available are:-
- Force White Light On - Forces white lights on.
- Force White Light Off - Switches off forced white lights.
- Wiper On - Activates wiper.
- Wiper Off - Stops wiper.
- Dark IR Light On - Switch 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 dark.
- Dark Sensor Colour - Sets the camera to a colour image, when dark.

- 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.
- Washer On - Activates wash function, sends camera to preset 359, activates washercard relay and wiper. *(Predator/PSU must support wash function for washercard relay to activate).*
- Washer Off - Stops wash function.
- 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.
- Force HLC On - Switch on HLC option.
- Force HLC Off - Switch off HLC option.

Dark relates to when the camera is in dark mode, see section Camera - Night Changeover - page 21.

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 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 Auxiliary Token.
    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 Predator.
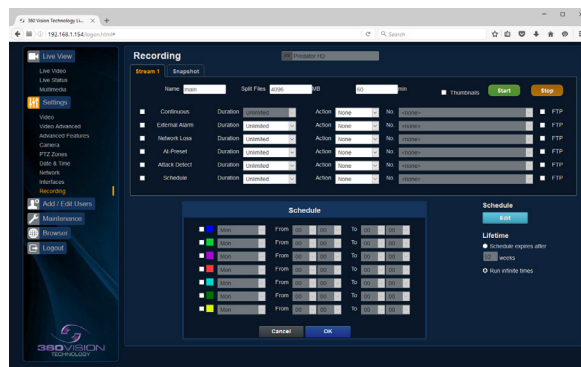**Cancel** to abandon the changes to the interface settings.

7.2.9 Recording
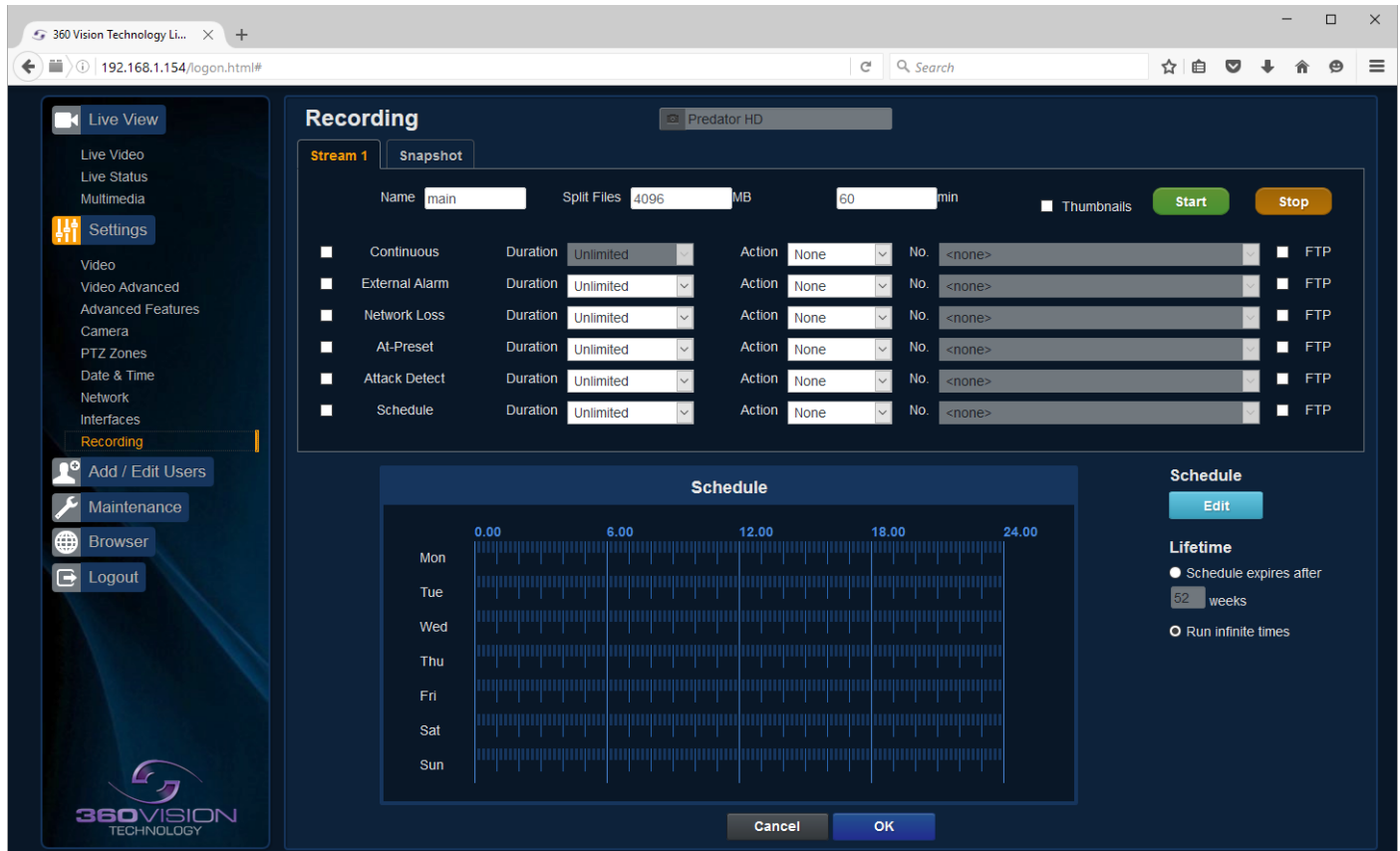
Only available on Multimedia Edge Recording Predator

The role of the recording function is to store video streams as files on a storage device built into the camera. The recording function can auto-detect the necessary parameters from each configured stream, such as video compression, resolution, frame rate and bitrate. The size of the video created will depend on the video compression and bitrate used.

Different options can be used to start a recording per stream, these are manual, continuous, external alarm, network loss, attack detect and schedule. Each recording can be configured with different options including recording duration.

The recorded file name will be displayed as YYYYMMDDhhmmss-x-name.avi
(x indicates the recording trigger d is manual demand, a is attack detect, s is schedule).

- Camera - Cannot be edited, shows label/name given to the camera.
  (See Video - Camera - page 17).
- Stream 1, 2 or snapshot - Choose option to configure.
- Name - Type in name of the file name to be used.
- Split files - Set size of recording by file size or time period.
- Thumbnail - If enabled before the recording, thumbnails can then be used as a filter in the multimedia page *(See Multimedia - page 16).*
- Start/Stop - Demand a manual recording, use the start and stop to set.
- Continuous - Enable continuous recording.
- External Alarm - Trigger recording from an external string.
- Network Loss - Trigger recording from a network connection loss to the camera.
- At Preset - Start recording when the camera gets to a specific preset, tour or mimic.
- Attack Detect - Start recording if the camera is attacked
- Schedule Edit - Setup a recording schedule *(See Multimedia - page 16).*
- Lifetime - Recording schedule will stop after this period.

Schedule Screen

OK to apply the new settings into the Predator.
Cancel to abandon the changes to the recording settings.

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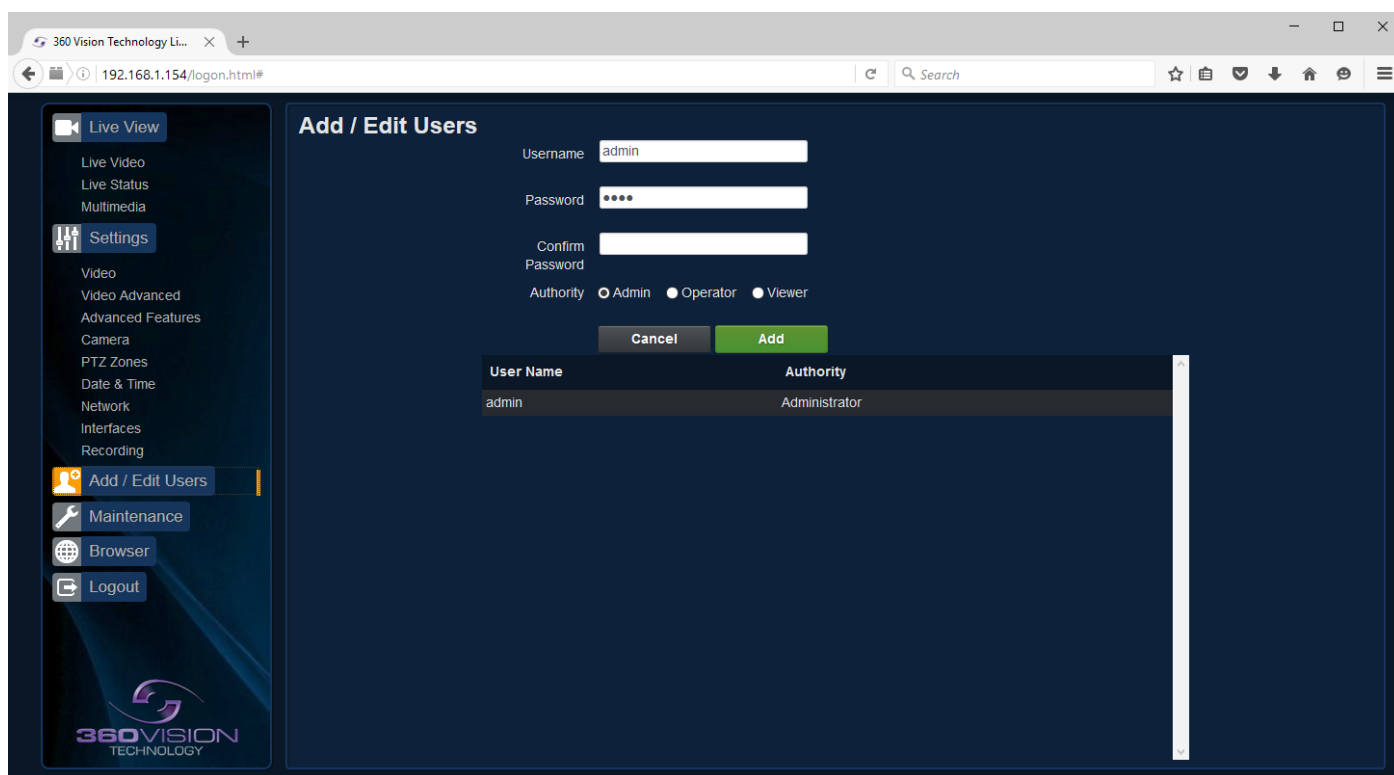
The Add/Edit Users page, allows the admin user to create both operator and viewer level login details. The admin user login password, can also be changed here. The web page admin password is also the Onvif admin password. Care must be taken, when changing the admin password.

There is no way of recovering the Predator-DV admin password if forgotten.

7.4 Maintenance

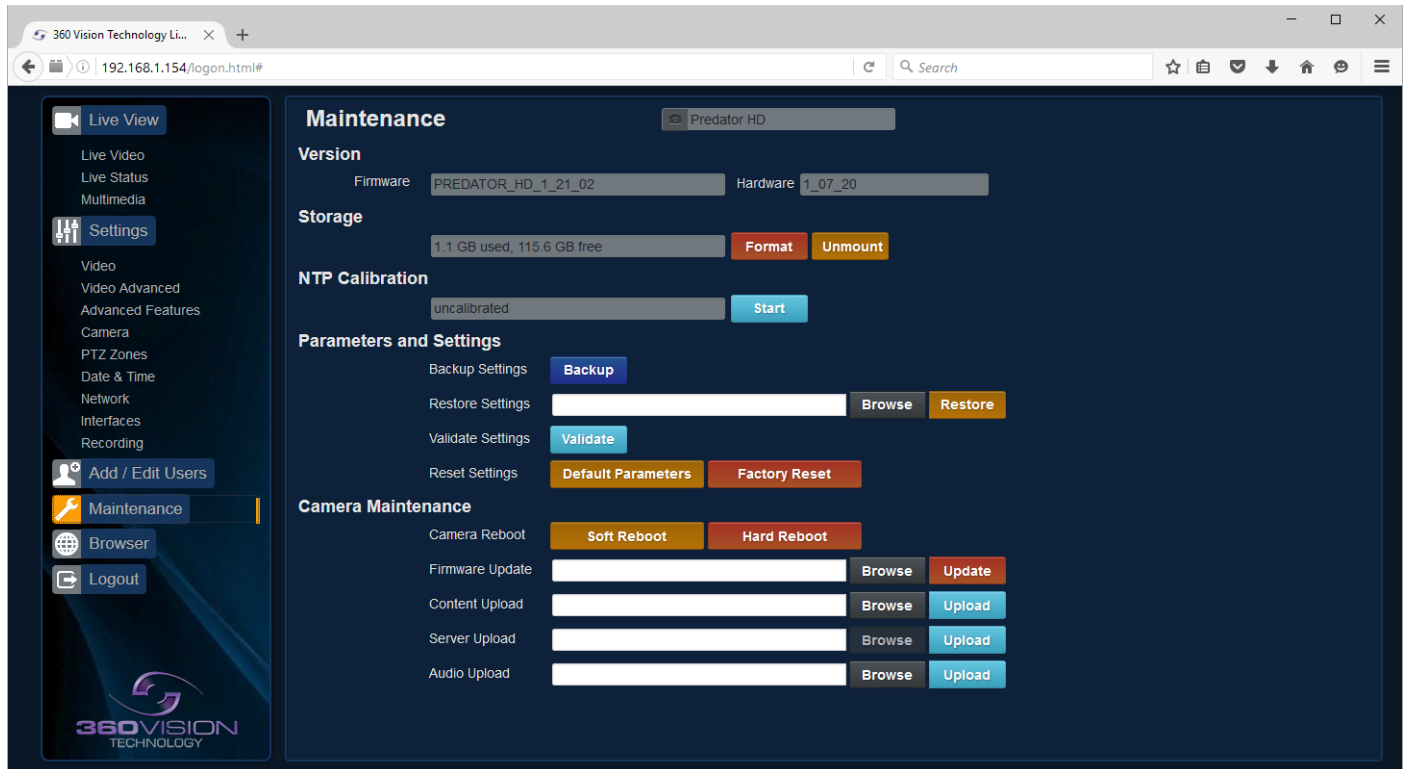- Camera - Cannot be edited, shows label/name given to the camera.
  (See Video - Camera - page 17).

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 PREDATOR_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 Predator-DV 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. Contact 360 Vision Support for files.
- Server Upload - Download application files from FTP/HTTP server.

Only available on Multimedia Edge Recording Predator
- Audio Upload - Browse to the audio file and then click upload. The file will then be available for playback through the camera audio system. Only .WAV files are supported.
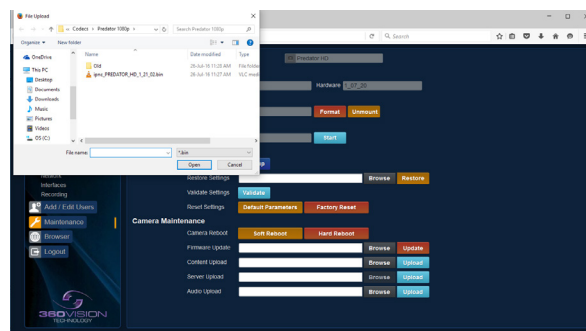
Update Screen

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

7.5 Browser
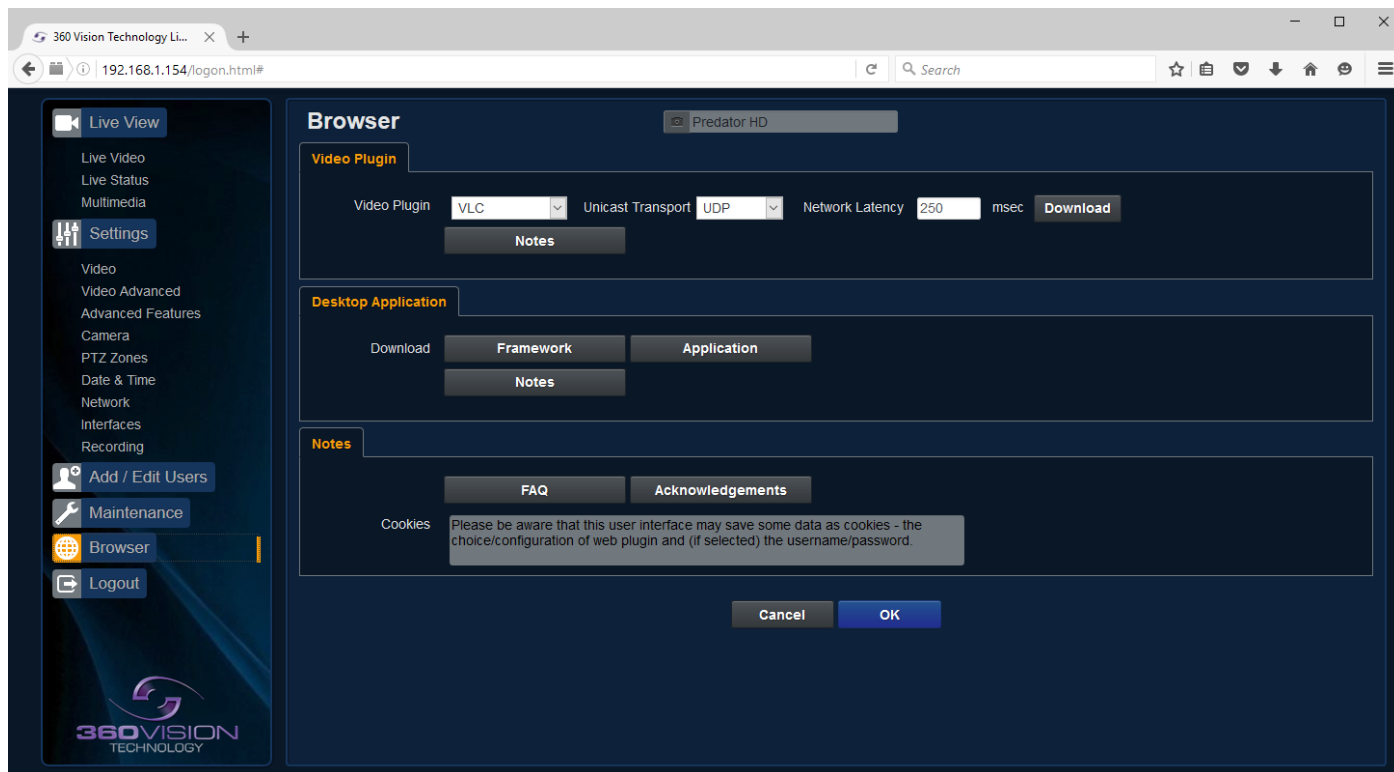
Video Plugin

- Video Plugin - Choose video plugin, choice of VLC, JPEG (every 1 second), or none.
- 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 Predator.
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 Predator-DV 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 Predator-DV 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 Predator-DV is reconnected to the main network.

Procedure for 'Network Settings Recovery'

If necessary disconnect the Predator-DV from the main network.

Turn power to the Predator-DV OFF for 3 seconds.
Turn power to the Predator-DV 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 Predator-DV to initialise.
(See section Locating the Predator-DV on your network - page 11).

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)
De-Fog	Seek 87 (On)		Seek 88 (Off)
Washer	Seek 89 (Start)	Define Preset 359 (Defines Washer Position)	Seek 90 (Stop)
White Lights (when it is dark)	Seek 100 (On)	White Lights change to colour, timer is used)	Seek 101 (Off)
Power on Park	Define/Seek 150	Program/Recall Power on Park preset position.	
White Light Exclusion	Define 151	Set Left Side	See page 21
	Define 152	Set Right Side	
Home	Define 360	Defines Home Position	

Predator-DV Configuration
Affiniti Section

Affiniti-HD Configuration

10 Locating the Affiniti HD on your Network

Default IP Address	192.168.1.188
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 Affiniti HD. Note the ports used by the Affiniti HD are:-

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

11 Connecting to the Affiniti HD

Type in the IP address of the Affiniti-HD into the address bar of Internet browser and install the plug-ins as required. The web page of the camera will then appear.
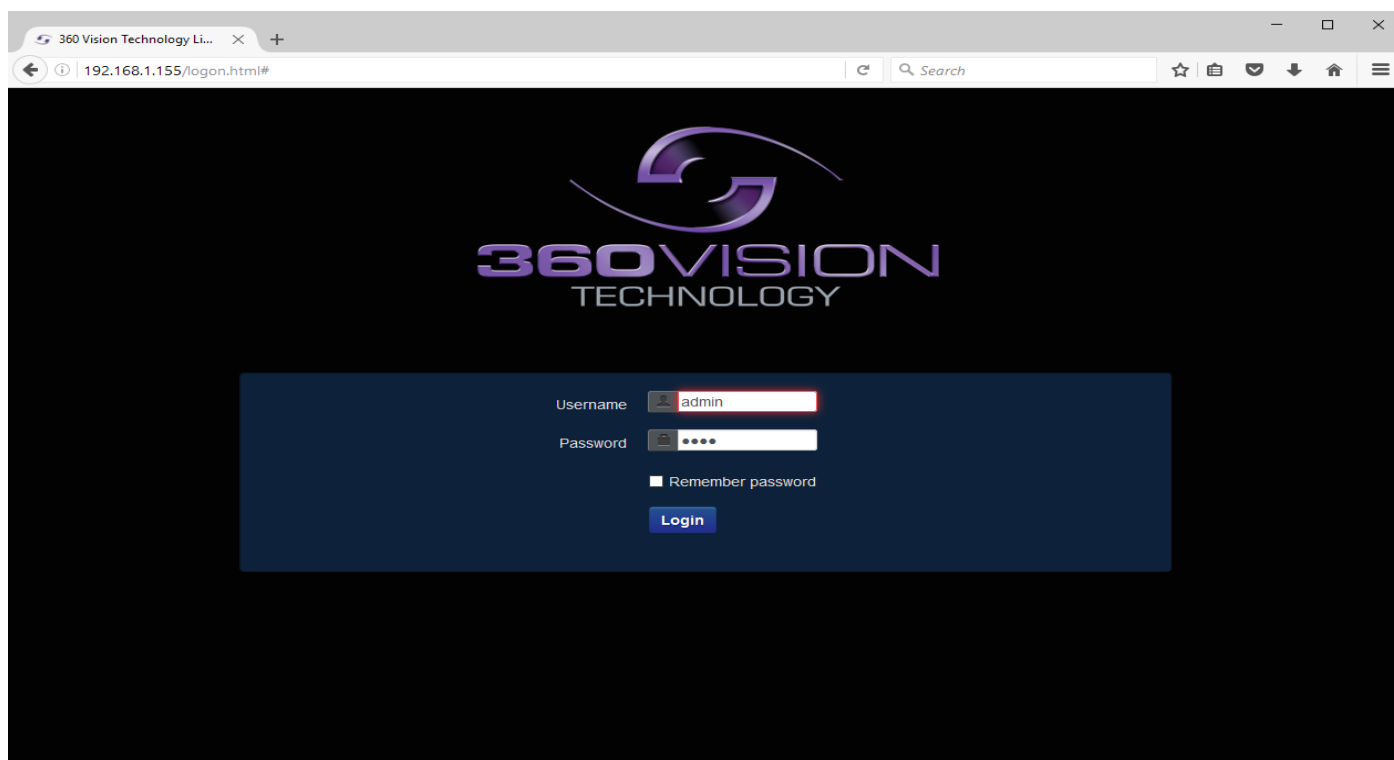
Affiniti HD Web Page Login screen

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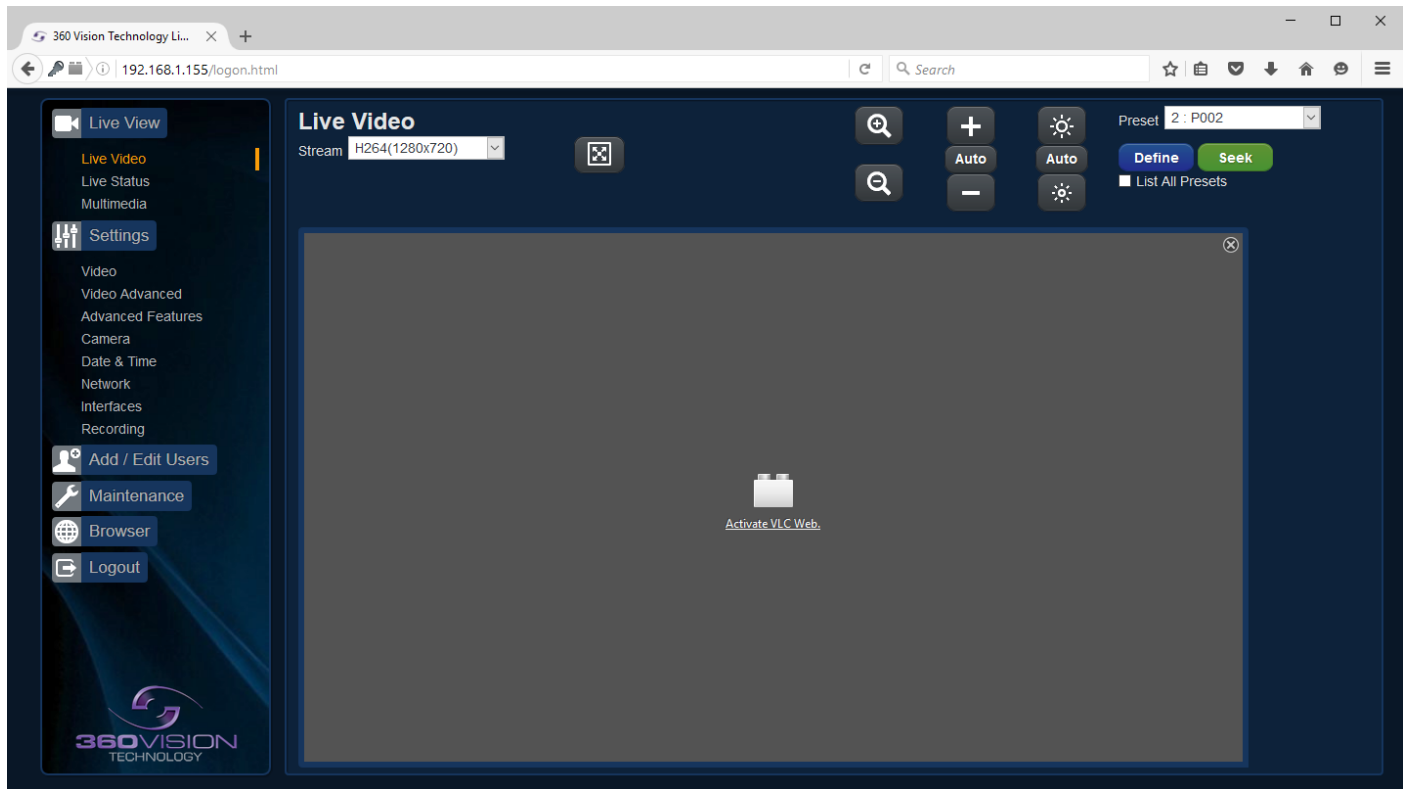Enter the Password (default is **9999**)

If you select the box 'Remember Password' it could compromise the security of the Affiniti 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 53)
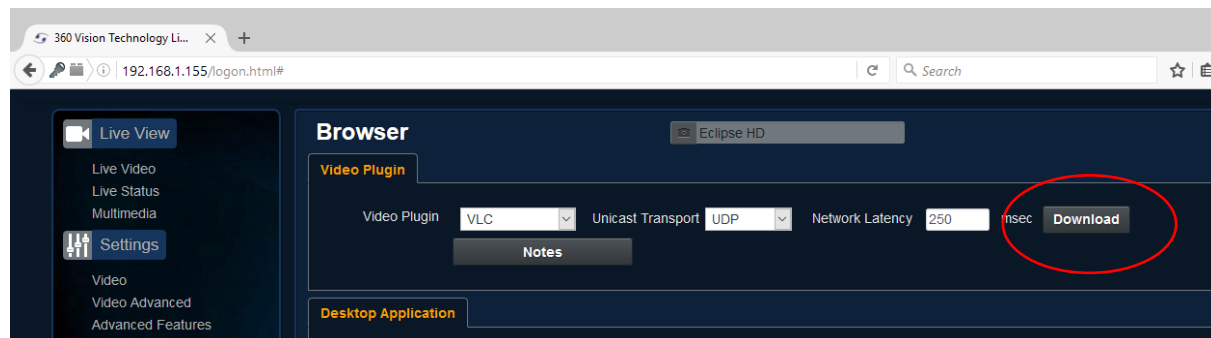
(!) Firefox no longer supports the VLC plug-in. The web page will show JPEG images every second *(See Browser - page 53)*.
For live video please use the 360 HD Discovery/Config Tool, this can be downloaded from the 360 Vision Technology download section of the web site or requested from technical support.

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

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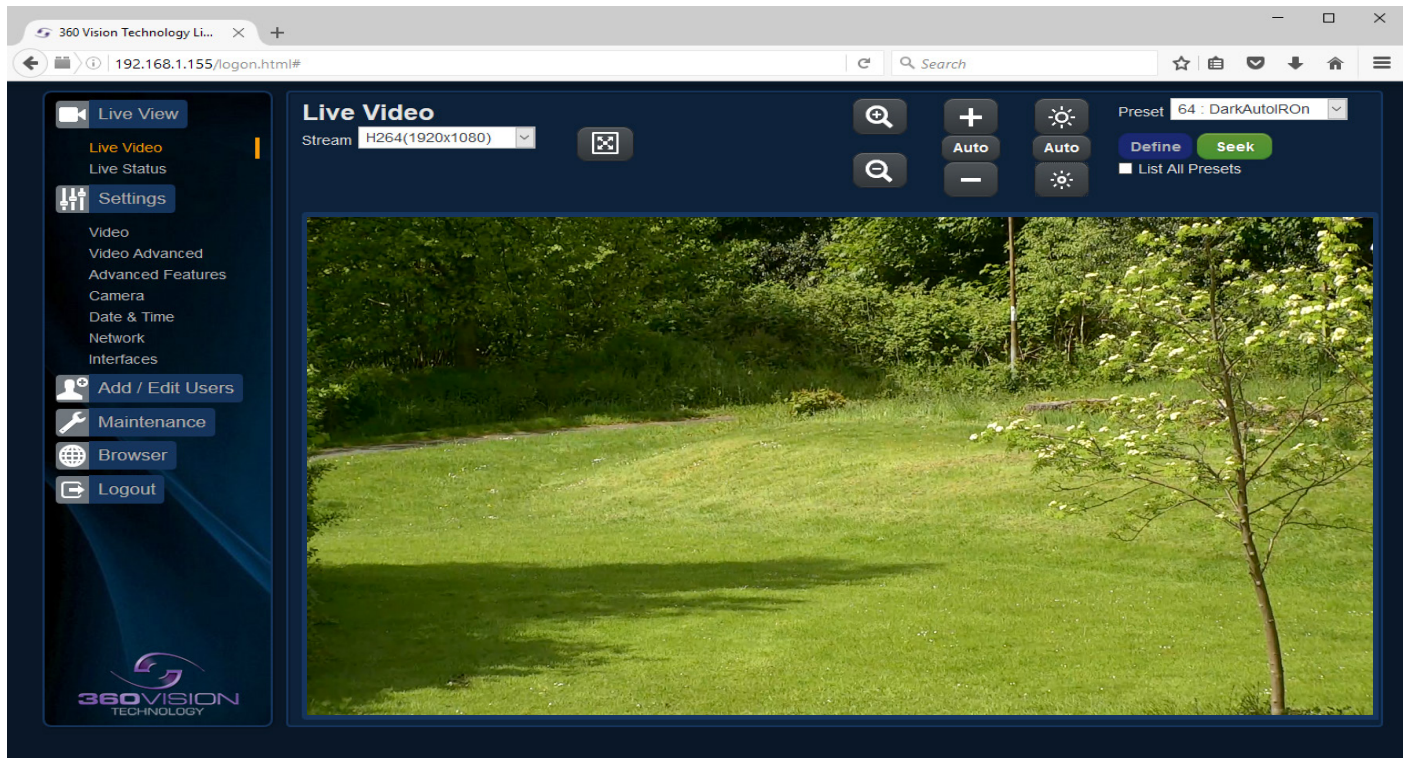   5   Browser
    6   Logout

11.1 Live View
11.1.1 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 45)*
- Focus +/-/Auto - This will operate the manual focus near, far or automatically focus as required. *(See Camera - AF AI when PTZ - page 45)*
- Iris +/-/Auto - This will operate the manual iris open, close or automatic as required. *(See Camera - AF AI when PTZ - page 45)*
- 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 43)*
- List all Presets - Use to show all presets or programmed presets in drop down selection box.

11.1.2 Status

Status page shows information relating to the camera status.

Status page, top section.

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, i.e. 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.

11.2 Settings
11.2.1 Video
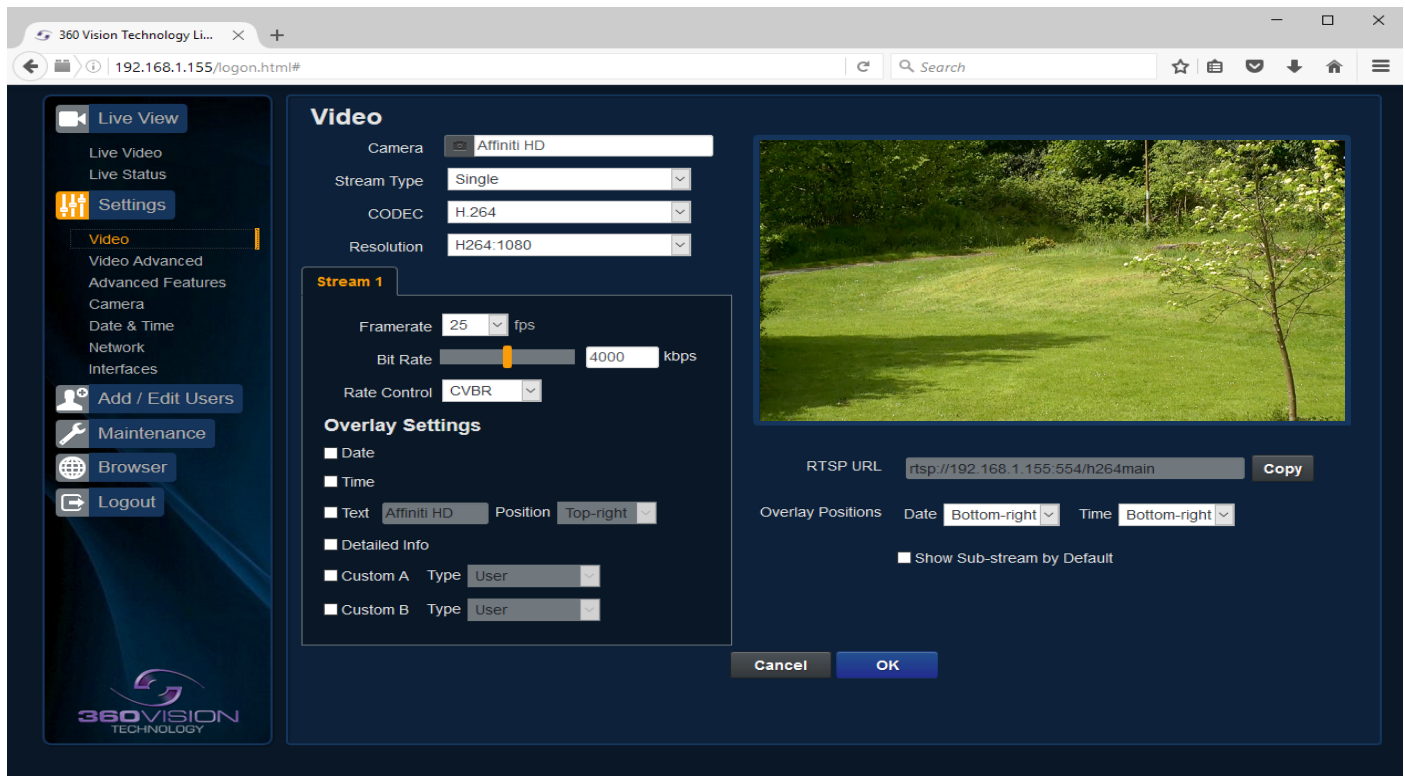
The Video page, offers options to setup:-
- Camera - Add or edit the camera name.
- Stream Type - Choice of single or dual video streams.
- Codec - Choose which compression format, the stream will use. *(See page 56 for table of options).*
- Resolution - Set what resolution the stream will use. *(See page 56 for table of options).*

Stream Tabs, offer options to:-
- Framerate - Configure how many frames per second (fps) the stream uses. *(Also see Camera - Sensor Frame Rate -page 45).*
- 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 Date/Time - page 47).*
- Time - Selecting this option will show the time as text on the video stream. *(See Date/Time - page 47).*
- 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
- 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 Affiniti-HD.
Cancel to abandon the changes to the video settings.

11.2.2 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 1440 to 65500
I Frame Size	55 (default)	Range 0 to 99 (average frame size x value/10 = i frame size)

OK to program the new settings into the Affiniti-HD.
Cancel to abandon the changes to the advanced video settings.
Default is used to factory reset the video stream settings.

11.2.3 Advanced Features

The Advanced Features page, offers options to:-
- Camera - Cannot be edited, shows label/name given to the camera.
  (See Video - Camera - page 41).

A 'Preset' is a stored view. When a preset is defined, it will store the zoom, focus and iris positions. Use the zoom buttons to set the image as required.

Presets
Set Preset using the following options:-
- Number - 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 45).
    Simple - For setting a simple PTZ preset, no lamp options.
    Re-Map - Choose which function/preset you want to re-map to the new preset number above.
    User - Used on systems supporting 360 SDK.
    Auxiliary - Can be used to recall an auxiliary command.
- 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 at 100%, 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 zoom or not. This can be used to operate the sensor 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
Feature not available

Tours
Feature not available

Privacy Zones
Feature not available

Home Function
The camera will perform an action (goto a preset), after a period of inactivity.

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

Zoom position/ratio is also shown, use the refresh button to refresh the data if the camera has been moved.

Zoom position/ratio can also be added manually, use the go button to send the camera to the ratio set.

OK to program the new settings into the Affiniti-HD.
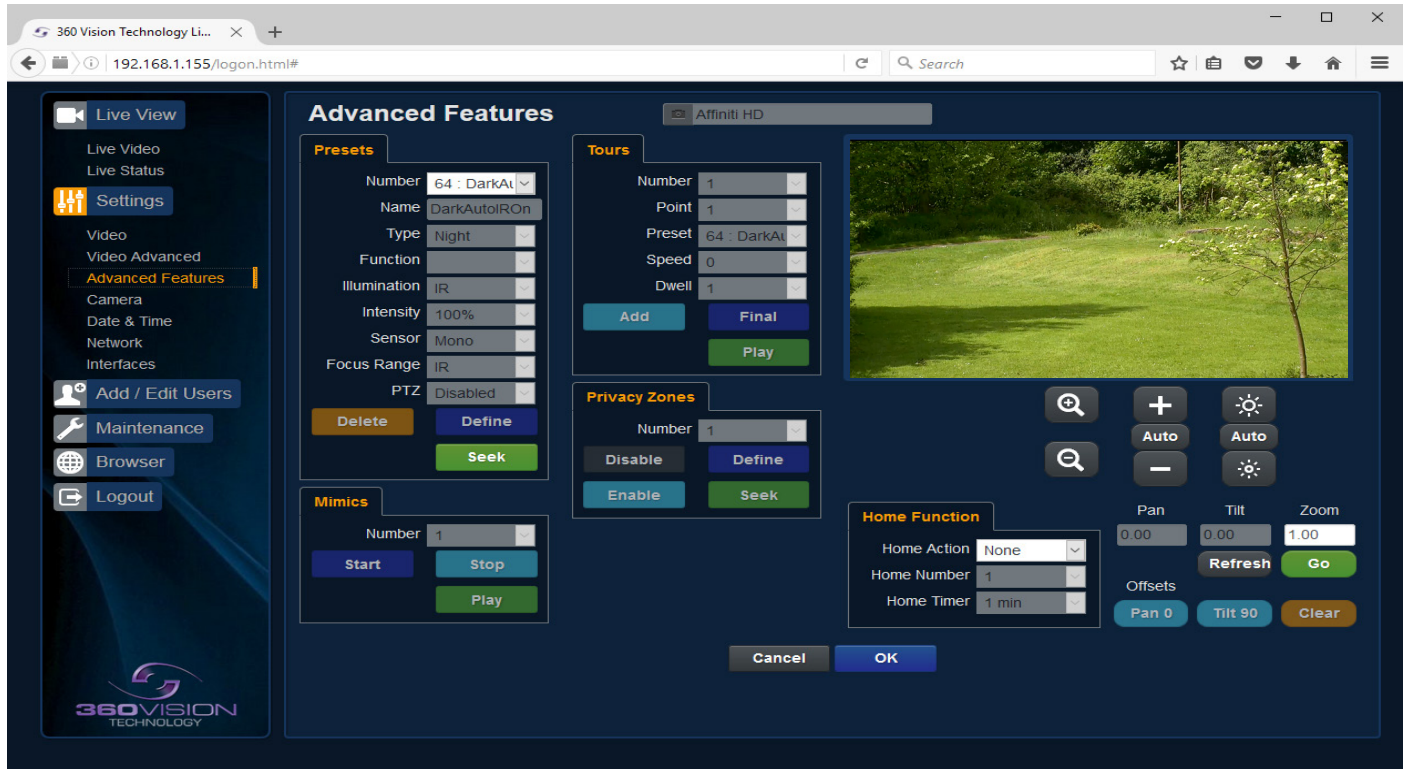**Cancel** to abandon the changes to the advanced feature settings.

11.2.4 Camera
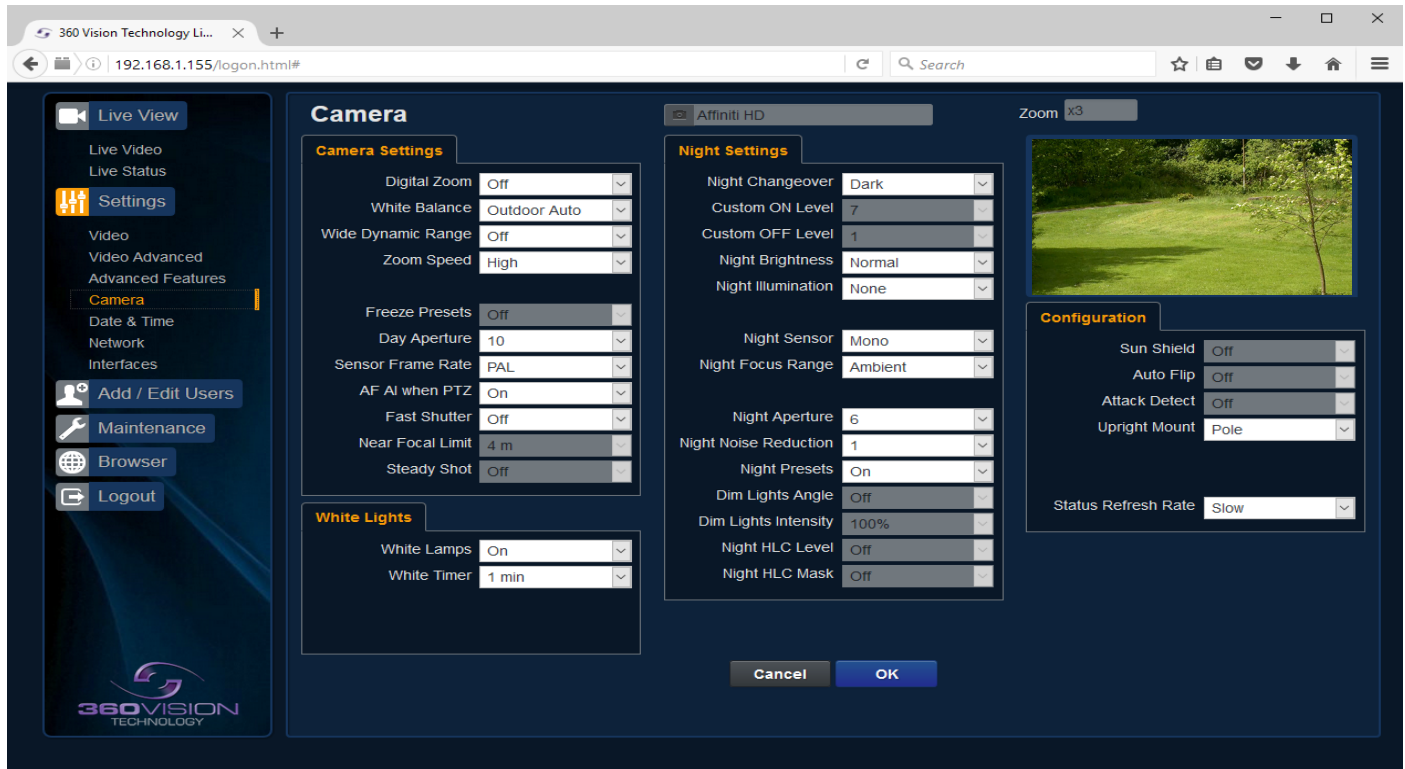
- Camera - Cannot be edited, shows label/name given to the camera.
(See Video - Camera - page 41).

The Camera page, offers options to:-
Camera Settings
- Digital Zoom - Enable digital zoom. Default is off.
- White Balance - Select White Balance settings to suit camera location.
(See page 58 for table of options).
- Wide Dynamic range - Enable WDR. Options available are ON, Auto and Off. Default is off.
- Zoom speed - Select zoom speed of the lens. Options are slow, medium, high and highest. Default is high.
- Freeze Preset - Feature not available.
- 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 or 30fps. 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 Affiniti-HD camera on a ANPR system. Default is off.
(See page 58 for table of options).
- Near Focal Limit - Feature not available.
- Steady Shot - Feature not available.

White Lights
- White Lamps - Set if white lights are to be used.
- White Timer - Set white light timer.

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 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 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 1.
- Night Presets - This can be used to set the presets to different settings if required. Default is on. *(See Advanced Features - page 43).*
- Dim Lights Angle - Feature not available.
- Dim Lights Intensity - Feature not available.
- Night HLC Level - Feature not available.
- Night HLC Mask - Feature not available.

Configuration

- Sun Shield - Feature not available.
- Auto Flip - Feature not available.
- 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.
- Status Refresh Rate - Can be used to help speed up telemetry control of the camera, by slowing down the refresh rate.

OK to program the new settings into the Affiniti-HD.
Cancel to abandon the changes to the camera settings.

11.2.5 Date/Time

- Camera - Cannot be edited, shows label/name given to the camera.
  (See Video - Camera - page 41).
- Camera Time - 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 apply the new settings into the Affiniti-HD.
Cancel to abandon the changes to the date/time settings.

11.2.6 Network

- Camera - Cannot be edited, shows label/name given to the camera.
(See Video - Camera - page 41).

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 54)

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 56).*
Tick the box to enable 'multicast'. If the box is not ticked then 'unicast' is selected.

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

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

Unicast
If lots of receivers (users) want to receive video streams from the Affiniti-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 Affiniti-HD chooses a 'new UDP address' (Typically an address which is outside the normal range of addresses for the network to which the Affiniti-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 Affiniti-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 Affiniti-HD.
Cancel to abandon the changes to the network settings.

11.2.7 Interfaces
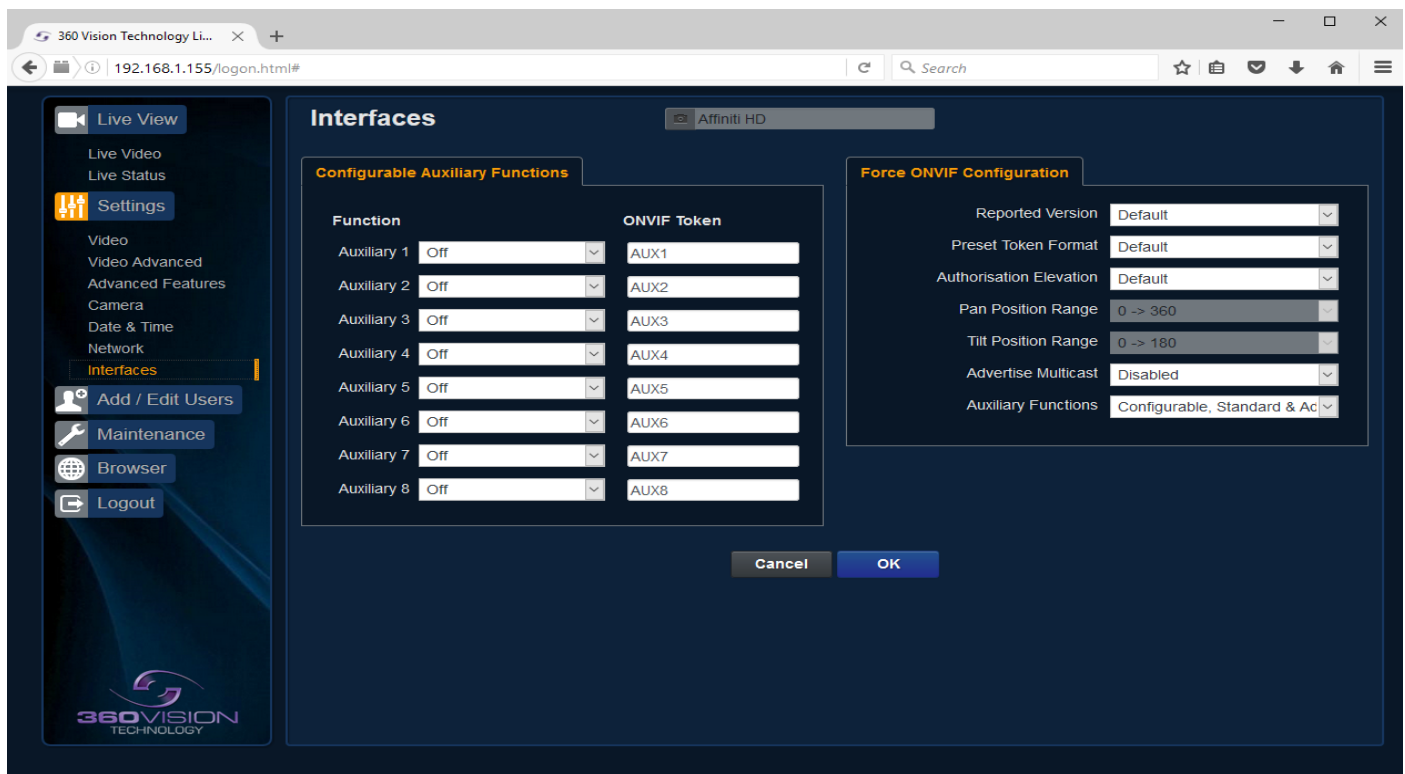
Auxiliary Functions
Allows the camera to be configured to use Onvif Auxiliary commands.
Features available are:-

- Force White Light On - Forces white lights on.
- Force White Light Off - Switches off forced white lights.
- 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 dark.
- Dark Sensor Colour - Sets the camera to a colour image, when dark.
- 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.
- Disable Forced Settings - Switch off forced settings, camera to use settings as per light level.

Dark relates to when the camera is in dark mode, see section Camera - Night Changeover - page 45.

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 set as admin, viewer or operator.
- • Pan/Tilt position Range - Feature not available.
- • 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 Auxiliary Token.
  - 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 Affiniti-HD.
Cancel to abandon the changes to the interface settings.

11.3 Add/Edit Users
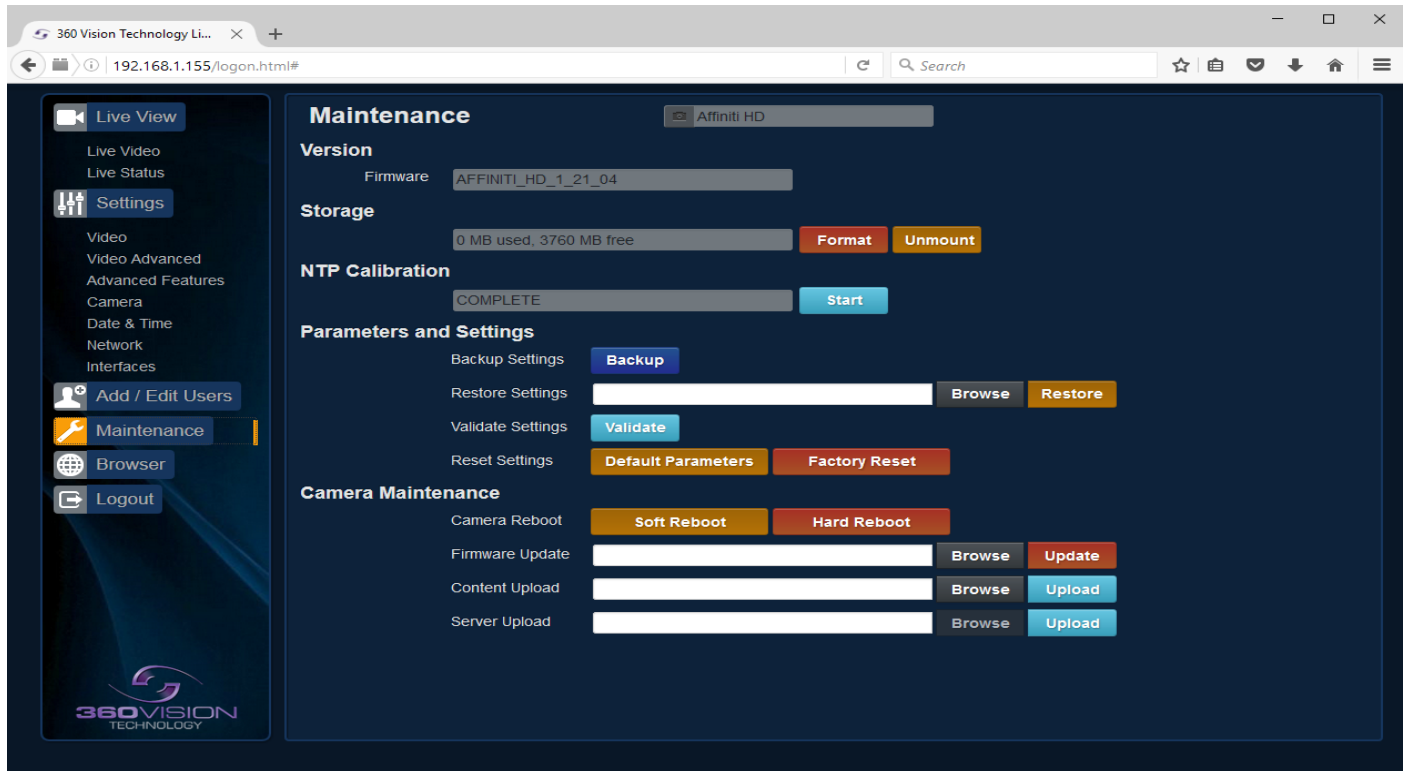

The Add/Edit Users page, allows the admin user to create both operator and viewer level login details. The admin user login password, can also be changed here. The web page admin password is also the Onvif admin password. Care must be taken, when changing the admin password.

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

11.4 Maintenance

- Camera - Cannot be edited, shows label/name given to the camera.
  (See Video - Camera - page 41).

Version
- Firmware - Current firmware 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 Affiniti_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 Affiniti-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.
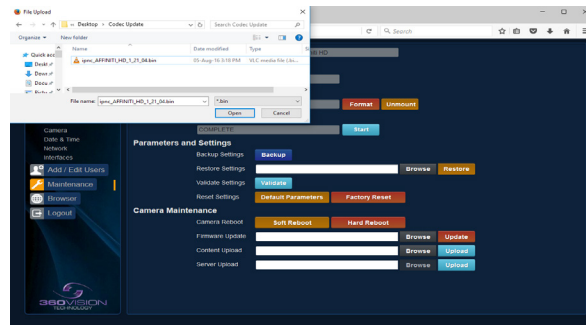
Update Screen

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

11.5 Browser
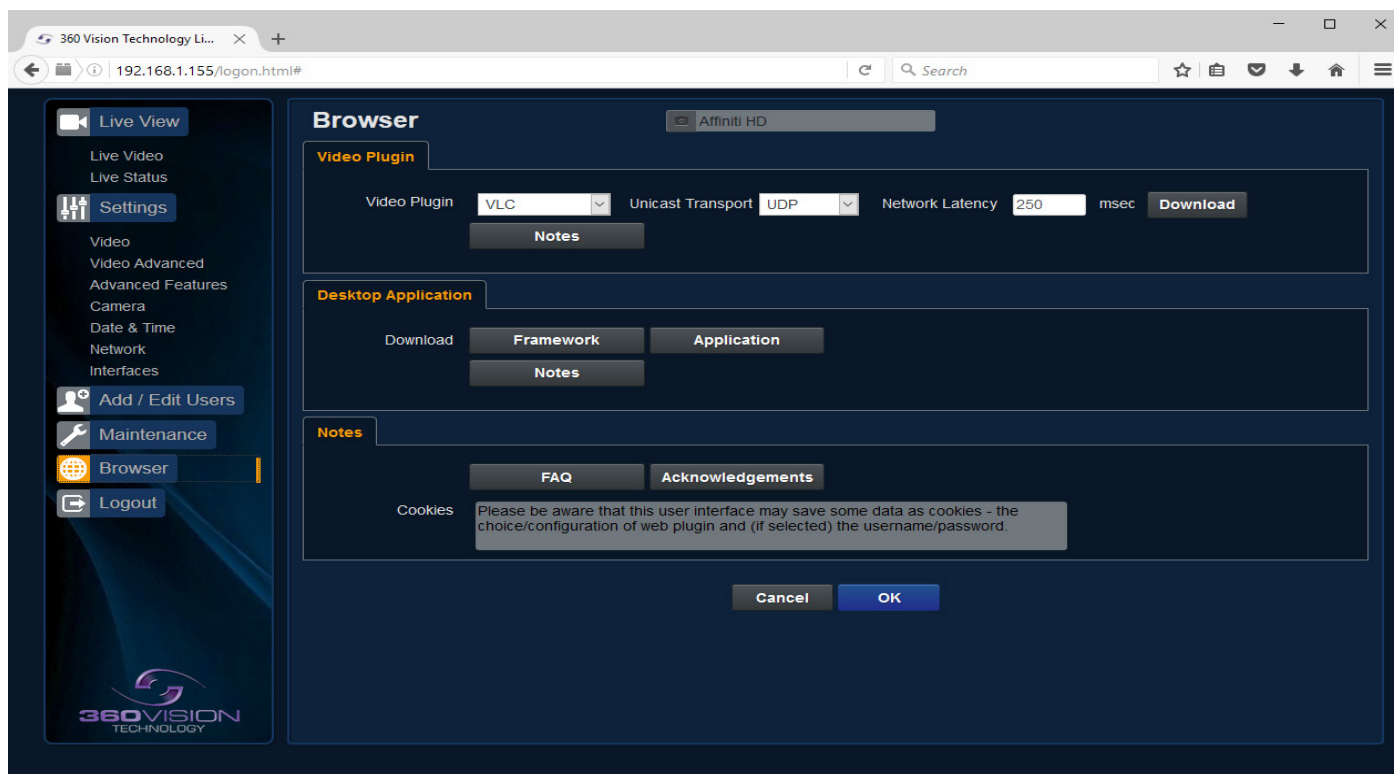
Video Plugin
- Video Plugin - Choose video plugin, choice of VLC, JPEG (every 1 second), or none.
- Unicast Transport - Choice of UDP or TCP.
- Network Latency - Adjust Video player latency/buffer.
- Download - Download video plugin from the camera.

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 Affiniti-HD.
Cancel to abandon the changes to the settings.

12 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)
White Lights (when it is dark)	Seek 100 (On)	White Lights (change to colour, timer used)	Seek 101 (Off)

13 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 Affiniti 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 Affiniti 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 Affiniti HD is reconnected to the main network.

Procedure for 'Network Settings Recovery'

Disconnect the Affiniti HD from the network.

Turn power to the Affiniti HD OFF for 3 seconds.
Turn power to the Affiniti HD ON for 4 seconds.
Repeat the above three times.

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

14 Important - Care of Painted Surfaces

The powder coating applied to the Predator-DV 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 Predator-DV is dropped, scrapped etc.), repairs MUST be carried out immediately.

When the Predator-DV 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 Predator-DV e.g. fit anti-bird spikes.

15 Storage and Handling

Predators should be handled with care and must not be dropped. When Predators 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 Predators.
When Predators 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. Predators 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 Predator should be clean and dry. (If necessary it should be cleaned and dried taking care that the glass is not scratched).

16 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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17 PSU Enclosure

Material	PC/ABS
Dimensions (PRED-PSU-SM enclosure)	255 x180 x100mm

18 1080p Stream Resolutions & RTSP Links

H.264 *(rtsp://ipaddress/h264main)*	Resolution
	720p (1280 x 720)
	D1 (720 x 576)
	SXVGA (1280 x 960)
	1080p (1920 x 1080)

MPEG4 *(rtsp://ipaddress/mpeg4main)*	Resolution
	720p (1280 x 720)
	D1 (720 x 576)
	SXVGA (1280 x 960)
	1080p (1920 x 1080)

MJPEG *(rtsp://ipaddress/mjpeg)*	Resolution
	1080p (1920 x 1080)

H.264 *(rtsp://ipaddress/h264main)* & MJPEG *(rtsp://ipaddress/mjpeg)*	Resolution	
	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)

MPEG4 *(rtsp://ipaddress/mpeg4main)* & MJPEG *(rtsp://ipaddress/mjpeg)*	Resolution	
	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)

Dual H.264 *(rtsp://ipaddress/h264main)* *(rtsp://ipaddress/h264sub)*	Resolution	
	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)

Dual MPEG4 *(rtsp://ipaddress/mpeg4main)* *(rtsp://ipaddress/mpeg4sub)*	Resolution	
	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)

H.264 *(rtsp://ipaddress/h264main)* & MPEG4 *(rtsp://ipaddress/mpeg4sub)*	Resolution	
	D1 (720 x 576)	D1 (720 x 576)
	1080p (1920 x 1080)	D1 (720 x 576)

19 720p Stream Resolutions & RTSP Links

H.264 *(rtsp://ipaddress/h264main)*	Resolution
	720p (1280 x 720)
	D1 (720 x 576)

MPEG4 *(rtsp://ipaddress/mpeg4main)*	Resolution
	720p (1280 x 720)
	D1 (720 x 576)

MJPEG *(rtsp://ipaddress/mjpeg)*	Resolution
	720p (1280 x 720)

H.264 *(rtsp://ipaddress/h264main)* & MJPEG *(rtsp://ipaddress/mjpeg)*	Resolution	
	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)

MPEG4 *(rtsp://ipaddress/mpeg4main)* & MJPEG *(rtsp://ipaddress/mjpeg)*	Resolution	
	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)

Dual H.264 *(rtsp://ipaddress/h264main)* *(rtsp://ipaddress/h264sub)*	Resolution	
	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)

Dual MPEG4 *(rtsp://ipaddress/mpeg4main)* *(rtsp://ipaddress/mpeg4sub)*	Resolution	
	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)

H.264 *(rtsp://ipaddress/h264main)* & MPEG4 *(rtsp://ipaddress/mpeg4sub)*	Resolution	
	D1 (720 x 576)	D1 (720 x 576)

20 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