

# Predator-DV Installation/Configuration Manual



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# **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.



Predator DUALVIEW

# **3 Bracket Dimensional Drawing**





Predator Corner Bracket



Predator PMA Bracket

# **4** Connections



# **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
0.75mm <sup>2</sup>	85m	32m	32m	30m
1.00mm <sup>2</sup>	113m	43m	43m	40m
1.25mm <sup>2</sup>	141m	54m	54m	50m
1.50mm <sup>2</sup>	170m	65m	65m	60m
2.50mm <sup>2</sup>	283m	108m	108m	100m
3.00mm <sup>2</sup>	340m	130m	130m	120m
4.00mm <sup>2</sup>	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.

Page 10

# Predator-DV Configuration Predator Section

## 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**) © 360 Vision Technology Ltd. Select Submit

V

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)

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Live View	Browser	Eclipse HD	
Live Video Live Status Multimedia	Video Plugin Video Plugin VLC	C V Unicast Transport UDP V Network Latency 250 msec Download	
Video		Notes	
Video Advanced Advanced Features	Desktop Application		

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.

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Live Video	Refresh	O Manual	● 5 sec	10 sec	● 30 sec	O 1 min	• 5	min		
Multimedia	Time	IP Address	Port							ľ
Video	System									
Video Advanced	Uptime	0 d 0 h 5 m			Storage	1 GB used, 115 GB free	Э			
Advanced Features	Network Transmit	4.372 Mb/s			Transmit Total	0 errors, 0 dropped, 13			s	
Camera PTZ Zones	Network Receive	0.139 Mb/s			Receive Total	0 errors, 0 dropped, 0 M	/IB, 7914 pa	ckets		
Date & Time Network	Frame Statistic	cs								
Interfaces	Frame Size		Bytes		Transmission Time	ms				
Recording	Frame Average		20454		P-Frame Average	5.087				L
Add / Edit Users	I-Frame Average		114523		I-Frame Average	46.118				
Maintenance	Max		117576		I-Frame Max (FU-A)	138.023				L
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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

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#### 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.

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Multimedia Screen with thumbnails

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Multimedia Screen showing audio files

## 7.2 Settings 7.2.1 Video

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<ul> <li>▶ Live View</li> <li>Live Video</li> <li>Live Status</li> <li>Muitimedia</li> <li>▶ Settings</li> <li>&gt; Video</li> <li>Advanced Features</li> <li>Camera</li> <li>PTZ Zones</li> <li>Date &amp; Time</li> <li>Network</li> <li>Interfaces</li> <li>Recording</li> <li>▶ Add / Edit Users</li> <li>▶ Maintenance</li> <li>➡ Browser</li> <li>&gt; Erosut</li> </ul>	Video Camera Predator HD Stream Type Single CODEC H.264 Resolution H264:1080 Stream 1 Framerate 25 pp Bit Rate 4096 kbps Bit Rate 4096 kbps Bit Rate 4096 kbps Bit Rate Control CVBR C Overlay Settings Date Time Text Predator HD Position Top-right C Detailed Info Custom A Type PTZ Status C	RISP URL       rsp://192.168.1.154.554/n264mail         Overlay Positions       Date       Bottom-right       Time       Bottom-right         Bottow Sub-stream by Default       Cancel       OK	Copy

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

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.

 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

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Live View Live Video Live Status Multimedia Multimedia Video Video Advanced Advanced Features Camera PTZ Zones	Video Advanced Stream 1 IP Ratio RTP Block Size Default I-Frame Size Auto	25 frames 1448 bytes	C Predator HD	© Search				
Date & Time Network Interfaces Recording Add / Edit Users Maintenance Browser Logout			Default Cancel	OK				
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	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
l 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

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( ←)	Advanced Features	Predator HD	C Q. Search	☆ 自 ♥ ↓ ♠ ♥ 目
Live Video Live Status Multimedia Video Video Advanced Advanced Features Camera PTZ Zones Date & Time Network Interfaces Recording	Presets         Number       1: Omni1         Name       Omni1         Type       Simple         Function       None         Illumination       R         Intensity       100%         Sensor       Mono         Focus Range       R         PTZ       Enabled         Audio       chone>         Delete       Define         Seek       Start         Start       Stop         Play       Play	Tours         Number       1         Point       1         Preset       1         Speed       0         Dwell       1         Add       Final         Play    Privacy Zones          Number       1         Disable       Define         Enable       Seek         Wiper       1         Rest Time       None         On Time       1	Image: Constraint of the second of the se	+       *         Auto       *         Pan       Tit       Zoom         158.26       72.68       1.00         Go       Offsets       Go         Pan 0       Tit 90       Clear

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.

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

# 7.2.4 Camera

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Live View	Camera	Predator HD	Zoom x30			
Live Video	Camera Settings	Night Settings				
Live Status Multimedia	Digital Zoom Off	Night Changeover Dark		AND THE REAL PROPERTY.		
Settings	White Balance Indoor Wide Dynamic Range Auto	Custom ON Level 7     Custom OFF Level 1				
Video	Zoom Speed High	Night Brightness Normal			s h	
Video Advanced Advanced Features	Proportional Zoom On	Night Illumination None	✓			
Camera	Freeze Presets Off	Night Intensity 100%			Could L	
PTZ Zones	Day Aperture 10	Vight Sensor Mono	✓ Configu	ration		
Date & Time	Sensor Frame Rate PAL	Vight Focus Range Ambient	$\sim$	Sun Shield Off		$\sim$
Network	AF AI when PTZ On	✓ Night Focus Sensitivity Low	$\sim$	Auto Flip Off		
Interfaces Recording	Fast Shutter Off	✓ Night Aperture 6	~	Attack Detect On		
	Near Focal Limit 4 m	V Night Noise Reduction	~	Upright Mount Pole		
Add / Edit Users	Steady Shot Off	V Night Presets On	~	Power-on Park Off		
Maintenance		Dim Lights Angle	$\sim$	Pan/Tilt Speed Normal		
Browser	White Lights	Dim Lights Intensity 100%	Y St	atus Refresh Rate Slow		
	White Lamps On	Vight HLC Level Off		SIOW		
E Logout	White Timer 1 min	Night HLC Mask Off	Thermal	Settings		
	White Exclusion Off					
	Auto Dimming Off	✓				~
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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

Live Video Live Status Multimedia Video Vi	
Live Status Multimedia Overlay Pan Tit Start Preset End Pr  T Disabled Video	reset Text
2     Disabled	e> V Preset 1 : Omni1 V Define Seek
2 Disabled v Anone v (none)	
Video 3 Disabled x (none) x (none)	e> List All Presets
Video Advanced	e>
Advanced Features 4 Disabled V Connect Advanced Features 4 Connect Advanced 7 Connect Advanced Features 4 Connect Advanced 7 Connect 7	e>
Camera 5 Disabled ~ Camera <none> ~ <none></none></none>	e>
PTZ Zones 6 Disabled ~ Conne> ~ <none></none>	e>
Date & Time 7 Disabled V Cnone> V Cnone>	e> V
Interfaces 8 Disabled V Anone> V <none></none>	e> V
Recording 9 Disabled ~ <a href="https://www.energy.org">sabled ~</a> <a href="https://www.energy.org"></a> sabled ~sabled ~ <	e> V
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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

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Live View   Live View   Live Video   Live Status   Mutimedia   Milenedia   Settings   Video   Video   Video   Video   Video   Video   Maintenance   Browser   Corrent   Date 2/07/2016   Time 13: 15: 37   Synchronise with computer time   Date 2/07/2016   Time 13: 15: 37   Synchronise with NTP server   NTP Server pool ntp.org   Calibration uncalibrated   Timezone   Europe   London   POSX Timezone   Cancel		К							

- 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

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	Network Network DHCP Enable IP Address Netmask Default Gateway Primary Name Server MTU Size NTP NTP Server MAC MAC Address	192.168.1.154         255.255.255.0         192.168.1.4         192.168.1.3         1500         100.60.35.1d.19.27         Copy	tor HD	RTSP Stream	n 1 Multicast En Address Port TTL n 2 Multicast En Address Port TTL Stream Limit FTP Server Port Username	224.1.4.6 6032 able 224.1.4.6 6012	☆     ●       2255     6		÷ 1		
			Cancel	ок	Password Upload Path	eeee					

 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

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Live View	Interfaces		Predator HD							
Live Video Live Status Multimedia	Configurable Auxiliary Functions			Force	ONVIF Configuration					
Let Settings	Function	ONVIF Token			Reported Version	Default			$\sim$	
Video	Auxiliary 1 Wiper On	~ AUX1			Preset Token Format	Default			$\sim$	
Video Advanced	Auxiliary 2 Wiper Off	~ AUX2			Authorisation Elevation	Default			~	
Advanced Features	Auxiliary 3 Off	~ AUX3			Pan Position Range	0 -> 360			~	
Camera PTZ Zones	Auxiliary 4 Off				Tilt Position Range	0 -> 180			~	
Date & Time		No/4			Advertise Multicast	Disabled			$\sim$	
Network	Auxiliary 5 Off	✓ AUX5			Auxiliary Functions	Configurable, S	tandar	tibba & I	on 🗸	
Interfaces Recording	Auxiliary 6 Off	~ AUX6				ooningerebio, o	Connercent	, a maan		
Add / Edit Users	Auxiliary 7 Off	~ AUX7								
Maintenance	Auxiliary 8 Off	¥ AUX8								
Browser										
E Logout			Cancel	ок						

#### **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

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Live View	Recording	Press	edator HD					
Live Video Live Status Multimedia	Stream 1 Snapshot Name main	Split Files 4096	мв	60	min 🗖 Thum	ubnaile Start	Stop	
Video	Continuous	Duration Unlimited	Action None	✓ N			FTP	
Video Advanced Advanced Features	External Alarm	Duration Unlimited ~ Duration Unlimited ~	Action None	✓ N			FTP	
Camera PTZ Zones	At-Preset	Duration Unlimited	Action None	✓ N			FTP	
Date & Time Network Interfaces Recording	Attack Detect	Duration Unlimited    Duration Unlimited	Action None Action None	V N			FTP	
Add / Edit Users		S	chedule			Schedule		
Browser	Mon Tue Wed Thu Fri					Lifetime • Schedule e 52 weeks • Run infinite		
360VISION TECHNOLOGY	Sat Sun		Cancel	ок				

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

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Live View	Maintenan	ce	Pre	dator HD					
Live Video	Version								
Live Status	Firmware	PREDATOR_HD_1	_21_02	Hardware 1_07_2	20				
Multimedia	Storage								
Settings		1.1 GB used, 115.	6 GB free	Format Unr	nount				
Video Video Advanced	NTP Calibration	1							
Advanced Features		uncalibrated		Start					
Camera	Parameters and	Settings							
PTZ Zones Date & Time		Backup Settings	Backup						
Network		Restore Settings			Browse	Restore			
Interfaces		- Validate Settings	Validate						
Recording		Reset Settings	Default Parameters	Factory Reset	_				
	Camera Mainte		Default Parameters	Factory Reset					
Maintenance	Calliera Malille	Camera Reboot	Soft Reboot	Hard Reboot					
Browser		Firmware Update	Son Repoor	nure resour	Deserves	Un data			
E Logout					Browse	Update			
		Content Upload			Browse	Upload			
		Server Upload			Browse	Upload			
		Audio Upload			Browse	Upload			
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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

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Live View Live Video Live Status	Browser Video Plugin	Predator HD					
Multimedia Video	Video Plugin	VLC VInicast Transport UDP V Network Latency 250 msec Download Notes					
Video Advanced Advanced Features Camera	Desktop Application	Framework Application					
PTZ Zones Date & Time Network Interfaces		Notes					
Recording Add / Edit Users Maintenance	Notes	FAQ Acknowledgements					
Browser      Logout	Cookies	Please be aware that this user interface may save some data as cookies - the choice/configuration of web plugin and (if selected) the username/password.					
360 VISION TECHNOLOGY		Cancel					

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	Seek 64	IR	Seek 66
	(On)	(mono/colour not changed)	(Off)
(when it is dark)	Seek 65	White Lights	Seek 66
	(On)	(mono/colour not changed, no timer)	(Off)
Night Sensor	Seek 67		Seek 68
(when it is dark)	(Mono)		(Colour)
Night Focus Range	Seek 69		Seek 70
(when it is dark)	(Ambient)		(IR)
De-Fog	Seek 87 (On)		Seek 88 (Off)
Washer	Seek 89	Define Preset 359	Seek 90
	(Start)	(Defines Washer Position)	(Stop)
White Lights	Seek 100	White Lights	Seek 101
(when it is dark)	(On)	change to colour, timer is used)	(Off)
Power on Park	Define/Seek 150	Program/Recall Power on Park p	reset position.
White Light Evolution	Define 151	Set Left Side	See page 21
White Light Exclusion	Define 152	Set Right Side	See page 21
Home	Define 360	Defines Home Position	on

# Predator-DV Configuration Affiniti Section

# 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)

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Live View	Browser		Eclipse HD				
Live Video Live Status Multimedia	Video Plugin Video Plugin VLO	C Vinicast Tra	ansport UDP	V Network Later	ncy 250	nsec Download	
Video		Notes					
Video Advanced Advanced Features	Desktop Application						



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

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( ■ ) ①   192.168.1.155/logon.html#	C Q. Search	☆ 自 ♥ ↓ 俞 Ξ
Ive View   Live View   Live Status   Settings   Video   Video Advanced   Advanced Features   Camera   Date & Time   Network   Interfaces   Add / Edit Users   Maintenance	RTSP URL       rsp://192_168_1155_554/h264mat         Overflay Positions       Date       Bottom-right         Time       B         - Show Sub-stream by Default	an Copy

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

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<ul> <li>Ig2.168.1.155/legon.html</li> <li>Live View</li> <li>Live Video</li> <li>Live Status</li> <li>Settings</li> <li>Video</li> <li>Video Advanced</li> <li>Advanced Features</li> <li>Camera</li> <li>Date &amp; Time</li> <li>Network</li> <li>Interfaces</li> <li>Add / Edit Users</li> <li>Maintenance</li> <li>Browser</li> </ul>	Video Advanced         Stream 1         IP Ratio         RTP Block Size         Default         I-Frame Size	<ul> <li>■ Affiniti HD</li> <li>25 frames</li> <li>1448 bytes</li> <li>55</li> </ul>	C & Search				
		Default	Cancel OK				

	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

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K Live View	Advanced Features		ffiniti HD				
Live Video Live Status	Presets	Tours					
Settings	Number 64 : DarkAt Name DarkAutoIROn	Number Point	1 <u>~</u> 1 <u>~</u>	and the second second			
Video	Type Night 🚽	Preset	64 : DarkAt 🗸		and the second	- Contraction	- Alert
Video Advanced Advanced Features	Function		0 ~			ALL A	N/S
Camera	Illumination IR	Dwell	1 ~				V
Date & Time Network	Intensity 100%  Sensor Mono	Add	Final				
Interfaces	Focus Range IR		Play				
Add / Edit Users	PTZ Disabled	Privacy Zones			€ +	- ×	
Maintenance	Delete Define	Number	1				
Browser	Seek	Disable	Define		Q _	- 0	
∃ Logout	Mimics	Enable	Seek		Pan		Zoon
	Number 1			Home Function	0.00	0.00	1.00
	Start Stop			Home Action None Home Number		Refres	sh Go
	Play			Home Timer 1 min	Offse		
					Pan	0 Tilt 90	Clea
$\sim$			Cancel	ок			

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

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Live View	Camera	Affiniti HD	Zoom X3
Live Video	Camera Settings	Night Settings	
Live Status	Digital Zoom Off ~	Night Changeover Dark	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
Settings	White Balance Outdoor Auto ~	Custom ON Level 7	
Video	Wide Dynamic Range Off ~	Custom OFF Level 1	
Video Advanced	Zoom Speed High 🗸	Night Brightness Normal	
Advanced Features Camera Date & Time	Freeze Presets Off	Night Illumination None	Configuration
Network	Day Aperture 10	Night Sensor Mono	
Interfaces	Sensor Frame Rate PAL	Night Focus Range Ambient	
Add / Edit Users	AF AI when PTZ On		Auto Flip Off
Maintenance	Fast Shutter Off ~	Night Aperture 6	Upright Mount
	Near Focal Limit 4 m	Night Noise Reduction 1	
Browser	Steady Shot Off	Night Presets On	
🕞 Logout		Dim Lights Angle Off	Status Refresh Rate Slow
	White Lights	Dim Lights Intensity 100%	
	White Lamps On	Night HLC Level Off	
	White Timer 1 min	Night HLC Mask Off	
		Cancel OK	

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

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<ul> <li>Live View</li> <li>Live Video</li> <li>Live Status</li> <li>Settings</li> <li>Video</li> <li>Video Advanced</li> <li>Advanced Features</li> <li>Camera</li> <li>Date &amp; Time</li> <li>Network</li> <li>Interfaces</li> <li>Add / Edit Users</li> <li>Maintenance</li> <li>Browser</li> <li>Logout</li> </ul>	Date & Time         Current       Date 16/09/2016         Format       Date DD/MM/YYYY          Set Time       Set Time         Set manually       Date 08/11/2016         Date 08/11/2016       Time 16 hr         Synchronise with computer time       Date 08/11/2016         Date 08/11/2016       Time 16:11:38         Synchronise with NTP server       NTP Server pool.ntp.org         Timezone       London         POSIX Timezone       GMT0BST,M3 5 0/1,M10	Calibration COMPLETE	OK				

- 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

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Ive View   Live Video   Live Status   Ive Status   Video   Video Advanced   Advanced Features   Camera   Date & Time   Network   Interfaces   Interfaces	el OK	255		

• 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

) 192.168.1.155/logon.ht	tml#		୯ ୧	Search	☆ 自 ♥ ↓	, î
Live View	Interfaces	Aff	initi HD			
Live Video Live Status	Configurable Auxiliary Functions		Force	DNVIF Configuration		
+ Settings	Function	ONVIF Toker	ı	Reported Version	Default	~
Video Video Advanced	Auxiliary 1 Off	~ AUX1		Preset Token Format	Default	$\sim$
Advanced Features	Auxiliary 2 Off	~ AUX2		Authorisation Elevation	Default	$\sim$
Camera Date & Time	Auxiliary 3 Off	~ AUX3		Pan Position Range	) -> 360	~
Network	Auxiliary 4 Off	~ AUX4		Tilt Position Range	) -> 180	~
Interfaces	Auxiliary 5 Off	<ul> <li>AUX5</li> </ul>		Advertise Multicast	Disabled	~
Add / Edit Users	Auxiliary 6 Off			Auxiliary Functions	Configurable, Standard &	Ad ~
Maintenance		✓ AUX6				
Browser	Auxiliary 7 Off	✓ AUX7				
Eogout	Auxiliary 8 Off	~ AUX8				
			Cancel OK			
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## **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.

- 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

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	Username Password Confirm Password	admin ••••• O Admin • Operator • Viewer Cancel Add Authority Administrator		^ ^	È.		•	Ŷ	
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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.

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Live View	Browser	Affiniti HD			
Live Video Live Status	Video Plugin				
Video	Video Plugin	VLC VINICAST Transport UDP V Network Latency 250 msec Down	oad		
Video Advanced Advanced Features Camera	Desktop Application				
Date & Time Network Interfaces	Download	Framework Application			
Add / Edit Users	Notes				
Browser     Logout		FAQ Acknowledgements ease be aware that this user interface may save some data as cookies - the			
	C	noice/configuration of web plugin and (if selected) the username/password.			
		Cancel OK			
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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	Seek 64	IR	Seek 66
	(On)	(mono/colour not changed)	(Off)
(when it is dark)	Seek 65	White Lights	Seek 66
	(On)	(mono/colour not changed, no timer)	(Off)
Night Sensor	Seek 67		Seek 68
(when it is dark)	(Mono)		(Colour)
Night Focus Range	Seek 69		Seek 70
(when it is dark)	(Ambient)		(IR)
White Lights	Seek 100	White Lights	Seek 101
(when it is dark)	(On)	(change to colour, timer used)	(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. (See section Locating the Affiniti HD on your network - page 36).

## 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 antibird 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.

## ©2017 ALL DESIGNS AND SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

# **17 PSU Enclosure**

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

# 18 1080p Stream Resolutions & RTSP Links

	Resolution		Resolution
	720p (1280 x 720)		720p (1280 x 720)
H.264	D1 (720 x 576)	MPEG4	D1 (720 x 576)
(rtsp://ipaddress/h264main)	SXVGA (1280 x 960)	(rtsp://ipaddress/mpeg4main)	SXVGA (1280 x 960)
	1080p (1920 x 1080)		1080p (1920 x 1080)

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

	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)	
	1080p (1920 x 1080)	QVGA (432 x 240)	
	1080p (1920 x 1080)	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)		
	1080p (1920 x 1080)	QVGA (432 x 240)		
	1080p (1920 x 1080)	D1 (720 x 576)		

	Resolution			
	720p (1280 x 720)	QVGA (432 x 240)		
Dual H.264	D1 (720 x 576)	D1 (720 x 576)		
(rtsp://ipaddress/h264main) (rtsp://ipaddress/h264sub)	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				
	720p (1280 x 720)	QVGA (432 x 240)			
Dual MPEG4	D1 (720 x 576)	D1 (720 x 576)			
(rtsp://ipaddress/mpeg4main) (rtsp://ipaddress/mpeg4sub)	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)	

# 19 720p Stream Resolutions & RTSP Links

	Resolution				Resolution
H.264	720p (1280 x 720)		MPEG4		720p (1280 x 720)
(rtsp://ipaddress/h264main)	D1 (720 x 576)		(rtsp://ipaddress/mpeg4	main)	D1 (720 x 576)
			Resolution		
	MJPEG (rtsp://ipaddress/mjp	eg)	720p (1280 x 720)		
	Resolution				

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

	Resolution				
Dual MPEG4 (rtsp://ipaddress/mpeg4main)	720p (1280 x 720)		Q	VGA (432 x 240)	
	D1 (720 x 576)		I	D1 (720 x 576)	
(rtsp://ipaddress/mpeg4sub)	D1 (720 x 576)		QVGA (432 x 240)		
	720p (1280 x 720)			D1 (720 x 576)	
		R	eso	lution	
H.264( <i>rtsp://ipaddress/h264main)</i> & MPEG4( <i>rtsp://ipaddress/mpeg4sub</i> )		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

