**Illustra Pro PTZ**

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NOTE:

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3610-0587-01 A0

# …………………………………………………………………… ………Contents

[1. Description 3](#_Toc436990434)

[2. Performance Specifications 4](#_Toc436990435)

[3. Technical Specifications 8](#_Toc436990436)

[3.1 Video 8](#_Toc436990437)

[3.2 Operational 9](#_Toc436990438)

[3.3 Network 10](#_Toc436990439)

[3.4 Electrical 11](#_Toc436990440)

[3.5 Surge Protection 12](#_Toc436990441)

[3.6 Mechanical 12](#_Toc436990442)

[3.7 Environmental 13](#_Toc436990443)

[3.8 Regulatory 13](#_Toc436990444)

[3.9 Base Protocol and Underlying Layers 13](#_Toc436990445)

[3.10 Network Name Resolution 14](#_Toc436990446)

[3.11 Email 14](#_Toc436990447)

[3.12 Discovery 15](#_Toc436990448)

[3.13 ONVIF Video and Control Interface 15](#_Toc436990449)

[3.14 Interface Technical Specifications 15](#_Toc436990450)

[3.15 ONVIF Functions Supported 16](#_Toc436990451)

[3.16 ONVIF Extensions Supported 16](#_Toc436990452)

[3.17 ONVIF Functions Not Supported 16](#_Toc436990453)

[3.18 microSD Card 17](#_Toc436990454)

# Description

The Illustra Pro PTZ operates across an IP network, e.g. the Internet, a LAN or WAN. The video output from the camera is compressed and sent across the network using IP transport mechanisms. PTZ camera control allows complete functionality at a remote location connected by any kind of IP network. A built-in web server provides web pages to configure the dome and streams the video using a customer-selected set of protocols with a standardized transport stream. This will also support other metadata and audio as required. Emails and movie clips (AVI) may be sent across the network in response to alarms. The Illustra Pro PTZ can operate as a standalone camera on a network however it is intended to be integrated into sophisticated security solutions.

The Illustra Pro PTZ can network with network video recording systems using Illustra API v3.3. These systems include American Dynamics victor Unified Client, American Dynamics VideoEdge NVR, and VideoEdge Hybrid.

The Illustra Pro PTZ is a Network Video Transmitter, NVT, compliant with ONVIF 2.2 profile S standards, and can interface with network video clients supporting ONVIF.

The Illustra Pro PTZ is compatible with the Tyco Security Products Illustra Connect tool which provides discovery, configuration, firmware upgrade and diagnostics using ONVIF and WS Discovery protocols.

The features include the following:

* Mega pixel HD 1080p Resolution 30fps, 30X Optical zoom
* Features 12X Digital Zoom
* Zoom Steps
* Motion Detection
* Motion Tracking
* Intelligent Guard Tour
* Progressive scan with square pixels
* IEEE 802.1x
* Secure File Transfer Protocol (SFTP)
* Simple Network Management protocol (SNMP)
* Common Internet File System protocol (CIFS)
* Camera set-up
  + Automatic white balance (AWB) or adjustable Manual White Balance (MWB)
  + AGC On/off and limit
  + True day night (TDN) automatic or manual
  + Image freeze selectable for moving to presets
  + Real Time Continuous Auto Focus
  + Open Shutter (DSS) to extend low light performance
  + Wide Dynamic Range Mode (WDR)
  + Frame Noise Reduction (FNR)
  + Electronics Image Stabilization (EIS)
  + Defog
  + Enhanced Intensity
  + Whiteout Reduction

An efficient design allows Feature Plus models to provide bi-directional audio, alarm inputs, and auxiliary outputs only when required.

Indoor units have a modern low profile design which can easily be mounted to any ceiling. This sleek black design camouflages the lens, and provides simple twist lock installation. Optional white and black enclosures are available to provide clear or smoked bubbles when desired. Also, recessed mounting options are available with clear and smoked bubbles.

# Performance Specifications

The Illustra Pro PTZ supports codecs including H.264 and MJPEG.

Website security is handled via passwords and three access rights established during enrollment. The ONVIF interface security uses WS-Security Username Token and user management as per the ONVIF specification.

The following configurations and controls are accessible via the web:

* Live video and camera controls, as well as configuration of video, presets, patterns, scan, sequences, privacy zones, audio and camera settings.
* Configuration of the PTZ programmable control functions, overlay settings, areas within the field of view, alarms, privacy zones, scheduled tasks, video settings and audio.
* Networking configuration of camera date and time, TCP/IP, user rights, SMTP, FTP, firewall, multicast, DDNS, general maintenance and advanced settings.

All connections to the Illustra Pro PTZ are via connectors outside the housings. No installer connections are necessary inside the housings.

The Illustra Pro PTZ supports Ethernet 100/100 Base-T via a RJ45 connection with support for HTTP, TCP/IP, RTP, RTSP, DHCP, multicast, and DDNS client protocols.

The Illustra Pro PTZ supports live video via the web pages using Internet Explorer 10 or higher, Firefox or proprietary client software.

The Illustra Pro PTZ outdoor models use 24V AC power.

The Illustra Pro PTZ indoor models use 24V AC or Power over Ethernet Plus IEEE 802. Class 4.

The pan mechanism incorporates sealed precision gold plated bifurcated slip ring contacts to provide 360° of continuous pan rotation. The tilt mechanism provides for 105°of mechanical travel, and a full 210° using the digital auto flip feature. Precise manual panning and tilting is achievable through a combination of variable-speed operator control (speed ranges) and automatic adjustment of these speed ranges dependent upon zoom factor. Manual pan and tilt speeds range from 0.25° to 100° per second. Preset pan speeds are 512° per second, and preset tilt operating speeds are 512° per second. Pan and tilt speeds are automatically adjusted by the zoom factor to allow the user the same ease of control, regardless of the field of view. High-speed ironless core direct-drive DC servomotors for low motor inertia, with planetary gearboxes, dynamic motor braking, ceramic bushings, and precious metal brush contacts are used to maintain high torque through the entire operating range. These motors use pulse-width modulation and encoder feedback to control the acceleration, speed, and deceleration of the motors to ensure smooth, precise, accurate, and fluid movement. The design uses DC direct-drive motors and no belt to ensure long-term reliable operation.

Additional camera features include True Day/Night, Wide Dynamic Range (WDR), Automatic White Balance AWB, Auto Iris, Automatic Gain Control AGC, and image freeze.

The Illustra Pro PTZ has smooth and accurate control functions including pan, tilt, zoom, focus, and iris; and a manual flip function that immediately performs a 180° pan for tracking subject moving below.

The Illustra Pro PTZ supports PTZ programmable control functions including preset positions, preset sequences, programmable patterns, scan area and zoom stops, which can be called automatically or manually by users.

The Illustra Pro PTZ provides 96 Presets where each is a pre-positioned camera scene that can be programmed, and have user-defined titles.

The Illustra Pro PTZ provides 16 patterns, which are a series of pan, tilt, zoom and focus movements, which can be saved in the dome, and replayed upon command. Patterns must be selectable for repeating or single play. In either case they can be interrupted by a new command.

The Illustra Pro PTZ provides Apple Peel, which is a predefined pattern stored on the camera by default that covers the entire viewing area. This pattern slowly pans 360° starting at the ceiling line. It then tilts 30° and pans 360 ° again, repeating until the entire viewing area is covered. The pattern will repeat continuously until interrupted by a camera command, preset, scan or alarm.

The Illustra Pro PTZ provides a scan feature, which allows you to program left and right scan limits for automated surveillance. Once these scan limits are programmed you can choose to run a smooth scan, stepped scan, or random scan. The scan tilt and zoom position will be defined by the left limit. When active, the scan repeats until interrupted by a camera command, preset, pattern or alarm.

The Illustra Pro PTZ provides 16 Sequences, which are a sequential display of multiple camera Presets. Sequences provide a methodical and effective way to monitor multiple areas of interest by switching to different Presets automatically. Sequences are created by identifying Preset views to include in the Sequence and specifying a dwell time that controls how long each Preset remains on-screen before switching to another Preset. Each sequence can include up to 16 steps (Presets).

The Illustra Pro PTZ provides a home position function, which can select a preset, pattern, scan, or sequence that automatically runs after a designated period of dome inactivity. This option can be used if you want to keep a specific area under surveillance when the dome is not otherwise being controlled.

The Illustra Pro PTZ provides 32 Privacy Zones, which are “masked” sections of the dome’s viewing area. These masks prevent operators of the surveillance system who do not have access to the dome password from viewing these designated zones. Each zone has four sides, and the zones may overlap to form irregular shapes. The Privacy Zones move in relation to the dome pan/tilt positions and the apparent size of the Privacy Zone adjusts automatically as the zoom level is adjusted, in order to prevent observation of the selected area.

The Illustra Pro PTZ provides Areas, which are sections within the viewable space that can be labeled.

The Illustra Pro PTZ uses DNS protocol to resolve network names and also DDNS Dynamic Domain Name System for updating, in real time, a changing IP address on the Internet to provide a persistent domain name for a resource that may change location on the network per RFC 2136 Dynamic Updates in the Domain Name System.

The Illustra Pro PTZ supports NTP for time synchronization.

The Illustra Pro PTZ supports sending IP multicast streams of audio, video and metadata

The Illustra Pro PTZ is able to send email alerts via SMTP to one specified mailbox using a specified SMTP server. The product supports basic authenticated SMTP using username and password for login on the SMTP server.

The Feature Plus versions of the Illustra Pro PTZ provide access for using either a micro SD card of up to 128GB which can be used for video alarm storage, audio output, pre-recorded clips and Applications. The connector for card insertion and removal is in the eyeball (if a bubble is used it must be removed to access)

The Illustra Pro PTZ combines Stepped Scans or Sequences and Motion Tracking to introduce the Intelligent Guard Tour feature. This feature allows the camera to monitor different fields of view, configured using a stepped scan or a sequence, for motion. If motion is detected the camera will track the motion keeping the object center frame and in focus by automatically adjusting the PTZ settings. The camera will track the motion until either there is no motion is detected in the Field Of View or the Motion Tracking Duration timer limit has been reached. Once the camera finishes tracking it will return to the programed Scan or Sequence it was performing before the motion was detected

The product supports WS-Discovery for discovery purpose.

The Illustra Pro PTZ supports the IEEE 802.1x security feature which provides port based network access control.

The Illustra Pro PTZ supports Secure File Transfer Protocol (SFTP).

The Illustra Pro PTZ supports Simple Network Management protocol (SNMP).

The Illustra Pro PTZ supports Common Internet File System protocol (CIFS).

The Illustra Pro PTZ is supplied with a copy of Illustra Connect; an MS-Windows based discovery application, which will allow any Illustra camera and other ONVIF cameras (some cameras might be incompatible) on a network to be discovered. For each camera found on the network, the discovery tool will list and allow display filtering by the following:

* Device Name
* Hostname
* IP Address
* Model Name
* Product Code
* Manufacturer
* Firmware Version
* Status
* MAC Address

The Illustra Pro PTZ interfaces with the Illustra Connect application to provide a robust tool for discovery, snapshot, configuration, diagnostics, and firmware upgrade; the following is provided:

* As an alternate to the list display a snapshot view of all cameras can be displayed.
* Device properties windows can be opened to show a snapshot of the camera view, network settings, UUID (ONVID identification code), serial number, and many other device properties.
* Support of IPv4 and IPv6 together or separately with user choice preference for dual stack devices.
* Resolve IP address conflicts and configure devices with static IP addressed or DHCP
* Configure individual device network setting.
* Provides a device list in exportable CVS format
* User account control to secure full administrator access
* Device maintenance allows individual device configuration
* Device maintenance allows three types of reset/reboot:
  + Reset to factory defaults and change IP settings
  + Reset to factory defaults and preserve IP settings
  + Reboot maintaining current settings
* Multiple devices can be updated with one operation for the following:
  + Time
  + Date
  + NTP server
  + Upgrade firmware
  + User accounts
  + Network settings
* Provided as a virtualized standalone .exe file that does not require PC installation. This self-contained version of Illustra Connect can run with no prerequisites, and can also be used from a USB flash drive.
* The Illustra Connect tool is also available as an installation setup file which will be able to store any user specified detail such as security settings and network preferences for future use.
* Both the virtualized and installation files of Illustra Connect are available for download from the [www.IllustraCameras.com](http://www.IllustraCameras.com) and [www.AmericanDynamics.net](http://www.AmericanDynamics.net) websites.
* Supports all the language options of the Illustra Pro PTZ camera

**The following information is available for display in the Illustra Pro PTZ GUI:**

**Model Information**

* Camera Name
* Model
* Product Code
* Manufacturing Date
* Serial Number
* MAC Address
* Firmware Version
* Hardware Version
* iAPI Version

**Statistics and General Information**

* Operating Time (days-hrs:mins)
* Uptime (days-hrs:mins)
* User Resets
* Power Resets
* Total ROM (MByte)
* Total RAM (MByte)
* Free RAM (MByte)
* PTZ Summary:
  + Pan Rights
  + Pan Lefts
  + Tilt Down
  + Tilt Up
  + Zoom Out
  + Zoom In

The System Log is available for display in the GUI, this provides the most recent messages from the Unix /var/log/messages file, and the information will include the following:

* Messages about system behavior such as process startup/shutdown.
* Warnings about recoverable problems that processes encounter.
* Error messages where processes encounter problems they cannot fix, even if it can continue to work.

The Illustra Pro PTZ provides a Boot log, which is a log of the Linux operating system boot processes and is useful to Tyco Security Products support engineers who require additional information on the device.

**Current Faults**

* + - # - details the fault index.
    - **Fault** - a description of the fault.
    - **Date created** - the time and date when the fault occurred.
    - **Component** - internal software component that raised the fault either DIOM (Digital Input Output Monitor) or ENVM (Environmental Monitor).
    - **Severity** - indicates how serious the fault is. The following are supported, in increasing order of severity, Clear, Warning, Critical and Error.
    - **Detail** - extra information that supplements the fault description.
    - **Delete** -remove the fault from the fault table.

The Illustra Pro PTZ provides viewing of Alarm Output status.

# Technical Specifications

## Video

|  |  |
| --- | --- |
| **Specification** | **Details** |
| Imager | 1/2.86” Progressive CMOS |
| Scanning area | 5,346(H) mm x 3,003(V) mm |
| Pixel size | 2.75 um square |
| Output Pixel Format | 1920(H) x 1080(V) 2.07MP |
| Effective pixels | 1944(H) x 1092(V) 2.12M |
| Scanning System | Progressive |
| Rate | 1 to 30 ips |
| Wide Dynamic Range | On/Off |
| Day/Night | Yes, True day night with mechanical cut filter removal mechanism |
| Auto Tracing White Balance | Yes |
| Automatic Gain Control | Selectable AGC On/off and limit |
| Freeze frame | Compliant |
| Digital Zoom | 12 X |
| Shutter Speed | 1/2 - 1/30,000 sec (Auto) |
| Lens | 30X optical zoom, 835 pixels per degree (telephoto) |
| Lens Design | Aspherical |
| Horizontal Field of View | 63.4° (wide); 2.3° (telephoto) |
| Vertical Field of View | 37.3° (wide); 1.3° (telephoto) |
| Aperture (Aspherical Design) | F1.4~F4.6 (wide~telephoto) |
| Focal Length | 4.4mm~132mm (wide~telephoto) |
| Minimum Scene Illumination | 0.4 Lux Color, AGC on, 1/30s  0.1 Lux Color, AGC on, 1/8s  0.04 Lux B&W, AGC on, 1/8s |
| Supported Codecs | H.264 and MJPEG up to 1080p 30ips |
| Codec Streams | 2 any codec, resolution quality/bit rate settings |
| IP Video Streams | 4 maximum including codec sharing duplicate streams  Resolutions  (1920 x 1080) 1080p  (1600 x 900) HD+  (1280 x 720) 720p  (1024 x 576) PAL+  (960 x 540) qHD  (800 x 450)  (640 x 360) nHD  (480 x 270)  (320 x 180)  (160 x 90) |
| MJPEG | Quality: 1-100 |
| H.264:  Profile:GOP:  Rate Control  Frame Skip:  Bit Rate (CBR)  Quality (VBR) | High level 4.2  1-150  CBR, VBR With CBR  Selectable: 16 kbps to 10 Mbps  Highest, High, Medium, Low, Lowest |

## Operational

|  |  |
| --- | --- |
| **Specification** | **Details** |
| Manual Pan/Tilt Speed | 0.25° to 100° per second scaled in proportion to zoom position |
| Preset Pan/Tilt Speed | 512° per Second Maximum |
| Pan Travel | 360° continuous, no end stop |
| Tilt Travel | 105°; 210° with the Tilt auto flip feature |
| Tilt and Pan Accuracy | +/- 0. 25° |
| Zoom and Focus Accuracy | +/- 0.5% |
| Preset access Time | Less than 1 second to position. Full zoom position in < 4 seconds. Focus on dome saved presets is < 1  second |
| Presets | 96 |
| Patterns | 16 |
| Sequences | 16 |
| Areas | 16 |
| Privacy Zones | 32 |

|  |  |
| --- | --- |
| External Storage | Micro SD/SDHC card slot for up to 128  GB card |
| Feature Plus Models:  Alarm Inputs  Auxiliary Output  Audio Compression | 4  One form 1-C relay  G711 |
| Language selection | Arabic, Chinese (Simplified), Chinese (Traditional), Czech, Danish, English (default), French, German, Hungarian, Italian, Japanese, Korean, Dutch, Polish, Portuguese (Brazilian), Spanish, Swedish, Turkish. |
| Program Storage | 256 M Bytes of electrically programmable Flash Memory |
| Data Storage | 1 GB Bytes of DDR3 RAM |
| Programmable Logic | FPGA with 24,051 logic cells |

## Network

|  |  |
| --- | --- |
| **Specification** | **Details** |
| Base Protocol | TCP/IP - RFC4614 |
| Internet Layer Addressing | IPv4 - RFC791  IPv6 - RFC2460 |
| Transport Layer | TCP - RFC973  UDP - RFC768 |
| Data Transmission | HTTP - RFC2616  FTP - RFC959 |
| Network Address Configuration | DHCP - RFC2131  Zeroconf - RFC3927  Static IP address |
| Network Name Resolution | DNS - RFC5395  DDNS - RFC 2136 |
| Time Synchronization | NTP - RFC1305  IETF NTP Working Group  1 minute poll rate |
| Email | SMTP - RFC5321  Authenticated SMTP - RFC4954 |
| Authentication and Security | TLS - RFC5346  HTTPS (HTTP over TLS) - RFC2818  WS-Security  Multi-level password protection  User access log |
| Discovery | WS-discovery - ws-discovery.pdf |
| Streaming | RTP - RFC3550  RTSP - RFC2326  Unicast Streaming  Multicast Streaming - RFC1112 level 1 |
| External Interface Protocol | Illustra API 3.3  B0 SOAP - SOAP 1.2  ONVIF  WS-Addressing  WS-Eventing |

## Electrical

For Illustra Pro PTZ indoor models, power can be provided by PoE Plus or by a 24 VAC power line. Local powering is possible for indoor models, with the capability to have both sources connected at any time. The local powering option will always be available, whatever the POE status. If both power sources are connected, the first power source connected will provide all power until power goes away. The power source connected second will serve as backup power and power the dome if the first source fails

The Illustra Pro PTZ outdoor models use 24V AC power.

**PoE+**

|  |
| --- |
| Ethernet Plus and be compliant to PoE Plus IEEE 802.3at |
| Class 4 |
| Up to 100m (300 feet) |
| Compliance verification |

**24 VAC**

|  |  |
| --- | --- |
| **Specification** | **Details** |
| Input Voltage | 22 to 30 VAC, Class 2 LPS |
| Line Frequency | 50/60 Hz |
| Max Current Indoor | 1.4 amps RMS |
| Max Current Outdoor | 2.5 amps RMS |
| Power on in rush current | 18 Amps for 5 ms |
| Connector | Pluggable Euro-style 3 pin 3.5mm terminal block connector |
| Design Tolerance | Input minimum: 19 VAC RMS without dropout  Input Maximum: Voltage >35 VAC RMS may damage equipment  Line Frequency: 47-63 Hz  Allowable drop out: 30 ms |

## Surge Protection

|  |  |
| --- | --- |
| **Specification** | **Details** |
| Power Line | TVS rated at 60V, 250A, 1.5 Joules, 8/20us impulse |
| IP | Data lines isolation transformer coupled |
| Audio | TVS rated at 5V, 300 watts, 8/20us impulse  Gas discharge tube impulse rated at ten  8/20 us 5kA Impulses |
| Alarm Input | TVS rated at 3.3V, 500 watts, 8/20us impulse  Gas discharge tube impulse rated at ten  8/20 us 5kA Impulses Optocoupled with  500V isolation |
| Auxiliary output | Dry contact relay with1, 500 volt galvanic isolation |

## Mechanical

|  |
| --- |
| Indoor Model:  Height (Includes Base) 178mm (7.01”) Diameter 154 mm (6.06”) |
| Weight 2.06 kg (4.5 lb) add 0.50Kg (1.1 lb) for indoor housing with bubble |
| Outdoor Model:  Height (Includes Pendant Adaptor) 372mm (14.65”) Diameter 257 mm (10.12”) |
| Weight Fully Assembled (Includes Pendant Adaptor): 6.45kg (14.22lbs) |
| Die cast Aluminum inner housing (Aluminum alloy LM6 or ADC12) |
| Reinforced fiberglass high impact polycarbonate trim ring |
| UV stabilized sun shade and trim ring (Lexan 503R-73083) |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Ceiling Surface Mount without Bubble** | **Ceiling Surface Mount with Bubble** | **Recessed Ceiling Mount without Bubble** | **Recessed Ceiling Mount with Bubble** | **Indoor Pendant Mount with Bubble** | **Outdoor with Bubble and Sun shade** |
| **Diameter** | 154mm  (6.06in) | 210mm  (8.27in) | 180mm  (7.09in) (body) | 245mm (9.65in) (flange) | 257mm  (10.12) | 257mm  (10.12) |
| **Total**  **Height** | 178mm  (7.01in) | 213mm  (8.39in) | 165mm  (6.50in) | 280mm  (11.02in) | 320mm  (12.60) | 372mm  (14.65) |
| **Height Below Ceiling** | 191mm  (7.52in) | 213mm  (8.39in) | 5mm (0.20in) | 116mm  (4.57in) | NA | NA |

## Environmental

|  |  |
| --- | --- |
| **Specification** | **Details** |
| Operating Temperature | Indoor:-10°C to 50°C (14°F to 122°F) Outdoor:-40°C to 50°C (-40°F to 122°F) |
| Humidity | 95% non-condensing |
| Storage Temperature | -20°C to 65°C (-4°F to 149°F) |

## Regulatory

|  |  |
| --- | --- |
| **Specification** | **Details** |
| Emissions | FCC: Part 15 Class A CE: EN55022 Class A AS/NZS CISPR 22 Class A ICES-003/NMB-003 Class A |
| Immunity | CE: EN50130-4  CE: EN55024  CE: EN61000-6-1 |
| Safety | UL 60950-1  CSA-C22.2 No. 60950  CE EN60950-1  Outdoor: UL 50 (Type 4) Outdoor: EN60529 (IP66) |
| Environmental | RoHS |

## 

## Base Protocol and Underlying Layers

• The camera is an IP camera compatible with TCP/IP protocol.

• The camera supports both IPv4 and IPv6, running either in single stack mode or dual stack mode (supporting both IP versions at the same time).

• TCP is used for two way communication and UDP will be used for broadcasting protocols.

• HTTP is used for the ONVIF protocol as transport mechanism for SOAP calls.

• FTP can be used to push alarm buffer video clips to a specified remote FTP server. The camera can use anonymous FTP or a specified username and password. There is no incoming FTP service.

IP multicast RFC 1112 level 1 support for sending but not receiving multicast IP datagrams to a group of interested receivers in single transmissions is supported for audio, video and metadata stream types. The steams can be controlled using the two methods described below:

1 A client can request a multicast stream using RTSP. When the client requests a stream the server will respond with a multicast address in the ‘c=’ field of the describe response (RFC

4566). The client will then respond with a Setup request with the Transport Type set to mul- ticast, the device shall stop sending packets for a multicast configuration when no more RTSP sessions are using the same multicast configuration.

2 An RTP multicast UDP stream can be started by an ONVIF ‘StartMulticastStreaming’ request with a specified media profile. Streaming continues until ‘StopMulticastStreaming’ is called for the same profile

Multicast RTSP sessions support the same authentication methods as unicast RTSP sessions.

• Network Address Configuration

• **DHCP (Dynamic Host Configuration Protocol)** will be enabled by default on the camera. During the boot process, the camera will attempt to acquire a network address via DHCP. The DHCP client will be configured to do 3 attempts with a 20 second timeout.

• **Static IP** can be used if the camera cannot be found on the network using DHCP. In this mode, the static IP address, subnet mask, default router and a primary and secondary DNS server can be configured. This will be used by the camera when turned on. It is possible to assign a static IPv4 address while still allowing the IPv6 addressing to be Link Local (automatically assigned).

• **Dynamic DNS or DDNS Dynamic Domain Name System** is supported for updating, in real time a changing IP address on the Internet to provide a persistent domain name for a resource that may change location on the network. RFC 2136 Dynamic Updates in the Domain Name System. In this situation the camera talks only to the DHCP server and the DHCP server is responsible for updating the DNS server. The camera sends its hostname to the DHCP server when requesting a new lease and the DHCP server updates the DNS records accordingly. This is suitable for an intranet style configuration where there is an internal DHCP and DNS service and the user wants only to access their camera within their own network.

By default, when making a DHCP request the camera will transmit its hostname as part of the DHCP request. This option is not user configurable. The cameras hostname matches the configurable parameter “camera name” on the web GUI. Any DHCP request will contain the cameras hostname for use of the DHCP server to forward to an appropriate DNS server.

## Network Name Resolution

The camera uses DNS protocol to resolve network names. DNS server address will be acquired via DHCP or manually set for static IP configuration. Camera configuration supports symbolic names for all remote end-points (except DNS servers) but in this mode will depend on a working and correctly configured remote DNS server.

## Email

The camera can send email alerts via SMTP to one specified mailbox using a specified SMTP server. Support is provided for basic authenticated SMTP using username and password for login on the SMTP server.

## Discovery

The product supports WS-Discovery for discovery purpose.

A copy of Illustra Connect is supplied with the camera, this is a MS-Windows based discovery application, which will allow discovering any Illustra camera on a network; OS Compatibility: MS- Windows XP, MS-Windows Vista, MS-Windows 7 & 8.

For each camera found on the network, the discovery tools will report:

• Serial number.

• Model Name.

• Product Code (HardwareID).

• MAC address.

• Current IP address.

• Firmware version.

This tool will allow configuration of:

• DHCP

• Static IP configuration

• Select a number of cameras and push a firmware update via ONVIF

## ONVIF Video and Control Interface

The primary video and control interface to the camera is the Open Network Video Interface Forum global standard for the interface of network video products. This uses SOAP over HTTP. The camera provides ONVIF for integration to internal and external systems.

## Interface Technical Specifications

|  |  |
| --- | --- |
| **Specification** | **Details** |
| Description Language | WSDL |
| Web Services Specification | DPWS |
| Web Services Tool Kit | WS4D |
| Web Services Protocol | SOAP |
| Message Format | XML |
| Discovery | WS-Discovery |
| Security | WS-Security |
| Video Transport | RTP/RTSP |
| Audio Transport | RTP/RTSP |
| Event Handling (alarms) | WS-Eventing  WS-Base Notification  WS-Topics |
| Service Connection | WS-Addressing |
| Security Permissions | WS-Policy (ken to think about) |
| Data Object Exchange Spec. | WS-Transfer |

## ONVIF Functions Supported

The following ONVIF functions are supported on the camera:

**Device Management**

Return List of Capabilities

Network Management

• Discovery

• DHCP hostname

• DNS

• NTP

**System Management**

• Device information

• Backup

• Restore

• Get/set system date and time

• Set camera to factory defaults

• Get system logs

• Get support information

• Reboot

• Get/set/remove scope (assigns ID data)

• Fault codes

**Security**

**Configure Video and Audio**

• Video Source

• Snapshot JPEG

**Event Handling Basic Notification Interface**

## ONVIF Extensions Supported

No ONVIF extensions are anticipated for the initial release.

## ONVIF Functions Not Supported

The following ONVIF functions are not supported on the camera:

• Audio configuration

• Video compression standards other than H.264, and MJPEG.

• PTZ control including ePTZ, presets and home position.

## microSD Card

External access is provided for a microSD for video alarm storage and audio output pre-recorded clips. The maximum size of microSD card that can be used with the camera is 128GB.

Refer to the Quick Reference Guide provided with the camera for information on how to remove and install the microSD Card.