

Release Notes

Illustra Pro Gen 4 12MP Fisheye Camera

Product Code	Model Name	Firmware
IPS12-F27-OIA4	Illustra Pro Gen 4, 12MP Fisheye camera	Illustra.SS019.01.01.06.3354 & Illustra.SS019.01.02.00.3358

Product Data

Visit the IP Cameras section of our web site, www.illustracameras.com, to download datasheets and other documentation in PDF format.

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Note

In case of discrepancy, the information in this document supersedes the information in any document referenced herein.

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What's in This Release

What's New

Firmware - Illustra.SS019.01.01.06.3354 & Illustra.SS019.01.02.00.3358

Build Illustra.SS019.01.02.00.3358 introduces Firmware Encryption which enhances the security and authenticity of firmware.

Note: To upgrade to firmware Illustra.SS019.01.02.00.3358 or later versions, it is essential that any cameras currently on firmware SS019.01.01.01.3184 or lower versions must first upgrade to firmware Illustra.SS019.01.01.06.3354 prior to installing any later versions.

Firmware Illustra.SS019.01.01.06.3354

- Support for additional resolutions in Client dewarp mode.
- Cyber Security updates.
- Enhancements in SD card management & Edge recording.

Previous Firmware

Firmware Illustra.SS019.01.01.01.3184

Adds the following:

- Multicast
- Tricestor support
- Cyber security updates
- Audio In support for Exacq VMS
- Stream Enhancement
- ONVIF enhancements including: ONVIF 22.06 Conformances for Profile S, G, T, M
- ONVIF Firmware upgrade support

Firmware Illustra.SS019.01.00.04.2932

1. Introduces the following new Illustra Pro Gen 4 12MP Fisheye camera model to the line.

Product Code	Model Name	Description
IPS12-F27-OIA4	Illustra Pro Gen4 12MP Fisheye camera	Illustra Pro Gen4 12MP Fisheye, indoor/outdoor, vandal, TDN, w/IR, TWDR

Key Features

- High resolution, up to 12-megapixel images, Multiple IP streams of H.264, H.264IntelliZip, H.265, H.265IntelliZip and MJPEG video
- Integration with VideoEdge NVR, VideoEdge Hybrid, victor Unified Client, ExacqVision recorders and Clients
- Integration with Illustra Connect v 3.2 and above
- Illustra API v3.4
- ONVIF 22.06 Conformances for Profile S, G, T, M
- Power over Ethernet (PoE)
- Motion Detection support on camera
- True Wide Dynamic Range
- Auto & Manual White Balance Modes
- Eventing with RTP meta-data streaming
- Support for up to nine Regions of Interest
- Support for up to eight Privacy Zones
- Enhanced Security
- Support for FTP, SNMP, SMTP, CIFS, 8021.x and Firewall filtering
- SD card event buffering (requires micro-SD card)
- SD card event download
- Bi-directional; 1 input, 1 output. Built in Microphone
- Outstanding color reproduction
- No dependencies on 3rd Party Utilities for Camera Setup (No QuickTime and Java requirements)
- Expanded Browser Support: Edge, Chrome, Firefox, Safari
- UPnP Discovery
- Easy to install
- Sleek and compact design
- Cloudvue integration
- Offline recording to SD card
- Motion Detection and Blur Detection support on camera

Firmware Upgrade

You can upgrade the camera through the camera web GUI or by using Illustra Connect.

Note: Firmware downgrades are not recommended. If a firmware downgrade is necessary, please contact Support for assistance.

Upgrade Camera Firmware through the Web GUI

NOTE: All camera settings are maintained after you upgrade the camera firmware. It is recommended to clear your browser cache after a firmware upgrade.

Procedure: Upgrade Camera Firmware through the Web GUI

1. Using a supported web browser connect to the camera via the IP Address and login to the Web GUI.
2. Select **Setup** from the web banner to access the setup menus.
3. Select **Maintenance** from the **System** menu and identify the **Camera Upgrade** section.
4. Select **Browse**. The Choose file dialog displays.
5. Navigate to the location where the firmware file has been saved. Select the firmware file then select the **Open** button.
6. Select **Upgrade**. The file transfer begins and a progress bar displays.

Upgrade Camera Firmware through Illustra Connect

NOTE: All camera settings are maintained after you upgrade the camera firmware.

Procedure: Update Camera Firmware through Illustra Connect

1. Install and launch the Illustra Connect software utility.
2. From the displayed list of cameras; right-click on the camera requiring the software upgrade.
3. Select **Upgrade Firmware**. The Firmware Upload window will display.
4. Select **Choose File** and browse to the firmware upgrade file.
5. Select **Upgrade** to start the upgrade.

Features

Accessing the Illustra Pro Gen 4 Series Camera Web User Interface

1. Select a supported browser and navigate to the camera IP address.
2. When you select the camera, the sign in page is displayed.
3. Select your preferred language from the drop-down menu. The default language is English.
4. Enter the default username and password when prompted - Username: admin, Password: admin.
5. Click **Log in**. The camera Web User Interface is displayed. The first time that you access the camera, or after a factory reset, you are prompted to input a HOSTID and **Select a Security Type**.

Select a Security Type: Standard Security or Enhanced Security. If you are keeping Standard Security, a password change is enforced. If you select the Enhanced Security option, you are required and instructed to create a complex password.

See below for further information on Security configuration.

Security Modes Summary

Standard Security

1. Default admin password change is enforced.
2. Changes to communication protocols is available to all users with appropriate privileges.
3. Password's complexity is set to require minimum of any 5 characters (admin cannot be used).
4. Authentication Method is set to basic by default.

Enhanced Security

1. Unsecure Protocols are disabled by default until enabled by a user.
2. Discovery Protocols are disabled by default until enabled by a user.
3. Changes in the protocols will only be available to a user with administrative privileges and require that user to re-enter their password.
4. Default admin username & password change is enforced.
5. Usernames for all accounts must meet the Username Password Complexity Requirements, which are detailed below.
6. Passwords for all accounts must meet the Password Complexity Requirements, which are detailed below.
7. AUTHENTICATION OF VIDEO STREAM.
8. Authentication Method is set to HTTPS Digest by default (HTTP disabled).

Note: When applying Enhanced security all these changes will be done automatically, but if changing from Enhanced to Standard the settings will not be changed automatically – to reset to standard profile user will need to do changes manually or factory reset camera and select standard Security when prompted.

Enhanced Security

The Enhanced Security feature intends to advance the security of the Illustra cameras by enforcing security best practices and adding features to allow the installer and end-users to customize the camera's security to meet their controls.

Username and Password Complexity Requirements

Username Complexity for Enhanced Security Mode:

- a. Minimum characters: 5

Password Complexity for Enhanced Security Mode:

- a. Minimum characters: 8
- b. Have least one character from each of the following character groups:
 - i. upper case letters ABCDEFGHIJKLMNOPQRSTUVWXYZ
 - ii. lower case letters abcdefghijklmnopqrstuvwxyz
 - iii. numeric characters 0123456789
 - iv. Special characters @ % + \ / ' ! # \$ ^ ? : , () { } [] ~ - _ `
- c. The password cannot contain the username.

How to restore admin/admin:

1. Restore factory default camera.

Analytics

	Motion Detection Metadata	Motion Detection Events	Blur Detection Events
Illustra Pro Gen4 12MP Fisheye camera	No	Yes	Yes

Stream Tables

Client Dewarp Mode

Client Dewarp Mode						
Fisheye Streams (True WDR = OFF)						
Resolution	Aspect ratio	Codec	FPS	Single Fisheye Stream	Dual Fisheye Stream	Treble Fisheye Stream
9M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2992x2992	2992x2992 + 960x960 (accept all under this resolution)	2992x2992 + 640x640 (accept all under this resolution) + 384x384 (accept all under this resolution)
4M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2048x2048	2048x2048 + 2048x2048 (accept all under this resolution)	2048x2048 + 2048x2048 (accept all under this resolution) + 960x960 (accept all under this resolution)
Fisheye Streams (True WDR = ON)						
Resolution	Aspect ratio	Codec	FPS	Single Fisheye Stream	Dual Fisheye Stream	Treble Fisheye Stream
9M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	25	2992x2992	2992x2992 + 960x960 (accept all under this resolution)	2992x2992 + 640x640 (accept all under this resolution) + 384x384 (accept all under this resolution)
4M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	25	2048x2048	2048x2048 + 2048x2048 (accept all under this resolution)	2048x2048 + 2048x2048 (accept all under this resolution) + 960x960 (accept all under this resolution)

Edge Dewarp Mode

Edge Dewarp Mode					
Fisheye + Fisheye					
Resolution	Aspect ratio	Codec	FPS	Single Fisheye Stream	Fisheye + Fisheye
9M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2992x2992	2992x2992 + 960x960(accept all under this resolution)
4M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2048x2048	2048x2048 + 2048x2048(accept all under this resolution)
Fisheye + Wall Panorama					
Resolution	Aspect ratio	Codec	FPS	Single Fisheye Stream	Fisheye + Wall Panorama
9M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2992x2992	2992x2992 + 960x960(accept all under this resolution)
4M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2048x2048	2048x2048 + 2048x2048(accept all under this resolution)
Fisheye + Active Image					
Resolution	Aspect ratio	Codec	FPS	Single Fisheye Stream	Fisheye + Active Image
9M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2992x2992	2992x2992 + 960x960(accept all under this resolution)
4M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2048x2048	2048x2048 + 2048x2048(accept all under this resolution)

Edge Dewarp Mode					
Fisheye + Ceiling Panorama					
Resolution	Aspect ratio	Codec	FPS	Single Fisheye Stream	Fisheye + Ceiling Panorama
9M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2992x2992	2992x2992 + 960x960(accept all under this resolution)
4M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2048x2048	2048x2048 + 2048x2048(accept all under this resolution)
Fisheye + Quad Image					
Resolution	Aspect ratio	Codec	FPS	Single Fisheye Stream	Fisheye + Quad Image
9M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2992x2992	2992x2992 + 960x960(accept all under this resolution)
4M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2048x2048	2048x2048 + 2048x2048(accept all under this resolution)
Wall Panorama + Fisheye					
Resolution	Aspect ratio	Codec	FPS	Single Fisheye Stream	Wall Panorama + Fisheye
2M	1:1	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	1920x1080	1920x1080 + 2048x2048(accept all under this resolution)

Edge Dewarp Mode					
Wall Panorama + Wall Panorama					
Resolution	Aspect ratio	Codec	FPS	Single Wall Panorama	Wall Panorama + Wall Panorama
2M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	1920x1080	1920x1080 + 1920x1080(accept all under this resolution)
Active Image + Fisheye					
Resolution	Aspect ratio	Codec	FPS	Single Active Image	Active Image + Fisheye
2M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	1920x1080	1920x1080 + 1920x1080(accept all under this resolution)
Active Image + Active Image					
Resolution	Aspect ratio	Codec	FPS	Single Active Image	Active Image + Active Image
2M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	1920x1080	1920x1080 + 1920x1080(accept all under this resolution)

Edge Dewarp Mode					
Ceiling Panorama + Fisheye					
Resolution	Aspect ratio	Codec	FPS	Single Ceiling Panorama	Ceiling Panorama + Fisheye
4M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2688x1512	2688x1512 + 2048x2048(accept all under this resolution)
2M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	1920x1080	1920x1080 + 2048x2048(accept all under this resolution)
Ceiling Panorama + Ceiling Panorama					
Resolution	Aspect ratio	Codec	FPS	Single Fisheye Stream	Ceiling Panorama + Ceiling Panorama
9M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2688x1512	2688x1512 + 2048x2048(accept all under this resolution)
4M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	1920x1080	1920x1080 + 2048x2048(accept all under this resolution)
Quad Image + Fisheye					
Resolution	Aspect ratio	Codec	FPS	Single Fisheye Stream	Quad Image + Fisheye
4M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2688x1512	2688x1512 + 2048x2048(accept all under this resolution)
2M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	1920x1080	1920x1080 + 2048x2048(accept all under this resolution)

Edge Dewarp Mode					
Quad Image + Fisheye					
Resolution	Aspect ratio	Codec	FPS	Single Ceiling Panorama	Quad Image + Fisheye
4M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	2688x1512	2688x1512 + 2688x1512(accept all under this resolution)
2M	16:9	H.264 H.264 Intellizip H.265 H.265 Intellizip MJPEG	30	1920x1080	1920x1080 + 1920x1080(accept all under this resolution)

Note: MJPEG does not support resolution higher than 3M.

Note: All supported resolution (fisheye) as per the stream tables: 2992x2992 (9M), 2048x2048(4M), 960x960, 640x640, 384x384.

Note: All supported resolution (dewarp) as per the stream tables: 2688x1512 (4M), 1920x1080 (2M), 1664x936, 1280x720, 1024x576, 640x360, 480x360, 384x288.

Note: Aspect ratio: Fisheye (1:1), Wall Panorama / Ceiling Panorama / Quad Image (16:9), Active Images (16:9 or 4:3).

Client Mode					
Stream	Codec	Resolution	Description	Max FPS	
				TWDR Off	TWDR 2x
Stream 1	h.264, h.264 Intellizip h.265 h.265 Intellizip	2992x2992 2048x2048	(9MP) 1:1 (4MP) 1:1	30 30	25 25
	h.264, h.264 Intellizip h.265 h.265 Intellizip MJPEG	1408x1408	(2MP) 1:1	30	25
Stream 2	h.264, h.264 Intellizip h.265 h.265 Intellizip	2048x2048*	(4MP) 1:1	30	25
	h.264, h.264 Intellizip h.265 h.265 Intellizip MJPEG	1408x1408* 1072x1072* 960x960* 640 x 640 720x720* 480 x 480] 384 x 384	1:1 1:1 1:1 1:1 1:1 1:1 1:1	30 30 30 30 30 30 30	25 25 25 25 25 25 25
Stream 3	h.264, h.264 Intellizip h.265 h.265 Intellizip MJPEG	1072x1072** 960x960** 720x720** 640 x 640** 480 x 480** 384 x 384	1:1 1:1 1:1 1:1 1:1 1:1	30 30 30 30 30 30	25 25 25 25 25 25

Note: * Stream 2 is restricted to 640x640 and below when Stream 1 is set to 2992x2992.

Note: ** Stream 3 is restricted to 384x384 when Stream 1 is set to 2048x2048 or above.

Note: MJPEG does not support a resolution higher than 1408x1408.

Note: A maximum of 5 concurrent streams are supported by each camera, this includes shared streams.

Edge Mode					
Stream	Codec	Resolution	Description	Max FPS	
				TWDR Off	TWDR 2x
Stream 1	h.264, h.264 Intellizip h.265 h.265 Intellizip	2688x1512 2048x1546	(4MP) 16:9 (3MP) 16:9	30 30	25 25
	h.264, h.264 Intellizip h.265 h.265 Intellizip MJPEG	1920x1512	(1080p) 16:9	30	25
Stream 2	h.264, h.264 Intellizip h.265 h.265 Intellizip	2688x1512	(4MP) 1:1	30	25
	h.264, h.264 Intellizip h.265 h.265 Intellizip MJPEG	2048x1536 1920 x 1080 1664x936 1600x1200 1280 x 720 1024 x 576 960x544 640x360 480 x 360 384 x 288	(3MP) 16:9 (1080p) 16:9 (PAL+) 16:9 4:3 (qHD) 16:9 16:9 16:9 nHD) 16:9 4:3 4:3	30 30 30 30 30 30 30 30 30 30	25 25 25 25 25 25 25 25 25 25

Note: A maximum of 5 concurrent streams are supported by each camera, this includes shared streams.

Edge Mode Fisheye					
Stream	Codec	Resolution	Description	Max FPS	
				TWDR Off	TWDR 2x
Stream 1	h.264, h.264 Intellizip h.265 h.265 Intellizip	2992x2992 2976x2976 2048x2048	(9MP) 1:1 (9MP) 1:1 (4MP) 1:1	30 30 30	25 25 25
	h.264, h.264 Intellizip h.265 h.265 Intellizip MJPEG	1408x1408	(2MP) 1:1	30	25
Stream 2	h.264, h.264 Intellizip h.265 h.265 Intellizip MJPEG	2048x2048 1408x1408 960x960 720x720 640x640 480x480 384x384	(4MP) 1:1 (2MP) 1:1 1:1 1:1 1:1 1:1 1:1	30 30 30 30 30 30 30	25 25 25 25 25 25 25

Known Limitations and Issues

Description	Suggested Work-Around
When in WDR mode and OSD is enabled, flicker can occur in stream 2 and stream 3 when stream 2 and 3 are not using the same fps.	If OSD is required in WDR mode, match stream 2 and Stream 3 fps to remove all flicker.
The camera only supports edge metadata alert events. For more information, refer to the edge analytics support table.	N/A
During the configuration of analytics, or when enabling or modifying motion detection rules, video streams are affected. When the change is applied, it may cause video streams to restart causing a small loss of video. Video functionality is restored within seconds.	N/A
Each backup configuration file is specific to the camera and firmware version. Therefore, if a camera is upgraded, the old backup file becomes obsolete and the camera needs to be updated with a new copy. For example, a backup file created on a camera running on 1.0 firmware cannot be installed on a camera running 2.0.	N/A
The camera supports DHCP IP allocation for IPv4 addresses but does not support IPv6 IP ranges. IPv6 is only supported through linking local addresses.	N/A.
On the Illustra Pro Fisheye camera, the configuration of privacy zones is only supported with a Fisheye image source.	Configure privacy zones on a Fisheye image prior to changing to a new image source.
After a period of inactivity, an open web interface session can be slow to respond to a navigation request. Normal response is restored within a few seconds.	Avoid leaving the browser idle for long periods.
The camera can save a backup configuration file for # future restorations. However, this feature is not supported when using the ONVIF integration.	Camera backup can be performed through the camera web interface.
The camera web interface can be configured to several languages. When the camera web user interface is configured to Arabic, some screen resolutions may display text that is too small to read.	If the Arabic text is difficult to read, use the browser window zoom utility to increase the text size.

Description	Suggested Work-Around
The camera web interface can be configured to several languages. When the camera web user interface is configured to Arabic, some screen resolutions may display text that is too small to read.	If the Arabic text is difficult to read, use the browser window zoom utility to increase the text size.
If using the ONVIF device manager to upgrade the units, the tool needs to be provided with camera authentication, for the upgrade to complete successfully.	Use the Illustra connect tool to upgrade the camera. This tool does not have the limitation and can also provide batch upgrades on units that are running the same firmware.
During the upgrade an error message can appear. The message is: Failed to read enough bytes on the stream. The upgrade completes successfully, regardless of the error message.	
Camera events are cleared when the firmware is upgraded. This only affects logs. Recorded video on SD cards is not cleared when the firmware is upgraded.	N/A.
When integrating the Illustra Pro Fisheye camera with a third-party recorder, this can result in incorrect stream configuration and unstable cameras if the camera mount setting and image sources are changed while the camera is connected to the recorder.	Configure the camera mount setting and image source before adding the camera to the recorder.
DDN username field does not allow for special character	Targeted for future implementation
Some sections of the initial login are not fully localized and shown in English.	Targeted for future implementation
When streaming video through Victor client at maximum resolution and FPS (2992x2992,30fps) the FPS may not be steady and may fluctuate.	If steady 30 FPS is desired, please lower resolution to achieve this
IR Compensation is greyed out when ROI is enabled.	N/A
IR Range is approx. 4m when IR compensation is ON. IR range is close to 15 m when IR compensation is OFF.	N/A
Dynamic range limited to tone mapping (i.e., digital Wide Dynamic Range (dWDR))	N/A
For VideoEdge integration - if using Edge Dewarping ensure that Streams 1 and 2 are using the same Image Source to avoid incorrect integration - camera will only support dual stream configuration to the server.	Ensure Stream 1 and 2 are using the same Image Source when using Edge Dewarping.
Connecting to valid NTP server for first time shows error 'NTP server may not be valid'	Cosmetic issue only

Description	Suggested Work-Around
Backfill clips are listed in wrong order on Event download page/SD card – oldest to newest instead of newest to oldest	N/A
GUI stream restarts when after enabling NTP	N/A

Contact Information

If you have any questions regarding this bulletin, please contact American Dynamics Technical Services. Contact details for your region can be found at <https://support.americandynamics.net/#/contact>

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