

## Release Notes

### Essentials Gen 4 Cameras

Product Code	Model Name	Firmware
IES02-D10-OI04	Essentials Gen 4, 2MP Dome, 2.8mm, Outdoor, vandal, clear, white, TDN w I/R	Illustra.Ess4.01.02.13.6953
IES02-D12-OI04	Essentials Gen 4, 2MP Dome, 2.7-13.5mm, Outdoor, vandal, clear, white, TDN w I/R	Illustra.Ess4.01.02.13.6953
IES02-B10-BI04	Essentials Gen 4, 2MP Bullet, 2.8mm, Outdoor, vandal, clear, white, TDN w I/R	Illustra.Ess4.01.02.13.6953
IES02-B12-BI04	Essentials Gen 4, 2MP Bullet, 2.7-13.5mm, Outdoor, vandal, clear, white, TDN w I/R	Illustra.Ess4.01.02.13.6953

**Product Data**

Visit the IP Cameras section of our web site, [www.illustracameras.com](http://www.illustracameras.com), to download datasheets and other documentation in PDF format.

July 2024

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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.Ess4.01.02.13.6953 adds:**

- Add CSR certification management via camera UI
- Enhancements to Security

## Previous Firmware

**Firmware Illustra.Ess4.01.02.10.5982**

- Cloudvue integration updates
- Stability enhancements
- Bug fixes

**Firmware Illustra.Ess4.01.02.07.5624**

- Enhancements to TWDR performance
- Backfill/Tricklestor enhancements
- Bug fixes
- Cloudvue integration enhancements

**Firmware Illustra.Ess4.01.01.02.4318 introduces the following:**

- Enhancements to CloudVue
- Frequency enhancements
- OSD enhancements
- NTP improvement
- Corrected Exacq discovery to detect camera as iAPI3 (illustra3)– may require Exacq server to be restarted and Exacq Discovery to be rerun after Firmware upgrade
- Bug fixes

**Note: If upgrading to this firmware from Firmware Illustra.Ess4.01.00.00.2845 a factory reset is required to fully initiate all features.**

**Firmware Illustra.Ess4.01.01.00.3811 introduces the following:**

- Corridor mode support
- CIFS feature
- Support added for Cloudvue services
- Support added for third stream
- Support for Intellizip codecs

**Note:** If upgrading to this firmware a factory reset is required to fully initiate new features

**Firmware Illustra.Ess4.01.00.00.2845**

Introduces the new Essentials Gen 4 2MP camera models.

Product Code	Model Name	Firmware
IES02-D10-OI04	Essentials Gen 4, 2MP Dome, 2.8mm, Outdoor, vandal, clear, white, TDN w I/R	Ess4.01.00.00.2845
IES02-D12-OI04	Essentials Gen 4, 2MP Dome, 2.7-13.5mm, Outdoor, vandal, clear, white, TDN w I/R	Ess4.01.00.00.2845
IES02-B10-BI04	Essentials Gen 4, 2MP Bullet, 2.8mm, Outdoor, vandal, clear, white, TDN w I/R	Ess4.01.00.00.2845
IES02-B12-BI04	Essentials Gen 4, 2MP Bullet, 2.7-13.5mm, Outdoor, vandal, clear, white, TDN w I/R	Ess4.01.00.00.2845

## **Features**

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- High resolution, 2 megapixel images, Multiple IP streams of H.264, H.265, H.264 Intellizip, H.265 Intellizip 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 2.4 profile S compliant
- Power over Ethernet (PoE) or AC powered (model specific)
- Motion Detection and Blur Detection support on camera
- Wide Dynamic Range, TWDR
- Auto & Manual White Balance Modes
- Lens calibration
- Manual Focus and Zoom Control (model specific)
- One touch Focus (model specific)
- Eventing with RTP meta-data streaming
- Support for up to nine Regions of Interest
- Support for up to eight Privacy Zones
- Enhanced Security
- SD card event buffering (requires micro-SD or SD-HC card)
- SD card event download
- Outstanding color reproduction
- No dependencies on 3rd Party Utilities for Camera Setup (No QuickTime and Java requirements)
- Expanded Browser Support: IE, Chrome, Firefox, Safari
- UPnP Discovery
- Easy to install
- Sleek and compact design
- Support for FTP, SNMP, SMTP, CIFS, 8021.x and Firewall filtering
- Cloudvue Integration

## **Firmware Upgrade**

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

### **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 Internet Explorer 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 **Upload**. 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 Essentials 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 **Define a Host ID** and **Select a Security Type**.

**Define a Host ID:** The admin user must enter a 6 character code for the Host ID that includes both letters and/or numbers. This unique password is used to access the operating system files. The HostID is not stored on the camera for security reasons and must be presented to Illustra Technical Support when remote access to the operating system is required.

**Select a Security Type:** Standard Security or Enhanced Security. If you are keeping Standard Security, it is best practice to select the Change Password check box to immediately change the default password to one unique to your surveillance system.

6. Optional - 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.**

### Accessing the Illustra Essentials Series Camera Web User Interface for the first time

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 **Define a Host ID** and **Select a Security Type**.

**Define a Host ID:** The admin user must enter a 6 character code for the Host ID that includes both letters and/or numbers. This unique password is used to access the operating system files. The HostID is not stored on the camera for security reasons and must be presented to Illustra Technical Support when remote access to the operating system is required.

**Select a Security Type:** Standard Security or Enhanced Security. If you are keeping Standard Security, default admin password change is **enforced**.

6. Optional - If you select the Enhanced Security option, you are required and instructed to change the username and create a complex password.

**See below for further information on Security configuration.**

## 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.

## 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. Passwords 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 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.

## 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.

## Default admin/admin & Automatic prompt for username and password change at first login

The admin/admin user is hardcoded until security mode is selected on first login.

### For Standard Security

**Password change is mandatory after first login.**

New Password should be a minimum of five characters long.

**New Password cannot be admin.**

### For Enhanced Security

When selected, a pop up is visible requiring you to change your username and password.

- **A username & password change is mandatory** – Note: If the user sets a new username and password – admin/admin is automatically replaced.
- Certain criteria apply to both the username and password (See Username and Password complexity).

#### **NOTE:**

When Enhanced Security is enabled the user is prompted to change the username and password from the default admin/admin. If not all rules are applied then the change request is denied and credentials remain as admin/admin. Failure to comply by rules, intermittently may result in camera log in being unavailable for a few minutes to allow camera to restore default functionality.

## How to restore admin/admin:

1. Restore factory default camera.

## Changes in Enhanced security profile

When changing security to 'enhanced', the camera performs the following changes:

- Admin/admin password automatically replaced by new Enhanced username/password.
- Change from basic to Digest HTTPs authentication.
- Enables RTSP authentication.
- Disables all ONVIF capabilities.

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.

## Analytics

	<b>Motion Detection Metadata</b>	<b>Motion Detection Events</b>	<b>Blur Detection Events</b>
Illustra Essentials Gen 4 2MP Outdoor Domes	No	Yes	Yes
Illustra Essentials Gen 4 2MP Outdoor Bullet	No	Yes	Yes

## Stream Tables

### Essentials 2MP camera stream table

		Normal Mode			
		Resolution	Description	Max FPS	
				TWDR Off	TWDR
Stream 1	H264	1920 x 1080	(1080p) 16:9	30	30
	H265	1600 x 900	(HD+) 16:9	30	30
	H264 Intellizip	1280 x 720	(720p) 16:9	30	30
	H265 Intellizip	1024 x 576	(PAL+) 16:9	30	30
	MJPEG	960 x 540	16:9	30	30
		800 x 480	16:9	30	30
		640 x 360	(mHD) 16:9	30	30
		480 x 270	16:9	30	30
320 x 180	16:9	30	30		
Stream 2	H264	1920 x 1080	(1080p) 16:9	30	30
	H265	1600 x 900	(HD+) 16:9	30	30
	H264 Intellizip	1280 x 720	(720p) 16:9	30	30
	H265 Intellizip	1024 x 576	(PAL+) 16:9	30	30
	MJPEG	960 x 540	16:9	30	30
		800 x 480	16:9	30	30
		640 x 360	(mHD) 16:9	30	30
		480 x 270	16:9	30	30
320 x 180	16:9	30	30		
Stream 3	H264	1280 x 720	(720p) 16:9	30	30
	H265	1024 x 576	(PAL+) 16:9	30	30
	H264 Intellizip	960 x 540	16:9	30	30
	H265 Intellizip	800 x 480	16:9	30	30
	MJPEG	640 x 360	(mHD) 16:9	30	30
		480 x 270	16:9	30	30
320 x 180	16:9	30	30		

**Note:** A maximum of three concurrent streams are supported by the camera. This includes shared streams.

**Note:** The source of the live video GUI stream is dynamic depending on stream config. Priority is given to the MJPEG stream. If no stream is set to MJPEG, priority will then be given to the snapshot stream.

		Corridor Mode			
		Resolution	Description	Max FPS	
				TWDR Off	TWDR
Stream 1	H264 H265 H264 Intellizip H265 Intellizip	1920 x 1080	(1080p) 16:9	30	30
		1600 x 900	(HD+) 16:9	30	30
		1280 x 720	(720p) 16:9	30	30
		1024 x 576	(PAL+) 16:9	30	30
		960 x 540	16:9	30	30
		800 x 480	16:9	30	30
		640 x 360	(mHD) 16:9	30	30
		480 x 270	16:9	30	30
Stream 2	H264 H265 H264 Intellizip H265 Intellizip	1920 x 1080	(1080p) 16:9	30	30
		1600 x 900	(HD+) 16:9	30	30
		1280 x 720	(720p) 16:9	30	30
		1024 x 576	(PAL+) 16:9	30	30
		960 x 540	16:9	30	30
		800 x 480	16:9	30	30
		640 x 360	(mHD) 16:9	30	30
		480 x 270	16:9	30	30
Stream 3	H264 H265 H264 Intellizip H265 Intellizip	1280 x 720	(720p) 16:9	30	30
		1024 x 576	(PAL+) 16:9	30	30
		960 x 540	16:9	30	30
		800 x 480	16:9	30	30
		640 x 360	(mHD) 16:9	30	30
		480 x 270	16:9	30	30

**Note:** A maximum of three concurrent streams are supported by the camera. This includes shared streams.

**Note:** MJPEG is not a supported codec for any stream when corridor mode is enabled.

**Note:** Resolution 320x180 is not supported with Corridor mode. If any stream is set to 320x180, it will be updated to 480x270 when corridor mode is applied.

**Note:** The source of the live video GUI stream is dynamic depending on stream config. Priority is given to the MJPEG stream. If no stream is set to MJPEG, priority will then be given to the snapshot stream.

## Known Limitations and Issues

Description	Suggested Work-Around
Applicable to all Essentials cameras: If the camera date/time has been set manually, camera date/time may not be accurate if camera has been without power for more than 24 hours	The camera should be setup with a NTP server to ensure the time is always accurate. NTP will guarantee clock sync as soon as camera is operational. If NTP is not available user should review date and time setting manually after the camera is plugged in. If the clock has reset to 1970, once the date/time page is accessed the camera will automatically sync to the machine used in the active GUI session.
Applicable to all Essentials cameras: The Frequency setting in Expo- sure can limit FPS to 25 FPS if the frame rate is set to 30 when the frequency is set to 50Hz.	If FPS needs to be set above 25FPS, Frequency should be set to 60Hz.
Applicable to all Essentials cameras: Changing Exposure settings on the camera can sometimes affect frame rate, lowering it well below what is set on the camera.	If frame rate is a priority, it is advised that Maximum Exposure is set to at least '1/30' to reach 30FPS.
Applicable to all Essentials cameras: Formatting or unmounting a SD Card is sometimes met with a 'Device is Busy' modal.	This usually means the camera is currently recording a clip to the SD Card. It is advised to wait for a period of time when no clips are being recorded or turn off recording on the camera.
Applicable to all Essentials cameras: Changing stream configurations when a clip is being recorded may cause recording to stop or the camera to reboot.	It is advised to setup your stream configurations prior to enabling Clip Record. Otherwise, please stop recording before changing stream configurations. If recording has stopped, please reboot camera.
Applicable to all Essentials cameras: Video playing through camera GUI may not be live – browser cache issue	Refresh page or clear cache.
Applicable to all Essentials cameras: If streaming to VLC and the cam- era undergoes a considerable time change either through factory defaulting of the unit, or manual/NTP change, the VLC video goes grey. This is a VLC application Bug – the issue does not occur on other applications or server integrations.	Restart the VLC stream or configure times prior to starting a VLC stream.
Applicable to all Essentials cameras: Under certain lights (Mercury and Sodium outdoor lighting) the user may observe that the picture does not have the correct colors.	The user can change the White Balance setting from the default 'Auto WB Normal' to 'Auto WB Wide'.

Description	Suggested Work-Around
<p>Applicable to all Essentials cameras: When Enhanced Security is enabled the user is prompted to change the username and password from the default admin/admin. If not all rules are applied then the change request is denied and credentials remain as admin/admin. Failure to comply by rules, intermittently may result in camera log in being unavailable for a few minutes to allow camera to restore default functionality.</p>	<p>Ensure that all username and password rules are followed.</p>
<p>Applicable to all Essentials cameras: At first boot or after a factory reset the camera will sync time zone, date and time with PC used on First Login. However, the camera may select a generic time zone which will not have DST time changes associated to it or, during Daylight saving time, the time zone may be offset if using a workstation on UTC time zone (windows)</p>	<p>Please check the time zone is assigned correctly at initial boot or after a factory default</p>
<p>Applicable to all Essentials cameras: When disabling UPnP, note that the camera will still be accessible on some machines as discovery results may have been cached.</p>	<p>UPnP will be fully disabled when Enhanced Security is enabled, cached results will also be blocked</p>
<p>Applicable to all Essentials cameras: In Security status - Changing the value of Authentication will cause a service restart which will result in GUI being inaccessible for about 10 seconds</p>	<p>Wait 10 seconds for service to restart and GUI working again</p>
<p>Applicable to all Essentials cameras: Changing Video Settings when a clip is recording may produce a corrupt MP4 due to the interruption</p>	<p>Setup your stream settings before you enable recording.</p>
<p>Applicable to all Essentials cameras: When TWDR is enabled, stream configuration restrictions apply</p>	<p>Ensure that stream is configured correctly before enabling TWDR. See stream tables for supported configurations.</p>
<p>Applicable to all Essentials cameras: Exposure method position does not change when Mirror or Flip orientation is applied.</p>	<p>Re-configure Exposure Method after Mirror or Flip orientation is applied.</p>
<p>Applicable to all Essentials cameras: GUI, ONVIF and IAPI3 stream configuration combination may not always reflect the camera limitation</p>	<p>The camera will automatically adjust to its limitation (check the stream table for details).</p>
<p>Applicable to all Essentials cameras: Login page may not fully load when the user logs in using the HTTPS method through the Chrome browser.</p>	<p>Refresh the browser.</p>

Description	Suggested Work-Around
Applicable to all Essentials cameras: When selecting Enhanced Security - the admin user will be required to conform to new username & password rules- the new rules will not be applied to already created user profiles - all new profiles will require to apply to these rules	If required change user and operator passwords manually
Applicable to all Essentials cameras: Clip Recording: Clips can sometimes be longer or shorter than the expected duration due to the gap between IFrames.	N/A - This is a side effect of the stream settings.
Applicable to all models: Backup/Restore: When the restoration changes the HTTP/HTTPS policy the camera may not be restored correctly.	Set the correct HTTP/HTTPS policy before restoring the file or reboot the camera after the restore.
Motion mask restriction with Exacq. Area not covered by mask must resemble one square/rectangle only.	N/A
After applying HTTPS through the Auto Configuration feature in Illustra Connect the camera status may incorrectly show as 'unresponsive' however camera is fully functional.	N/A
If the user configures a privacy zone when using flip or mirror, the privacy zone may move position after a camera reboot	Disable and re-enable privacy zone.
Changing single time or date values may update other time and date values.	Ensure time and date is configured correctly before leaving page
HTTP/HTTPS – unable to upload certificate.	N/A
Changing IP address causes web browser to close.	Open new browser and type new IP address into search bar.
Corridor mode cannot be correctly configured if it is enabled after camera is added to NVR	Enable Corridor mode before adding camera to nvr.
Exacq motion mask issues when corridor mode is enabled, mask appears on bottom half or screen and user-drawn masks may not apply to desired position on camera	Configure motion region through camera GUI.
Camera does not reset using iAPI command	Reset through web GUI
Offline recording/Tricklestor doesn't work if motion is enabled and configured to record to SD	Do not configure motion to record to SD if offline recording/Tricklestor is enabled
Some event entries may have blank fields	N/A
SMTP – email may have Incorrect time listed	N/A
Can take almost 1minute 30 seconds to load event download page	N/A
ONVIF shows input as supported - it is not supported on Essentials Gen4	N/A
Motion detection zone - pixels from drawn motion zone may move position once user selects apply	Draw motion zone larger than needed in order to cover intended zone

Description	Suggested Work-Around
Connecting to valid NTP server for first time shows error 'NTP server may not be valid'	Cosmetic issue only
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
Illustra Connect – account changes made when set to enhanced security do not fully apply to camera through IC	Configure through web GUI when using enhanced security
SMTP	Multiple emails may be received for single motion event (one every few seconds).

## **Server Integration Limitations**

<b>Description</b>	<b>Suggested Work-Around</b>
Applicable to all Essentials cameras: Genetec Recorders do not support all the resolutions the camera supports.	N/A - This is a limitation of the recorder.
Applicable to all Essentials cameras - ONVIF Integration - Profile S Integration does not support Codec: H265.	If those codecs are required then an iAPI3 integration is necessary

## Contact Information

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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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