

# i-PRO AI Processing Relay Extension Software User Guide

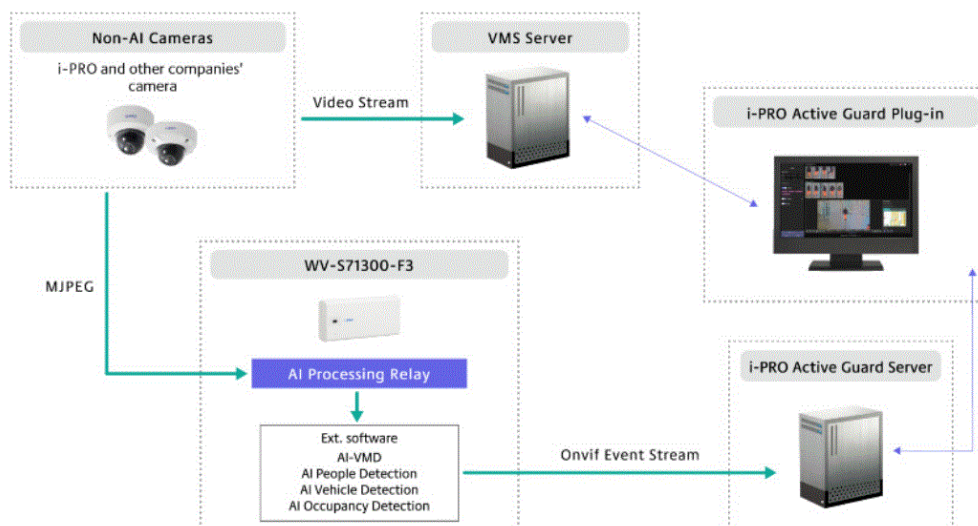
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## i-PRO AI Processing Relay Extension Software



## Product Information

### Product Overview

- The WGmebudcoAvparti(fl)I Web Guide is a product that includes an extension software (AI Processing Relay) with a version of 3.0.
- It allows users to receive MJPEG data from other cameras and perform AI processing with the AI Extension Software.
- The product also supports alarm reception and image search with i-PRO Active Guard.

### Features

- Receives MJPEG data from other cameras
- Performs AI processing with AI Extension Software
- Supports alarm reception and image search with i-PRO Active Guard
- Adds AI function to an already installed camera

**Installation Conditions** This product requires the installation of extension software on the WV-S71300-F3. The linked cameras' installation conditions, such as the angle of view, should be in accordance with the installation conditions of each application.

The AI detection performance depends on the image quality of the linked camera, so it is recommended to test the operation with the actual camera before use.

### Precautions

1. This product must be used with the latest firmware for WV-S71300-F3.
2. The WV-S71300-F3 with this product installed cannot perform AI processing on its own.

## Product Usage Instructions

### Preparation

1. Install the WGmebudcoAvparti(fl)I Web Guide product.
2. Install the extension software that needs to be linked with this product.
3. Configure a camera to be linked with this product.

### Basic Settings

1. Configure the WGmebudcoAvparti(fl)I Web Guide product.
2. Configure the extension software to be linked with this product.
3. Configure i-PRO Active Guard.

### Other

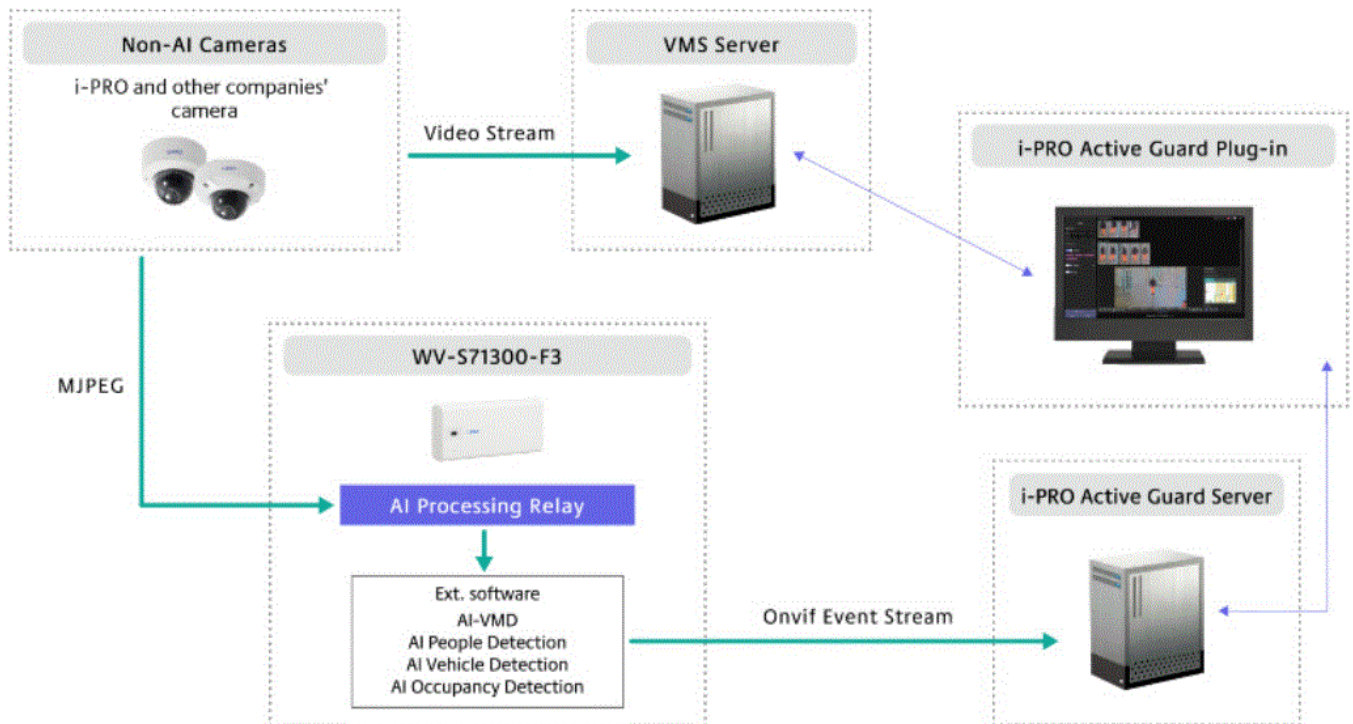
- Refer to the trademarks and registered commercial code section for more information.
- Refer to the open-source software section for more information.
- Refer to the copyright section for more information.
- Refer to the disclaimer section for more information.

## Introduction

This manual explains how to install the Extension software AI Processing Relay (hereinafter referred to as "this product") on the cameras and the settings required prior to starting operation. Since this product is intended to be

installed and used with a camera, please be sure to read the instruction manual of your camera as well. In addition, some of the screens shown in this manual may differ from the screens shown depending on your camera model and the version of “i-PRO Configuration Tool” (hereinafter referred to as “ICT”) or “i-PRO Active Guard”.

## Product Overview



- This product is software for more convenient use of AI network cameras (sold separately). This product can perform AI processing on video from cameras that do not have AI functions by installing this product on the camera, configuring the camera to work with this product, and configuring extension software.
- This product is guaranteed to work with the WV-S71300-F3. The recommended camera to be linked to this product is a camera manufactured by i-PRO. If the linked camera supports MJPEG data (stream) transmission via HTTP or HTTPS, this product can receive MJPEG and perform AI processing. AI processing is handled by the extension software installed in the WV-S71300-F3. These extension software are required separately. This product can be used in combination with the following extension software:
  - AI-VMD (AI Video Motion Detection)
  - AI People detection
  - AI Vehicle Detection
  - AI Occupancy Detection
- The extension software outputs the Onvif Event Stream and Best Shot as AI processing results.
- i-PRO Active Guard is required to operate this product.
- One other camera can be connected to one WV-S71300-F3 with this product installed.

## Features

- This product can receive MJPEG data from other cameras, perform AI processing with AI Extension Software, and perform alarm reception and image search with i-PRO Active Guard. This product can be used when you want to add an AI function to a camera already installed.

## Installation conditions of the product

- This product receives MJPEG data from the linked camera and processes AI by extension software installed in the WV-S71300-F3. Installation conditions of the linked cameras, such as angle of view, are in accordance with the installation conditions of each application. AI detection performance depends on the image quality of the linked camera. Please confirm operation with the actual camera before use.

## **Precautions**

1. This product must be used with the latest firmware for WV-S71300-F3.
2. The WV-S71300-F3 with this product installed cannot perform AI processing on its own video using the extension software.
3. One WV-S71300-F3 with this product installed is required for one camera. 2 or more cameras cannot be connected to this product simultaneously.
4. Up to two extension software can be installed on WV-S71300-F3 in addition to this product.
5. A command to acquire MJPEG data from the linked camera is required. The resolution and frame rate that can be processed by this product are 1920×1080@5fps or 1280×720@5fps.
6. When this product is installed on WV-S71300-F3, the processing of extension software installed on WV-S71300-F3 may stop until this product is properly configured. Once the settings of this product are completed and MJPEG data is received from the linked camera, extension software will operate correctly.
7. If this product is uninstalled, restart WV-S71300-F3. Extension software installed on WV-S71300-F3 will not work properly.

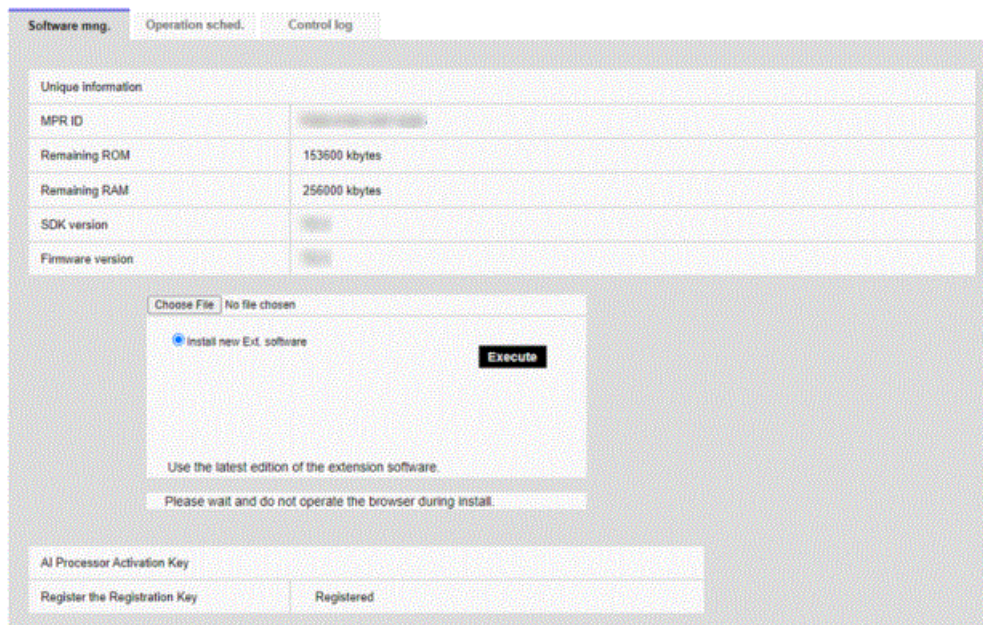
## **The flow up to operation is as follows.**

This chapter describes 1), 2), and 3).

1. Install this product.
  - Install this product
2. Install extension software.
  - Install extension software to be linked with this product
3. Configure a camera to be linked with this product.
  - Configure a camera to be linked with this product
4. Start operation

## **Install this product**

- Access the product's download site and download [AI Processing Relay].
- For the download site of this product, please refer to the following:
- [Click here for downloads](#)
- Do not use spaces or multi-byte characters in the destination directory name.
- Select "Setup" > "Detailed setting" > "Ext. software" > "Software mng." on the WVS71300-F3.



- Click the “Choose File” button and select the downloaded “AIProcessingRelay\_vXXX.ext”.
- Confirm that “Install new Ext. software” is selected and click “Execute”. Installation of the software starts. When the installation is complete, AI Processing Relay is added to the Extension software list and the Ext. software screen.
- Do not turn off the camera during installation.
- Do not perform any operation during installation until the installation is completed.

### Install extension software to be linked with this product

- This product performs AI processing in conjunction with the following applications. Please refer to the manuals of each extension software for installation instructions.
- AI-VMD (AI Video Motion Detection)
- AI People detection
- AI Vehicle Detection
- AI Occupancy Detection

### Configure a camera to be linked to this product

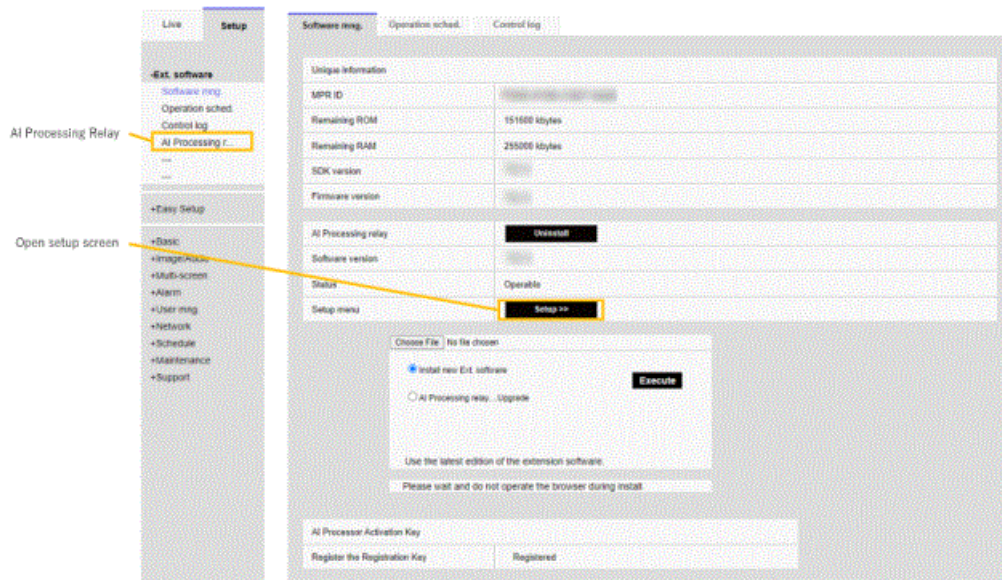
- Configure the settings for the camera to be linked to this product. Please refer to the manual of the camera for the setting method. Set the following items.
- Set the stream to output MJPEG data.
- Set the resolution of the MJPEG data to 1920×1080 or 1280×720.
- Set the frame rate of the MJPEG data to 5fps

## Basic settings

### Configure this product

1. After installing the “AI Processing Relay”, an entry for “AI Processing Relay” will be added to the “Ext. software” tab of the “Setup” > “Detailed setting” page of the WV-S71300-F3.





2. Click the “Setup” button to open the setting screen.

3. Enter information about the camera to be linked to this product.

- Camera username
- Enter the username that has been set for the camera to be linked. Default setting: blank
- Camera password
- Enter the camera password that has been set for the camera to be linked. Default setting: blank
- Protocol
- Select the protocol used to access the linked camera from this product. Default setting: HTTP
- IP address
- Enter the IP address assigned to the camera to be linked.
- **Default setting:** blank
- Port number
- Enter the port number of the protocol to be used for the linked camera.
- Default setting: blank
- Http Jpeg stream URL
- Enter the command to receive the MJPEG data from the linked camera.
- Enter the command after the IP address of the camera.
- Do not enter a leading “/”. The leading “/” will be automatically completed by this product.
- In the case of a multi-sensor camera, please include the channel specification in the command.
- **Default setting:** blank
- **Example:** i-PRO camera (single-lens camera) CGI-bin/jpeg?stream=1&frame=5
- Channel
- Enter the channel of the camera to be linked, using a number between 1 and 4. Enter 1 if the camera to be linked is a single-lens camera. If the camera to be linked is a multi-sensor camera, enter the channel to acquire MJPEG data. The information entered in this field is used when connecting to the i-PRO Active Guard.
- **Default setting:** 1

Video sending camera information	
Camera user name	<input type="text"/>
Camera password	<input type="password"/>
Protocol	<input type="radio"/> HTTPS <input checked="" type="radio"/> HTTP
IP address	<input type="text" value="192.168.0.198"/>
Port number	<input type="text" value="80"/>
Http jpeg stream URL	<input type="text" value="cgi-bin/mjpeg?stream=1&amp;frame=5"/>
Channel	<input type="text" value="1"/>
<p>When you press the "Set" button, you may be asked to authenticate. When an alert is displayed, enter the "Camera user name" and "Camera password" for the Video sending camera and sign in.</p>	
<input type="button" value="Set"/>	
Result	
Http jpeg stream full URL	-
Received image	No image
Resolution	-
Framerate	-

- Enter the information for the camera to be linked, not the information for the WV-S71300-F3, in the configuration fields for this product.

4. Press the "Set" button

5. Enter username and password

- An alert will appear asking you to enter a username and password. Enter the username and password for the camera to be linked and press the "Sign in" button.

**Sign in**

http://192.168.0.198

Your connection to this site is not private

Username

Password


- The username and password entered for the alert must be the username and password of the camera to be linked, not the username and password of the WV-S71300-F3.

6. The results received from the linked cameras are displayed in the Result column.

- Http jpeg stream full URL
- Displays the URL to receive MJPEG data from the linked camera.
- Received image
- The image of MJPEG data received from the linked camera is displayed. The image is updated at 1 fps regardless of the received frame rate.
- Resolution



- The resolution of the MJPEG data received from the linked camera is displayed. The resolution of the camera to be linked must be set to 1920×1080 or 1280×720.
- Framerate
- Displays the frame rate of the MJPEG data received from the linked camera. 4.0 to 6.0 is the recommended value. If the recommended value is not displayed, change the frame rate of the linked camera to 5fps. If the value displayed in Framerate is lower than the recommended value even after setting the frame rate of the linking camera to 5fps, lower the bit rate of the MJPEG data from the linking camera.

Video sending camera information	
Camera user name	<input type="text"/>
Camera password	<input type="password"/>
Protocol	<input type="radio"/> HTTPS <input checked="" type="radio"/> HTTP
IP address	<input type="text" value="192.168.0.198"/>
Port number	<input type="text" value="80"/>
Http jpeg stream URL	<input type="text" value="cgi-bin/mjpeg?stream=1&amp;frame=5"/>
Channel	<input type="text" value="1"/>
<p>When you press the "Set" button, you may be asked to authenticate. When an alert is displayed, enter the "Camera user name" and "Camera password" for the Video sending camera and sign in.</p> <p style="text-align: center;"><b>Set</b></p>	
Result	
Http jpeg stream full URL	<input type="text" value="http://192.168.0.198:80/cgi-bin/mjpeg?stream=1&amp;frame=5"/>
Received image	
Resolution	<input type="text" value="1920x1080"/>
Framerate	<input type="text" value="5.0"/>

The WV-S71300-F3 should be used in its default settings.

### Configure extension software to be linked with this product

- Please refer to the manual of each extension software to set up the software.
- An alert may appear when opening the extension software screen.
- Enter the username and password of the camera to be linked to the alert.
- The live image of the linked camera will be displayed on the configuration screen of the extension software.

**Sign in**

<http://192.168.0.198>

Your connection to this site is not private

Username

Password

**Sign in** **Cancel**

- The username and password for the alert must be the username and password of the camera to be linked, not the username and password of the WV-S71300-F3.



- AI-VMD Mode selection should be set to “Normal angle mode”.
- iCT does not display the live image of the linked camera. Please set the area settings, etc. from the link displayed in iCT.

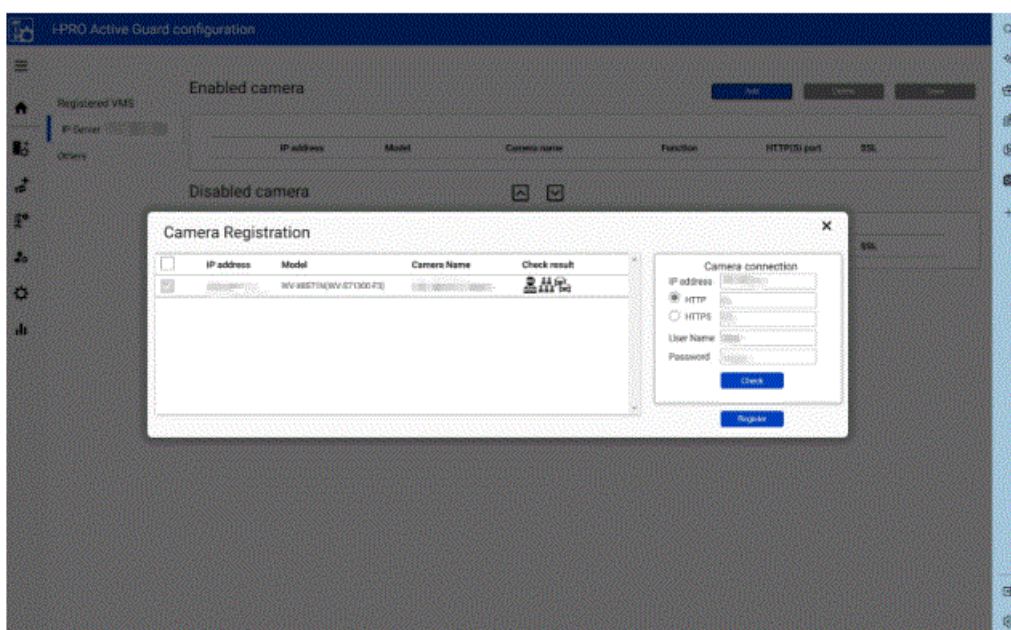
## Configure i-PRO Active Guard

- Refer to the i-PRO Active Guard manual for i-PRO Active Guard settings. Only the contents related to the linkage of this product are explained below.

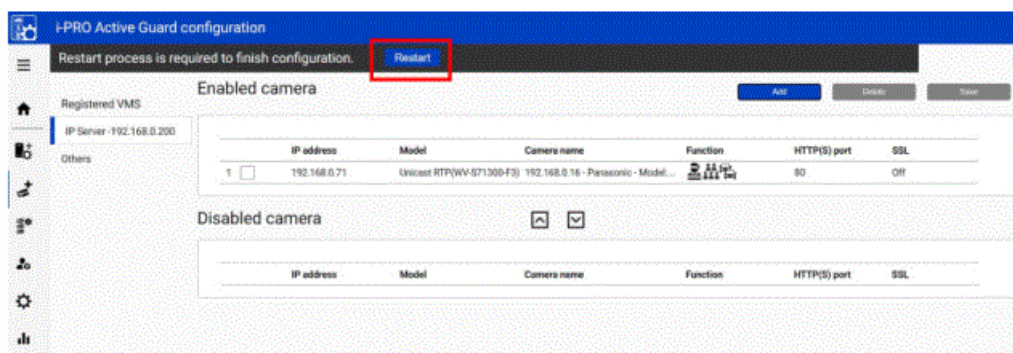
1. Click “Camera Registration”.
2. Select “Add” – “Add AI Processing Relay App”.



3. Enter the IP address and authentication information for the camera in which this product is installed, and click “Check” and “Register”.



4. Click “Restart” to restart the i-PRO Active Guard server.



5. The following settings must be made in advance.

## Configure this product

- Registration of cameras to be linked with this product to VMS. However, cameras installed in this product do not need to register to VMS.

## Other

### Specifications

- Required environment and PC specifications
- It is recommended to use a display that can display in 1980 x 1080 Image capture size. For the specifications of the PC used to configure the camera, please read the manual for the WV-S71300-F3 and the camera to be linked.

### About this product

Item	Description
Input	1ch
Input format from the camera to be linked	MJPEG 1920×1080@5fps or MJPEG 1280×720@5fps
Linked cameras	<ul style="list-style-type: none"> <li>– i-PRO H.265 camera</li> <li>– Other Company Camera</li> </ul>
Extension software	<ul style="list-style-type: none"> <li>– Up to 2 can be operated simultaneously.</li> <li>– Supported extension software: AI-VMD / AI People detection / AI Vehicle detection / AI Occupancy detection</li> </ul>
Supported systems	Video Insight / Genetec / Milestone / ASM300 with i-PRO Active Guard

#### Note:

- For “ASM300 with i-PRO Active Guard” supports only i-PRO cameras.
- For “Genetec / Milestone with i-PRO Active Guard”, AI-VMD / AI Occupancy Detection alarms are not supported because they do not go through i-PRO Active Guard.
- For “Video Insight with i-PRO Active Guard”, AI Occupancy Detection alarms are not supported because they do not go through i-PRO Active Guard.

### Supported functions with AI Processing Relay for each system

#### Video Insight with i-PRO Active Guard

	AI-VMD	AI People Detection	AI Vehicle Detection	AI Occupancy Detection
Alarm Management	✓	✓	✓	N/A
Similarity Search	—	✓	✓	—
Statistics Dashboard	✓	✓	✓	✓

#### **Genetec / Milestone with i-PRO Active Guard**

	AI-VMD	AI People Detection	AI Vehicle Detection	AI Occupancy Detection
Alarm Management	✓	✓	✓	N/A
Similarity Search	—	✓	✓	—
Statistics Dashboard	✓	✓	✓	✓

#### **ASM300 with i-PRO Active Guard ( only i-PRO Camera is supported )**

	AI-VMD	AI People Detection	AI Vehicle Detection	AI Occupancy Detection
Alarm Management	✓	✓	✓	N/A
Similarity Search	—	✓	✓	—
Statistics Dashboard	✓	✓	✓	✓

#### **Camera to install this product**

- WV-S71300-F3 is recommended for the camera to install this product.



## Linked cameras

- The camera to be linked must support MJPEG 1920×1080@5fps or MJPEG 1280×720@5fps output. In addition, a command to receive MJPEG data is required. Examples of MJPEG commands from various companies are shown below. The following commands are not guaranteed to work with all cameras. Please check the operation of your camera before use.

Manufacturer	MJPEG command example (Http Jpeg stream URL)	Full URL (Http jpeg stream full URL)	Camera setting
i-PRO	cgi-bin/mjpeg? stream=1&frame=5	http://<camera IP>/cgi-bin/mjpeg? stream=1&frame=5 or http://<camera IP>/cgi-bin/mjpeg? stream=1&frame=5	Open the Image/Audio > Image settings screen of the i-PRO camera and make the following settings: <ul style="list-style-type: none"> <li>Refresh interval (JPEG): 5fps</li> <li>JPEG(1) &gt; Image capture size: 1920×1080 or 1280×720</li> </ul>
Advidia	video/mjpeg/stream1	http://<camera IP> /video/mjpeg/stream1	This command is for an advidia camera with stream1 set to MJPEG. The Advidia camera settings should be set to "No Authentication" and the connection from AI Processing Relay should be HTTP.  Example: Setup > Security > Network Security > Authentication > HTTP  Authentication = None
AXIS	axis-cgi/mjpg/video.cgi? resolution=1920×1080&fps=5	http://<camera IP> /axis-cgi/mjpg/video.cgi? resolution=1920×1080&fps=5 or https://<camera IP> /axis-cgi/mjpg/video.cgi? resolution=1920×1080&fps=5	

Manufac turer	MJPEG command example (Http Jpeg stream URL)	Full URL (Http jpeg stream full URL)	Camera setting
Hanwha	stw-cgi/video.cgi? msubmenu=stream&action= vie w&Profile=1&CodecType  =MJPEG&Resolution=1920 x10 80&FrameRate=5	http://<camera IP>  /stw-cgi/video.cgi? msubmenu= stream&action= view&Profile=1 &CodecType  =MJPEG&Resolution=1920 x10 80&FrameRate=5  or  https://<camera IP>  /stw-cgi/video.cgi? msubmenu= stream&action= view&Profile=1 &CodecType  =MJPEG&Resolution=1920 x1080&FrameRate=5	This command is used when M JPEG is set as Profile 1 on a Ha nwha camera.
VIVOTE K	video1s1.mjpg	http://<camera IP>  /video1s1.mjpg or  https://<camera IP>  /video1s1.mjpg	

### JPEG one-shot mode

JPEG one-shot mode continuously receives JPEG images from the linked camera and performs AI processing on the received images. Although MJPEG is recommended for this product, if your camera does not support MJPEG CGI, try the JPEG one shot mode. Please complete the installation of the AI Processing Relay before following the steps below.

- (1) Enter the following CGI to enable JPEG one-shot mode
  - methodName=setApplicationPreference&appName=AIEncoderApp&prefType=Integer&prefName=OneShot&value=1**
  - value=1:**JPEG one-shot mode on
  - value=0:**JPEG one-shot mode off
- Configure AI Processing Relay with reference to 3.1 Configure this product.
  - For “Http Jpeg stream URL”, enter the command to receive JPEG one shot.
  - Example:** i-PRO camera (single-lens camera) CGI-bin/camera?stream=1
- If an image is displayed in the Result column, the JPEG one shot mode is working.
  - In JPEG one shot mode, a still image is displayed on the AI-VMD and AI Occupancy Detection demo screens.
  - AI processing in JPEG one shot mode may not reach the recommended frame rate of 5 fps due to frequent communication with the liked camera.
  - Examples** of JPEG one shot commands from various companies are shown below. The following

commands are not guaranteed to work with all cameras. Please check the operation of your camera before use.

Manufacturer	MJPEG command example (Http Jpeg stream URL)	Full URL (Http jpeg stream full URL)	Camera setting
Bosch	snap.jpg	http://<camera IP>/snap.jpg or https://<camera IP> /snap.jpg	
Avigilon	media/cam0/still.jpg	http://<camera IP> /media/cam0/still.jpg or https://<camera IP>/media/cam 0/still.jpg	

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- Firefox is a trademark of the Mozilla Foundation in the United States and other countries.
- ONVIF is a trademark of ONVIF Inc.

## Open Source Software

This product uses the following open source software. See “Open Source Software” for the corresponding license statement.

Software name	License Name
libjpeg- turbo	The IJG (Independent JPEG Group) License, which is listed in README.ijg The Modified 3-clause BSD License The zlib License

## Open Source Software

### libjpeg-turbo Licenses

- libjpeg-turbo is covered by three compatible BSD-style open source licenses:
- The IJG (Independent JPEG Group) License, which is listed in README.ijg
- This license applies to the libjpeg API library and associated programs (any code inherited from libjpeg, and



any modifications to that code.)

- The Modified (3-clause) BSD License, which is listed below
- This license covers the TurboJPEG API library and associated programs, as well as the build system.

## **The zlib License**

- This license is a subset of the other two, and it covers the libjpeg-turbo SIMD extensions.
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## **Disclaimer**

- This product is designed to obtain images for surveillance of a specific area. This product is not intended to prevent crimes by itself.
- Under no circumstances will we be held responsible for any of the following:
- Any incidental, special or consequential damage or damage arising directly or indirectly in connection with this product
- Any inconvenience, damage, or damage incurred due to the inability of an image to be displayed or recorded or the loss of recorded information due to any reason including failure or failure of this product

- Failure or inconvenience, damage, or damage caused by a system combined with a third party device
- Claims or claims for damages caused by breaches of privacy by individuals or groups that have become a subject as a result of the use of surveillance images and records that have become public due to some reason (including use with User Authentication Off).
- The stored information is lost for some reason (including when this product is initialized due to forgetting the authentication information such as username and password)

Documents / Resources

	<p><a href="#">i-PRO AI Processing Relay Extension Software</a> [pdf] User Guide</p> <p>AI Processing Relay Extension Software, AI Processing Relay, Extension Software, AI Processing Relay Extension, Software</p>
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References

-  [libjpeg-turbo/README.ijg at main · libjpeg-turbo/libjpeg-turbo · GitHub](#)
-  [AI Processing Relay | i-PRO Products](#)
-  [The zlib/libpng License – Open Source Initiative](#)