



# Web Guide

## Extension software (AI Face Detection)

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# 1 Introduction

This manual explains how to register the function extension software/AI Face Detection application(hereinafter referred to as "this product") to an AI network camera (sold separately, hereinafter referred to as "camera"), the settings required before starting operation, and how to operate it during operation. Since this product is intended to be used after being registered with the camera, be sure to also read the instruction manual for your camera before using it. Also, some of the setting screens shown in this manual may differ depending on the model of your camera and the version of i-PRO Configuration Tool (hereinafter referred to as "iCT") you are using.

## 1.1 Product Overview

This product is software for more convenient use of the camera. You can use the following functions by installing the product on the camera.

- The best shot determination function for people's faces and feature extraction function notify i-PRO Active Guard of the person's face information.



- This product is required for each camera.
- Refer to the following URL for information on the compatible models and software versions of this product.

→[Equipment compatibility](#) <C0103>

※<Control number: Cxxxx> The number used when searching for the appropriate information on our support website.

## 1.2 Features

### 1.2.1 AI Face Detection

- This product extracts face feature of detected person and transmits the best-shot images and the feature value to the i-PRO Active Guard.

- This product has the following features:
  - Extracts person's face feature.
  - Transmits best-shot images of up to 8 people and feature value.
  - To prevent false detection, you can set up to eight mask areas.

## 1.3 Before using this product

The following may cause detection failure, false detection or false attribute classification.

- The image brightness is low, such as at night.
- There is backlighting in the video.
- There is strong external light in the video.
- The subject is moving too fast.
- Subjects are subject to uneven lighting, with some parts illuminated and some parts shaded.
- The subject is too small or too large.
- Part of the subject is hidden.
- The subject's face is not facing the camera.
- The subject is not in focus.
- Posters with dolls and people appear in the footage.
- There are too many subjects.
- Multiple people crossing or crowding together.
- There are water droplets or dirt on the camera dome or lens.
- The camera is shaking.
- The weather is extremely bad.

Other cautions are explained below.

- If there are factors that cause false detections on the screen, you can reduce false detections by setting a mask area.
- Please update to the latest firmware to prevent unauthorized access by third parties, infringement of privacy and portrait rights, information leaks, and unauthorized operation.
- We shall not be liable for any inconvenience, damages or losses incurred as a result of setting up this product.
- We shall not be held responsible for any accidents or damages that may occur.

## 2 Preparation

The steps up to operation are as follows. This chapter describes steps 1, 2.

1. Check compatible models and software versions  
→[2.1 Check compatible models and software versions](#)
2. Install the product  
→[2.2 Install the product](#)
3. Configure the required settings.  
→[3 Basic settings](#)
4. Operation will begin.

### 2.1 Check compatible models and software versions

Check the compatible model and software version in the following URL.

→[Equipment compatibility <C0103>](#)

### 2.2 Install the product

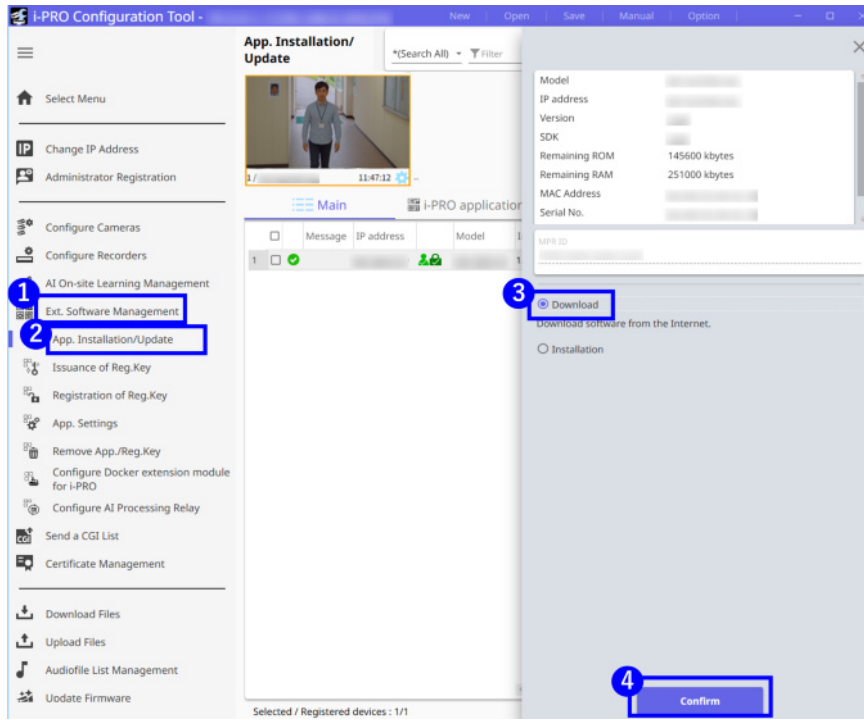
Download the product and install it on your camera according to the following procedures.

1. Download this product  
→[2.2.1 Download this product](#)
2. Installing the product  
→[2.2.2 Installing the product](#)

2 Preparation  
2.2 Install the product

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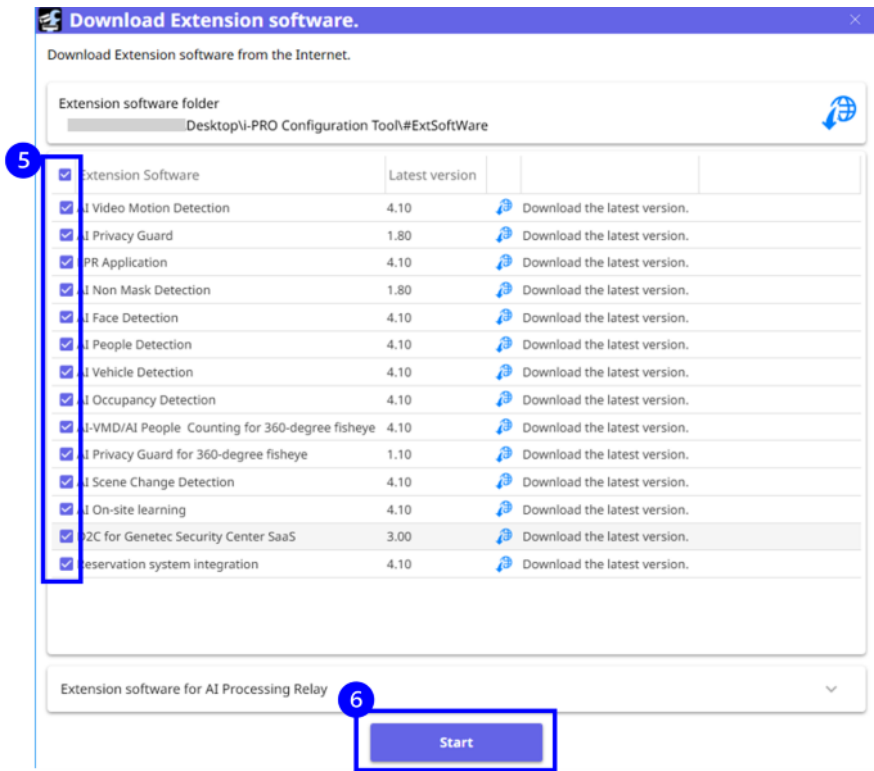
2.2.1 Download this product



1. Open iCT and click "Ext. Software Management" in the left menu.
2. Click App.installation/Update
3. Check "Download".
4. Click the "confirmation" button.

2 Preparation  
2.2 Install the product

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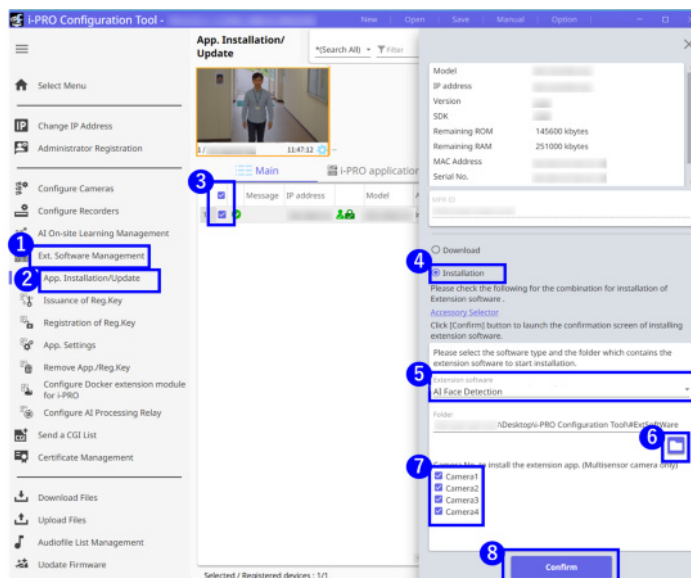


5. Check the extension software you want to download. In this procedure, check only "AI Face Detection"
6. Click the Start button.



– The download destination for the function extension software is "Desktop > i-PRO Setting Tool > #ExtSoftWare" on the computer where iCT is installed.

### 2.2.2 Installing the product



Please check the camera's [Remaining ROM capacity] and [Remaining RAM capacity]. If there is insufficient capacity, uninstall any other installed extension software. For instructions on how to uninstall, please refer to the operation and settings section of the camera's instruction manual.

1. Open iCT and click "Ext. Software Management" in the left menu.
2. Click App. installation/Update
3. From the device list, select the camera on which you want to install the extension application.
4. Check "Install".
5. Select "AI Face Detection" from the "Extension Software" pull-down menu on the right side of iCT.
6. Please enter the folder specified here.  
→ [2.2.1 Download this product](#)
7. For multi-sensor cameras, select the camera number for which you want to install the extension software. For cameras other than multi-sensor cameras, no selection is required.
8. Click the "confirmation" button.

Follow the iCT guide to install the app. The "AI Face Detection" app will be installed.



- Do not turn off the camera during installation.
- Do not perform any operations during installation until the installation is complete.

### 3 Basic settings

#### 3.1 Open the settings screen

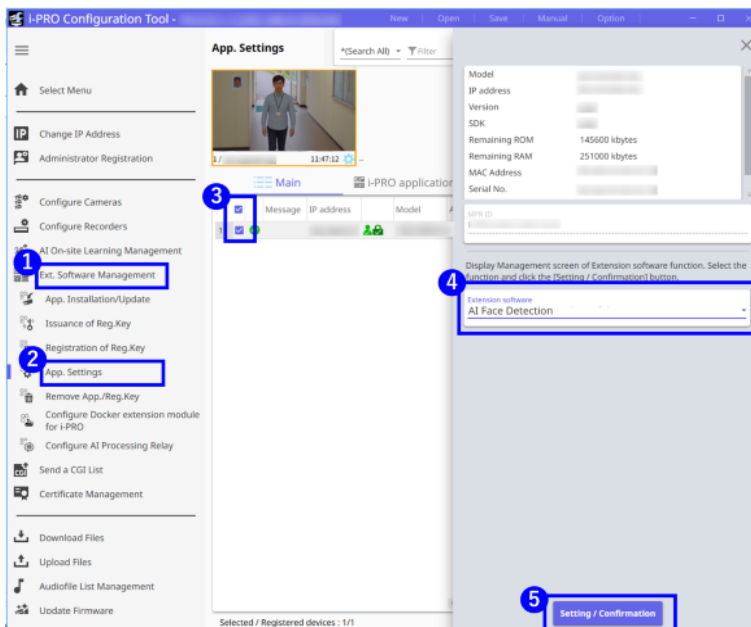
---

## 3 Basic settings

The basic setting procedure is as follows.

1. Open the settings screen  
→[3.1 Open the settings screen](#)
2. Camera adjustment  
→[3.2 Camera adjustment](#)
3. Camera adjustment  
→[3.3 Checking matching accuracy](#)
4. Detailed setting  
→[4 Detailed setting](#)

### 3.1 Open the settings screen

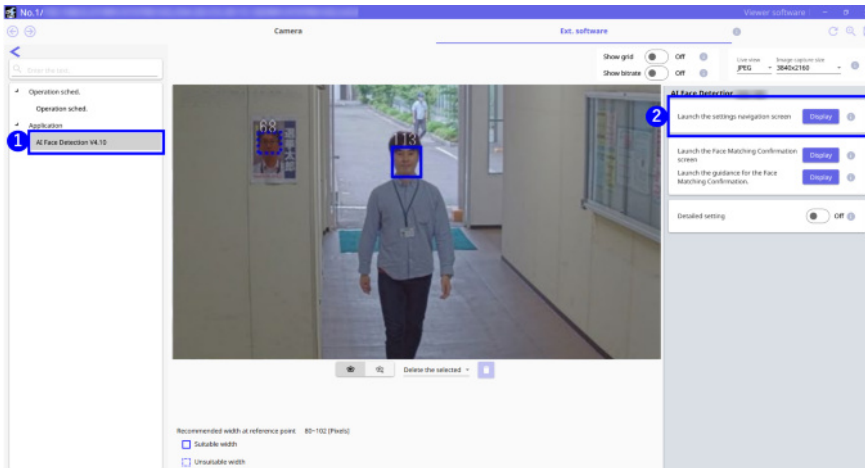


1. Open iCT and click "Ext. Software Management" in the left menu.
2. Click "App Settings".
3. From the device list, check the camera for which you want to set up the extension software.
4. Select "AI Face Detection" from the "Extension Software" pull-down menu on the right side of iCT.

5. Click the "setting/confirmation" button.

## 3.2 Camera adjustment

Adjust the camera settings from the AI Face Detection application settings screen.



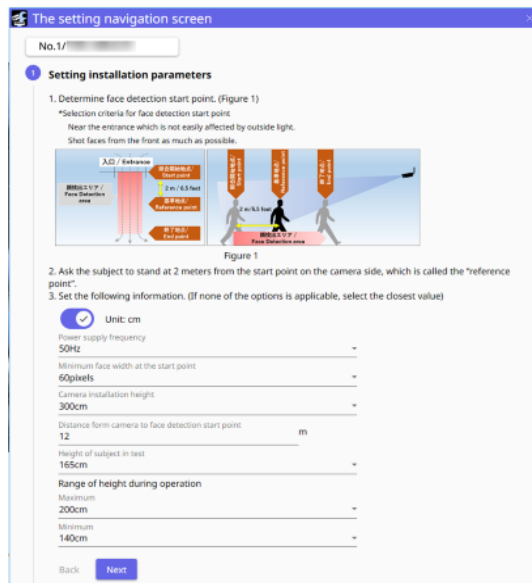
1. Click the AI Face Detection application.
2. Click the "Display" button on the settings navigation screen.
3. Set the adjustment parameters, image quality, zoom/focus/depression angle according to the instructions on the settings navigation screen.



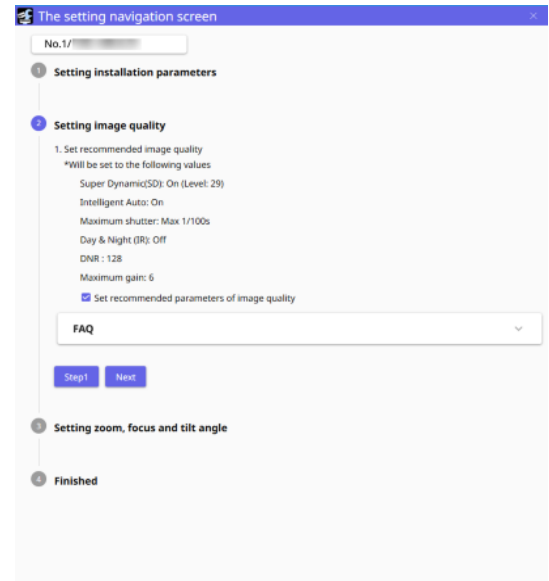
– For recommended sizes, see the following URL:  
→ [Technical Information](#) <C0320>

3 Basic settings  
3.2 Camera adjustment

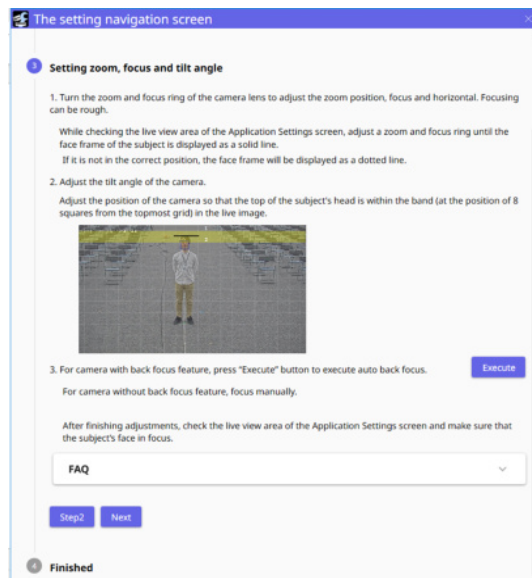
Step1



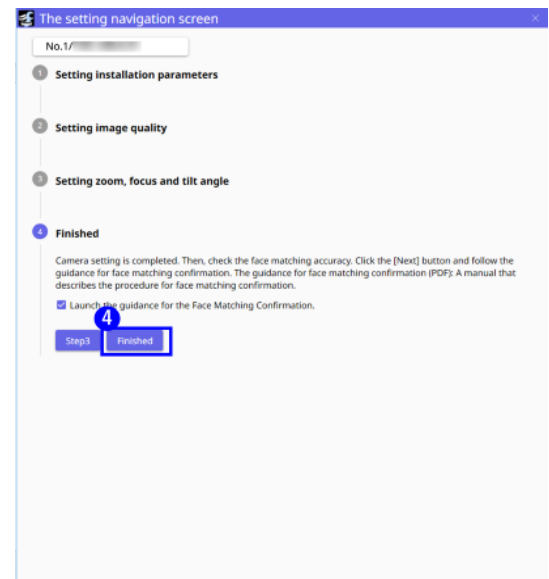
Step2



Step3

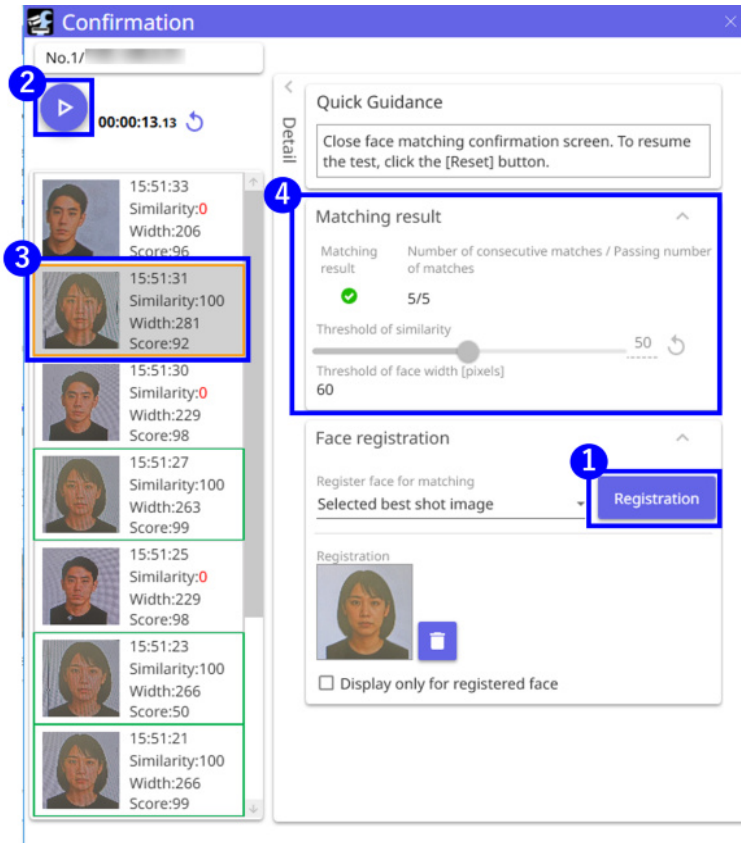


Step4



4. On the Setup Complete screen, click the "Finished" button.

## 3.3 Checking matching accuracy

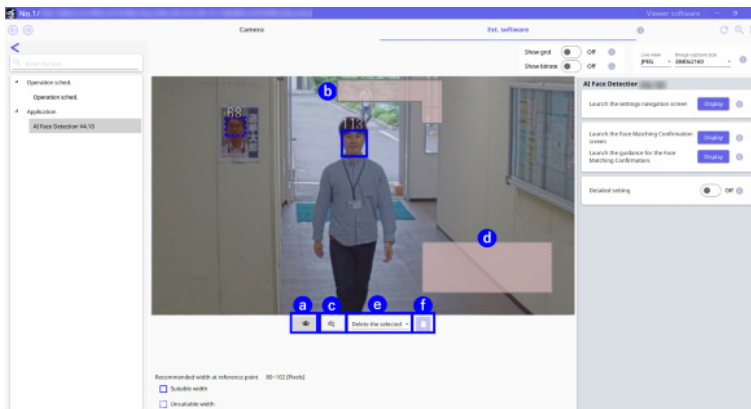


1. Register a face image.
  - (1) Select either the best shot image received from the camera or an image file on your PC as the face image.
2. Press the Start button to begin receiving best shots from the camera.
3. The received best shot image will be displayed. The following information will also be displayed:
  - (1) - Time of capture
    - Matching score
    - Face size (width)
4. The matching results will be displayed.

## 4 Detailed setting

### 4.1 Mask area settings

Draw and set areas on the live image where object detection will not occur. Up to eight mask areas can be set, with each area having up to 16 vertices. The set mask area is drawn semi-transparently. Default setting: No mask area is set.



#### Add a new mask area

- (a) Click "Mask Area (Polygon)".
- Click the vertices of the polygon to draw it. When you close the corners, the mask area will be drawn (b).

#### Moving the mask area

- (c) Click "Mask Area (Select)".
- Drag the mask area to move it.

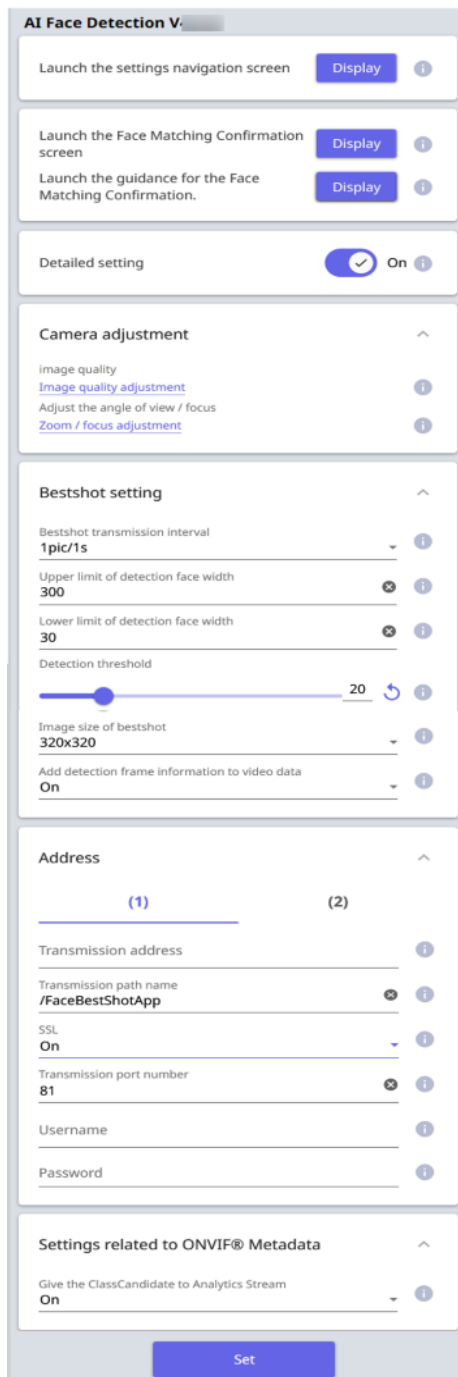
#### Remove mask area

- (c) Click "Mask Area (Select)".
- Select the mask area you want to remove (d).
- (e) Select "Delete the selected".
- (f) Click "Delete".

#### Delete all mask areas

- (e) Select "Delete All".
- (f) Click "Delete".

## 4.2 Detailed setting



### Launch the settings navigation screen

- [Display] button: Click to display the settings navigation screen in a separate window.

### Launch the Face Matching Confirmation

- [Display] button: Click to display a separate window that allows you to check the accuracy of face matching.

### Detailed setting

- When turned on, the camera adjustment and best shot settings screen will be displayed.  
The best shot settings are used to set the detection threshold and the size of faces to detect.  
Default setting: Off

### Camera adjustment

- [image quality adjustment] link: Click to go to the camera's image quality adjustment screen.  
[zoom/focus adjustment] link: Click to go to the camera's zoom/focus adjustment screen.

### BestShot Setting

- [BestShot transmission Interval]  
Select the number of Best Shots to send per person and the sending interval.  
Default: 1 pic/1 s
- [Upper limit of detection face width]  
Sets the maximum width limit for face detection.  
Default setting: 300
- [Lower limit of detection face width]  
Sets the minimum width limit for face detection.  
Default setting: 30



If the upper or lower limit of the detected face width is set to 0, it means that there is no limit on the detected face width.

- [Detection threshold]  
Set the detection threshold. A lower value increases the chance of detecting people, but may also increase false positives.  
1 – 99  
Default setting: 20
- [Image size of bestshot]  
Select the size of the Best Shot image you want to send.  
160x160, 320x320  
Default setting: 320x320

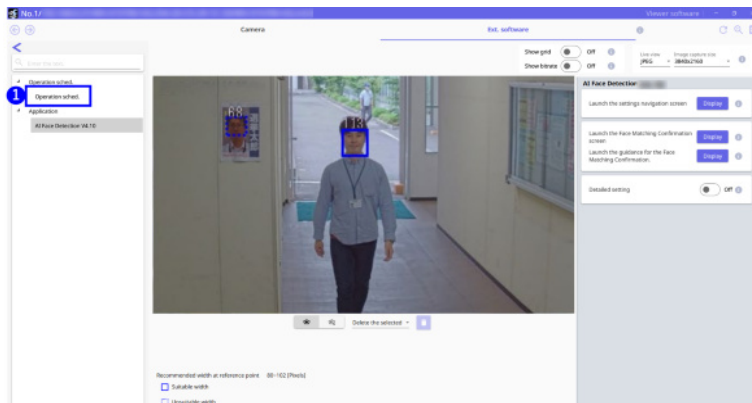
### Address

- Not used when sending to Multi-AI software.

### [Set] Button

- Click to enable the Best Shot and Mask Area settings.

## 4.3 Scheduling



1. Click [Operation Sched] from the left menu of the [AI Face Detection Settings Screen].



Set the time and operation details for this product.

You can set up to six operation times for each of [Timetable 1] and [Timetable 2].

- Operation content

Select the operation of this product.

On: The AI Face Detection application will run.

Off: The AI Face Detection application will not run.

For items set to "On," set the time to operate. If you set it to "All day," it will operate all day.

Default setting:

[Timetable 1]

- Operation content 1: On, All Day

- Operation content 2-6: Off

[Timetable 2]

- Operation content 1-6: Off

- Set

Click to save the schedule settings and enable the schedule.



If the camera's operation schedule is set to Off, you will not be able to open the settings screen for this product.

## 5 Others

### 5.1 Specifications

#### 5.1.1 PC environment required

For information about the PC environment, requirements, and supported browsers used for settings, refer to the camera's instruction manual.

#### 5.1.2 Compatible cameras



Refer to the following for the combinations and restrictions of this product and camera.

→[Equipment compatibility](#) <C0103>

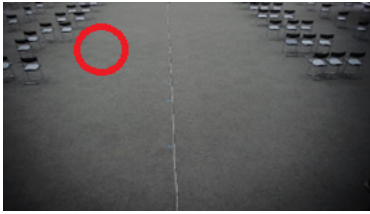
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- Internet Explorer and ActiveX are registered trademarks or trademarks of Microsoft Corporation in the United States and other countries.
- Screen photographs are used according to the guidelines of Microsoft Corporation.
- ONVIF is a trademark of ONVIF Inc.

### 5.3 appendix

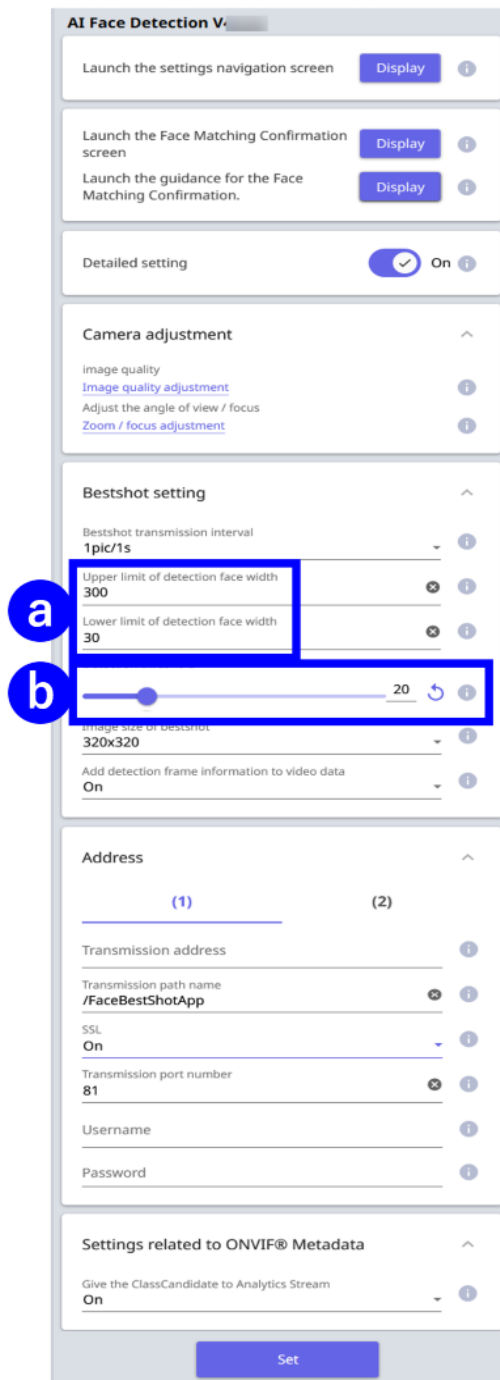
#### 5.3.1 Note about false object detection

The best shot may be sent due to a false detection of floor patterns or object shapes.



countermeasure

1. If the object being detected as a false positive is in a location where people do not pass, you can reduce the false positives by masking that location.
2. If the object being falsely detected is clearly smaller (or larger) than a person, you can reduce false alarms by adjusting the (a) "Lower limit of detection frame size" (or "Upper limit of detection frame size") in the Best Shot settings.
3. You can reduce false alarms by increasing the "Detection Threshold" (b) in the Best Shot settings. However, this may make it harder to detect people.



## 5.4 Open Source Software

This product uses the following open source software. Please refer to “Open Source Software” for the corresponding license statements.

Software name	License Name
open_model_zoo	Apache License 2.0
libjpeg-turbo	The IJG (Independent JPEG Group) License, which is listed in README.iyg The Modified (3-clause) BSD License The zlib License

See [Open Source Software] below for the corresponding license text.

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Version 2.0, January 2004  
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## 5.5 Copyright

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## 5.6 Disclaimer

- The purpose of this product is to obtain images for monitoring specific areas. This product alone is not intended to prevent crimes.
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  2. 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 a failure or failure of the Product
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