∷i·PRO

Operating Instructions

Extension Software
(AI Non-Mask Detection)

Model No. WV-XAE203W

Before attempting to connect or operate this software,
please read these instructions carefully and save this manual for future use.

The model number is abbreviated in some descriptions in this manual.

Contents

Introduction

Preface

The Extension Software WV-XAE203W (hereafter referred to as this product) is software for more conveniently using the network camera (option, hereafter referred to as the camera). By installing this product on the camera and registering the release key, the "AI Non-Mask detection function" which automatically recognizes non-mask wearers, can notify Information on non-mask wearers to external systems such as WV-ASM300 / WV-ASM300W (option) and WJ-NX series network recorders (option).

Important
- This product is necessary for each camera.
- See the URL below for information such as the models supported by this product, the software version, etc.
  https://i-pro.com/global/en/surveillance/training-support/support/technical-information

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Features

- This product notifies the specified notification destination of the detected non-mask wearer information.
- This product has the following features.
  ①The deep learning technology and our proprietary image processing technology can recognize colored masks, pattern (geometric) masks, fashion masks and various mask shapes.
  ②You can use it immediately by installing this product on the camera without any settings.

Specifications

Recognized masks | Color masks, pattern (geometric) masks, fashion masks and various mask shapes (flat type, pleated type, three-dimensional type)

Maximum number of simultaneous detection | 8 people
Maximum face orientation | 45° left and right 30° up and down
Installation location | Indoors

* See the URL below for "Recommended minimum face size" information.
   https://i-pro.com/global/en/surveillance/training-support/support/technical-information <Control No.: C0320>

About the Operating Instructions

This manual explains the method of installing this product in a camera, settings that need to be made before starting to operate this product, and the method of operation for using this product. Since this product is used after being installed on a camera, before using this product always be sure to also read the Operating Instructions of the camera with which this product is to be used.
Based on the specific model of a camera which is used, its screen may be different from the screen shown in this manual.

In this manual, a personal computer is referred to as a PC.

In this manual, WV-ASM300 and WV-ASM300W are referred to as WV-ASM300.

System requirements for a PC

For the requirements of PC which are used for settings refers to the Operating Instructions of a camera.

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On open source software used

- This product uses the open source software below.

Name of software	Name of license
cwebsocket	The MIT License

- For the corresponding license statement, see "Open Source Software" on page 9.

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(5) LOSS OF REGISTERED DATA CAUSED BY ANY FAILURE (INCLUDING INITIALIZATION OF THE PRODUCT DUE TO FORGOTTEN UTHENTICATION INFORMATION SUCH AS A USER NAME AND PASSWORD).

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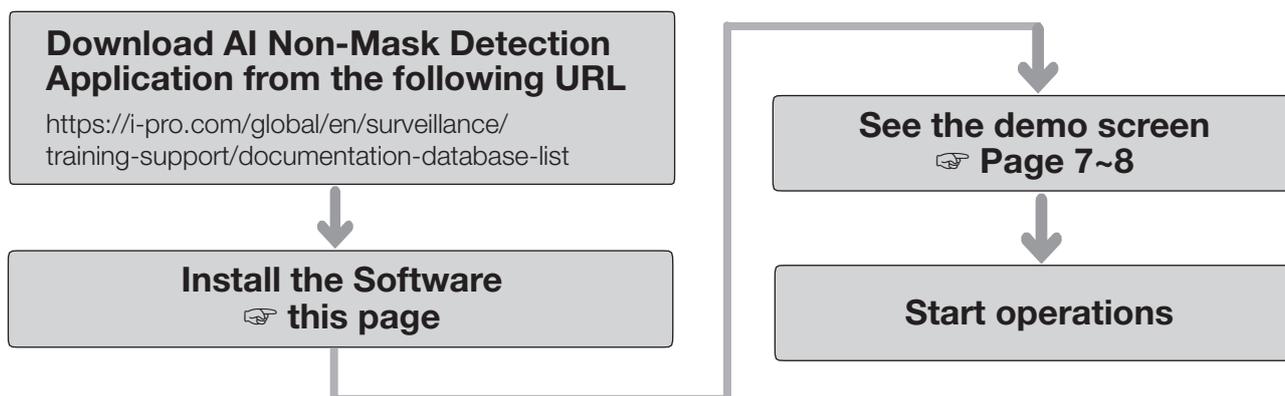
Before using this product

The following situations may be difficult for Non-Mask Detection, or may return a false positive.
- Not supported under IR-LED light.
- Mask may not be detected depending on how it is worn and its type.
- Fashion masks (specific objects, specific characters, specific hieroglyphs, etc.) may not be detected.
- When worn such as "Mask on the chin" or "Nose sticking out of the mask", it may not be detected.
- Non-detection or reduced accuracy may occur due to uneven light, changes in light conditions, face orientation, jewelry, fast movement of the subject, strong external light, etc.
- If it does not appear for more than 2 seconds, it may not be detected.
- The face is out of focus.
- The face is shaking.
- The face is overexposed or washed out.
- Only a part of the face is shown.
- The face is not looking up.
- The face is too close to the camera.
- The face is too small (size less than the specified face width).
- It may react to dolls and posters.

Other cautions are explained below.
- AI Non-Mask Detection Application supports "0° (Off)" and "180° (vertical rotation)" under "Image rotation" settings.
- For 4K network cameras, AI Non-Mask Detection Application limits the delivery frame rate from a maximum of 30 fps to 15 fps.
- When AI Non-Mask Detection Application is running, if you change the camera's imaging mode or stream settings, the application will restart. If the demo screen of AI Non-Mask Detection Application is open, please reboot it.
- If you have set a privacy zone, you cannot detect Non-Mask within the privacy zone.
- If 10 or more persons appear in the image, it may not be possible to detect the one not wearing the mask.
- The message ID of TCP alarm notification is '69'.
- When using TCP alarm notification, set "Additional alarm data" under "TCP alarm notification" of the camera to "On".
- When using multiple TCP alarm notification simultaneously, if one TCP alarm notification is received after setting the "Alarm mask time" of the WJ-NX series network recorder, no other TCP alarm notification will be received during the "Alarm mask time".
- For TCP alarm notification settings, refer to 'TCP alarm notification' in the Operating Instructions of the camera.
- Depending on various installation conditions and usage environment such as the brightness of the location and the movement of the subject, movement may be difficult to detect, or it may not be detected, or it may malfunction. Please evaluate the installation location before installing.
- We shall not be liable for any inconvenience, damage or loss caused by setting the Non-Mask Detection function or as a result thereof.

Operation flow

Download AI Non-Mask Detection Application from the following URL
https://i-pro.com/global/en/surveillance/training-support/documentation-database-list

↓

| Install the Software ☞ this page |

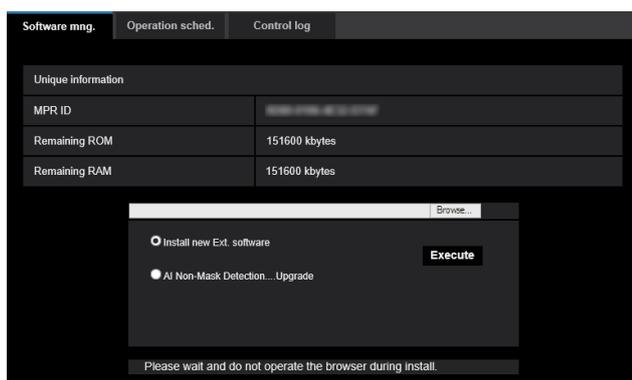| See the demo screen ☞ Page 7~8 |

↓

| Start operations |

Install the Software

Follow the steps below to download this product and install it on your camera.

(1) Access the following URL to download "AI Non-Mask Detection" and save it onto the PC.
https://i-pro.com/global/en/surveillance/training-support/documentation-database-list

Important:
- A space cannot be used in the name of the saving directory.

(2) Select the [Setup] - [Ext. software] - [Software mng.] tab of the camera.

Software mng.	Operation sched.	Control log
Unique information		
MPR ID		
Remaining ROM	151600 kbytes	
Remaining RAM	151600 kbytes	

Browse...
- Install new Ext. software
- AI Non-Mask Detection....Upgrade   Execute

Please wait and do not operate the browser during install.

Important:
- Check "Remaining ROM" and "Remaining RAM" of the camera. If disk space is insufficient, uninstall any other extension software already installed. For how to uninstall, refer to the "Operation settings" section in the Operating Instructions of the camera.

(3) Click the [Browse...] button and designate the downloaded "AI Non-Mask Detection".

(4) Make sure that "Install new Ext. software" is selected and click the [Execute] button.
Then the software installation will begin.
When the installation is completed, "AI Non-Mask Detection" will be added to the list of extended software and the "Software mng." screen. (The names may be partially omitted.)
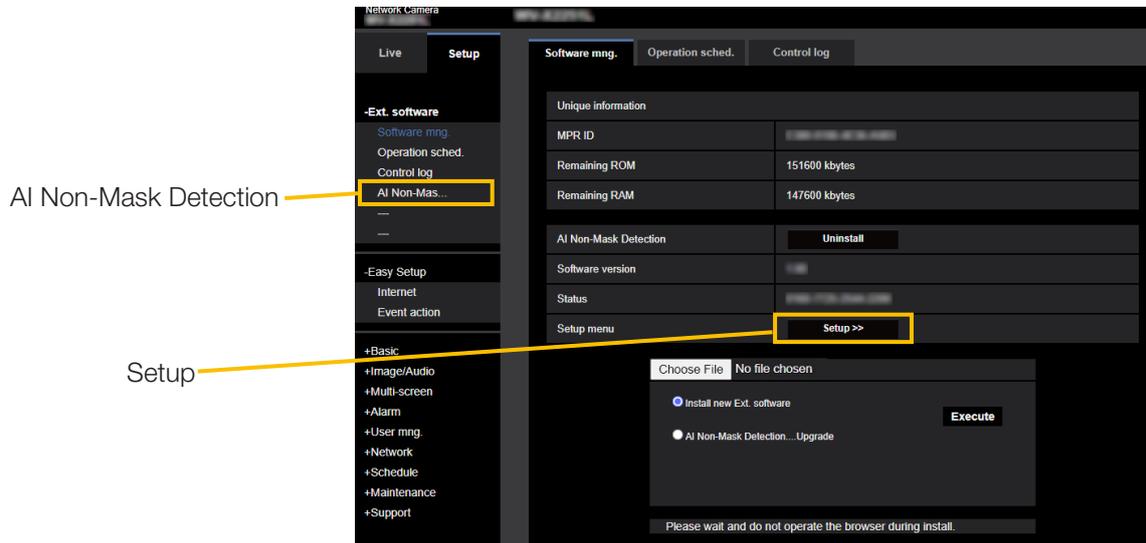
Important:
- Do not turn off the power of the camera when installing the software.
- Do not perform any operations until the installation is completed.
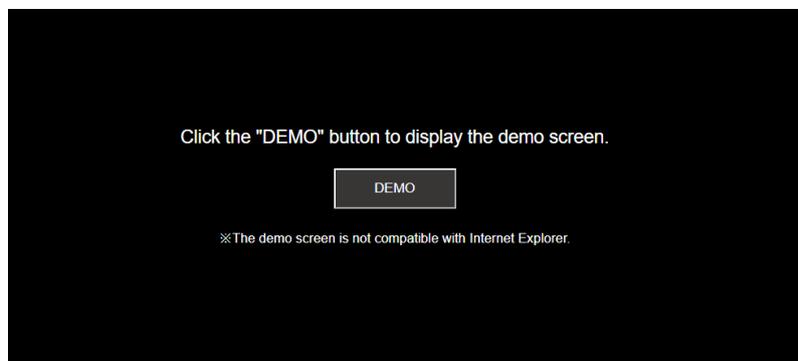
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See the demo screen

1. Open the demo launch screen

After installing AI Non-Mask Detection Application, go to camera "Setup" menu > "Ext. software" page, where "AI Non-Mask Detection" is added to "Software mng." tab.

Click "AI Non-Mask Detection", or "Setup", and then "Demo launch screen" opens. Also, in order to open the "Demo launch screen", it is necessary to register the schedule in advance on the "Operation sched." tab of the "Ext. software" page.

Demo launch screen

Note:
- If the "Operation sched." is outside the operating hours, the "Demo launch screen" cannot be opened.

See the demo screen (continued)

2. Open the demo screen

Click the [DEMO] button on the "Demo launch screen" to open the "Demo screen".

Demo screen

A JPEG image is displayed, and the result of mask detection for each frame is displayed in a frame.
Non-Mask Detection alarm is determined in multiple frames, the alarm is not notified even if the red frame is displayed in one frame.

    Red frame: Non-Mask Detection status
    Blue frame: Mask Detection status

Note:
- Use Firefox, Google™ Chrome™ and Microsoft edge to display the demo screen. Internet Explorer is not supported.
- The demo screen can be displayed on only one browser. It does not support simultaneous access by multiple browsers.
- If the data encryption is set to "On", the demo screen image will not be displayed.
- The demo screen does not support HTTPS connection.
- When used simultaneously with other extension software functions , the position of the face may be significantly misaligned with the frame on the demo screen.
- The demo screen is for demo purposes and is not recommended for actual operation.

Open Source Software

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