

# NVR Face Recognition Configuration Guide

## 1. Foreword

Face recognition and comparison process: The IPC uploads the captured face images to the NVR. The NVR stores and compares the images and generates the corresponding alarms for matched images. In addition, the NVR supports alarm control linkage to output diversified alarms.

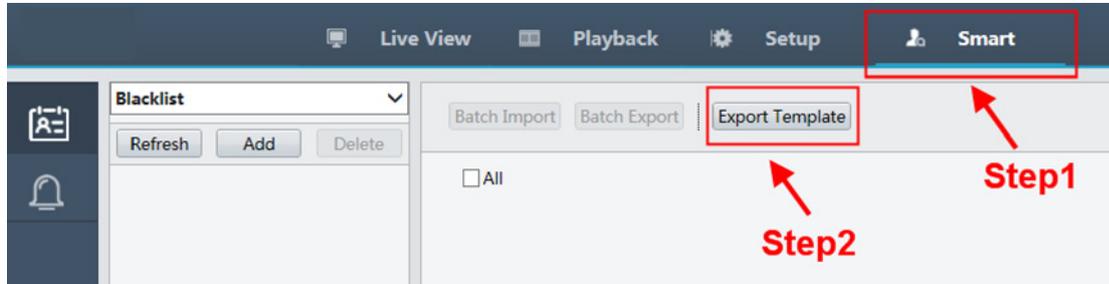
## 2. Preparations

1. A Model B NVR with the version later than D023SP10 has been obtained.
2. A hard disk has been installed in the first hard disk slot of the NVR.
3. A smart bar has been obtained.
4. A camera has been obtained and will be used with the HIC5621@DH-FA or HIC5621@DH-FA-VA.
5. Other commissioning tools such as display and computer have been obtained. The computer has been installed with the Microsoft Excel program.

Note: Because the face recognition commissioning will be implemented on the computer, the commissioning introduced in this document is mainly accomplished through the computer's access to the NVR's web UI.

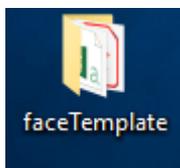
## Step 1: Export the template.

In the IE browser, enter the IP address of the NVR, log in to the system, enter the **Smart** page, and click **Export Template**.



## Step 2: Edit the image and template.

4.1 The following figure shows the exported template in .CSV format.





ratio should reference to the certificate photo. The resolution is within the range of 288\*352 to 600\*600. The recommended value is 288\*352. The photo name can use Chinese characters, English letters, or numbers.

## Step 5: Import the template.

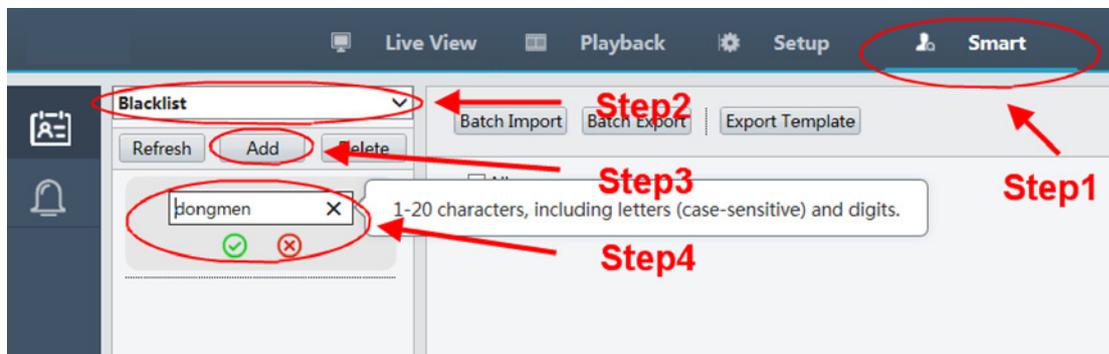
### 5.1 File Normalization

Save photos and CSV templates in the same folder.



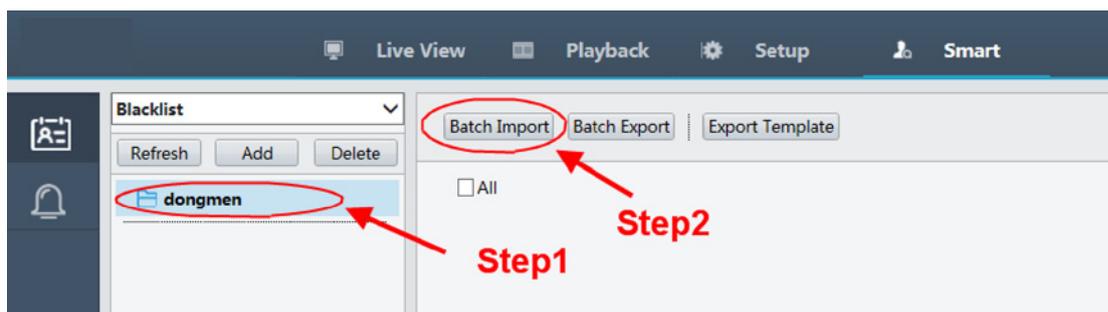
### 5.2 Adding a Namelist Library

Enter the Smart page, select the namelist library type, and click **Add**. Name it and select the check mark.

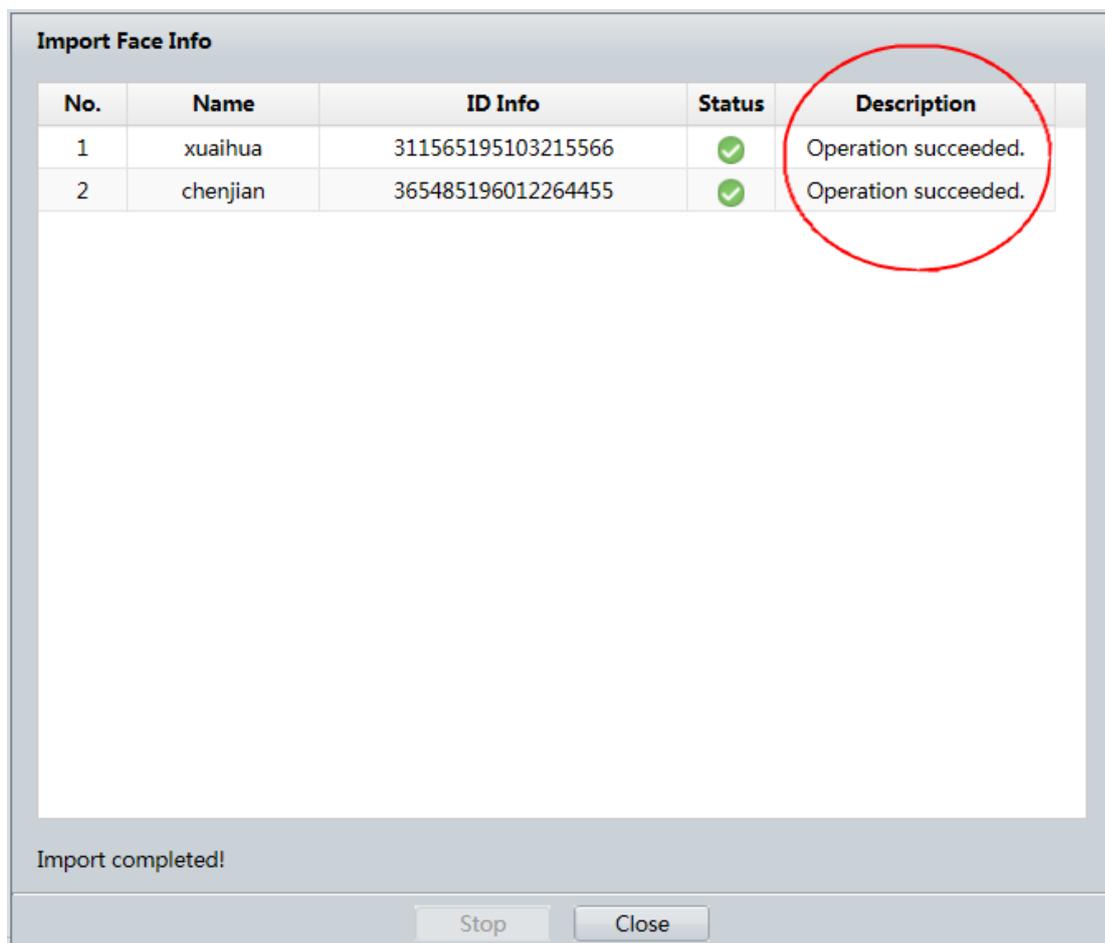


### 5.3 Importing the Namelist

1. Select the namelist library. After it is highlighted blue, click **Mass Import**, select the template as prompted, and click **Import**.



2. The system prompts that the operation is successful. Then, the import is completed, as shown in the figure below.



#### 5.4 Importing Photos

After the template is imported, select the namelist library to view the images in the namelist library, as shown in the figure below.



## Step 6: Connect the camera and enable face photo capture.

### 6.1 Connecting the Camera

Connect the HIC5621 to the NVR.

### 6.2 Configuring Parameters

On the NVR web UI, choose **VCA>Face Detection**. Configure the following parameters.

The screenshot shows the 'Face Detection' configuration page in the NVR web UI. The left sidebar shows the navigation menu with 'VCA' expanded and 'Face Detection' selected. The main content area has the following settings:

- Select Camera: D348P Camera 02
- Face Recognition:  (Callout: Enable Face Recognition)
- Face Shot:  (Callout: Enable Face Shot)
- Detection Area:  Full Screen  Specify Area (Callout: Specify area by drawing or Full screen)

Below the 'Specify Area' callout, there is a 'Draw Area' button and a video preview window. To the right of the video preview, there is a slider for 'Face Detection Sensitivity' set to 90 (Callout: Set Face detection Sensitivity).

The screenshot shows the 'Advanced' configuration section for Face Detection. The settings are as follows:

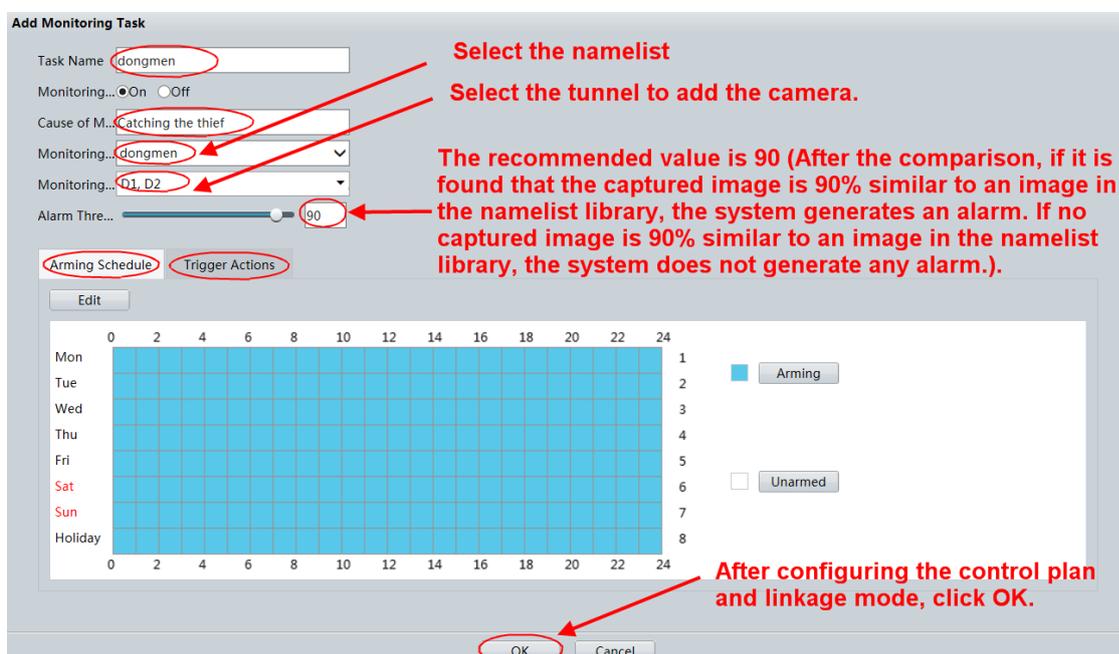
- Number of Snapshots: 5
- Filter by Object Size:
  - Max Face Width(px): 405
  - Min. Face Width(px): 108
  - Note: Face width range: 27px-675px
- Face Selection:
  - Selection Mode: Normal Mode (Callout: Select the Quick mode for multiple captures per second)
  - Quick Mode Level: 1

## Step 7: Configure the alarm control arrangement.

7.1 Enter the NVR web UI, choose **Smart>Monitoring**, as shown in the figure below.



7.2 Select the control namelist (black or white), and click **New**.



## Step 8: Start the face recognition.

After the face recognition configuration is completed, right-click on the man-machine UI to select face recognition, and select a camera channel on the left side of the UI. Then, you can see the live video image at the upper part of the screen, small face images in the upper right part, and alarm comparison information in the lower part.

## 4. FAQ

1. **Question: Why can't I see the captured images but only live video after commissioning according to the above steps?**

Answer: Log in to the IPC web UI, choose **Configuration>System>Server>Smart Server**. Change the TMS server address to the NVR IP address. Then, the IPC will send captured face images to the NVR. This setting is automatically changed when a camera in the new version accesses to the NVR. However, in some earlier versions, this setting may not be automatically changed by the IPC.

2. **Question: How many black and white namelist photos can be imported to the face library?**

Answer: A maximum of five libraries can be created and these libraries can store up to 2000 face photos.

3. **Question: Where are images captured by the camera stored?**

Answer: Captured images are saved in the NVR hard disk. You can query the images by choosing **NVR Man-machine Smart Retrieval>Face Retrieval**.

4. **Question: How many channels can be arranged for a namelist library?**

Answer: One namelist can be arranged on multiple cameras, and one camera supports multiple namelists.

5. **Question: Generally, the identity card number is relatively long, and the format in the Excel is displayed as 3.12+17. How can it be displayed normally?**

Answer: Because the input number is displayed as scientific notation by default. To solve this problem, you need to edit the template, select the document number column, right-click to select **Set Cell Format**, and set the format to **Text**.

6. **Question: Why does the system prompt me to format the hard disk?**

Answer: For the NVR that upgrades from a version earlier than D022 to the face recognition version, you need to format the hard disk. For the NVR that upgrades from a version later than D022, you do not need to format the hard disk.

7. **Question: Why does a template with information correctly filled fail to be imported?**

A: Photo import also has strict requirements. If a photo does not contain any face, the system cannot analyze the face and the import fails. Therefore, ensure that a photo contains a face.

## **8. What do control namelist and alarm threshold mean?**

Answer: The control namelist must be selected. Currently, totally five back and white namelists are adopted. After a control namelist is selected, you can set multiple control channels for the namelist library. This is a one-to-multiple relationship. For example, a criminal namelist is created on the cell NVR, cameras installed on four gates (east, west, south, and north) can use this namelist library for control. If no namelist library is configured on the white list, you cannot select the namelist library. The alarm threshold means that the NVR compares the captured face images with the images in the blacklist database. After the comparison, if it is found that the captured image is 90% similar to an image in the namelist library, the system generates an alarm. If no captured image is 90% similar to an image in the namelist library, the system does not generate any alarm. The processing principle of the whitelist is on the contrary. Therefore, when the alarm threshold is set too low, it is easy to cause false alarms; when the alarm threshold is set too high, it is easy to miss alarms. The recommended value is 90.