



**BC-5010-IVS**

**Face Recognition  
Guide**

**Version 1.1**



# BC-5010-IVS Face Recognition Guide

## 1. Overview

The BC-5010-IVS has built-in video analytic function for Face Recognition. It is a standalone function built into the camera's firmware without the need for external software or device. The Face Recognition function can be used for the access control. This guide will focus on using BC-5010-IVS's "Face Recognition" function to do access control in places like offices, warehouses, vaults and laboratories.

The Face Recognition requires creating the face database in advance. People need to register their faces by the camera first. Once the database has been created, camera is able to recognize the registered faces when they are showing in the camera view.



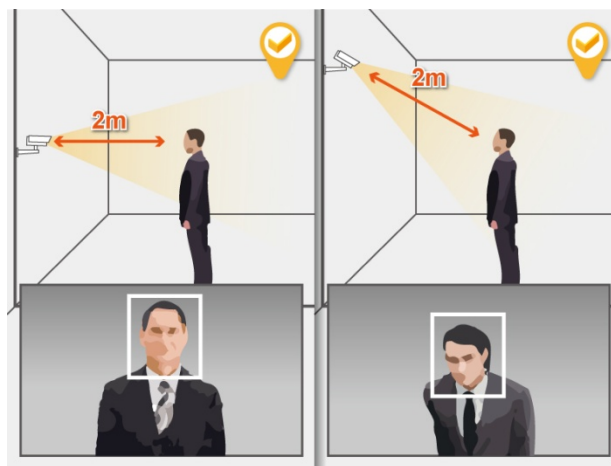
The important factors for the successful Face Recognition installation are:

- Choose the appropriate viewing angle and height.
- Choose the appropriate resolution and frame rate.
- Choose the appropriate installation location; avoid any obstacle like shadow showing in the detecting area.

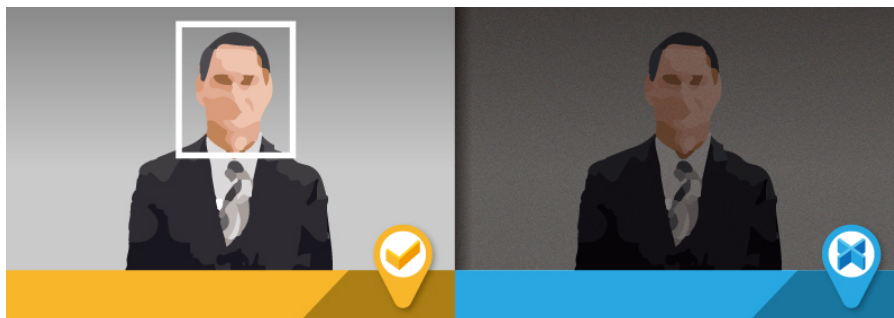
We will guide you through the procedure in the following articles.

## 2. Hardware Installation Guidelines

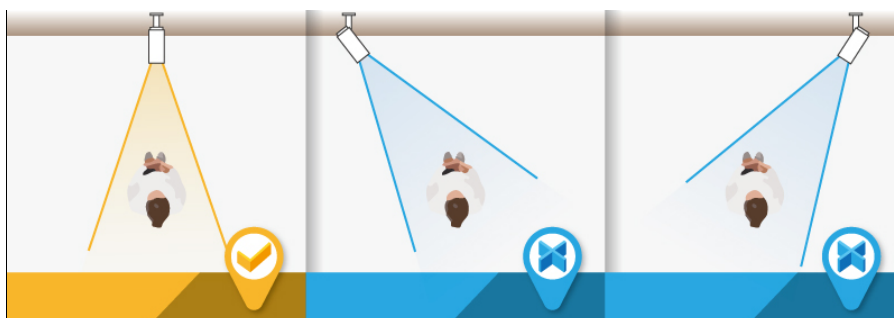
- When doing the register, it is highly recommended to keep the face and camera FOV at the same level. Hold 0.5~1.6 meters between camera and face for the best register result.
- The followings are basic installation guidelines for best Face Recognition results. However, the Face Recognition function can still work in less than ideal conditions.
  1. **Avoid the camera position is too far to recognize the face. The proper distance from the camera to the face will be less than 2 meters for Face Recognition.**



2. **Make sure there is enough illumination around the face. The background should be simple.**



3. **Make sure the head faces to the camera horizontally and vertically.**



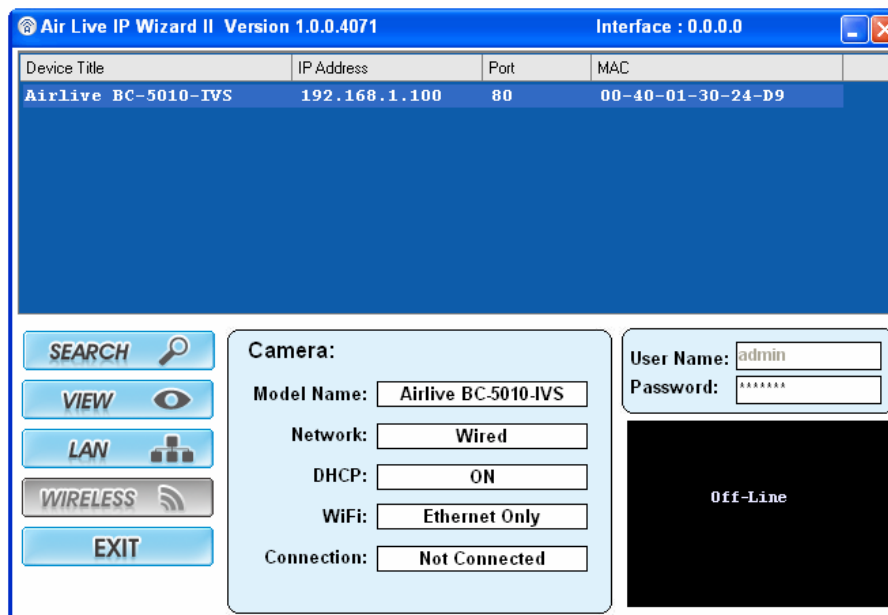
**Note:** The maximum distance is for reference only. This number is tested base on AirLive ACC-MPL-2812 v2 with 2.8mm focal length. The different focal lens may have different appropriate camera height.

## 3. Camera Configuration

### 3.1 Finding Camera by Using AirLive IP Wizard

The IPCAM default IP address is 192.168.1.100, but this address can change when there is DHCP server (router) in your network. Therefore, please install AirLive IP wizard to find your camera.

1. Install the “AirLive IP Wizard” from the installation CD or download it from [this link](#).
2. Run the “setup.exe” and open the AirLive IP Wizard.
3. The IP Wizard will auto search and list out the cameras found. Double click on the camera that you want to configure.



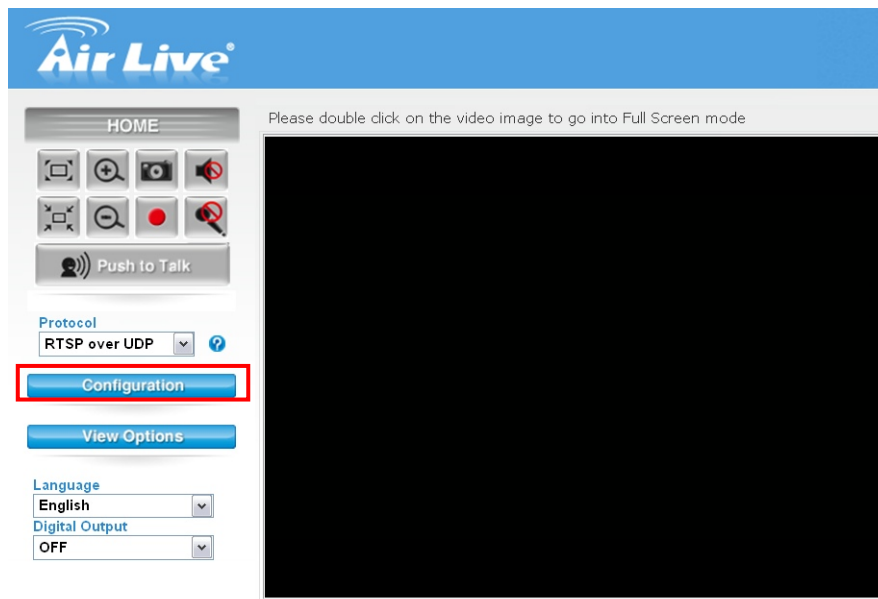
4. The IPCAM’s web configuration will open automatically after double click. Please enter the “admin” for username and “airlive” for password.
5. After entering the correct username and password. You will enter the camera’s web configuration page. When prompted to install “Media Control” from “OvisLink Corp”, please select “Yes” to install.

### 3.2 Enable Camera's Video Analytic function

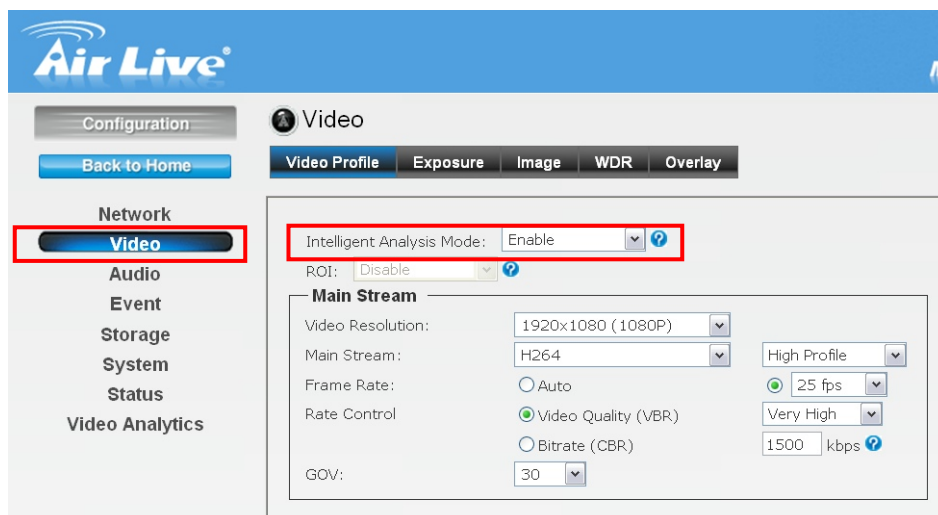
Please use Internet Explorer as the default browser. If you are using IE 11, please go to "Setup->Compatibility View Settings" and add the camera's IP address to the list.

Please follow the steps below to enable camera's video analytics function.

1. Click on "Configurations" on left menu bar



2. Click on "Video" on the left menu bar and select "Enable" Intelligent Video Analytics.

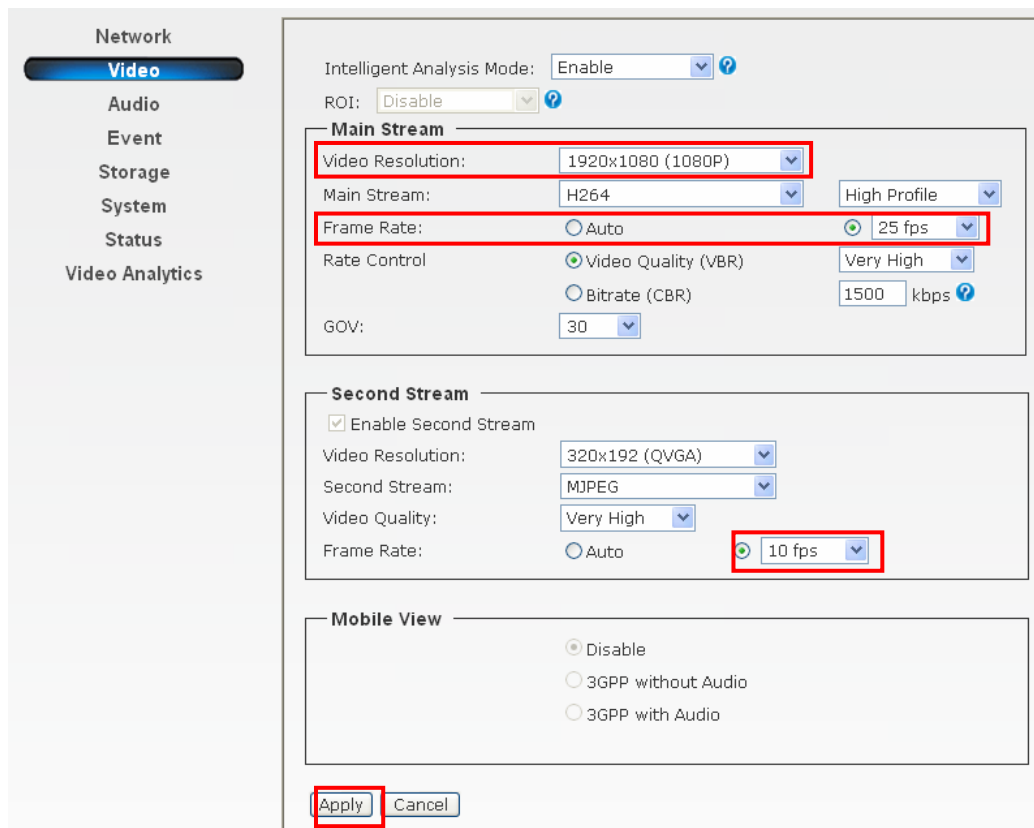


### 3.3 Setting Resolution and Frame Rate

On the video page, it is important to set the resolution and frame rate correctly.

**!** Please remember to click on “Apply” button after finish the settings.

Installation Site	Main Stream Resolution	Main Stream Frame Rate	Second Stream Frame Rate
Offices, warehouse, vaults and laboratories	1920x1080	25FPS	10FPS



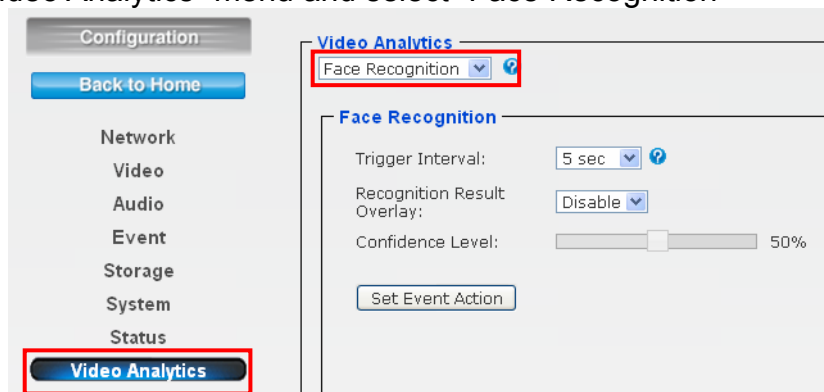
The screenshot shows the Video configuration page with the following settings:

- Intelligent Analysis Mode:** Enable
- ROI:** Disable
- Main Stream:**
  - Video Resolution: 1920x1080 (1080P)
  - Main Stream: H264, High Profile
  - Frame Rate: 25 fps
  - Rate Control: Video Quality (VBR), Very High, 1500 kbps
  - GOV: 30
- Second Stream:**
  - Enable Second Stream:
  - Video Resolution: 320x192 (QVGA)
  - Second Stream: MJPEG
  - Video Quality: Very High
  - Frame Rate: 10 fps
- Mobile View:**
  - Disable
  - 3GPP without Audio
  - 3GPP with Audio

The **Apply** button is located at the bottom left of the configuration area.

### 3.4 Configure Face Recognition Function

Please go to “Video Analytics” menu and select “Face Recognition”

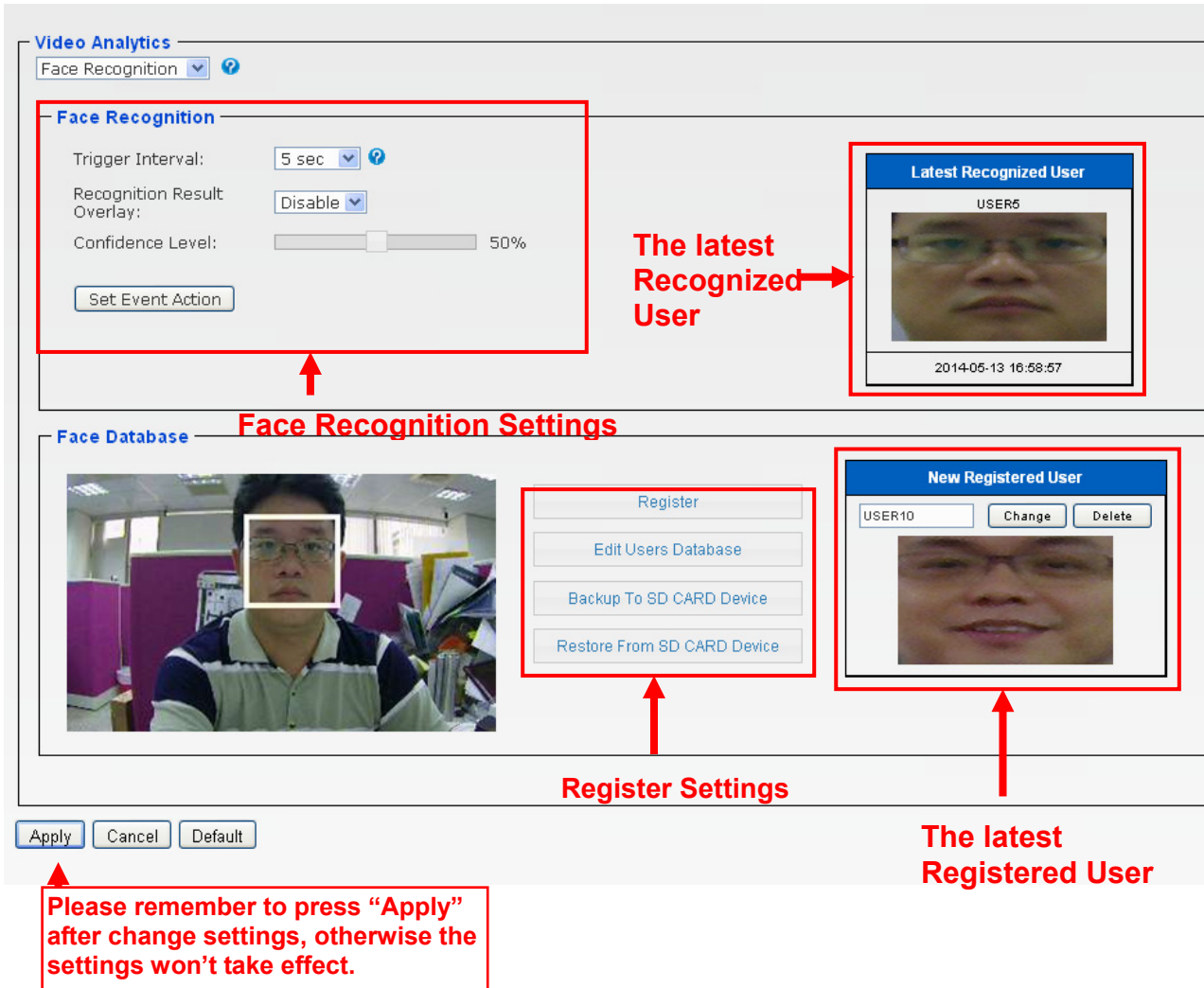


The screenshot shows the Video Analytics configuration page with the following settings:

- Configuration:** Back to Home
- Video Analytics:** Face Recognition
- Face Recognition:**
  - Trigger Interval: 5 sec
  - Recognition Result Overlay: Disable
  - Confidence Level: 50%
  - Set Event Action

The **Video Analytics** menu item and the **Face Recognition** dropdown are highlighted with red boxes.

Below is the main page of Face Recognition.



**Face Recognition Settings**

**The latest Recognized User**

**Register Settings**

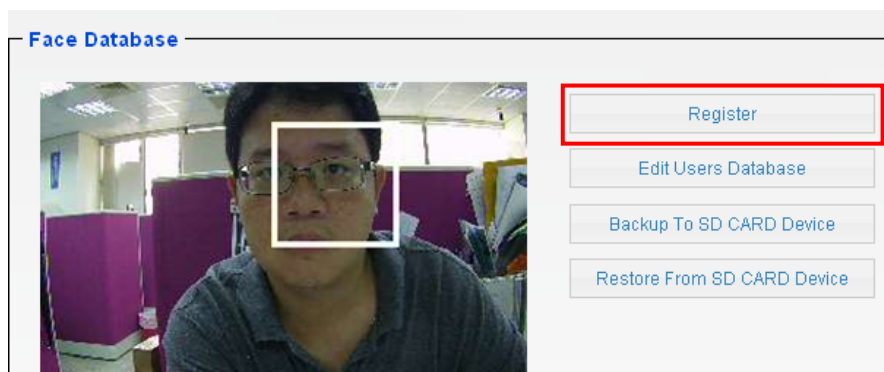
**The latest Registered User**

Please remember to press "Apply" after change settings, otherwise the settings won't take effect.

The first step is to register the Users Database.

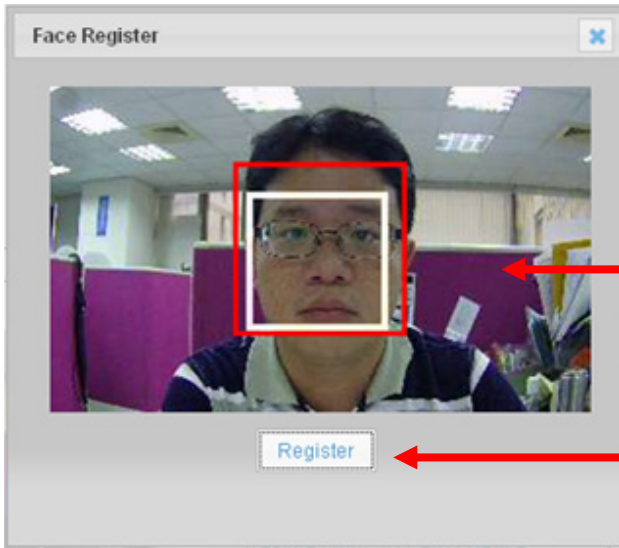
## Register Settings

- Register: When you click register button, the register window will appear. Please make sure keeping only one face in the window and fits the red rectangle mark.



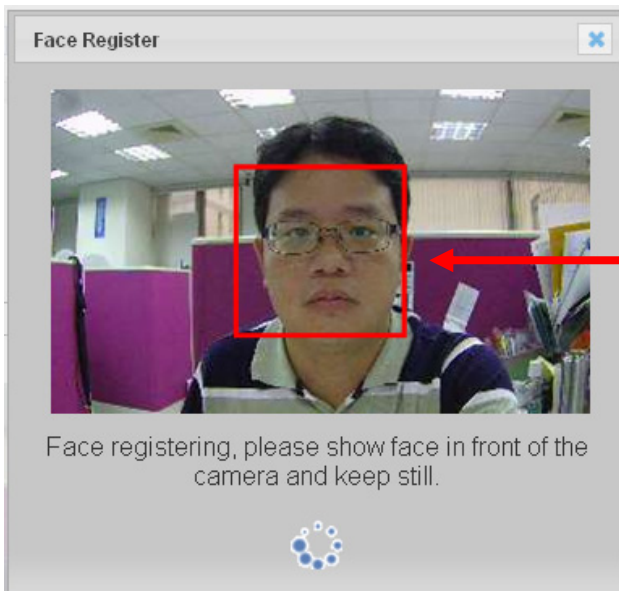
**Face Database**

**Register**

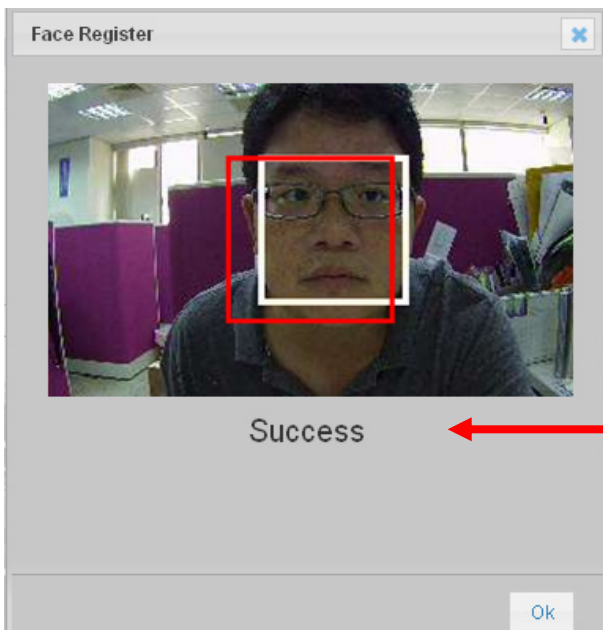


1. Please make sure only one face in the window and fits the red rectangle mark.

2. Click Register

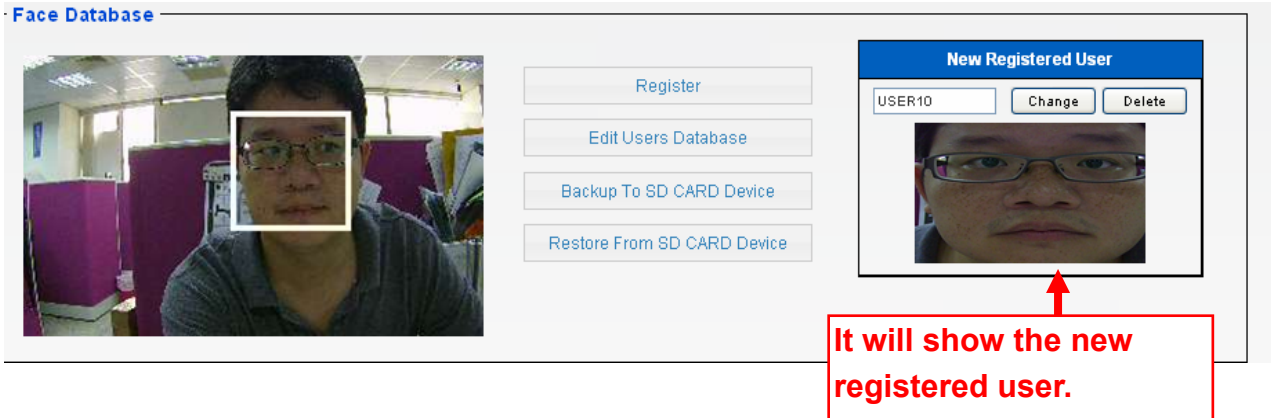


When the face is registering, please keep face still and only one face in the window.



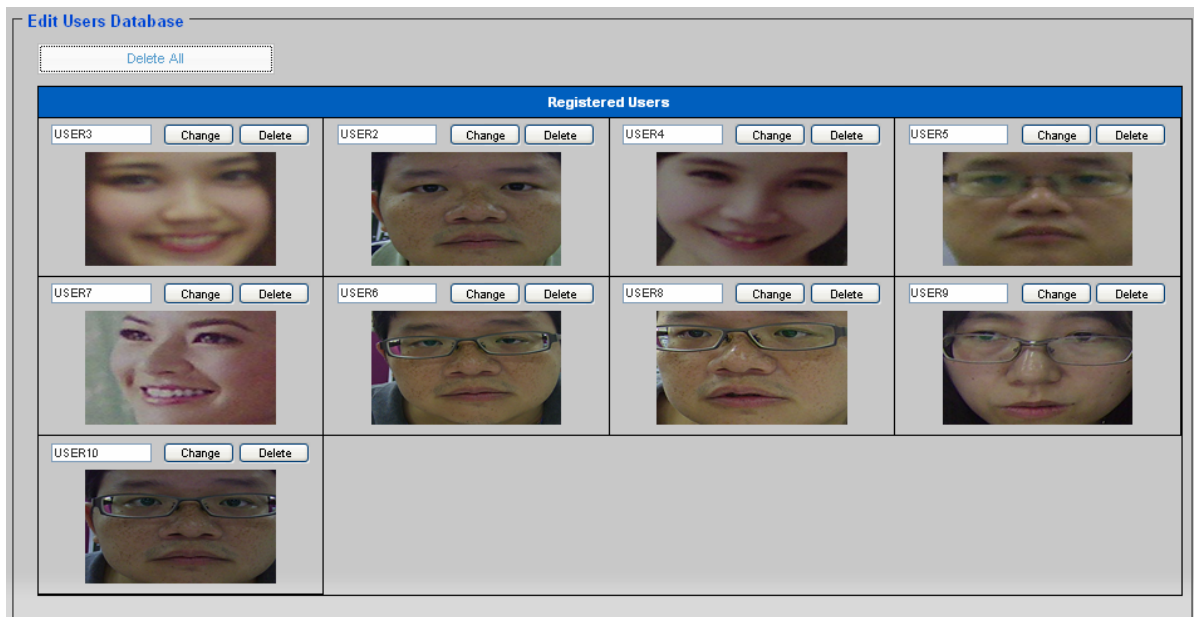
When Face Register finished, it will show success.





- Edit Users Database: User can change or delete the registered user information. The maximum user database is 10.

The Face Recognition is limited to 10 faces maximum when used in standalone recognition mode. This limitation can be increased when used as secondary guard with an access control system.



- Backup to SD CARD Device: Backup User Database to SD card.
- Restore From SD CARD Device: Restore User Database from SD card.

By Backup and restore database, it is easy to transfer user database between cameras.

## Other Important Settings

- Trigger Interval: To avoid camera triggers events continuously.
- Recognition Result Overlay: When camera recognizes the face, the live view will show the face overlay.



- Confidence Level: Lower level will be easy to recognize people but too low value may cause incorrect recognition. The suggested value of the confidence level is 50%.

## Event Action

The camera's Face Recognition function not only can do face recognition; it can also perform certain action when event conditions are met. For example, when camera recognizes a face, it will send an email to the center or operator. This function can be used for access control.

### Example:

When an employee is in front of the camera at the entrance, the camera will send an alarm email to control center with a subject message like "Front Gate" and also open the gate.

1. Please make sure you have done the Mail Server setting and specific subject of email.
2. Go to "Video Analytics" and "Face Recognition". Change Interval to 10 seconds; enable recognition result overlay and confidence level to "50%". Then, press "Apply" button to save settings.

### Face Recognition

Trigger Interval: 10 sec ?

Recognition Result Overlay: Enable

Confidence Level: 50%

Set Event Action

- Now, please click on “Set Event Action”. Click on “Add”. Then, the following screen will appear. Please enter the data as shown below. Please remember to click on “Save” after finishing settings.

**!** *Note: The Event Name does not allow spaces in between words. Please enter the event name as one single word.*

**Event List**

Event Name	Status

Add
Edit
Delete

! Please remember to save settings after you add or edit event.

**Event Settings**

Event Name: FaceRecognition  Enable

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**Schedule**

Always

From 00 : 00 To 23 : 59 hh:mm

Sun  Mon  Tue  Wed  Thu  Fri  Sat

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**Trigger** ?

Motion Detection  Digital Input 1 Low  Digital Input 2 Low  Tamper Detection

Video Analytics FR ?  Periodically time 001 seconds

SD Card Read/Write Fail Detection 10 Minute

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**Action**

Enable FTP  Enable SD CARD  Trigger digital output for 01 seconds

Enable EMAIL  Enable TCP  Audio File Playback

Enable Samba( Net Storage )  Enable HTTP

Save
Cancel

## 4. The Factors Affect Face Recognition

Face Recognition will detect and recognize faces by biological characters. Therefore, some factors will affect the Face Recognition.

- Glasses
- Hair Style
- Mustache
- Beard
- Whisker
- Goatee
- Eyebrow
- False eyelashes

Remember to keep the appearance as same as the one in the database for the best recognition result.