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GA

**INDUSTRY STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GA/T 1324-2017

**Security protection--Face recognition
applications--Specifications for acquiring still face images**

安全防范 人脸识别应用 静态人脸图像采集规范

(English Translation)

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Face recognition application Static face image collection specification

1 Scope

This standard specifies the terms and definitions, collection methods, locations and collection specifications of static facial images.

This standard applies to the construction of static face image collection environment and equipment configuration for face recognition application certificates or identities.

2 Normative references the following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article Pieces. For undated references, the latest version (including all amendments) applies to this document.

GA 461-2004 Technical requirements for digital photos used in resident ID card preparation
GA/T 156-1996 Rules for the method of flipping photos
GA/T 706-2007 Technical requirements and collection specifications for digital photographs of suspects
GA/T 893-2010 Application terminology of security biometric identification
GA/T 922.2-2011 Security Face Recognition Application System Part 2: Face Image Data
GA/T 1127-2013 General technical requirements for security video surveillance cameras
GA/T 1180-2014 Technical requirements for digital photos of entry and exit documents
GA/T 1326-2017 Security Protection Face Recognition Application Program Interface Specification

3 Terms and definitions the following terms and definitions defined in GA/T 893-2010 are suitable for this document.

Static face image stillfaceimage the front face image acquired when the object is relatively static and actively cooperates.

Color rendering index the color rendering ability of the light source to the object.

Note: Taking sunlight as the ideal reference light source, its color rendering index is defined as 100, the color rendering index of incandescent lamps is very close to the color rendering index of sunlight, and the color rendering index of other light sources all are below 100. The color rendering index is represented by Ra, which is generally 20 to 100. The larger the Ra value, the better the color rendering of the light source and the smaller the average color difference.

Flash guide number

The relative power value of the flash. Set based on the sensitivity ISO 100. The basic formula is as follows.

$GN=D \text{ (distance between flash and subject)} \times F \text{ (shooting aperture)}$

4 Collection method and location

4.1 Collection method Static face images should be collected in the following two ways.

- a) Face image shooting;
- b) Photo retake/scan.

4.2 Collection site

The static face image collection should be carried out in special shooting places such as photo studios, photography shops, self-service photo booths, and ID photo collection points.

Use self-service photography equipment or mobile devices to collect in temporary locations.

Refer to Appendix A for the face image shooting rules of the special place, and refer to A.2 for the face image shooting rules of self-service photography equipment.

Refer to A.3 for the rules for taking facial images of mobile devices in temporary locations.

5 Collection specifications

5.1.1.1 Environment

The environmental requirements are as follows.

a) Location requirements. The dedicated shooting location should be larger than 3mx3m, and the surrounding walls and ground should be white, light gray or black.

If the site is less than 3mx3m, please refer to A.2.2 for the layout of self-service photography equipment and adjust according to the actual situation;

b) Background requirements. The background should be a single color, white or light gray should be selected, and there should be no shadows or any other object images;

c) Lighting requirements. the ambient light is uniform and flicker-free, and the light intensity ranges from 200lx to 3000lx, avoid appearing within the range of the head of the object. Strong backlight, side light or top light will not be affected by outdoor natural light.

5.1.1.2 Equipment

The equipment requirements are as follows.

a) Acquisition equipment.

- 1) Choose a digital camera or camcorder with an actual pixel of more than 2 million pixels;
- 2) The digital camera should support connection to a computer for acquisition, support manual setting of aperture and shutter parameters, and have exposure compensation, white balance, Color temperature, sensitivity (ISO) and other custom parameter setting

functions, where the flash is used as the light source, digital cameras There should be a synchronized hot shoe or a synchronized hot shoe seat on the device to avoid direct use of the built-in flash;

3) The camera should support connection to a computer to capture, support manual setting of aperture and shutter parameters, and have exposure compensation, white balance, color for temperature and other custom parameter setting functions, a constant light source should be used as a supplementary light source.

b) Lens. Various zoom or fixed-focus lenses equivalent to the focal length of a full-frame camera of 35mm~135mm should be used.

c) Light source.

1) LED flashes with a color temperature of 4500K~6500K, a color rendering index (Ra) not less than 90, and a stepless adjustment function should be used Light source or constant light source;

2) Use a soft light device (soft box, soft light umbrella or diffuser) to convert the point light source to the surface light source;

3) When external supplementary light source is equipped, the flash light source single lamp flash index (GN) is not less than 24, and the constant light source single lamp power is 30W~ 100W, when the self-service photography equipment uses the built-in fill light source, the single lamp flash index (GN) of the flash light source is not less than 15, constant the power of a single lamp is 12W~50W.

5.1.1.3 Collection object

The requirements for collection objects are as follows.

a) Posture.

1) Sitting posture. The upper body of the collected object is vertical to the horizontal plane of the seat, shoulders are horizontal, and facing the camera;

c) The maximum compression factor of JPEG or JPEG2000 format is not more than 25 times;

d) The image file capacity is between 14Kbit and 240Kbit;

e) The face image with the shoulder meets the front face image requirements of 4.1.1 in GA/T 922.2-2011;

f) The image is clear;

g) No obvious distortion of facial features and facial contours, no obvious shadows;

h) The skin tone is natural and true;