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**Testing methods of image quality
for colour video-doorphone**

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Foreword

This translation has been made based on the original Japanese Industrial Standard revised by the Minister of Economy, Trade and Industry through deliberations at the Japanese Industrial Standards Committee as the result of proposal for revision of Japanese Industrial Standard submitted by Japan Interphone Industry Association (JIJA)/Japanese Standards Association (JSA), with the draft being attached, based on the provision of Article 12 Clause 1 of the Industrial Standardization Law applicable to the case of revision by the provision of Article 14.

Consequently **JIS C 6021 : 1999** is replaced with this Standard.

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Testing methods of image quality for colour video-doorphone

Introduction This Japanese Industrial Standard describes testing methods of image quality of colour video-doorphones having been popularized as a household equipment convenient to recognize callers, revised partially by additions.

1 Scope This Standard specifies the testing methods to evaluate the image quality of monochrome and colour video-doorphones (hereafter referred to as “video-doorphone”).

Information : Testing methods other than the testing methods of image quality are specified in **JIS C 6020** *General rules and testing methods for intercommunication equipments*.

2 Definitions For the purposes of this Standard, the following definitions apply.

- a) **video-doorphone** a system having a function of telephone call and a function to confirm the face of the caller by an image. It consists of a camera doorphone station and a monitor master station
- b) **monitor master station** the equipment of which the video-doorphone is composed. It projects the picture signal from the camera doorphone station onto the monitor side picture. As for the installation site, the living room is usual. It is indoor installation equipment basically
- c) **camera doorphone station** the equipment of which the video-doorphone is composed. When the caller pushes the call button, it takes a picture of the caller with the camera. Generally, gateposts and doors are the installation sites. It is outdoor installation equipment basically
- d) **picture quality adjusting function** a function that users can use to adjust the reflected condition of the image. Generally, there are contrast adjustment and brightness adjustment, etc. Besides, in the case of colour video-doorphone, colour (thickness) adjustment, colour tone adjustment, etc. are added

3 Standard test condition Measure video-doorphone under the following standard test conditions unless otherwise specified in clause 5.

- a) **Installation condition and others**
 - 1) The installation of video-doorphone and the measurement are carried out under the conditions the manufacturer designates.
 - 2) In case where the camera doorphone station has angle adjustment, the measurement is carried out in the front. If the manufacturer designates the position, the measurement is carried out at the position designated.
 - 3) Wiring is measured by the longest wire length and the line type of the longest wire length designated by the manufacturer.

- 4) The power supply measurement is carried out at the rated voltage the manufacturer specifies.
- 5) Those with the picture quality adjusting function are measured in a state where the best picture quality is obtained.
- 6) The camera doorphone station and the monitor master station are installed so as not to influence each other because the optical environmental conditions of the installation sites are different. For example, they are installed in different rooms. Or it may be allowed to be made free from the mutual influence by an appropriate shading means.

b) Lighting condition

- 1) Test chart's screen brightness: $2\,000\text{ lx} \pm 20\%$
- 2) Monitor screen's screen brightness: 300 lx or more

c) Test chart installation position and measuring position

- 1) The measurement is made by setting up the test chart so that the optical axis centre 500 mm distant from the front surface of the camera doorphone station coincides with test chart's core and the test chart is parallel to the camera doorphone station installation surface (see figure 1).

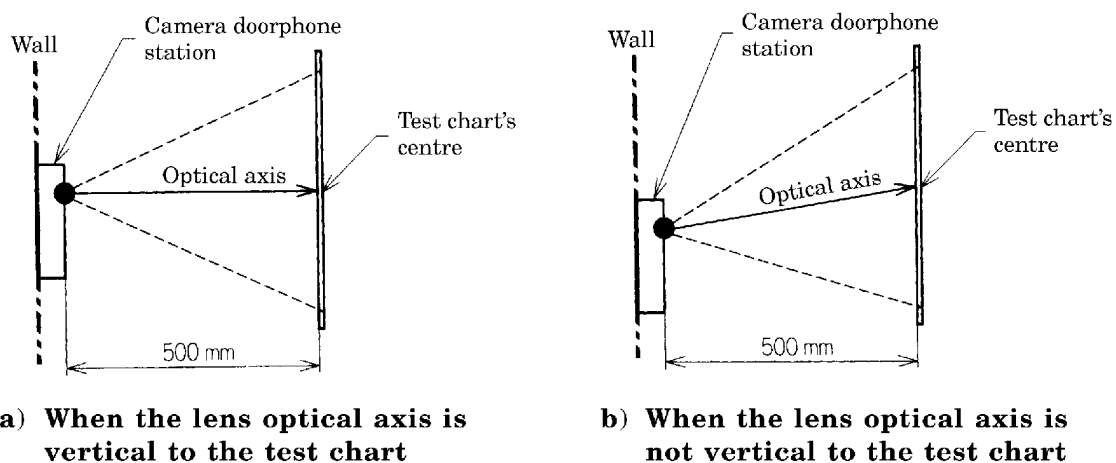


Figure 1 Test chart's setting position

- 2) The standard measurement block is shown in figure 2. A shading screen is provided between the camera setting position and the monitor master station setting position (see figure 2).

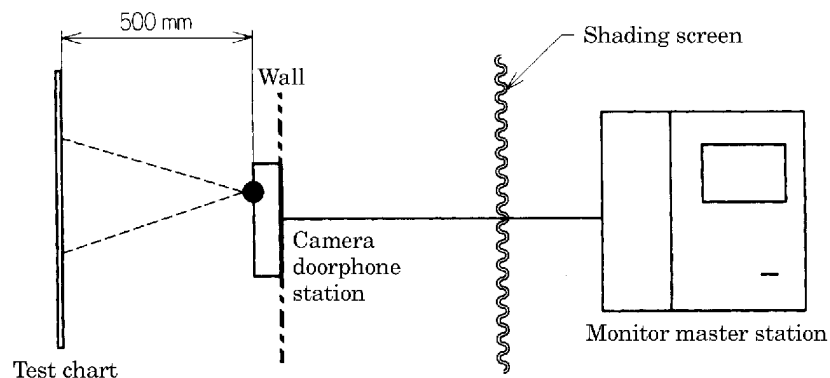


Figure 2 Standard measurement block

- 3) Reflectance of background of the test chart (parts other than test chart which reflects in monitor screen) is 18 % or less.
- d) The measurement is carried out after waiting a time until the brightness of the monitor screen comes to stability.
- e) **The ambient temperature and relative humidity** Measure within the range of the ambient temperature 15 °C to 35 °C and the relative humidity 45 % to 75 %. If the measuring results vary to a great extent, the ambient temperature is made $25\text{ °C} \pm 2\text{ °C}$.

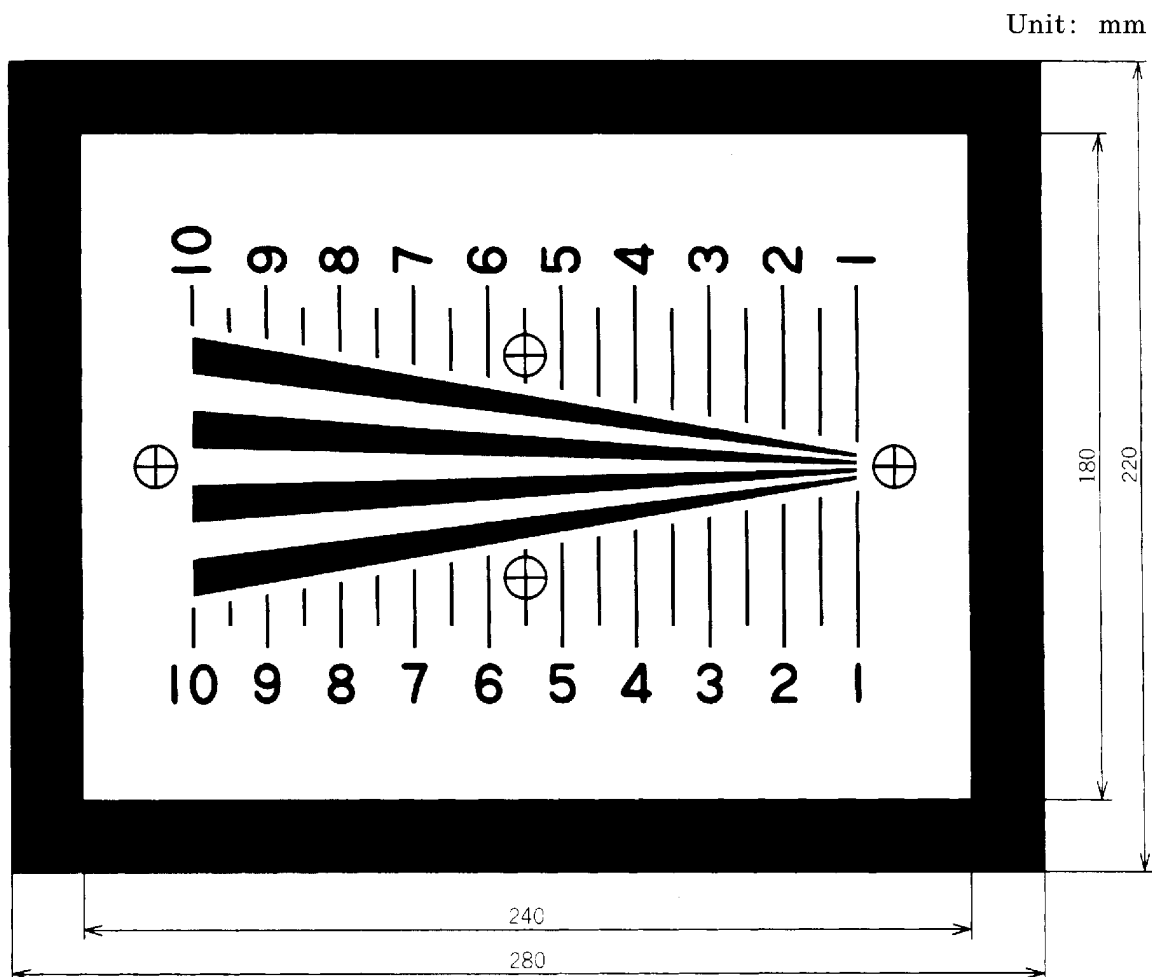
4 Test charts

4.1 Kind of test charts used The test charts which are used in this measurement shall be as follows. However, the test chart G in **g)** applies only to colour video-doorphone.

- a) **Test chart A** Chart for image resolution measurement
- b) **Test chart B** Chart for visual range/figure distortion measurement
- c) **Test chart C** Chart for step characteristics measurement
- d) **Test chart D** Chart for brightness/contrast ratio/visibility angle measurement
- e) **Test chart E** Chart for blooming/smear measurement
- f) **Test chart F** Supplementary chart for back-light measurement
- g) **Test chart G** Chart for colour reproducibility measurement

4.2 Test charts The test charts shall be as follows.

a) Test chart A (see figure 3)



Type: Reflex type

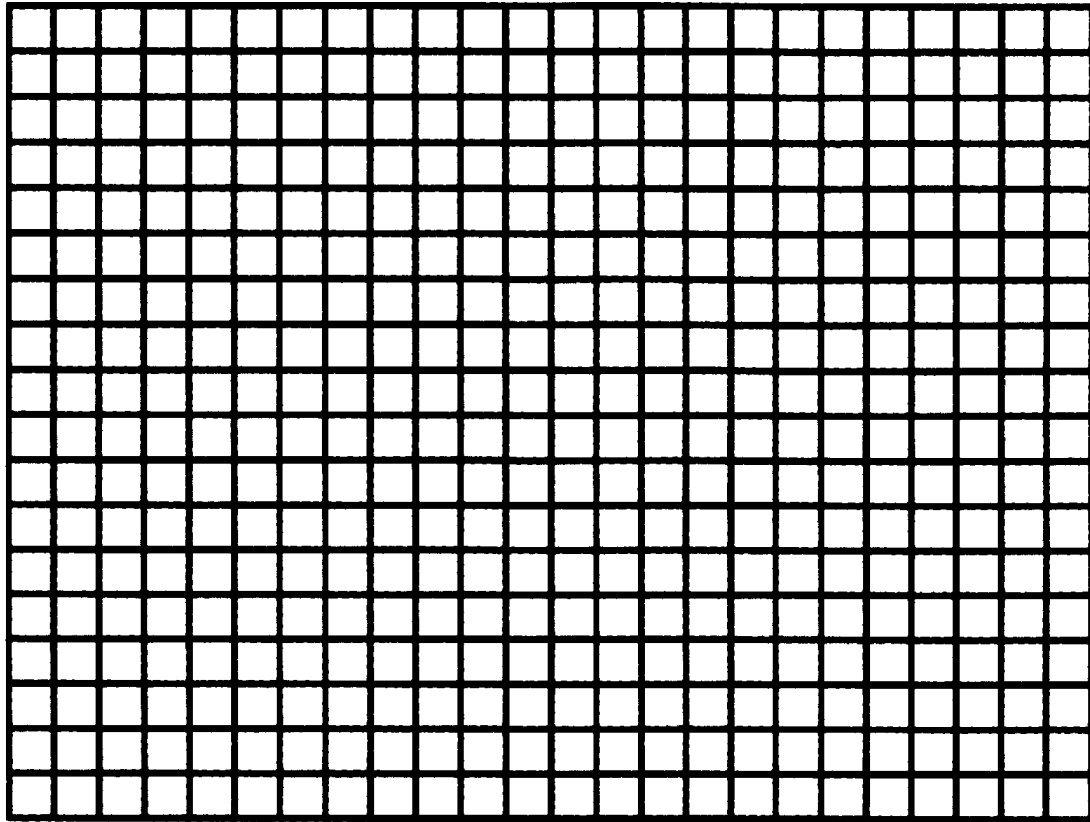
Reflectance: Black: 3 % or less

White: 90 % or more

The width and the spacing of the wedges shall be 1 mm in the minimum and 10 mm in the maximum. The graduation lines (large) are given at intervals of 1 mm over the wedge width together with the numerals 1 to 10 indicating the width and the intervals of the wedge. In addition, the graduation lines (small) are given between the graduation lines (large) at intervals of 0.5 mm.

Figure 3 Chart for image resolution measurement

b) Test chart B (see figure 4)



Type: Reflex type

The colours of the background and the line are not specified. However, there needs to be a difference of reflectance to be able to distinguish the background and the line.

Unit space of 50 mm in width in length pitch

Size: The size may be changed according to camera's view though it is basically specified to be 900 mm × 1 200 mm.

The thickness of the line shall be 2 mm to 5 mm.

Figure 4 Chart for visual range/figure distortion measurement