Chinastandards.org

ICS 17.220

JJF

NATIONAL METROLOGY TECHNICAL SPECIFICATION OF THE

PEOPLE'S REPUBLIC OF CHINA

# JJF 1742-2019

# Calibration Specification for High Definition Video Signal Generators

高清视频信号发生器校准规范

**(English Translation)**

**Implemented on: December 27, 2019**

**Issued by: State Administration for Market Regulation**

Preview: page 1 of 4 shown, 41 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/jjf-1742-2019

Chinastandards.org

# Table of Contents

Introduction (II)
1 Scope (1)
2 Reference documents (1)
3 Terms and measurement units (1)
4 Overview (1)
5 Measurement characteristics (2)
5.1 RGB analog primary color video image signal (2)
5.2 YPBPR analog component video image signal (3)
5.3 Synchronization signal (5)
5.4 Drive signal (5)
6 Calibration conditions (6)
6.1 Environmental conditions (6)
6.2 Measurement standards and other equipment (6)
7 Calibration items and calibration methods (7)
7.1 Calibration items (7)
7.2 Appearance and working normality inspection (7)
7.3 RGB analog primary color video image signal (7)
7.4 YPBPR analog component video image signal (10)
7.5 Synchronization signal(12)
7.6 Drive signal(14)
8 Calibration result expression (15)
9 Re-calibration interval (16)
Appendix A Original Record Format (17)
Appendix B Internal page format of calibration certificate (32)
Appendix C Evaluation Example of Measurement Uncertainty (47)
Appendix D HD video signal definition (52)

## 9 Re-calibration interval (16)

Appendix A Original Record Format (17)

Appendix B Internal page format of calibration certificate (32)

Appendix C Evaluation Example of Measurement Uncertainty (47)



Preview: page 2 of 4 shown, 41 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/jjf-1742-2019

Chinastandards.org

Appendix D HD video signal definition (52)

## Introduction

This specification is based on JJF 1071-2010 "Rules for the Compilation of National Metrology and Calibration Specifications" and JJF 1059.1-2012 "Evaluation and Expression of Measurement Uncertainty" was compiled.

This specification mainly stipulates the calibration method of HD video signal generator with analog component output.

This specification refers to GB 3659-1983 "TV Video Channel Test Method", SJ/T 11332 "Digital TV Receiver Equipment Interface Specification Part 6: RGB Analog Primary Color Video Signal Interface", SJ/T 11333 "Digital TV Reception Equipment Interface Specification Part 7: YPBPR Analog Component Video Signal Interface" and other currently valid versions.

In Appendix C, calibration items such as high-definition video level, inter-channel delay, signal-to-noise ratio, driving signal amplitude, etc. are given

Example of evaluation of measurement uncertainty. The definition of high-definition video signal is given in Appendix D, including. signal system the definition of formula, signal conversion and image signal waveform.

This specification is released for the first time.

HD video signal generator calibration specification

1 Scope

This specification applies to the calibration of high-definition video signal generators with analog component output.

2 Reference documents this specification refers to the following documents.

GB 3659-1983 TV video channel test method SJ/T 11332 Digital TV receiving equipment interface specification Part 6: RGB analog primary color video signal interface SJ/T 11333 Digital TV receiving equipment interface specification Part 7: YPBPR analog component video signal interface for dated reference documents, only the dated version applies to this specification; for undated references the latest version (including all amendments) is applicable to this specification.

3 Terms and units of measurement

3.1 RGB analog element video signal RGB analogelementvideosignal Red (R), green (G), blue with the same bandwidth, with or with additional synchronization information, synchronized with each other, gamma-corrected (B) Three primary color analog video signals.



Preview: page 3 of 4 shown, 41 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/jjf-1742-2019

Chinastandards.org

3.2 YPBPR analog component video signal YPBPRanalogcomponentvideosignal Y, PB, and PR signals are brightness signal (Y), blue difference signal (BY) and red difference signal (RY) respectively the analog signal obtained by multiplying the amplitude value of a scale factor. At least the Y signal contains a sync pulse signal.

3.3 Bipolar three-level synchronizing pulse signal A synchronization signal composed of negative and positive pulses and 0 level.

The tick corresponds to the scan synchronization timing reference.

3.4 video signal-to-noise ratio the ratio of the video signal level value to the effective value of the noise amplitude is calculated according to formula (1).

S/N=20xlg

Nrms

Where.

S/N---Video signal-to-noise ratio, dB;

V---Video signal level value, take 700mV;

Nrms---the effective value of the noise amplitude, mV.

4 overview

The high-definition video signal generator can generate various high-definition video image test signals, including color bar signals, ladder signals



Preview: page 4 of 4 shown, 41 in the full document. Complete English PDF, instant download:
https://chinastandards.org/standards/jjf-1742-2019