

ICS 17.140.01
CCS A 59

JJG

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

JJG 994-2004

**Verification Regulation of Digital Audio Generators
(English Translation)**

Issued on: September 21, 2004

Implemented on: December 21, 2004

**Issued by: The General Administration of Quality Supervision, Inspection
and Quarantine issued, This regulation was approved by the General
Administration of Quality Supervision, Inspection and Quarantine on
September 21, 2004, and**

Table of Contents

1 Scope (1)	
2 Citations (1)	
3 Terms and units of measurement (1)	
3.1 Digital Audio Signal (1)	
3.2 Encoding format (1)	
3.3 Sampling frequency (1)	
3.4 Word length (1)	
3.5 Full scale level (1)	
3.6 Folding frequency (2)	
3.7 In-band frequency range (2)	
3.8 Band upper limit frequency (2)	
3.9 Out-of-band frequency (2)	
3.10 Jitter (2)	
3.11 Unit interval (2)	
3.12 Rise and fall times (2)	
4 Overview (2)	
5 Metrological performance requirements (2)	
5.1 Digital audio signal interface output amplitude (2)	
5.2 Digital Audio Signal Amplitude (2)	
5.3 Rise and fall time (2)	
5.4 Jitter Signal Generator (3)	
5.5 Sampling frequency (3)	
5.6 Sine wave signal generator frequency response (3)	
6 General technical requirements (3)	
6.1 Marks and instructions (3)	
6.2 Marking (3)	
6.3 Instrument Setup (3)	
7 Measuring instrument control (3)	
7.1 Verification conditions (3)	
7.2 Verification items and verification methods (4)	
7.3 Processing of verification results (7)	
7.4 Verification cycle (7)	

Appendix A Example of Uncertainty Evaluation of Output Amplitude Measurement Results of Digital Audio Signal Interface (8)

Appendix B Certification Certificate Page Format (10)

3.6 Folding frequency (2)

3.7 In-band frequency range (2)

7.4 Verification cycle (7)

Appendix A Example of Uncertainty Evaluation of Output Amplitude Measurement Results of Digital Audio Signal Interface (8)

Appendix B Certification Certificate Page Format (10)

Digital audio signal generator verification procedure

1 Scope

This procedure applies to the first verification, subsequent verification, and in-use inspection of digital audio signal generators.

2 Citations

This procedure refers to the following documents.

SJ/T 11180-1998 "Basic Measurement Methods for Digital Audio Characteristics of Audio and Audiovisual Equipment" IEC 60958-1:1999 "Digital Audio Interface Part 1. General Part" (IEC 60958-1. Digitalaudiointerface-Part 1. General) IEC 61606-1:2002 "Audio and audiovisual equipment - Digital audio part - Basic method for measuring audio characteristics Part 1. General Part (IEC 61606-1.

Audioandaudiovisualequipment-Digitalaudioparts-Basicmeasurement methodsofaudiocharacteristics-Part 1: General) when using this procedure, care should be taken to use valid versions of the above cited documents.

3 terms and units of measure this procedure uses the terminology definition of SJ/T 11180-1998.

3.1 Digital audio signal (digitalaudiosignal) an audio signal represented by a series of sampled digital data.

3.2 encoding format (codingformat) A family of data streams with control information and consistent with the designed device under test.

Note: Digital audio data is binary 2's complement data in this procedure.

3.3 sampling frequency (samplingfrequency) (f_s) the sampling frequency of a digital audio signal is the rate at which continuous data sampling can be repeated for the corresponding

channel.

3.4 word length (wordlength) the word length of the audio sample value is expressed as the number of bits when the least significant bit is not negligible, usually 8~24bit, etc.

Wait.

Note: There is also a word width (WordWidth).

3.5 full-scale level (full-scaleamplitude) (FS) the signal level of a sine wave whose positive peak reaches the positive digital full scale does not use the encoded value of the negative number.

For example, the maximum positive value of 16-bit data is 7FFFH, and the maximum negative value is 8001H.

Note:

(1) The full-scale amplitude sine wave negative peak of the 16-bit 2's complement code is the complement of the positive peak 7FFFH, that is, 8001H.

(2) According to the relationship between the sampling instant and the signal frequency and phase, these peaks do not necessarily coincide at the sampling instant, so it is possible that it is inconsistent with any encoding in the signal.