

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

GY/T 325-2019

**Technical requirements and measurement methods for AV-IT
system in TV stations file-based producing and broadcasting
networks**

(English Translation)

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Table of Contents

Foreword	
1 Scope	
2 Normative references	
3 Terms, definitions and abbreviations	
3.1 Terms and definitions	
3.2 Acronyms	
4 Program information exchange scenarios	
4.1 Overview	
4.2 Signal/File	
4.3 File/Signal	
4.4 File Streaming	
4.5 Stream files	
4.6 File/File	
4.7 Flow signal	
4.8 Signal Flow	
4.9 Streams	
5 Technical requirements	
5.1 Input interface characteristics and data format	
5.2 Output interface characteristics and data format	
5.3 Encoding format	
5.4 Package Format	
5.5 Format conversion processing efficiency	
5.6 File import processing efficiency	
5.7 File Export Processing Efficiency	
5.8 Composition/Packaging Processing Efficiency	
5.9 Image Quality Evaluation	
5.10 Video Channel Characteristics	
5.11 Audio Channel Characteristics	
5.12 Relative delay of audio and video	
5.13 Channel Configuration	
6 Measurement method	
6.1 Input interface characteristics and data format	

6.2	Output interface characteristics and data format
6.3	Encoding format
6.4	Package Format
6.5	Format conversion processing efficiency
6.6	File import processing efficiency
6.7	File Export Processing Efficiency
6.8	Composition/Packaging Processing Efficiency
6.9	Image Quality Evaluation
6.10	Video Channel Characteristics
6.11	Audio Channel Characteristics
6.12	Relative delay of audio and video
6.13	Channel Configuration
Appendix A	(Normative Appendix) Format Conversion Processing Efficiency Test Materials
Appendix B	(Normative Appendix) Composition/Packaging Processing Efficiency Test Materials
Appendix C	(Normative Appendix) Image Quality Evaluation Materials
Appendix D	(Normative Appendix) Video Channel Characteristics Test Materials
Appendix E	(Normative Appendix) Audio Channel Characteristics Test Materials
Appendix F	(Normative Appendix) Audio and Video Relative Delay Test Materials
Appendix G	(Normative Appendix) Channel Configuration Check Material
References	

Foreword

This standard was drafted in accordance with the rules given in GB/T 1.1-2009.

Please note that some elements of this document may involve patents. The issuer of this document is not responsible for identifying these patents.

This standard is under the jurisdiction of the National Radio, Film and Television Standardization Technical Committee (SAC/TC 239).

This standard was drafted. China Central Radio and Television (CCTV), State Administration of Radio and Television Broadcasting and Television Planning Institute.

1 Scope

This standard specifies the technical requirements and measurement methods for AV station's documented production and broadcasting network AV-IT system.

This standard applies to the R & D, production, acceptance, operation and maintenance of software and equipment in AV-IT systems.

2 Normative references

The following documents are essential for the application of this document. For dated references, only the dated version applies to this document.

For undated references, the latest version (including all amendments) applies to this document.

GB/T 31001-2014 Test image for subjective evaluation of high definition television GY/T 134-1998 Digital TV image quality subjective evaluation method GY/T 157-2000 studio high-definition television digital video signal interface GY/T 158-2000 studio digital audio signal interface GY/T 170-2001 Cable Digital TV Broadcasting Channel Coding and Modulation Specification ETSI TS 102 034 V1.5.1 transmits DVB services based on MPEG-2 TS (Transport of MPEG-2 TS Based) over IP networks DVB Services over IP Based Networks)

3.1 Terms and definitions

The following terms and definitions apply to this document.

3.1.1

Processing efficiency the ratio of the length of the material to the time it takes to complete the AV-IT processing of the material, the unit is double speed.

3.2 Acronyms

The following abbreviations apply to this document.

AES/EBU Audio Engineering Society/European Broadcasting Union Union) ASI
Asynchronous Serial Interface AVI Audio Video Interleaved DSCQS Double Stimulus
Continuous Quality Scale HD-SDI High Definition-Serial Digital Interface MOV Movie Digital
Video MPEG Moving Picture Experts Group MXF Material eXchange Format PCM Pulse
Code Modulation PSNR Peak Signal to Noise Ratio TS Transport Stream UDP User
Datagram Protocol

4.1 Overview

In the production and broadcasting network system, video and audio programs appear in two forms. real-time and non-real-time. The main form of real-time morphology is real-time baseband Signal or real-time stream, the main manifestation of non-real-time form is static storage file or formatted static storage data.

In the production and broadcasting network system, different program forms or different forms of the same program form can be converted to each other. To achieve this conversion the technical system of the process is called the AV-IT system, which is generally responsible for performing transcoding and decoding of compressed video and audio, encoding of baseband video and audio, and media Format data encapsulation, decapsulation and up-down conversion, synthesis/packaging, etc.

The schematic diagram of the AV-IT system that realizes the mutual conversion between program information forms or forms is shown in Figure 1.

Encapsulation/Decapsulation Encapsulation Conversion interface Transcoding codec up and down Transform IT system AV-IT system up and down Transform Signal/Stream Processing Domain File processing domain AV system

Figure 1 Schematic of the AV-IT system that realizes the conversion of two kinds of program information

Program information processing in the form of real-time baseband signals can be completed in the signal processing domain, and program information processing in the form of real-time code streams can be performed at the stream.

It can be completed in the physical domain. Program information processing in the form of files can be completed in the file processing domain. At the same time, program information can be transferred to each other in three domains.

change. The conversion process of the program information in the signal/compressed code stream/file domain is shown in Figure 2.

File signal

Figure 2 Program information conversion between signal/compressed code stream/file domain

When the program information is converted between the three domains, in addition to the streaming, signal, and signal scenes, this standard specifies the information through the AV-IT system.

7 types of program information exchange. file, file, signal, file, stream, file, file, stream, signal Scenario measurement items and their technical requirements and measurement methods.