

AES standard for network and file transfer of audio – Audio-file transfer and exchange – Radio traffic audio delivery extension to the broadcast-WAVE-file format

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Abstract

This document provides a convention for communicating basic radio traffic and continuity data via a dedicated chunk embedded in broadcast WAVE file compliant WAVE files.

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Contents

Foreword	3
0 Introduction	4
0.1 Rationale	4
0.2 Conventions	5
1 Scope	5
2 Normative references	5
3 Definitions and abbreviations	6
4 Coding conventions	7
4.1 Coding examples	7
4.2 Octet ordering	7
5 Character set	8
6 cart extension chunk	8
6.1 Chunk ordering	8
6.2 Contents of cart extension chunk	8
6.2.1 General	8
6.2.2 Default values and empty data	12
6.2.3 Short strings	12
6.3 Other relevant information	12
6.4 Broadcast wave usage	12
7 Private and application-specific information	12
8 Assignment of coding	12
Annex A Recommended parameter names	13
A.1 Category names	13
A.2 Mark timer identification	13
Annex B Informative references	15
Annex C Currently approved resource locator, identifier, and format references	16

Foreword

[This foreword is not a part of *AES standard for network and file transfer of audio — Audio-file transfer and exchange — Radio traffic audio delivery extension to the broadcast-WAVE-file format*, AES46-2002.]

This document was written by a task group, headed by D. Pierce and G. Steadman, of the SC-06-01 Working Group on Audio-File Transfer and Exchange of the SC-06 Subcommittee on Network and File Transfer of Audio, under project AES-X87. The members of the task group were G. Novacek, Pierce, Steadman, G. Uzelac, and J. Zigler.

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NOTE: In AES standards documents, sentences containing the verb "shall" are requirements for compliance with the standard. Sentences containing the verb "should" are strong suggestions (recommendations). Sentences giving permission use the verb "may." Sentences expressing a possibility use the verb "can."

Addendum at 2007-10-16 printing

Annex B, Informative References; added reference to AES31-2, *File Format for Transferring Digital Audio Data Between Systems of Different Type and Manufacture*

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0 Introduction

0.1 Rationale

The radio broadcast industry utilizes a variety of production, on-air and other equipment in daily operation. No single vendor dominates the industry. Users have long complained about the inability to transport audio and traffic-continuity data between systems in a uniform and easy fashion. This complaint is because of the lack of any uniform agreement about an exchange standard for communicating this information between systems. Often, different on-air delivery systems use proprietary audio-file formats and incompatible access methods to manage audio storage and playback, yet the scheduling, continuity or traffic information they use to label audio files share many common attributes. Furthermore, audio data itself is represented in various often-proprietary formats. To simplify the communication among different systems such as audio production and on-air delivery systems, a common representation for both continuity or traffic information and audio data is desirable.

The resource interchange file format (RIFF) WAVE format has emerged as a dominant audio representation. It supports a wide variety of audio formats such as linear pulse-code modulation (PCM), Moving Pictures Experts Group (MPEG) formats, different sampling frequencies and sample sizes, multiple tracks, and so on. The RIFF conventions allow the arbitrary addition of other data without impacting the ability of diverse RIFF-compliant applications from reading and interpreting needed data. Thus, adding an extension to a WAVE file allows inclusion of needed continuity or traffic data to a widely accepted representation.

The RIFF specification requires all readers to be able to read all compliant RIFF files. When such an application encounters data that it is not prepared to handle, it can simply ignore the data and move on. Some RIFF consumer applications are intolerant of new and unknown chunks. For this reason alone, these applications are not RIFF-compliant; but they may be front-ended by so-called chunk-stripper utilities, the product of which is then RIFF-compliant.

The radio traffic data (commonly called CART) format described in this document utilizes a widely used audio file format (WAVE and broadcast wave file). It incorporates broadcast-specific cartridge-labeling information into a specialized chunk within the file itself. As a result, the burden of linking multiple systems is reduced to the producer applications writing a single file and the consumer applications reading it. The destination application can thereby extract information and insert it into the native database application as needed.

0.2 Conventions

0.2.1 Decimal points

According to IEC directives, the comma is used in all text to indicate the decimal point. However, in specified coding, including the examples shown, the full stop is used as in IEC programming language standards.

0.2.2 Data representation

All coding and data representations are printed in an equally spaced font.

0.2.3 Non-printing ASCII characters

Non-printing characters are delimited by angle brackets, as in <CR> for carriage return.

0.2.4 Reserved bits

Unless otherwise indicated, bit assignments shown as reserved are reserved for future standardization by the AES, only by means of amendment or revision of this document.

1 Scope

This document provides a means for communicating basic radio traffic and continuity data via a dedicated chunk embedded in broadcast-wave-compliant WAVE files. The new RIFF chunk supports most common data used in radio traffic and continuity systems, while the WAVE format itself supports most sampling frequencies, sample widths, and audio formats.

This document does not specify representation of this or other data within a specific application's space, only in the public interchange between disparate systems. Any such private representation may be covered by other standards or by a particular vendor's best judgement.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this document. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this document are encouraged to investigate the possibility of applying the most recent editions of the indicated standards.

ISO/IEC 646:1991, *Information technology — ISO-7-bit coded character set for information exchange*. Geneva CH: International Organization for Standardization.

RIFF file structure. See the resource locator on the databases page of www.aes.org/standards.