INTERNATIONAL STANDARD

IEC 61937-5

Second edition 2006-01

Digital audio – Interface for non-linear PCM encoded audio bistreams applying IEC 60958 –

Part 5: Non-linear PCM bitstreams according to the DTS (Digital Theater Systems) format(s)

© IEC 2006 — Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission, 3, rue de Varembé, PO Box 131, CH-1211 Geneva 20, Switzerland Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



For price, see current catalogue

P

CONTENTS

FΟ	OREWORD			
1	Scop	e	5	
2	Norm	native references	5	
3	Term	s, definitions, abbreviations and presentation convention	5	
3.1	Terms and definitions			
	3.2	Abbreviations	5	
	3.3	Presentation convention	6	
4	Марр	oing of the audio bitstream on to IEC 61937-1	6	
	4.1	DTS burst-info	6	
5	Format of DTS data-bursts			
	5.1	General	6	
	5.2	Pause data-burst	6	
	5.3	Audio data-bursts	7	
		(informative) Effect of repetition period of data burst and Fs on frame period mum data rate in DTS type IV	1.4	
anc	ı ıııaxı	indin data rate in D13 type IV	14	
Bib	liogra	phy	15	
	3			
Tal	ole 1 -	- Fields of burst-info	6	
Tal	ole 2 -	- Repetition period of the pause data-bursts	7	
Tal	ole 3 -	- Data-type-dependent when DTS type I	7	
Tal	ole 4 -	- Data-type-dependent when DTS type II	9	
Table 5 – Data-type-dependent when DTS type III				
Tal	Table 6 – Data-type-dependent when DTS type IV			
Tal	ole A.	I – DTS type IV payload and frame repetition: some examples	14	

INTERNATIONAL ELECTROTECHNICAL COMMISSION

DIGITAL AUDIO – INTERFACE FOR NON-LINEAR PCM ENCODED AUDIO BITSTREAMS APPLYING IEC 60958 –

Part 5: Non-linear PCM bitstreams according to the DTS (Digital Theater Systems) format(s)

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international
 consensus of opinion on the relevant subjects since each technical committee has representation from all
 interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
- 9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 61937-5 has been prepared by Technical Area 4: Digital system interfaces and protocols, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

This second edition cancels and replaces the first edition published in 2002. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition.

a) References to the company name Digital Theater Systems have been changed to DTS which is consistent with the official change of the company name.

- b) DTS type IV has been added to Table 1 and 5.3.4 describing type IV has been added.
- c) Annex A, which provides examples of the use of the repetition period parameter introduced in subclause 5.3.4, has been added.

The text of this standard is based on the following documents:

CDV	Report on voting
100/974/CDV	100/1055/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 61937 consists of the following parts, under the general title *Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958:*

Part 1: General

Part 2: Burst-info

Part 3: Non-linear PCM bitstreams according to the AC-3 format

Part 4: Non-linear PCM bistreams according to the MPEG audio formats

Part 5: Non-linear PCM bitstreams according to the DTS (Digital Theater Systems) format(s)

Part 6: Non-linear PCM bitstreams according to the ATRAC, ATRAC2/3 and ATRAC-X formats

Part 8: Non-linear PCM bitstreams according to the Windows Media Audio Professional¹

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- · amended.

A bilingual version of this publication may be issued at a later date.

¹ To be published.

DIGITAL AUDIO – INTERFACE FOR NON-LINEAR PCM ENCODED AUDIO BITSTREAMS APPLYING IEC 60958 –

Part 5: Non-linear PCM bitstreams according to the (Digital Theater Systems) DTS format(s)

1 Scope

This part of IEC 61937 describes audio bitstreams encoded according to the Digital Theater Systems (DTS) format data-types I, II, III, and IV.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60958-1, Digital audio interface – Part 1: General

IEC 60958-3, Digital audio interface – Part 3: Consumer applications

IEC 60958-4, Digital audio interface – Part 4: Professional applications

IEC 61937-1, Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 1: General

IEC 61937-2, Digital audio – Interface for non-linear PCM encoded audio bitstreams applying IEC 60958 – Part 2: Burst Information