



ATIS-0100302.a.1992(R.006)

Digital Processing of Voice-Band Signals Line Format for
32-kbit/s Adaptive Differential Pulse-Code Modulation
(ADPCM) (channel-control templates and robbed-bit
signaling alarm transmission)

AMERICAN NATIONAL STANDARD FOR TELECOMMUNICATIONS



ATIS is the leading technical planning and standards development organization committed to the rapid development of global, market-driven standards for the information, entertainment and communications industry. More than 250 companies actively formulate standards in ATIS' 20 Committees, covering issues including: IPTV, Service Oriented Networks, Home Networking, Energy Efficiency, IP-Based and Wireless Technologies, Quality of Service, Billing and Operational Support. In addition, numerous Incubators, Focus and Exploratory Groups address emerging industry priorities including "Green", IP Downloadable Security, Next Generation Carrier Interconnect, IPv6 and Convergence.

ATIS is the North American Organizational Partner for the 3rd Generation Partnership Project (3GPP), a member and major U.S. contributor to the International Telecommunication Union (ITU) Radio and Telecommunications' Sectors, and a member of the Inter-American Telecommunication Commission (CITEL). For more information please visit <http://www.atis.org>.

AMERICAN NATIONAL STANDARD

Approval of an American National Standard requires review by ANSI that the requirements for due process, consensus, and other criteria for approval have been met by the standards developer.

Consensus is established when, in the judgment of the ANSI Board of Standards Review, substantial agreement has been reached by directly and materially affected interests. Substantial agreement means much more than a simple majority, but not necessarily unanimity. Consensus requires that all views and objections be considered, and that a concerted effort be made towards their resolution.

The use of American National Standards is completely voluntary; their existence does not in any respect preclude anyone, whether he has approved the standards or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standards.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute. Requests for interpretations should be addressed to the secretariat or sponsor, whose name appears on the title page of this standard.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this standard. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.

Notice of Disclaimer & Limitation of Liability

The information provided in this document is directed solely to professionals who have the appropriate degree of experience to understand and interpret its contents in accordance with generally accepted engineering or other professional standards and applicable regulations. No recommendation as to products or vendors is made or should be implied.

NO REPRESENTATION OR WARRANTY IS MADE THAT THE INFORMATION IS TECHNICALLY ACCURATE OR SUFFICIENT OR CONFORMS TO ANY STATUTE, GOVERNMENTAL RULE OR REGULATION. AND FURTHER, NO REPRESENTATION OR WARRANTY IS MADE OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE OR AGAINST INFRINGEMENT OF INTELLECTUAL PROPERTY RIGHTS. ATIS SHALL NOT BE LIABLE, BEYOND THE AMOUNT OF FEE RECEIVED IN PAYMENT BY ATIS FOR THIS DOCUMENT, WITH RESPECT TO ANY CLAIM, AND IN NO EVENT SHALL ATIS BE LIABLE FOR LOST PROFITS OR OTHER INCIDENTAL OR CONSEQUENTIAL DAMAGES. ATIS EXPRESSLY ADVISES ANY AND ALL USE OF OR RELIANCE UPON THIS INFORMATION PROVIDED IN THIS DOCUMENT IS AT THE RISK OF THE USER.

NOTE - The user's attention is called to the possibility that compliance with this standard may require use of an invention covered by patent rights. By publication of this standard, no position is taken with respect to whether use of an invention covered by patent rights will be required, and if any such use is required no position is taken regarding the validity of this claim or any patent rights in connection therewith.

ATIS-0100302.a.1992(R2006), *Digital Processing of Voice-Band Signals Line Format for 32-kbit/s Adaptive Differential Pulse-Code Modulation (ADPCM) (channel-control templates and robbed-bit signaling alarm transmission)*

Formerly known as T1.302a-1992(R2006).

Is an American National Standard developed by the **ATIS Packet Technologies and Systems Committee (PTSC)**.

Published by
Alliance for Telecommunications Industry Solutions
1200 G Street, NW, Suite 500
Washington, DC 20005

Copyright © 2009 by Alliance for Telecommunications Industry Solutions
All rights reserved.

No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise, without the prior written permission of the publisher. For information contact ATIS at 202.628.6380. ATIS is online at <http://www.atis.org>. Printed in the United States of America.

American National Standard

for telecommunications –

digital processing of voice-band signals –
line format for 32-kbit/s adaptive differential
pulse-code modulation (ADPCM)

(channel-control templates and robbed-bit signaling alarm transmission)

Approved July 23, 1992

Secretariat: Alliance for Telecommunications Industry Solutions

Page 1 of 9 pages

Purpose

This supplement addresses two oversights of ANSI T1.302-1989, *Digital Processing of Voice-Band Signals – Line format for 32-kbit/s Adaptive Differential Pulse-Code Modulation*. Clause 3 of ANSI T1.302-1989 describes the line format for transcoders using the bundle format but does not specify a line format for channels that are programmed to bypass the ADPCM algorithm and that are transmitted as digital or PCM data. Clause 5 of ANSI T1.302-1989 describes the line format for transcoders using robbed-bit signaling but does not specify a method for transmitting downstream alarms. The purpose of this supplement is to eliminate these oversights.

Channel control templates: This supplement specifies the delta channel format for applications requiring 64-kbit/s pass-through channels. This supplement also includes annex A, which contains suggested channel-control templates, specifically, thirty-seven general-purpose channel-control templates, twenty-five channel-control templates for Integrated

Services Digital Network (ISDN) applications, as well as applications that use the old data port plug-ins, and two 768-kbit/s and 1536-kbit/s templates. These channel-control templates provide for the integration of voice, voice-band data, and digital data signals.

Alarm transmission: This supplement specifies the method by which downstream alarms received on streams X or Y are transmitted on stream Z when robbed-bit signaling is used.

Channel-control template additions

Add the following to the end of 3.1.2.4.1 starting with a new paragraph:

The delta channel format as shown in table 3 shall also apply to channel-control templates that contain 64-kbit/s channels. All 64-kbit/s channels shall occupy contiguous 32-kbit/s time-slots **2i-1** and **2i** in stream Z, where **i** is an integer in the range of 1 to 24 inclusive. Channel-control templates, that specify signaling in a bundle, shall use the last time-slot

An American National Standard implies a consensus of those substantially concerned with its scope and provisions. An American National Standard is intended as a guide to aid the manufacturer, the consumer, and the general public. The existence of an American National Standard does not in any respect preclude anyone, whether he has approved the standard or not, from manufacturing, marketing, purchasing, or using products, processes, or procedures not conforming to the standard. American National Standards are subject to periodic review and users are cautioned to obtain the latest editions.

The American National Standards Institute does not develop standards and will in no circumstances give an interpretation of any American National Standard. Moreover, no person shall have the right or authority to issue an interpretation of an American National Standard in the name of the American National Standards Institute.

CAUTION NOTICE: This American National Standard may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken to reaffirm, revise, or withdraw this standard no later than five years from the date of approval. Purchasers of American National Standards may receive current information on all standards by calling or writing the American National Standards Institute.