



ATIS-0900101.2013(F2023)

Synchronization Interface Standard

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ATIS-0900101.2013(S2023), Synchronization Interface Standard

Is an American National Standard developed by the ATIS Synchronization Committee (SYNC).

Published by

Alliance for Telecommunications Industry Solutions

1200 G Street, NW, Suite 500

Washington, D.C. 20005

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ATIS-0900101.2013(S2023)

(Revision of ATIS-0900101.2006)

American National Standard for Telecommunications

Synchronization Interface Standard

Alliance for Telecommunications Industry Solutions

Approved December 19, 2013

American National Standards Institute, Inc.

Abstract

This revised standard describes synchronization interfaces for the North American digital telecommunications hierarchy. Compliance with this standard is necessary to achieve satisfactory interworking of telecommunications networks. This revision of the standard includes requirements on essential timing characteristics at synchronization interfaces. It introduces the stratum 3E clock and performance characteristics; holdover characteristics for stratum 2, 3, and 3E clocks; and second-generation Synchronization Status Message quality levels.

Foreword

The information contained in this Foreword is not part of this American National Standard (ANS) and has not been processed in accordance with ANSI's requirements for an ANS. As such, this Foreword may contain material that has not been subjected to public review or a consensus process. In addition, it does not contain requirements necessary for conformance to the Standard.

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ANSI guidelines specify two categories of requirements: mandatory and recommendation. The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal customer identifiable as having distinct compatibility or performance advantages.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, COAST, 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time it approved this document, COAST, which is responsible for the development of this Standard, had the following members:

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The Synchronization (SYNC) Subcommittee was responsible for the development of this document.

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American National Standard for Telecommunications on –

Synchronization Interface Standard

1 Scope, Purpose, & Application

1.1 Scope

This standard describes and specifies synchronization-related performance parameters for digital networks. The specifications apply to network interfaces carrying synchronization references, which can be DS1 or SONET optical carrier (OC-N) signals. This standard also addresses equipment requirements in some cases.

2 Normative References

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

ATIS-0900102.1993 (R2010), *Telecommunications - Digital hierarchy - Electrical interfaces*.¹

ATIS-0900105.2008 (R2013), *Telecommunications - Synchronous Optical Network (SONET) - Basic description including multiplex structure, rates and formats*.²

ATIS-0900105.03.2013, *Telecommunications - Synchronous Optical Network (SONET) - Jitter and Wander at Network and Equipment Interfaces (Revision of T1.105.03-1994, T1.105.03a-1995, and T1.105.03b-1997)*.³

ATIS-0900105.06.2002 (R2012), *Synchronous Optical Network (SONET): Physical Layer Specifications*.⁴

ATIS-0900105.09.2013, *Telecommunications - Synchronous Optical Network (SONET) - Network element timing and synchronization*.⁵

ATIS-0600010.2014, *Temperature, Humidity, and Altitude Requirements for Network Telecommunications Equipment Utilized in Controlled Environmental Spaces*.⁶

ATIS-0600107.2002 (R2011), *Digital Hierarchy - Formats Specifications*.⁷

ATIS-0600403.1999(R2012), *Telecommunications - Network and Customer Installation Interfaces - DS1 - Electrical Interface*.⁸

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