



ATIS STANDARD

ATIS-1000113-2015(R2020)

**Signaling System No. 7 (SS7) –
Integrated Services Digital Network (ISDN) User Part**

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ATIS-1000113.2015(R2020), *Signaling System No. 7 (SS7) – Integrated Services Digital Network (ISDN) User Part*

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

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American National Standard for Telecommunications

**Signaling System No. 7 (SS7) --
Integrated Services Digital Network (ISDN) User Part**

Alliance for Telecommunications Industry Solutions

Approved January 8, 2015

American National Standards Institute, Inc.

Abstract

The Integrated Services Digital Network (ISDN) User Part defines the protocol which supports the signaling functions required to provide voice and non-voice services in an Integrated Services Digital Network. This standard is based on the Specification of Signaling System No. 7 for international use issued by ITU-T Study Group 11 in the year 2000 and subsequent amendments. This standard is based on and uses, where applicable, the same signaling procedures, parameters, and message types as the internationally specified ISDN User Part of the ITU-T Signaling System No. 7. The PTSC-PSTN subcommittee has developed this standard to suit anticipated needs and applications within and between U.S. networks.

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.

This standard is based on the Specification of Signaling System No. 7 for international use issued by ITU-T Study Group 11 in the year 2000 and subsequent amendments. This standard is based on, and uses, where applicable, the same signaling procedures, parameters, and message types as the internationally specified Integrated Services Digital Network (ISDN) User Part of the ITU-T Signaling System No. 7 recommendations. It is suitable for anticipated needs and applications within and between U. S. networks. These specifications are the result of extensive work by the members of the PTSC-PSN subcommittee.

Since the release of ANSI T1.113-2000 some of the more significant changes to this standard are:

- Automatic re-routing (crankback)
- MLPP user indicator.

Since the release of ATIS-1000113.2005 the following has been added to this standard:

- A new code point in support of Mobile Service Transport (MST) in the Application Transport parameter.

This standard contains the following chapters:

- ATIS-1000113.2015 – Chapter 1, *Functional Description of the Integrated Services Digital Network (ISDN) User Part*;
- ATIS-1000113.2015 – Chapter 2, *General Function of Messages and Signals*;
- ATIS-1000113.2015 – Chapter 3, *Formats and Codes*;
- ATIS-1000113.2015 – Chapter 4, *Signaling Procedures*;
- ATIS-1000113.2015 – Chapter 5, *Performance Objectives for the ISDN Application*;
- ATIS-1000113.2015 – Chapter 6, *State Transition Diagrams*; and
- ATIS-1000113.2015 – Chapter 7, *Application Transport Mechanism*.

The overall and detailed organization of individual chapters of this standard parallels that used in the equivalent ITU-T recommendations. Chapters 1–4 correspond to Q.761–Q.764. Chapter 5 corresponds to Q.766. Chapter 6 contains material previously in Chapter 4. Chapter 7 corresponds to Q.765.

This standard is intended for use in conjunction with ATIS-1000110, *Signaling System No. 7 (SS7)—General Information*.

There are thirteen annexes in this standard. Chapter 1 contains one informative annex. Chapter 3 contains one normative and three informative annexes. Chapter 4 contains five informative annexes. Chapter 7 contains one normative annex and two informative annexes. Information contained in a normative annex forms an integral part of this standard. Information contained in an informative annex is not considered part of this standard, but is rather auxiliary to the standard. Similarly footnotes are not part of this standard.

In case of any conflict between the text and the Specification and Description Language diagrams, the text shall have precedence.

References to ATIS-1000113.2015 are identical to ATIS-1000113.2015(R2020).

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

This standard was processed and approved for submittal to ANSI by the Accredited Standards Committee Packet Technologies and Systems Committee (PTSC). Committee approval of this standard does not necessarily imply that all committee members voted for its approval. At the time it approved this standard, the PTSC had the following members:

At the time of consensus on this document, PTSC, which was responsible for its development, had the following leadership:

M. Dolly, PTSC Chair (AT&T)

V. Shankh, PTSC Vice-Chair (Applied Communication Sciences)

M. Dolly, PTSC PSTN Chair (AT&T)

B. Bethea, PTSC PSTN Vice-Chair (Time Warner Cable)

The **PSTN Transition [STN]** Subcommittee was responsible for the development of this document.

**Signaling System No. 7 (SS7) –
Integrated Services Digital Network (ISDN) User Part**

Chapter 1

**Functional Description of the
Integrated Services Digital Network (ISDN) User Part**

Table of Contents

1	SCOPE, PURPOSE, & APPLICATION	1
1.1	GENERAL	1
1.2	APPLICABILITY TO OTHER STANDARDS	2
2	SERVICES SUPPORTED BY THE ISDN USER PART	2
2.1	BASIC SERVICE	2
2.2	SUPPLEMENTARY SERVICES & NETWORK CAPABILITIES.....	3
3	SERVICES ASSUMED FROM THE MTP	3
3.1	GENERAL.....	3
3.2	DESCRIPTION OF PRIMITIVES.....	4
3.2.1	<i>Transfer</i>	4
3.2.2	<i>Pause</i>	4
3.2.3	<i>Resume</i>	4
3.2.4	<i>Status</i>	4
4	END-TO-END SIGNALING	4
4.1	GENERAL.....	4
4.2	SCCP METHOD OF END-TO-END SIGNALING.....	5
4.3	PASS-ALONG METHOD OF END-TO-END SIGNALING	5
5	FUTURE ENHANCEMENTS.....	5
5.1	VERSION COMPATIBILITY.....	7
5.2	ADDITIONAL CODING GUIDELINES FOR COMPATIBILITY OF ISDN USER PARTS	8
5.2.1	<i>Messages</i>	8
5.2.2	<i>Parameters</i>	8
	ANNEX A: GUIDELINES FOR USE OF INSTRUCTION INDICATORS	9
A.1	INTRODUCTION	9
A.2	PRIORITY OF EXECUTION.....	9
A.3	NOTIFICATION.....	9
A.4	CONSIDERATIONS	9
A.4.1	<i>Discarding Unrecognized Messages</i>	9
A.4.2	<i>Essential Services</i>	10
A.4.3	<i>Non-Essential Services</i>	10
A.4.4	<i>Broadband/Narrowband Interworking</i>	10
A.4.5	<i>Pass On</i>	10
A.5	GENERAL PRINCIPLES FOR CODING OF INSTRUCTIONS INDICATOR FOR THE SENDING EXCHANGES	10

Table of Figures

FIGURE 5.1 - END-TO-END SIGNALING METHODS – CHAPTER 1	6
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Table of Tables

TABLE 5.1 - DESCRIPTION OF PRIMITIVES – CHAPTER 1	7
---	---

American National Standard on –

Signaling System No.7 (SS7) – Integrated Services Digital Network (ISDN) User Part

Chapter 1 Functional Description of the Integrated Services Digital Network (ISDN) User Part

1 Scope, Purpose, & Application

1.1 General

The Integrated Services Digital Network (ISDN) User Part (UP) defines the protocol which supports the signaling functions required to provide voice and non-voice services in an Integrated Services Digital Network.

The ISDN User Part (ISUP) is also suited for application in dedicated telephone and circuit switched data networks and in analogue and mixed analogue/ digital networks. The ISDN User Part is based on, and uses wherever applicable the same signaling procedures, information elements and message types as the internationally specified ISDN User Part of ITU-T Signaling System No.7 (SS7), as described in:

- Q.730 (2000), *ISDN supplementary services*.¹
- Q.761 (2000), *Functional description of the ISDN user part*.¹
- Q.762 (2000), *General function of messages*.¹
- Q.763 (2000), *Formats and codes*.¹
- Q.764 (2000), *Signaling procedures*.¹
- Q.766 (1992), *Performance objectives in the ISDN applications*.¹

The ISDN User Part is also based on and aligned with:

Q.850 (1996), *Usage of Cause and Location in the Digital Subscriber Signaling System No. 1 and the Signaling System No. 7 ISDN User Part*.¹

ATIS-1000607.2014, American National Standard for Telecommunications - *Digital Subscriber Signaling System No. 1 (DSS1) - Layer 3 Signaling Specification for Circuit Switched Bearer Service*.²

In addition, the ISDN User Part is aligned with:

- Q.724 (1988), *Telephone user part signaling procedures*.¹

¹ This document is available from the International Telecommunications Union. < <http://www.itu.int/ITU-T/> >.

² This document is available from the Alliance for Telecommunications Industry Solutions (ATIS), 1200 G Street N.W., Suite 500, Washington, DC 20005 < <https://www.atis.org/docstore/product.aspx?id=24729> >.