International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

G.783

Amendment 3

(02/2012)

SERIES G: TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

Digital terminal equipments – Principal characteristics of multiplexing equipment for the synchronous digital hierarchy

---

Characteristics of synchronous digital hierarchy (SDH) equipment functional blocks

Amendment 3

Recommendation ITU-T G.783 (2006) – Amendment 3

ITU-T G-SERIES RECOMMENDATIONS

TRANSMISSION SYSTEMS AND MEDIA, DIGITAL SYSTEMS AND NETWORKS

INTERNATIONAL TELEPHONE CONNECTIONS AND CIRCUITS	G.100–G.199
GENERAL CHARACTERISTICS COMMON TO ALL ANALOGUE CARRIER-TRANSMISSION SYSTEMS	G.200–G.299
INDIVIDUAL CHARACTERISTICS OF INTERNATIONAL CARRIER TELEPHONE SYSTEMS ON METALLIC LINES	G.300–G.399
GENERAL CHARACTERISTICS OF INTERNATIONAL CARRIER TELEPHONE SYSTEMS ON RADIO-RELAY OR SATELLITE LINKS AND INTERCONNECTION WITH METALLIC LINES	G.400–G.449
COORDINATION OF RADIOTELEPHONY AND LINE TELEPHONY	G.450–G.499
TRANSMISSION MEDIA AND OPTICAL SYSTEMS CHARACTERISTICS	G.600–G.699
DIGITAL TERMINAL EQUIPMENTS	G.700–G.799
General	G.700–G.709
Coding of voice and audio signals	G.710–G.729
Principal characteristics of primary multiplex equipment	G.730–G.739
Principal characteristics of second order multiplex equipment	G.740–G.749
Principal characteristics of higher order multiplex equipment	G.750–G.759
Principal characteristics of transcoder and digital multiplication equipment	G.760–G.769
Operations, administration and maintenance features of transmission equipment	G.770–G.779
Principal characteristics of multiplexing equipment for the synchronous digital hierarchy	**G.780–G.789**
Other terminal equipment	G.790–G.799
DIGITAL NETWORKS	G.800–G.899
DIGITAL SECTIONS AND DIGITAL LINE SYSTEM	G.900–G.999
MULTIMEDIA QUALITY OF SERVICE AND PERFORMANCE – GENERIC AND USER-RELATED ASPECTS	G.1000–G.1999
TRANSMISSION MEDIA CHARACTERISTICS	G.6000–G.6999
DATA OVER TRANSPORT – GENERIC ASPECTS	G.7000–G.7999
PACKET OVER TRANSPORT ASPECTS	G.8000–G.8999
ACCESS NETWORKS	G.9000–G.9999

For further details, please refer to the list of ITU-T Recommendations.

Recommendation ITU-T G.783

Characteristics of synchronous digital hierarchy (SDH) equipment functional blocks

Amendment 3

Summary

Amendment 3 to Recommendation ITU-T G.783 (2006) includes text that clarifies the specification details applicable when transporting synchronous digital hierarchy (SDH) signals over the optical transport network (OTN).

History

Edition	Recommendation	Approval	Study Group
1.0	ITU-T G.783	1990-12-14	XV
2.0	ITU-T G.783	1994-01-20	15
3.0	ITU-T G.783	1997-04-08	15
4.0	ITU-T G.783	2000-10-06	15
4.1	ITU-T G.783 (2000) Cor. 1	2001-03-15	15
4.2	ITU-T G.783 (2000) Amd. 1	2002-06-13	15
4.3	ITU-T G.783 (2000) Cor. 2	2003-03-16	15
5.0	ITU-T G.783	2004-02-06	15
5.1	ITU-T G.783 (2004) Cor. 1	2004-06-13	15
5.2	ITU-T G.783 (2004) Amd. 1	2005-07-14	15
6.0	ITU-T G.783	2006-03-29	15
6.1	ITU-T G.783 (2006) Amd. 1	2008-05-22	15
6.2	ITU-T G.783 (2006) Amd. 2	2010-03-09	15
6.3	ITU-T G.783 (2006) Amd. 3	2012-02-13	15

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure, e.g., interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at http://www.itu.int/ITU-T/ipr/.

Recommendation ITU-T G.783

Characteristics of synchronous digital hierarchy (SDH) equipment functional blocks

Amendment 3

1) Scope

This amendment contains modified text to be added to complete Recommendation ITU-T G.783 in respect of clarifying the jitter specification regarding transport over the optical transport network (OTN).

2) Changes to Recommendation ITU-T G.783 (2006)

2.1) Clause 2

Add the following new references to clause 2.

[ITU-T G.798] Recommendation ITU-T G.798 (2010), *Characteristics of optical transport network hierarchy equipment functional blocks.*

Replace reference [27] from Recommendation ITU-T G.783 (2006) Amd. 1 (05/2008) with the following:

[ITU-T G.8251] Recommendation ITU-T G.8251 (2010), *The control of jitter and wander within the optical transport network (OTN).*

2.2) Clause 9.3.1.1

Add the following note under the title of clause 9.3.1.1.

NOTE – In the case where SDH RSN signals are transported over the OTN, the regenerator generation limits as given in this clause of Recommendation ITU-T G.783 do not apply. Instead, the specifications of [ITU-T G.8251] are to be used. Here the jitter and wander transfer requirements for ODCp given in Annex A of [ITU-T G.8251] ensure that the jitter due to the mapping and de-mapping of client signals into and out of OPUk, possibly multiple times, will be acceptable and will satisfy the respective network limits of the SDH clients. The ODCp jitter generation requirements given in Annex A of [ITU-T G.8251] ensure that any additional jitter produced by the ODCp will be within limits.

SERIES OF ITU-T RECOMMENDATIONS

Series A	Organization of the work of ITU-T
Series D	General tariff principles
Series E	Overall network operation, telephone service, service operation and human factors
Series F	Non-telephone telecommunication services
Series G	**Transmission systems and media, digital systems and networks**
Series H	Audiovisual and multimedia systems
Series I	Integrated services digital network
Series J	Cable networks and transmission of television, sound programme and other multimedia signals
Series K	Protection against interference
Series L	Construction, installation and protection of cables and other elements of outside plant
Series M	Telecommunication management, including TMN and network maintenance
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Terminals and subjective and objective assessment methods
Series Q	Switching and signalling
Series R	Telegraph transmission
Series S	Telegraph services terminal equipment
Series T	Terminals for telematic services
Series U	Telegraph switching
Series V	Data communication over the telephone network
Series X	Data networks, open system communications and security
Series Y	Global information infrastructure, Internet protocol aspects and next-generation networks
Series Z	Languages and general software aspects for telecommunication systems

Printed in Switzerland
Geneva, 2012