



INTERNATIONAL TELECOMMUNICATION UNION

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

G.826

Corrigendum 1
(07/2001)

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

Digital networks – Quality and availability targets

Error performance parameters and objectives for
international, constant bit-rate digital paths at or
above the primary rate

Corrigendum 1

ITU-T Recommendation G.826 – Corrigendum 1

(Formerly CCITT Recommendation)

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
TESTING EQUIPMENTS	G.500–G.599
TRANSMISSION MEDIA CHARACTERISTICS	G.600–G.699
DIGITAL TERMINAL EQUIPMENTS	G.700–G.799
DIGITAL NETWORKS	G.800–G.899
General aspects	G.800–G.809
Design objectives for digital networks	G.810–G.819
Quality and availability targets	G.820–G.829
Network capabilities and functions	G.830–G.839
SDH network characteristics	G.840–G.849
Management of transport network	G.850–G.859
SDH radio and satellite systems integration	G.860–G.869
Optical transport networks	G.870–G.879
DIGITAL SECTIONS AND DIGITAL LINE SYSTEM	G.900–G.999

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

ITU-T Recommendation G.826

Error performance parameters and objectives for international, constant bit-rate digital paths at or above the primary rate

CORRIGENDUM 1

Summary

This corrigendum corrects a defect identified in ITU-T G.826 (1999). Clause 7.1 of ITU-T G.826 is modified to avoid text ambiguities. In addition, a performance allocation granularity of 0.2% per 100 km is now defined in 7.2.1 and 7.2.2 replacing the former figure of 1% per 500 km.

Source

Corrigendum 1 to ITU-T Recommendation G.826 was prepared by ITU-T Study Group 13 (2001-2004) and approved under the WTSA Resolution 1 procedure on 13 July 2001.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. 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.

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 not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

© ITU 2001

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 ITU.

ITU-T Recommendation G.826

Error performance parameters and objectives for international, constant bit-rate digital paths at or above the primary rate

CORRIGENDUM 1

1) Introduction

Clause 7.1 of ITU-T G.826 (1999) contains the following sentences:

"Digital paths operating at bit rates covered by this Recommendation are carried by transmission systems (digital sections) operating at equal or higher bit rates. Such systems must meet their allocations of the end-to-end objectives for the highest bit-rate paths which are foreseen to be carried. Meeting the allocated objectives for this highest bit-rate path should be sufficient to ensure that all paths through the system are achieving their objective. For example, in SDH, an STM-1 section may carry a VC-4 path and therefore the STM-1 section should be designed such that it will ensure that the objectives as specified in this Recommendation for the bit rate corresponding to a VC-4 path are met."

If this requirement is observed, it would for instance mean that in case of STM-1, the ES objective is met if the ESR does not exceed the appropriate allocation of 0.16. If this STM-1 section carries – perhaps at a later stage – paths operating at lower bit rates, the objectives for such low bit-rate paths may not be met – depending on the error distribution – because the objectives are getting tighter with lower bit rates.

In clauses 7.2.1 and 7.2.2, ITU-T G.826 (1999) defines a performance allocation granularity of 1% per 500 km. This definition is not in line with that of the more recent ITU-T G.828 defining an allocation of 0.2% per 100 km. To make the two Recommendations consistent, ITU-T G.826 is brought in line with ITU-T G.828.

2) Resolved defects

2.1) Clause 7.1

Replace the one before last paragraph of clause 7.1/G.826 with the following text:

Digital paths operating at bit rates covered by this Recommendation are carried by transmission systems (digital sections) operating at equal or higher bit rates. Such systems must meet their allocations of the end-to-end objectives for the most demanding paths which are foreseen to be carried. For example, in SDH, an STM-1 section may carry a VC-11/VC-12 path and therefore the STM-1 section should be designed such that it will ensure that the objectives as specified in this Recommendation for the bit rate corresponding to a VC-11/VC-12 path are met. Under the assumption of random error distribution, meeting the allocated objectives in Table 1/G.826 for the highest bit rate should be sufficient to ensure that all paths through the system are achieving their objectives.

2.2) Clauses 7.2.1 and 7.2.2

In both clauses replace the present performance allocation granularity of 1% per 500 km with a figure of 0.2% per 100 km.

SERIES OF ITU-T RECOMMENDATIONS

Series A	Organization of the work of ITU-T
Series B	Means of expression: definitions, symbols, classification
Series C	General telecommunication statistics
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	TMN and network maintenance: international transmission systems, telephone circuits, telegraphy, facsimile and leased circuits
Series N	Maintenance: international sound programme and television transmission circuits
Series O	Specifications of measuring equipment
Series P	Telephone transmission quality, telephone installations, local line networks
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 and open system communications
Series Y	Global information infrastructure and Internet protocol aspects
Series Z	Languages and general software aspects for telecommunication systems