

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

V.70

Corrigendum 1
(01/2005)

**SERIES V: DATA COMMUNICATION OVER THE
TELEPHONE NETWORK**

Simultaneous transmission of data and other signals

Procedures for the simultaneous transmission of data and digitally encoded voice signals over the GSTN, or over 2-wire leased point-to-point telephone type circuits

Corrigendum 1

ITU-T Recommendation V.70 (1996) – Corrigendum 1

ITU-T V-SERIES RECOMMENDATIONS
DATA COMMUNICATION OVER THE TELEPHONE NETWORK

General	V.1–V.9
Interfaces and voiceband modems	V.10–V.34
Wideband modems	V.35–V.39
Error control	V.40–V.49
Transmission quality and maintenance	V.50–V.59
Simultaneous transmission of data and other signals	V.60–V.99
Interworking with other networks	V.100–V.199
Interface layer specifications for data communication	V.200–V.249
Control procedures	V.250–V.299
Modems on digital circuits	V.300–V.399

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

ITU-T Recommendation V.70

Procedures for the simultaneous transmission of data and digitally encoded voice signals over the GSTN, or over 2-wire leased point-to-point telephone type circuits

Corrigendum 1

Summary

This corrigendum addresses corrections and clarifications in ITU-T Rec. V.70 (1996) concerning completion of capability exchange, clarification on usage of H.245 "maxBitRate" and of the preferred use of AlternativeCapabilitySet structure, terminology used for simultaneous capability sets, support of G.729 Annex B, and enabling negotiation of the Suspend/Resume Option (ITU-T Rec. V.8 *bis*).

Source

Corrigendum 1 to ITU-T Recommendation V.70 (1996) was approved on 8 January 2005 by ITU-T Study Group 16 (2005-2008) under the ITU-T Recommendation A.8 procedure.

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.

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, implementors are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database.

© ITU 2005

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without the prior written permission of ITU.

CONTENTS

	Page
1) Update of clause 2, "Normative references".....	1
2) Corrections in clause 6.2.1, "Capabilities exchange"	1
3) Corrections to clause 5.4, "Voice processing function"	3
4) Corrections to clause 6.2.2, "Data Link Connection (DLC) control".....	3

Procedures for the simultaneous transmission of data and digitally encoded voice signals over the GSTN, or over 2-wire leased point-to-point telephone type circuits

Corrigendum 1

1) Update of clause 2, "Normative references"

- a) Under item [1], remove footnote 2 ("Presently at the stage of draft.") and add the approval date as follows:
- [1] ITU-T Recommendation G.729, Annex A²³ (1996), *Reduced complexity 8 kbit/s CS-ACELP speech coder.*
- b) Add the following new reference:
- [13] ITU-T Recommendation G.729 Annex B (1996), A silence compression scheme for G.729 optimized for terminals conforming to Recommendation V.70.

2) Corrections in clause 6.2.1, "Capabilities exchange"

In order to:

- complete capability exchange (in the 2nd paragraph);
- enable the negotiation of the V.8 bis Suspend/Resume Option (in the 4th paragraph);
- clarify preferred use of AlternativeCapabilitySet structure (in the 8th paragraph);
- correct the terminology on simultaneous capability sets (in the 10th paragraph);
- clarify the usage of H.245 "maxBitRate" (at the end of clause 6.2.1),

amend clause 6.2.1 as follows:

6.2.1 Capabilities exchange

The SCF may optionally initiate the establishment of an out-of-band control channel (DLC) for various functions including terminal capability (mux, voice and data) exchange. The support of an out-of-band control channel by a DSVD terminal is optional. If an out-of-band capability exchange is performed, the capabilities so conveyed can be used as a basis for selecting how to subsequently operate a DLC. This capability exchange is additional to any capability exchange which may have taken place using V.8 bis procedures, and includes more detailed information.

The SCF may optionally exchange terminal capability (mux, voice and data) information for a single DLC, i.e., in-band. If an out-of-band capability exchange was previously performed, the capability exchange on this DLC overrides the capabilities established on the out-of-band DLC for this DLC only. Capabilities not signalled shall be assumed to be the same as those previously signalled in the out-of-band exchange. For in-band capability exchanges, if the SCF receives a CE-SETPARM indication from the CE, it should issue a CE-SETPARM request on the same DLC, if this has not been issued already.

A capability exchange is not required to announce default values for parameters.

AnThe out-of-band control channel shall or V.8 bis may be used for the negotiation of the optional suspend/resume mode of operation.

The SCF transfers capability information to and from the CE using the CE-SETPARM primitive defined in Recommendation V.75 [10]. All DSVD capabilities apply to both transmit and receive directions of transmission.

A capabilities exchange shall follow the procedures of Recommendation H.245, which provides a system by which the terminal may describe its ability to operate in various combinations of modes simultaneously.

The transmitting terminal assigns a number in a **capabilityTable** to each individual mode in which the terminal is capable of operating. For example, G.729 Annex A speech, G.728 speech and T.434 binary file transfer would each be assigned separate numbers.

These capability numbers are grouped into **AlternativeCapabilitySet** structures. Each **AlternativeCapabilitySet** indicates that the terminal is capable of operating in exactly one mode listed in the set. For example, an **AlternativeCapabilitySet** listing {G.729 Annex A, G.723 and G.728} means that the terminal can operate in any one of those speech modes, but not more than one. A DSVD terminal may indicate multiple capabilities in an AlternativeCapabilitySet structure, but the preferred number is one. A DSVD terminal shall be able to receive an AlternativeCapabilitySet indicating multiple capabilities, but may respond with a single capability in the AlternativeCapabilitySet in the reverse direction.

These **AlternativeCapabilitySet** structures are grouped into **simultaneousCapabilities** structures. Each **simultaneousCapabilities** structure indicates a set of modes the terminal is capable of using simultaneously. For example, a **simultaneousCapabilities** structure containing the two **AlternativeCapabilitySet** structures {T.120 and T.434} and {G.723, G.728 and G.729 Annex A} means that the terminal can operate in either of the data modes simultaneously with any one of the speech codecs. The **simultaneousCapabilities** set {{G.729 Annex A}, {G.729 Annex A and G.723}, {T.84, T.120 and T.434}} means the terminal can operate two voice channels and one data channel simultaneously: one voice channel per G.729 Annex A, another voice channel per either G.729 Annex A or G.723, and one data channel per either T.84, T.120 or T.434.

The terminal shall only exchange multiple simultaneousCapabilities structures using the optional out-of-band channel.

NOTE – The actual capabilities stored in the **capabilityTable** are often more complex than presented here. For a complete description, see Recommendation H.245.

The terminal's total capabilities are described by a set of **CapabilityDescriptor** structures, each of which is a single **simultaneousCapabilities** structure and a **capabilityDescriptorNumber**. By sending more than one **CapabilityDescriptor**, the terminal may signal dependencies between operating modes by describing different sets of modes which it can simultaneously use.

Terminals may dynamically add capabilities during a connection by issuing additional **CapabilityDescriptor** structures, or remove capabilities by sending revised **CapabilityDescriptor** structures.

Non-standard capabilities and control messages may be issued using the **NonStandardParameter** structure defined in Recommendation H.245. Note that while the meaning of non-standard messages is defined by individual organizations, equipment built by any manufacturer may signal any non-standard message, if the meaning is known.

Terminals may reissue capability sets at any time.

For V.70 terminals, the "maxBitRate" parameter in H.245 Data Application Capability shall be set to "0" for all connections and shall have no meaning. The use of other values is for further study.

3) Corrections to clause 5.4, "Voice processing function"

For support of G.729 Annex B, amend the 7th paragraph of clause 5.4 as follows:

~~The definition of a voice activity detector and comfort noise generator for use with the G.729 Annex A coder is for further study. A V.70 terminal may optionally include the silence suppression algorithms (i.e., Voice Activity Detection and Comfort Noise Generation) defined in G.729 Annex B, for use with the coder defined in either G.729 or G.729 Annex A. A V.70 terminal signalling a G.729 Annex B capability shall be assumed to be capable of supporting the operation of the appropriate speech coder without the silence suppression.~~

4) Corrections to clause 6.2.2, "Data Link Connection (DLC) control"

For enabling negotiation of the V.8 bis Suspend/Resume Option, amend the 8th paragraph of clause 6.2.2 to read:

If the suspend/resume mode is selected using the out-of-band channel, the MF shall redefine the abort sequence at the time the mode is selected. Suspend/resume DLCs may then be opened. If the suspend/resume mode is selected using V.8 bis, the MF shall redefine the abort sequence at the time the data mode is established. If omission of the Address Field is negotiated, only one suspend/resume channel shall be opened. If the Address Field is maintained, one or more suspend/resume channels may be opened.

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 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, 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