



COVERING NOTE

GENERAL SECRETARIAT INTERNATIONAL TELECOMMUNICATION UNION

Geneva, 29 July 2003

ITU – TELECOMMUNICATION
STANDARDIZATION SECTOR

Subject: Amendment 1 (07/2003) to

ITU-T Recommendation G.722.2 Appendix I (01/2002), *Wideband coding of speech at around 16 kbit/s using Adaptive Multi-Rate Wideband (AMR-WB) – Appendix I: Error concealment of erroneous or lost frames*

- 1) In clause I.5.2.3.4.2, correct the last but one line as follows (change "second" into "third"):

$T_{\max-2}$ is ~~second~~third largest value in T_{buffer}

- 2) Add a new clause I.5.2.5 as follows:

I.5.2.5 High-band gain (for 23.85 kbit/s mode)

When `RX_FRAMETYPE = SPEECH_BAD` or `RX_FRAMETYPE = SPEECH_LOST`, the received high-band energy parameter of the frame is not used and the estimation for the high-band gain is used instead. This means that in case of bad/lost speech frames, the high-band reconstruction operates in the same way for all the modes.



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Appendix I
(01/2002)

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

**Digital terminal equipments – Coding of analogue signals
by methods other than PCM**

**Wideband coding of speech at around 16 kbit/s
using Adaptive Multi-Rate Wideband (AMR-WB)**

**Appendix I: Error concealment of erroneous or
lost frames**

ITU-T Recommendation G.722.2 – Appendix I



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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
General	G.700–G.709
Coding of analogue signals by pulse code modulation	G.710–G.719
Coding of analogue signals by methods other than PCM	G.720–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
QUALITY OF SERVICE AND PERFORMANCE	G.1000–G.1999
TRANSMISSION MEDIA CHARACTERISTICS	G.6000–G.6999
DIGITAL TERMINAL EQUIPMENTS	G.7000–G.7999
DIGITAL NETWORKS	G.8000–G.8999

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

ITU-T Recommendation G.722.2

Wideband coding of speech at around 16 kbit/s using Adaptive Multi-Rate Wideband (AMR-WB)

Appendix I

Error concealment of erroneous or lost frames

Summary

This appendix specifies a non-normative example solution for concealment of erroneous or lost frames for the G.722.2 AMR-WB codec.

The concealment operations described here were also adopted by 3GPP in 3GPP specification TS 26.191

Source

Appendix I to ITU-T Recommendation G.722.2 was prepared by ITU-T Study Group 16 (2001-2004) and was approved under the WTSa Resolution No. 1 procedure on 13 January 2002.

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.

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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.

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