

Source: TSG-SA WG4

Title: CRs to TS 26.110 on Corrections and Support of mobile multi-link operation in 3G-324M (R99 and Release 4)

Document for: Approval

Agenda Item: 7.4.3

The following CRs were agreed at the TSG-SA WG4 meetings #15 and are presented to TSG SA #11 for approval.

Spec	CR	Rev	Phase	Subject	Cat	Ver	WG	Meeting	S4 doc
26.110	003	1	R99	Correction of incorrect reference	F	3.0.1	S4	TSG-SA WG4#15	S4-010138
26.110	004	1	Rel-4	Correction of incorrect reference	A	4.0.0	S4	TSG-SA WG4#15	S4-010139
26.110	002	1	Rel-4	Support of mobile multi-link operation in 3G-324M	C	4.0.0	S4	TSG-SA WG4#15	S4-010140

3GPP TSG-SA4 Meeting #15
Munich, Germany, 22-26 January 2001

Tdoc S4-(01)0138

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CHANGE REQUEST			
⌘	26.110	CR 003	⌘ rev -1 ⌘ Current version: 3.0.1 ⌘

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Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Correction of an incorrect reference and minor editorial corrections (R99).		
Source:	⌘ TSG-SA WG4		
Work item code:	⌘ WI-2 Correction	Date:	⌘ 25-Jan-2001
Category:	⌘ F	Release:	⌘ R99
	<i>Use <u>one</u> of the following categories:</i> F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		<i>Use <u>one</u> of the following releases:</i> 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ TS 26.112 is obsolete, but is referred to in TS 26.110.
Summary of change:	⌘
Consequences if not approved:	⌘ Incorrect procedures will be used.

Clauses affected:	⌘ 5
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
Other comments:	⌘

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] ITU-T Recommendation H.223: "Multiplexing protocol for low bitrate multimedia communication"
- [2] ITU-T Recommendation H.223 — Annex A: "Multiplexing protocol for low bitrate multimedia communication over low error-prone channels"
- [3] ITU-T Recommendation H.223 — Annex B: "Multiplexing protocol for low bitrate multimedia communication over moderate error-prone channels"
- [4] ITU-T Recommendation H.223 — Annex C: "Multiplexing protocol for low bitrate multimedia communication over highly error-prone channels"
- [5] ITU-T Recommendation H.223 — Annex D: "Optional multiplexing protocol for low bitrate multimedia communication over highly error-prone channels"
- [6] ITU-T Recommendation H.245: "Control protocol for multimedia communication"
- [7] ITU-T Recommendation G.723.1: "Dual rate speech coder for multimedia communication transmitting at 5.3 & 6.3 kbit/s"
- [8] ITU-T Recommendation H.263: "Video coding for low bitrate communication"
- [9] ITU-T Recommendation H.261: "Video CODEC for audiovisual services at p X 64 kbit/s"
- [10] ITU-T Recommendation H.324: "Terminal for low bitrate multimedia communication"
- [11] 3GPP Technical Specification 3G TS 26.111: "Modifications to H.324"
- [12] 3GPP Technical Specification 3G TS 26.112: "Call Set Up Requirements"
- [123] 3GPP Technical Reference 3G TR 26.911: "Terminal Implementor's Guide"
- [134] ITU-T Recommendation X.691: "Information Technology - ASN.1 Encoding Rules - Specification of Packed Encoding Rules (PER)"
- [145] International Standard ISO/IEC 14494-2: "Information technology — Generic coding of audio-visual object — Part 2: Visual, 1999"
- [156] 3GPP Technical Specification 3G TS 26.071: "Mandatory Speech Codec; General Description"
- [167] 3GPP Technical Specification 3G TS 26.090: "Mandatory Speech Codec; Speech Transcoding Functions"
- [178] 3GPP Technical Specification 3G TS 26.073: "Mandatory Speech Codec; ANSI C-Code"

4 General

3G-324M terminals provide real-time video, audio, or data, in any combination, including none, over 3GPP circuit-switched, radio networks. They are based on ITU-T H.324 with Annex C. Communication may be either 1-way or 2-way. Such terminals may be part of a portable device or integrated into an automobile or other non fixed location device. They may also be fixed, stand-alone devices; for example, a video telephone or kiosk. 3G-324M terminals may also be integrated into PCs and workstations.

In addition to 3G-324M to 3G-324M communication, interoperation with other types of multimedia telephone terminals is possible, however a gateway may be required.

Multipoint communication between more than two 3G-324M terminals is possible using a Multipoint Communication Unit (MCU). MCU functionality is for further study.

3G-324M terminals are based on ITU-T H.324 with Annex C. For performance reasons and to define-reference the call set-up procedures, some modifications to H.324 were made. These are described in 3G TS 26.111, except call set-up procedures are described in 3G TS 26.112, 27.001, 29.007 and 23.108. 3G-324M terminals shall conform to these specifications. Because of the many options in H.324, an implementor's guide, 3G TR 26.911, provides preferred options for 3G-324M implementations.

Figure 1 below shows the functional components of a generic 3GPP multimedia terminal. The video, speech and data are optional. If a media type is supported, the standards indicated are mandatory except those enclosed in square brackets are optional.

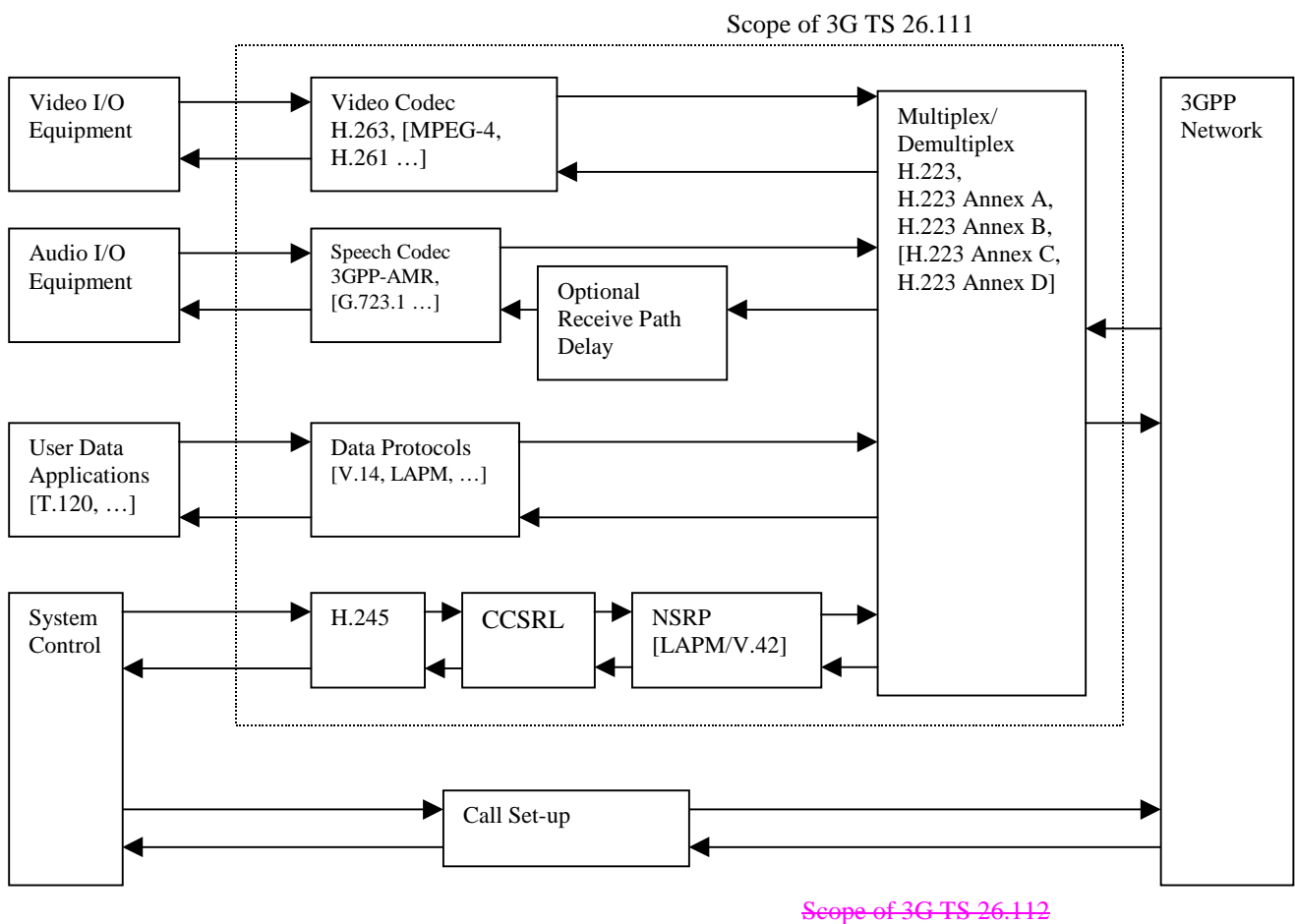


Figure 1 Scope of circuit switched multimedia 3GPP specification. Items in [brackets] are optional.

Short descriptions of ITU-T H.324, 3G TS 26.111, 3G TS 26.112, and 3G TR 26.911 are given below.

6 Modifications to H.324 (3G TS 26.111)

To enable cost-effective, high-quality H.324 terminals for 3GPP networks, some modifications were made to H.324. These modifications are described in 3G TS 26.111. Terminals adhering to this specification ~~and 3G TS 26.112 (see below)~~ are herewith known as 3G-324M terminals. 3G-324M terminals shall conform to 3G TS 26.111 ~~and 3G TS 26.112~~.

7 Call set-up requirements ~~(3G TS 26.112)~~

H.324 does not describe call set-up procedures for 3GPP networks. These are described in 3G TS [24.008](#), [27.001](#), [29.007](#), [23.108](#) ~~26.112~~ and shall be used for 3G-324M terminals.

A.6 Data Protocols

Various data protocols can be supported. These always support data applications (see [0, A.5 User Data Applications](#)). A specific protocol or set of protocols is often stipulated by the data application. Each protocol provides varying degrees of error detection and/or correction.

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Munich, Germany, 22-26 January 2001

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⌘ 26.110 CR 004 ⌘ rev -1 ⌘ Current version: 4.0.0 ⌘

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Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Correction of an incorrect reference and minor editorial corrections.		
Source:	⌘ TSG-SA WG4		
Work item code:	⌘ WI-2 Correction	Date:	⌘ 25-Jan-2001
Category:	⌘ A	Release:	⌘ R99
Use <u>one</u> of the following categories: F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)	

Reason for change:	⌘ TS 26.112 is obsolete, but is referred to in TS 26.110.
Summary of change:	⌘
Consequences if not approved:	⌘ Incorrect procedures will be used.

Clauses affected:	⌘ 5
Other specs affected:	⌘ <input type="checkbox"/> Other core specifications ⌘ <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications
Other comments:	⌘

2 References

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3G-324M terminals are based on ITU-T H.324 with Annex C. For performance reasons and to define-reference the call set-up procedures, some modifications to H.324 were made. These are described in 3G TS 26.111, except call set-up procedures are described in 3G TS 26.112, 27.001, 29.007 and 23.108. 3G-324M terminals shall conform to these specifications. Because of the many options in H.324, an implementor's guide, 3G TR 26.911, provides preferred options for 3G-324M implementations.

Figure 1 below shows the functional components of a generic 3GPP multimedia terminal. The video, speech and data are optional. If a media type is supported, the standards indicated are mandatory except those enclosed in square brackets are optional.

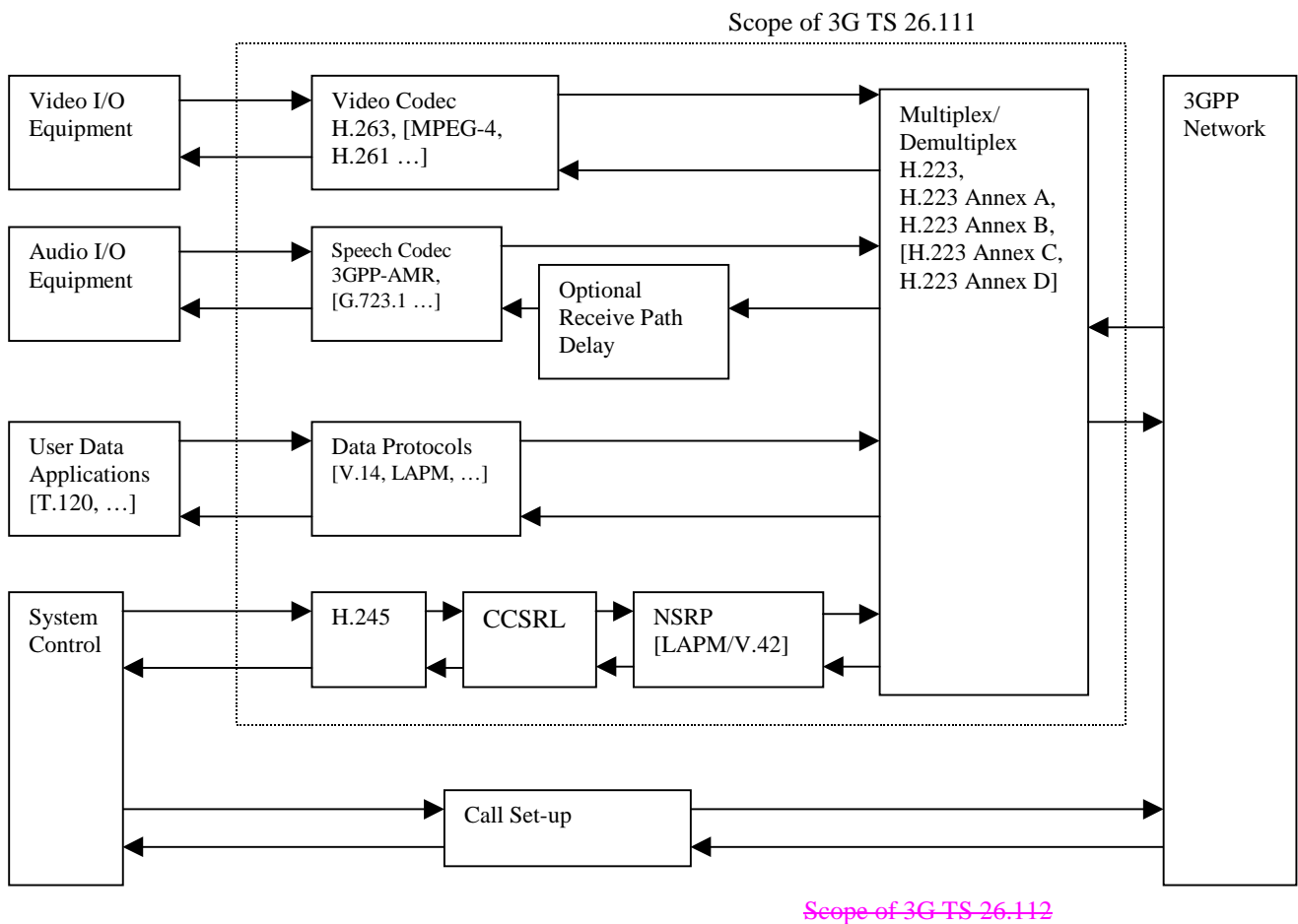


Figure 1 Scope of circuit switched multimedia 3GPP specification. Items in [brackets] are optional.

Short descriptions of ITU-T H.324, 3G TS 26.111, 3G TS 26.112, and 3G TR 26.911 are given below.

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H.324 does not describe call set-up procedures for 3GPP networks. These are described in 3G TS [24.008](#), [27.001](#), [29.007](#), [23.108](#) ~~26.112~~ and shall be used for 3G-324M terminals.

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3GPP TSG- SA4 Meeting #15
Munich, Germany, January 22-26

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CHANGE REQUEST
⌘ 26.110 CR 002 ⌘ rev 1 ⌘ Current version: 4.0.0 ⌘

For **HELP** on using this form, see bottom of this page or look at the pop-up text over the ⌘ symbols.

Proposed change affects: ⌘ (U)SIM ME/UE Radio Access Network Core Network

Title:	⌘ Support of mobile multi-link operation in 3G-324M		
Source:	⌘ TSG-SA WG4		
Work item code:	⌘ WI-2 CSM	Date:	⌘ January 26, 2001
Category:	⌘ C	Release:	⌘ REL-4
	Use <u>one</u> of the following categories: F (essential correction) A (corresponds to a correction in an earlier release) B (Addition of feature), C (Functional modification of feature) D (Editorial modification) Detailed explanations of the above categories can be found in 3GPP TR 21.900.		Use <u>one</u> of the following releases: 2 (GSM Phase 2) R96 (Release 1996) R97 (Release 1997) R98 (Release 1998) R99 (Release 1999) REL-4 (Release 4) REL-5 (Release 5)

Reason for change:	⌘ For a higher total bit rate circuit-switched multimedia telephony, multiple-channel aggregation functionality is needed in 3G-324M.
Summary of change:	⌘ Mobile multilink operation according to ITU-T H.324 Annex H is made possible when the far-end party supports the same functionality, otherwise conventional 3G-324M communication persists. Thus, a backward compatibility is assured. Support of mobile multilink operation is optional.
Consequences if not approved:	⌘ Higher total bit rate 3G-324M communication by means of channel aggregation cannot be provided.

Clauses affected:	⌘ 4, 5		
Other specs affected:	<input type="checkbox"/> Other core specifications <input type="checkbox"/> Test specifications <input type="checkbox"/> O&M Specifications	⌘	
Other comments:	⌘		

4 General

3G-324M terminals provide real-time video, audio, or data, in any combination, including none, over 3GPP circuit-switched, radio networks. They are based on ITU-T H.324 with Annex C and Annex H when mobile multilink operation is supported. Communication may be either 1-way or 2-way. Such terminals may be part of a portable device or integrated into an automobile or other non fixed location device. They may also be fixed, stand-alone devices; for example, a video telephone or kiosk. 3G-324M terminals may also be integrated into PCs and workstations.

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3G-324M terminals are based on ITU-T H.324 with Annex C and Annex H when mobile multilink operation is supported. For performance reasons and to reference the call set-up procedures, some modifications to H.324 were made. These are described in 3G TS 26.111, except call set-up procedures are described in 3G TS 24.008, 27.001, 29.007 and 23.108. 3G-324M terminals shall conform to these specifications. Because of the many options in H.324, an implementor’s guide, 3G TR 26.911, provides preferred options for 3G-324M implementations.

Figure 1 below shows the functional components of a generic 3GPP multimedia terminal. The video, speech, and data and multilink components are optional. If a media type is supported, the standards indicated are mandatory except those enclosed in square brackets are optional.

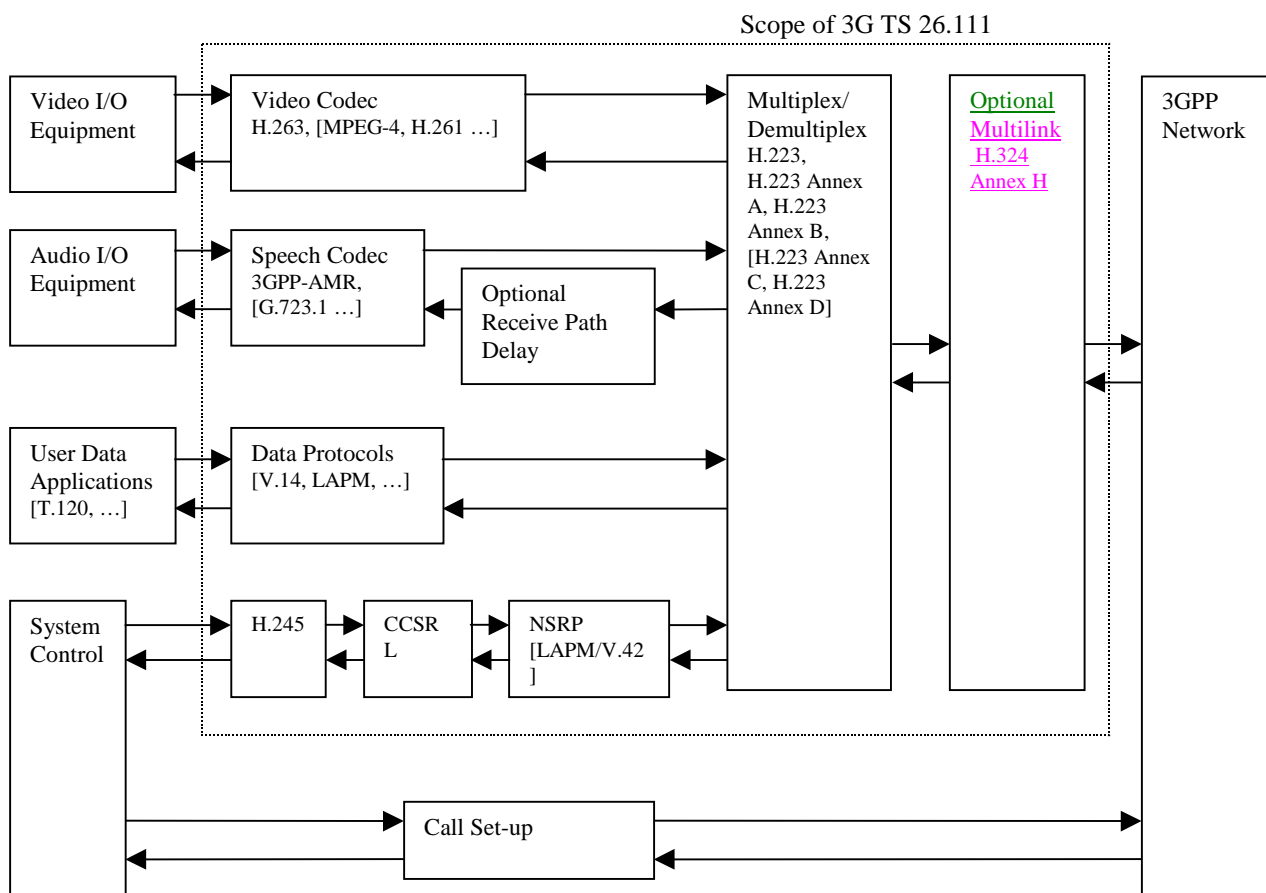


Figure 1 Scope of circuit switched multimedia 3GPP specification. Items in [brackets] are optional.

Short descriptions of ITU-T H.324, 3G TS 26.111, and 3G TR 26.911 are given below.

5 ITU-T H.324

ITU-T H.324 describes terminals for low bitrate multimedia communication. That ITU-T recommendation contains “ANNEX C, Multimedia Telephone Terminals Over Error Prone Channels” (sometimes referred to as H.324/M) and “ANNEX H, Mobile Multilink Operation.” ~~These~~is ~~annexes~~are~~is~~ considered an integral part of the recommendation. Therefore, herewith H.324 shall mean ITU-T H.324 with Annex C. When multilink operation is utilized, H.324 shall also mean to include H.324 Annex H.

Originally designed for V.34 modems, H.324 now supports ISDN and wireless networks. Therefore, it is well suited as a basis for 3GPP multimedia codecs. Relevant to wireless networks, H.324 describes the overall system architecture and introduces control (H.245), mux (H.223), video (H.261 and H.263), and audio (G.723.1).

Annex A provides a short overview of H.324 and multimedia codecs.