

# ETSI TS 102 527-3 V1.1.1 (2008-06)

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*Technical Specification*

## **Digital Enhanced Cordless Telecommunications (DECT); New Generation DECT; Part 3: Extended wideband speech services**

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F-06921 Sophia Antipolis Cedex - FRANCE

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Tel.: +33 4 92 94 42 00 Fax: +33 4 93 65 47 16

Siret N° 348 623 562 00017 - NAF 742 C  
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# Contents

Intellectual Property Rights .....	10
Foreword.....	10
1 Scope .....	11
2 References .....	11
2.1 Normative references .....	12
2.2 Informative references.....	13
3 Definitions, symbols and abbreviations .....	13
3.1 Definitions.....	13
3.2 Symbols.....	14
3.3 Abbreviations .....	14
4 Description of Services .....	15
4.1 Enhanced wideband speech.....	15
4.1.1 Back-compatibility with GAP.....	15
4.1.2 Further enhancement in audio performance requirements.....	15
4.2 Wideband speech scenarios.....	16
4.3 Extended wideband speech services defined in the present document.....	16
5 Service and feature definitions .....	17
5.1 New Generation DECT Speech Services .....	17
5.2 Network (NWK) features .....	17
5.3 Data Link Control (DLC) service definitions.....	17
5.4 Medium Access Control (MAC) service definitions.....	18
5.5 Physical Layer (PHL) service definitions.....	18
5.6 Speech coding and audio feature definitions.....	18
5.7 Application features .....	18
6 Inter-operability requirements.....	18
6.1 General .....	18
6.2 New Generation DECT Speech Services support status .....	19
6.3 Services to DECT feature implementation mappings.....	19
6.4 NWK features.....	28
6.5 Data Link Control (DLC) services.....	29
6.6 Medium Access Control (MAC) services .....	30
6.7 Physical layer (PHL) services .....	30
6.8 Speech coding and audio features .....	31
6.9 Application features .....	32
6.10 Network (NWK) feature to procedure mapping.....	33
6.11 Data Link Control (DLC) Service to procedure mapping .....	37
6.12 Medium Access Control (MAC) service to procedure mapping .....	38
6.13 Application feature to procedure mapping .....	40
6.14 General requirements .....	40
6.14.1 Network (NWK) layer message contents.....	40
6.14.2 Transaction identifier.....	40
6.14.3 Length of a Network (NWK) layer message .....	40
6.14.4 Handling of error and exception conditions.....	40
6.14.5 Generic Access Profile (GAP) default setup attributes.....	40
6.14.6 Coexistence of Mobility Management (MM) and Call Control (CC) procedures .....	41
6.14.7 Coding rules for information elements .....	41
7 Procedure description.....	41
7.1 Backward compatibility with Generic Access Profile (GAP) and with New Generation DECT part 1 (wideband speech) equipment.....	41
7.1.1 Backward compatibility with Generic Access Profile (GAP); Requirements for NG-DECT, part 3 Fixed Parts (FPs).....	41

7.1.2	Backward compatibility with Generic Access Profile (GAP); Requirements for NG-DECT, part 3 Portable Parts (PPs) registered on GAP compliant FPs .....	42
7.1.3	Backward compatibility with New Generation DECT, part 1; Requirements for NG-DECT, part 3 Fixed Parts (FPs).....	42
7.1.4	Backward compatibility with New Generation DECT, part 1; Requirements for NG-DECT, part 3 Portable Parts (PPs) registered on NG-DECT part 1 FPs .....	42
7.2	Generic Access Profile (GAP) procedures .....	42
7.3	New Generation DECT; part 1: Wideband Speech procedures.....	42
7.3.1	Implementation examples of part 1: Wideband Speech specific procedures .....	42
7.4	Network (NWK) layer procedures specific for part 3 .....	42
7.4.1	Generic events notification .....	43
7.4.1.1	General .....	43
7.4.1.2	Voice Message waiting notification .....	44
7.4.1.3	Missed call notification .....	44
7.4.1.4	List change notification.....	44
7.4.2	Date and Time synchronization .....	45
7.4.2.1	FT initiated Date and Time synchronization .....	45
7.4.2.2	PT initiated Date and Time synchronization .....	46
7.4.3	Handling of parallel calls .....	46
7.4.3.1	Parallel call common requirements .....	46
7.4.3.2	Control messages .....	47
7.4.3.3	Codec change for parallel calls .....	47
7.4.3.4	Sending negative acknowledgement .....	48
7.4.3.5	Common parallel call procedures (external or internal) .....	48
7.4.3.5.1	Outgoing parallel call initiation (external or internal) .....	49
7.4.3.5.2	Call waiting indication (external or internal).....	51
7.4.3.5.3	Call toggle (external or internal).....	52
7.4.3.5.4	Call release and call release rejection.....	53
7.4.3.5.5	On-hold call release .....	55
7.4.3.5.6	Call waiting acceptance (from PP to FP) .....	55
7.4.3.5.7	Call waiting rejection (from PP to FP) .....	56
7.4.3.5.8	Putting a call on-hold.....	58
7.4.3.5.9	Resuming a call put on-hold.....	58
7.4.3.5.10	CLIP on call waiting.....	59
7.4.3.5.11	CNIP on call waiting indication .....	60
7.4.3.6	Call transfer.....	60
7.4.3.6.1	Announced call transfer procedure .....	61
7.4.3.6.2	Unannounced call transfer procedure .....	62
7.4.3.6.3	Call re-injection to the line (external or internal) .....	63
7.4.3.6.4	Remote party CLIP on call transfer .....	64
7.4.3.6.5	Remote party CNIP on call transfer.....	64
7.4.3.7	3-party conference with established external and/or internal calls.....	65
7.4.3.8	Call intrusion (from PP to FP).....	67
7.4.3.8.1	Implicit call intrusion into a line in "single call" mode .....	67
7.4.3.8.2	Explicit call intrusion .....	68
7.4.3.9	Internal call codec priority .....	70
7.4.3.9.1	Description .....	70
7.4.3.9.2	Exception cases .....	72
7.4.4	Handling of single call services .....	72
7.4.4.1	Control messages .....	72
7.4.4.1.1	Call deflection control messages .....	72
7.4.4.2	Call deflection .....	72
7.4.5	Line identification.....	74
7.4.5.1	Line identification general requirements.....	74
7.4.5.2	Line identification for external outgoing calls .....	74
7.4.5.2.1	General line identification requirements for external outgoing calls.....	74
7.4.5.2.2	Line identification for a <i>first</i> external outgoing call using <<CALL INFORMATION>> .....	74
7.4.5.2.3	Line identification for a <i>first</i> external outgoing call using <<MULTI-KEYPAD >>.....	75
7.4.5.2.4	FP managed line selection for a <i>first</i> external outgoing call.....	76
7.4.5.3	Line identification for external incoming call .....	77
7.4.5.3.1	General line identification requirements for external incoming calls.....	77
7.4.5.3.2	Line identification for a <i>first</i> external incoming call .....	77

7.4.5.4	Line specification in events notification .....	78
7.4.6	Call identification .....	79
7.4.6.1	Call identifier general requirements .....	79
7.4.6.2	Call identifier assignment on outgoing call (FP to PP) .....	80
7.4.6.3	Call identifier assignment on incoming call (FP to PP) .....	81
7.4.7	Multiple lines handling .....	82
7.4.7.1	Multiple lines common requirements .....	82
7.4.7.1.1	Pre-requisites .....	82
7.4.7.1.2	Minimum requirements .....	82
7.4.7.2	Terminal attachment and line settings .....	82
7.4.7.2.1	Initial attachment .....	83
7.4.7.2.2	Attachment modification .....	83
7.4.7.2.3	Line settings .....	83
7.4.7.3	Incoming and outgoing external calls on a multiple line system .....	83
7.4.7.4	Internal calls in multiple line context .....	83
7.4.7.5	Compatibility with non multiple line PP or FP .....	84
7.4.7.5.1	Non multiple line PP in front of a multiple line FP .....	84
7.4.7.5.2	Non multiple line FP in front of a multiple line PP .....	84
7.4.8	Multiple call line handling .....	84
7.4.8.1	Multiple calls general requirements .....	84
7.4.8.1.1	Pre-requisites .....	85
7.4.8.1.2	Minimum requirements .....	85
7.4.8.2	Incoming and outgoing external calls on a multiple call line .....	86
7.4.8.2.1	Line set in "single call" mode .....	86
7.4.8.2.2	Line set in "multiple call" mode .....	86
7.4.8.3	Busy system or line notification .....	86
7.4.9	PP and FP capabilities indication and broadcast .....	87
7.4.9.1	Terminal capability indication .....	87
7.4.9.2	Higher layer information FP broadcast .....	88
7.4.9.2.1	Higher layer information in standard FP broadcast (Qh= 3) .....	89
7.4.9.2.2	Extended Higher Layer capabilities part 2 .....	89
7.4.10	List access service .....	89
7.4.10.1	General considerations .....	89
7.4.10.2	List change notification .....	93
7.4.10.3	List identifier codings .....	94
7.4.10.4	List Access Commands .....	94
7.4.10.4.1	Start and end session .....	95
7.4.10.4.2	Query supported entry fields .....	97
7.4.10.4.3	Read entries .....	98
7.4.10.4.4	Edit entry .....	100
7.4.10.4.5	Save entry .....	101
7.4.10.4.6	Delete entry .....	102
7.4.10.4.7	Delete list .....	103
7.4.10.4.8	Search entries .....	104
7.4.10.4.9	Negative Acknowledgement .....	106
7.4.10.4.10	Data packet / Data packet last .....	107
7.4.10.5	Lists and entry fields .....	108
7.4.10.5.1	Fields description .....	108
7.4.10.5.2	"List of supported lists" entry fields .....	112
7.4.10.5.3	"Missed call list" entry fields .....	112
7.4.10.5.4	"Outgoing call list" entry fields .....	113
7.4.10.5.5	"Incoming accepted call list" entry fields .....	113
7.4.10.5.6	"All call list" entry fields .....	113
7.4.10.5.7	"Contact list" entry fields .....	114
7.4.10.5.8	"Internal names list" entry fields .....	114
7.4.10.5.9	"DECT system settings list" entry fields .....	114
7.4.10.5.10	"Line settings list" entry fields .....	114
7.4.10.6	Generic sequence charts for list access .....	114
7.4.10.7	Use case examples for list access .....	114
7.4.11	DECT system and line settings .....	114
7.4.11.1	DECT system and line settings considerations .....	114
7.4.11.2	Interactions between registration, attachments of handsets and lists .....	116

7.4.11.3	DECT system settings list .....	116
7.4.11.3.1	Field 'PIN code' .....	117
7.4.11.3.2	Field 'Clock master' .....	117
7.4.11.3.3	Field 'Base reset' .....	118
7.4.11.3.4	Field 'FP IP address / type' .....	118
7.4.11.3.5	Field 'FP IP address / value' .....	118
7.4.11.3.6	Field 'FP IP address / subnet mask' .....	119
7.4.11.3.7	Field 'FP IP address / gateway' .....	119
7.4.11.3.8	Field 'FP IP address / DNS server' .....	120
7.4.11.3.9	Field 'FP version / Firmware version' .....	120
7.4.11.3.10	Field 'FP version / Eeprom version' .....	120
7.4.11.3.11	Field 'FP version / Hardware version' field .....	120
7.4.11.4	Line settings list .....	121
7.4.11.4.1	Field 'Line name' .....	121
7.4.11.4.2	Field 'Line id' .....	121
7.4.11.4.3	Field 'Attached handsets' .....	122
7.4.11.4.4	Field 'Dialling Prefix' .....	122
7.4.11.4.5	Field 'FP melody' .....	122
7.4.11.4.6	Field 'FP volume' .....	122
7.4.11.4.7	Field 'Blocked number' .....	123
7.4.11.4.8	Field 'Multiple calls mode' can be contained several times in one entry .....	123
7.4.11.4.9	Field 'Intrusion call' .....	123
7.4.11.4.10	Field 'Permanent CLIR' .....	124
7.4.11.4.11	Field 'Call forwarding' .....	124
7.4.11.5	Virtual contact list and call list per line .....	124
7.4.12	Calling line identity restriction (CLIR) .....	125
7.4.12.1	Considerations .....	125
7.4.12.2	Permanent CLIR mode (all calls) .....	125
7.4.12.3	Temporary CLIR mode (call by call) .....	126
7.5	Data Link Control (DLC) layer procedures .....	126
7.5.1	DLC services .....	126
7.6	Medium Access Control (MAC) layer procedures .....	126
7.6.1	MAC services .....	126
7.6.2	Frame formats and multiplexers .....	127
7.6.3	Downlink broadcast .....	127
7.6.3.1	N <sub>T</sub> message .....	127
7.6.3.2	Q <sub>T</sub> - static system information .....	127
7.6.3.3	Q <sub>T</sub> - Fixed Part capabilities .....	127
7.6.3.4	Q <sub>T</sub> - Extended Fixed Part capabilities .....	127
7.6.3.5	Q <sub>T</sub> - Extended Fixed Part capabilities part 2 .....	127
7.6.3.6	Q <sub>T</sub> - SARI list contents .....	128
7.6.4	Paging broadcast .....	128
7.6.5	"no-emision" mode .....	128
7.7	Physical layer (PHL) requirements .....	128
7.7.1	Modulation .....	128
7.7.2	Slot type (Physical packets) .....	128
7.8	Requirements regarding the speech transmission .....	128
7.8.1	General .....	128
7.8.2	Speech codecs .....	129
7.8.3	Audio performance requirements .....	129
7.9	Management procedures .....	129
7.10	Application procedures .....	129
7.10.1	Easy PIN code and easy pairing registration .....	129
7.10.1.1	Easy PIN code registration .....	129
7.10.1.1.1	Searching mode and PIN code requests .....	129
7.10.1.2	Easy pairing registration .....	130
7.10.1.2.1	Easy pairing registration description .....	130
7.10.1.2.2	Base station limited registration mode .....	130
7.10.1.2.3	Searching mode request .....	130
7.10.1.3	Common procedures to easy PIN code and easy pairing .....	132
7.10.1.3.1	Registration mode automatic access .....	132
7.10.1.3.2	Base station name selection .....	133

7.10.1.3.3	Registration user feedback.....	135
7.10.2	Handset locator .....	135
<b>Annex A (normative):</b>	<b>System parameters.....</b>	<b>137</b>
A.1	Application timers .....	137
<b>Annex B (normative):</b>	<b>Procedure diagrams.....</b>	<b>138</b>
B.1	Events notification diagrams .....	138
B.1.1	Event notification when there is no existing connection .....	138
B.1.2	Event notification during existing connection .....	139
B.1.3	Event notification when the PP is switched on.....	139
B.1.4	Event notification using call connection .....	140
B.1.5	Event notification for "Missed call notification" .....	140
B.2	Date-time synchronization diagrams .....	141
B.2.1	Date-time synchronization when there is no existing connection .....	141
B.2.2	Date-time synchronization during existing connection .....	141
B.2.3	Date-time synchronization when the PP is switched on .....	142
B.2.4	Date-time synchronization using call connection.....	142
B.3	List access service basic sequence diagrams .....	142
B.3.1	Start/end session when PP is in idle mode .....	143
B.3.2	Start/end session when a call is already established to PP .....	144
B.3.3	Query supported entry fields .....	144
B.3.4	Read entries .....	145
B.3.5	Edit entry .....	146
B.3.6	Save entry .....	147
B.3.7	Delete entry .....	147
B.3.8	Delete list.....	148
B.3.9	Search entries .....	148
<b>Annex C (informative):</b>	<b>Recommended implementation of procedures.....</b>	<b>149</b>
C.1	General .....	149
C.2	Multiple lines diagrams .....	149
C.2.1	Attaching a new PP to one or several lines .....	149
C.2.2	Outgoing first call on a line .....	151
C.2.2.1	PP attached to 1 line.....	151
C.2.2.1.1	Line identification by "mono-line" PP .....	151
C.2.2.1.2	No line identification by "mono-line" PP: not relevant.....	151
C.2.2.2	PP attached to several lines.....	151
C.2.2.2.1	Line identification by PP using <<CALL-INFORMATION>> .....	151
C.2.2.2.2	Line identification by PP using the <<MULTI-KEYPAD>> .....	152
C.2.2.2.3	Line identification by PP immediately followed by call number (e.g. pre-dialling) .....	152
C.2.2.2.4	No line identification by PP: FP managed line selection .....	153
C.2.2.2.5	No line identification by PP and permanent FP-managed line selection.....	154
C.2.2.3	GAP PP.....	155
C.2.2.3.1	Line identification by GAP PP with backward compatible mechanism.....	155
C.2.2.3.2	No line identification by GAP PP: FP managed line selection .....	155
C.2.2.4	NG-DECT Part 1 PPs .....	155
C.2.2.4.1	Line identification by Part 1 PP with backward compatible mechanism .....	155
C.2.2.4.2	No line identification by Part 1 PP: FP managed line selection .....	156
C.2.3	First incoming call on a line .....	156
C.2.3.1	PP attached to 1 line.....	156
C.2.3.2	PP attached to several lines.....	156
C.2.4	Missed call on a specific line.....	157
C.2.5	Voice message waiting indication on a specific line .....	158
C.3	Multiple calls diagrams .....	158
C.3.1	First incoming call on the line or system.....	158
C.3.2	Second incoming call on the line or system .....	158
C.3.3	First outgoing call on the line or system.....	160



C.3.4	Second outgoing call on the line or system .....	161
C.4	Parallel calls complex or alternative diagrams .....	162
C.4.1	Call identification for outgoing parallel calls .....	162
C.4.1.1	All in one PP message - line identification by PP .....	162
C.4.1.2	All in one PP message - FP-managed line selection .....	163
C.4.1.3	Line pre-selection by PP - Manual dialling of called number .....	163
C.4.1.4	FP-managed line selection - Manual dialling of called number .....	164
C.4.1.5	Unsupported new outgoing parallel call .....	164
C.4.2	Incoming parallel calls .....	166
C.4.2.1	Two simultaneous incoming calls on two different lines .....	166
C.4.2.2	FP release of waiting call when remote party hangs up .....	167
C.4.2.3	Two incoming calls before user answers .....	167
C.4.3	Call waiting represented as first call when user hangs up .....	168
C.5	List access service use case examples .....	169
C.5.1	General .....	169
C.5.2	Use case: transfer number from missed call list to contact list .....	170
C.5.3	Use case: select and call internal party .....	172
C.5.4	Use case: select and call number from contact list .....	173
C.5.5	Use case: save entry with invalid format .....	174
C.5.6	Use case: read invalid start index .....	174
C.5.7	Use case: modify a PP internal name .....	175
C.6	List access service with voice calls (additional use cases and procedure diagrams) .....	176
C.6.1	General .....	176
C.6.2	List access when a voice call is already ongoing .....	176
C.6.2.1	Use case: Consult a list during a voice call .....	176
C.6.2.2	Use case: call transfer using internal names list (first call explicitly put on hold) .....	177
C.6.2.3	Use case: call transfer using internal names list (first call implicitly put on hold by internal call) .....	177
C.6.2.4	Use case: establishing a parallel call using contact list .....	179
C.6.3	Incoming voice call during list access session .....	179
C.6.3.1	Use case: incoming voice call during list access, previous connection released .....	179
C.6.3.2	Use case: incoming call during list access, managed as a parallel call, previous session ended .....	180
C.6.3.3	Use case: incoming voice call during list access, managed as parallel call, previous session not ended .....	181
C.7	DECT system settings diagrams .....	181
C.7.1	General .....	181
C.7.2	Modifying the PIN code .....	181
C.7.3	Resetting the base .....	183
C.8	Line settings diagrams .....	184
C.8.1	General .....	184
C.8.2	Changing the settings of a line .....	184
C.8.3	Changing the name of a line .....	187
<b>Annex D (informative): Services and features defined in other specifications .....</b>		<b>189</b>
D.1	Services and features defined in TS 102 527-1 (New Generation DECT; part 1) .....	189
D.1.1	New Generation DECT; part 1, Speech Services (clause 5.1 of TS 102 527-1) .....	189
D.1.2	New Generation DECT; part 1, Network (NWK) features (clause 5.2 of TS 102 527-1) .....	189
D.1.3	New Generation DECT; part 1, Data Link Control (DLC) services (clause 5.3 of TS 102 527-1) .....	189
D.1.4	New Generation DECT; part 1, Medium Access Control (MAC) services (clause 5.4 of TS 102 527-1) .....	190
D.1.5	New Generation DECT; part 1, Physical Layer (PHL) services (clause 5.5 of TS 102 527-1) .....	190
D.1.6	New Generation DECT; part 1, Speech coding and audio features (clause 5.6 of TS 102 527-1) .....	190
D.2	Services and features defined in EN 300 444 (GAP) .....	194
D.2.1	GAP Network (NWK) features (clause 4.1 of EN 300 444) .....	194
D.2.2	GAP Speech coding and audio features (clause 4.2 of EN 300 444) .....	195
D.2.3	GAP Application features (clause 4.3 of EN 300 444) .....	197
D.2.4	DLC service definitions (clause 5.1 of EN 300 444) .....	197
D.2.5	GAP MAC service definitions (clause 5.2 of EN 300 444) .....	198
D.3	GAP Feature/service to procedure mapping tables .....	198



D.3.1	GAP NWK feature to procedure mapping table (clause 6.8.1 of EN 300 444).....	199
D.3.2	GAP DLC service to procedure mapping table (clause 6.8.2 of EN 300 444).....	201
D.3.3	GAP MAC service to procedure mapping table (clause 6.8.3 of EN 300 444).....	202
D.3.4	GAP Application feature to procedure mapping table (clause 6.8.4 of EN 300 444).....	203
<b>Annex E (informative):</b>	<b>Bibliography.....</b>	<b>204</b>
History .....		205

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## Foreword

This Technical Specification (TS) has been produced by ETSI Project Digital Enhanced Cordless Telecommunications (DECT).

The present document is based on EN 300 175 parts 1 [1] to 8 [8] and EN 300 444 [12]. General attachment requirements and speech attachment requirements are based on EN 301 406 [11] (replacing TBR 006 [i.2]) and EN 300 176-2 [10] (previously covered by TBR 010 [i.3]). Further details of the DECT system may be found in TR 101 178 [i.1].

The present document has been developed in accordance to the rules of documenting a profile specification as described in ISO/IEC 9646-6 [13].

The information in the present document is believed to be correct at the time of publication. However, DECT standardization is a rapidly changing area, and it is possible that some of the information contained in the present document may become outdated or incomplete within relatively short time-scales.

The present document is part 3 of a multi-part deliverable covering the New Generation DECT as identified below:

- Part 1: "Wideband speech";
- Part 2: "Support of transparent IP packet data";
- Part 3: "Extended wideband speech services";**
- Part 4: "Software Update Over The Air (SUOTA) and Content Download".

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# 1 Scope

The present document specifies a set of functionalities of the New Generation DECT.

The New Generation DECT provides the following basic new functionalities:

- Wideband speech service (part 1).
- Packet-mode data service supporting Internet Protocol with efficient spectrum usage and high data rates (part 2).
- Extended wideband speech services (part 3).

All New Generation DECT devices will offer at least one or several of these services.

The present document describes the part 3: Extended wideband speech services:

- For the description of the wideband speech service, see TS 102 527-1 [21].
- For the description of the support of transparent IP packet data, see TS 102 527-2 [i.4].

The part 3 "Extended wideband speech services" is defined as an extension of part 1 "Wideband speech service". All devices compliant to part 3 specification (the present document) shall implement at least all mandatory features and may implement the optional features defined in part 1 "wideband speech". In addition to that, the present document defines additional mandatory or optional features.

The part 1, and therefore part 3, are also defined as extensions of the "Generic Access Profile (GAP)" [12]. All DECT devices offering Wideband speech services (part 1 or part 1 plus part 3) shall also be compliant with the "Generic Access Profile (GAP)" [12], and shall offer the DECT standard 32 kbit/s voice service according to GAP.

All DECT devices claiming to be compliant with this Application Profile will offer at least the basic services defined as mandatory. In addition to that, optional features can be implemented to offer additional DECT services.

The aim of the present document is to guarantee a sufficient level of interoperability and to provide an easy route for development of DECT wideband speech applications, with the features of the present document being a common fall-back option available in all compliant to this profile equipment.

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# 2 References

References are either specific (identified by date of publication and/or edition number or version number) or non-specific.

- For a specific reference, subsequent revisions do not apply.
- Non-specific reference may be made only to a complete document or a part thereof and only in the following cases:
  - if it is accepted that it will be possible to use all future changes of the referenced document for the purposes of the referring document;
  - for informative references.

Referenced documents which are not found to be publicly available in the expected location might be found at <http://docbox.etsi.org/Reference>.

For online referenced documents, information sufficient to identify and locate the source shall be provided. Preferably, the primary source of the referenced document should be cited, in order to ensure traceability. Furthermore, the reference should, as far as possible, remain valid for the expected life of the document. The reference shall include the method of access to the referenced document and the full network address, with the same punctuation and use of upper case and lower case letters.

NOTE: While any hyperlinks included in this clause were valid at the time of publication ETSI cannot guarantee their long term validity.

## 2.1 Normative references

The following referenced documents are indispensable for the application of the present document. For dated references, only the edition cited applies. For non-specific references, the latest edition of the referenced document (including any amendments) applies.

- [1] ETSI EN 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".
- [2] ETSI EN 300 175-2: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical layer (PHL)".
- [3] ETSI EN 300 175-3: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".
- [4] ETSI EN 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".
- [5] ETSI EN 300 175-5: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".
- [6] ETSI EN 300 175-6: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".
- [7] ETSI EN 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".
- [8] ETSI EN 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech and audio coding and transmission".
- [9] Void.
- [10] ETSI EN 300 176-2: "Digital Enhanced Cordless Telecommunications (DECT); Test specification; Part 2: Speech".
- [11] ETSI EN 301 406: "Digital Enhanced Cordless Telecommunications (DECT); Harmonized EN for Digital Enhanced Cordless Telecommunications (DECT) covering essential requirements under article 3.2 of the R&TTE Directive; Generic radio".
- [12] ETSI EN 300 444: "Digital Enhanced Cordless Telecommunications (DECT); Generic Access Profile (GAP)".
- [13] ISO/IEC 9646-6: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 6: Protocol profile test specification".
- [14] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".
- [15] ITU-T Recommendation G.726 (12/1990): "40, 32, 24, 16 kbit/s Adaptive Differential Pulse Code Modulation (ADPCM)".
- [16] ITU-T Recommendation G.711 (11/1988): "Pulse code modulation (PCM) of voice frequencies".
- [17] ITU-T Recommendation G.722 (11/1988): "7 kHz audio-coding within 64 kbit/s".
- [18] ITU-T Recommendation G.729.1 (05/2006): "G.729 based Embedded Variable bit-rate coder: An 8-32 kbit/s scalable wideband coder bitstream interoperable with G.729".
- [19] ISO/IEC JTC1/SC29/WG11 (MPEG): International Standard ISO/IEC 14496-3:2005/AMD 1:2007: "Coding of audio-visual objects - Part 3: Audio; AMENDMENT 1: Low Delay AAC profile".

- [20] ISO/IEC JTC1/SC29/WG11 (MPEG): International Standard ISO/IEC 14496-3:2005: "Information Technology - Coding of audio-visual objects – Part 3: Audio".
- [21] ETSI TS 102 527-1: "Digital Enhanced Cordless Telecommunications (DECT); New Generation DECT; Part 1: Wideband Speech".
- [22] ETSI TS 122 072: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Call Deflection (CD); Stage 1".
- [23] Void.
- [24] ETSI TS 122 081: "Digital cellular telecommunications system (Phase 2+); Universal Mobile Telecommunications System (UMTS); Line Identification supplementary services; Stage 1".

## 2.2 Informative references

The following referenced documents are not essential to the use of the present document but they assist the user with regard to a particular subject area. For non-specific references, the latest version of the referenced document (including any amendments) applies.

- [i.1] ETSI TR 101 178: "Digital Enhanced Cordless Telecommunications (DECT); A high Level Guide to the DECT Standardization".
- [i.2] ETSI TBR 006: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements".
- [i.3] ETSI TBR 010: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements: Telephony applications".
- [i.4] ETSI TS 102 527-2: "Digital Enhanced Cordless Telecommunications (DECT); New Generation DECT; Part 2: Support of transparent IP packet data".
- [i.5] ITU-T Recommendation P.311 (06/2005): "Transmission characteristics for wideband (150-7000 Hz) digital handset telephones".
- [i.6] ITU-T Recommendation G.729: "Coding of speech at 8 kbit/s using conjugate structure algebraic-code-excited linear prediction (CS-ACELP)".

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## 3 Definitions, symbols and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 300 444 [12] and the following apply:

**CALL-INFORMATION completeness principle:** independently of the line identification requirements themselves, a party (PP or FP) that implements both the "Line identification" feature and the "Call identification" feature, shall - when it must send a call identifier for an external call-also send the identifier of the line used for this external call together with the call identifier, in the same <<CALL INFORMATION>> information element

NOTE: This only applies if the line identifier is available at the time of sending.

**FP-managed line selection:** mode for an outgoing external call, in which the PP does not send any line identifier to the FP

NOTE: PPs implementing the "Line identification" feature may use this mode. PPs not implementing the "Line identification" feature (PPs compliant with NG-DECT Part 1 (TS 102 527-1), GAP (EN 300 444) and PPs compliant with the present document not implementing the feature) are also said to (always) implicitly use FP-managed line selection.