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Information tones on the Telenet PSTN interface

Telenet

Reference

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Keywords

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Contents

1. Scope

This document describes the supervisory tones generated by the Telenet network and gives general information about Telenet network announcements. Tones and announcements encountered on the Telenet network can originate from other networks and from customer premises equipment. These tones and announcements are not covered in this document.

2. References

[1] ETSI EG 201 188 V1.1.1 (1999-06)
Public Switched Telephone network (PSTN); Network Termination Point (NTP) analogue interface; Specification of physical and electrical characteristics at a 2-wire analogue presented NTP for short to medium length loop applications.

[2] ETSI Technical Standard ETS 300 001, January 1997, fourth edition:
"Attachment to Public Switched Telephone Network (PSTN); General technical requirements for equipment connected to an analogue subscriber interface in the PSTN".

[3] ITU-T Recommendation E.182: "application of tones and recorded announcements in telephone services"

[4] Telenet Specification: TS-101: Specification of physical and electrical characteristics at the 2-wire analogue presented NTP on the Telenet network.

3. Definitions, symbols and abbreviations

3.1. Definitions

For the purposes of the present document, the following terms and definitions apply:

Announcement	An audible indication in the form of speech, utilized for information, instructions and guidance in the telephone service.
Busy tone	A tone advising the caller that the telephone is busy .
Cadence	The pattern of sound/silence in a tone which gives it a characteristic rhythm.
Call forwarding tone	Informs the caller that the call is being forwarded to a user other than the person normally called.
Call waiting tone	A tone advising the user of the call waiting supplementary service who is engaged on a call that someone is attempting to call his number.
Congestion tone	A tone advising the caller that the groups of lines or switching equipment necessary for the setting-up of the required call or for the use of a specific service are temporarily.
Cut-in tone	Superimposed over a telephone conversation informing the correspondents that a third party is cutting into the conversation.
Dial tone	A tone advising that the exchange is ready to receive call information and inviting the user to start sending call information.
Frequency	The characteristic of a telephone tone that determines its pitch, expressed in hertz.
Hold tone (tone on hold)	A tone asking the user to wait when his line has been placed on hold.
Ringing tone	A tone advising the caller that a connection has been made and that a calling signal is being applied to a telephone number or service point .
Routing tone	Informs the caller that his call is in the process of being connected.
Special dial tone	A tone advising that the exchange is ready to receive call information and inviting the user to start sending call information, at the same time reminding the user that special conditions apply to the termination from which the call is being made .
Special information tone	A tone advising the caller that the called number cannot be reached for reasons other than “subscriber busy” or “congestion”. The tone may also be used in conjunction with recorded announcements to signify that what the caller is about to hear is a recording It should always be used to precede all call failure announcements .
Tone	A tone is an audible indication comprising a small number of discrete frequencies, but excluding speech.

3.2. Symbols

For the purposes of the present document, the following symbols apply:

dBm decibel relative to 1 mW

3.3. Abbreviations

For the purposes of the present document, the following abbreviations apply:

NTP Network Termination Point
PSTN Public Switched Telephone Network
TE Terminal Equipment

4. Supervisory signals

4.1. Supervisory tones

The following types of supervisory tone are provided:

a) dial tone;

b) ring tone;

c) busy tone;

d) release tone;

e) number unobtainable tone.

4.2. Additional supervisory tones

The following additional supervisory tones are also provided:

a) special dial tone;

b) stutter dial tone;

c) special information tone;

d) special confirmation tone; (for example after deactivating call forwarding)

e) routing tone;

f) call waiting tone;

g) congestion tone;

h) On-hold tone;

i) cut-in tone;

j) call forwarding tone;

k) release tone.

4.3. Tone levels, Cadences and frequencies

This table contains the tone levels, frequencies and the cadences for the available tones at the NTP.

Tone	Level	Frequency	Cadence
Dial tone	-4.5 dBm0 ± 0.5 dBm0	425 Hz ± 5 Hz	Continuous
Immediate Ringing tone	-4.5 dBm0 ± 0.5 dBm0	425 Hz ± 5 Hz	t_{on} : 350 ms ± 100 ms (one tone burst) not repeated
Audible Ring Tone	-4.5 dBm0 ± 0.5 dBm0	425 Hz ± 5 Hz	t_{on} : 1000 ms ± 100 ms t_{off} : 3000 ms ± 100 ms repeated pattern
Busy tone	-4.5 dBm0 ± 0.5 dBm0	425 Hz ± 15 Hz	t_{on} : 500 ms ± 10% t_{off} : 500 ms ± 10% repeated pattern
Routing tone	-11 dBm0 ± 2 dBm0	440 Hz ± 2%	t_{on} : 50 ms ± 10% t_{off} : 50 ms ± 10% repeated pattern
Special dial tone	-4.5 dBm0 ± 0.5 dBm0	425 Hz ± 5 Hz	t_{on} : 1000 ms ± 50 ms t_{off} : 250 ms ± 50 ms repeated pattern
Stutter dial tone	-4.5 dBm0 ± 0.5 dBm0	425 Hz ± 5 Hz	1) t_{on} : 1000 ± 100 ms 2) t_{off} : 40 ± 5 ms 3) t_{on} : 40 ± 5 ms 2), 3) repeated pattern during 9 seconds 4) t_{on} : continuous
Special information tone	-4.5 dBm0 ± 0.5 dBm0 per frequency	950 Hz ± 50 Hz 1400 Hz ± 50 Hz 1800 Hz ± 50 Hz	$t_{on, 950\ Hz}$: 330 ms ± 70 ms $t_{on, 1400\ Hz}$: 330 ms ± 70 ms $t_{on, 1800\ Hz}$: 330 ms ± 70 ms t_{off} : 1000 ms ± 250 ms repeated pattern
Special confirmation tone	-4.5 dBm0 ± 0.5 dBm0	425 Hz ± 5 Hz	t_{on} : 40 ms ± 5 ms t_{off} : 40 ms ± 5 ms
Call waiting tone	-15 dBm0 ± 2 dBm0	1400 Hz ± 50 Hz	t_{on} : 175 ms ± 75 ms t_{off} : 175 ms ± 75 ms t_{on} : 175 ms ± 75 ms t_{off} : 3500 ms ± 1500 ms repeated pattern
Congestion tone	-4.5 dBm0 ± 0.5 dBm0	425 Hz ± 5 Hz	t_{on} : 167 ms ± 12 ms t_{off} : 167 ms ± 12 ms repeated pattern
Hold tone	-15 dBm0 ± 2 dBm0	1400 Hz ± 50 Hz	t_{on} : 400 ms ± 10% t_{off} : 15000 ms ± 10% repeated pattern

Cut-in tone	-11 dBm0 ± 2 dBm0	440 Hz ± 2%	t_{on} : 200 ms ± 10% t_{off} : 200 ms ± 10% t_{on} : 200 ms ± 10% t_{off} : 1400 ms ± 10% repeated pattern
Call forwarding tone	-16 dBm0 ± 2 dBm0	1700 Hz ± 2%	t_{on} :2000 ms ± 10% not repeated

Table 1: Levels, frequencies and cadences of the information tones.

ANNEX A: Supported announcements

Ann. Nr.	Treatment	Announcement
002	Incorrect number	Er is geen aansluiting op dit nummer. Gelieve uw gegevens na te kijken.
003	Fault occurred	Er heeft zich een fout voorgedaan. Gelieve opnieuw te beginnen.
004	Subscriber temporarily out of service	Het door U gevormde nummer is tijdelijk buiten dienst. Gelieve ons te verontschuldige voor dit ongemak.
005	No Answer	Het door U gevormde nummer geeft momenteel geen antwoord. Gelieve later opnieuw te proberen.
006	Busy	Het door U gevormde nummer is momenteel bezet. Gelieve later opnieuw te proberen.
007	Not available	Het door U gevormde nummer is niet beschikbaar.
008	Other person cleared	Uw gesprekspartner heeft het gesprek beëindigd.
010	Subscriber disturbed	Het door U gevormde nummer is momenteel gestoord. Gelieve ons te verontschuldigen voor dit ongemak.
106	Connection establishment	Gelieve even geduld te hebben. We verbinden U door.
197	Faulty handset	Gelieve de klantendienst te bellen. Uw toestel is momenteel defect.
047	Call not allowed	Uw oproep is niet toegelaten vanop deze aansluiting.
448	Invalid account code	U heeft een foutief gebruikersnummer opgegeven.
449	Invalid authorization code	U heeft een foutief geheim nummer opgegeven.

450	**Invalid feature authorization code**	**U heeft een foutieve activatiecode opgegeven.**
453	**Account code request**	**Gelieve uw gebruikersnummer op te geven.**
454	**Autorization code request**	**Gelieve U geheim nummer op te geven.**

ANNEX B: Timers

The timer for supervision of interdigit time for calls from analog subscriber lines is 12s ± 0,1s. When the interdigit time supervision timer has elapsed, a busy tone is sent for 5s before the line circuit goes into parking state without any tone.

Timer	Definition	Timer value	Action upon expire
T_p	Primary time supervision in the originating exchange.	Before answer of B-party : 5 ± 0.5 min After answer of B-party : 1.5 ± 0.5 min	Sending of a busy tone for 5 sec.
T_s	Safeguard time supervision in the destination exchange.	Before answer of B-party : 7 ± 0.5 min After answer of B-party : 5 ± 0.5 min After suspend of user : 5 ± 0.5 min	
T_{ann}	Announcement supervision timer		Sending of a busy tone for 5 sec.

Table : Timers used in the Telenet network.

History

Document history		
Version	**Date**	**Milestone**
1p1	27/03/2000	First Draft, Internal Telenet Review Only
1p2	15/06/2000	Second draft
1	16/06/2000	First released version
2	09/04/2000	Second released version