

## Swedish tones in public communications networks

This document describes the tones used in Swedish public electronic communications networks.

## Reference

ITS WG NI

## Keywords

National Interconnections, tones, timers.

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## Foreword

This Application Guide has been produced by ITS Working Group Network Interworking (WG NI).

## 1. Introduction

This Application Guide will be released in its first edition which describes the different tones used in Swedish public electronic communications networks.

## 2. Scope

This Application Guide describes the different tones audible to the caller and the called subscribers in Swedish public electronic communications networks.

## 3. General overview

The different tones used in Swedish public electronic communications networks has never been documented in any official Swedish document except for GSM networks in SS 63 63 63, a Swedish Standard that will be withdrawn after the sunset of GSM in Sweden.

There exist some listings in international documents (e.g. from ITU-T) and this is the first official Swedish document covering the subject.

This application guide is not intended to create any material change, only to document the current state.

## 4. References

The following informative documents contain provisions, which through reference in this text constitute provisions of this Application Guide. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this Application Guide are encouraged to investigate the possibility of applying the most recent editions of the informative documents indicated below. For undated references, the latest edition of the informative document referred to apply.

[1] SS 63 63 63	European digital cellular telecommunications system, GSM – Requirements on tone messages sent from a GSM network connected to a PSTN
[2] ITU-T E.105	International Telephone Service
[3] ITU-T E.180/Q.35 (03/98)	Technical characteristics of tones for the telephone service
[4] ITU-T E.182 (03/98)	<b>Application of tones and recorded announcements in telephone services</b>
[5] ITU-T Supplement 2 (Series E)(01/94)	Various Tones used in National Networks - <a href="https://www.itu.int/dms_pub/itu-t/opb/sp/T-SP-E.180-2010-PDF-E.pdf">https://www.itu.int/dms_pub/itu-t/opb/sp/T-SP-E.180-2010-PDF-E.pdf</a>
[6] ETSI TS 100 512 (GSM 02.40)	Digital cellular telecommunications system; Procedure for call progress indications
[7] 3GPP TS 22.001 Release 17	Digital cellular telecommunications system (Phase 2+)(GSM); Universal Mobile Telecommunications System (UMTS); Principles of circuit telecommunication services supported by a Public Land Mobile Network (PLMN);
[8] ETSI TR 101 041-1 V1.1.1(1997-05)	Human Factors (HF); European harmonization of network generated tones; Part 1: A review and recommendations
[9] ETSI TR 101 041-2 V1.1.1(1997-05)	Human Factors (HF); European harmonization of network generated tones; Part 2: Listing and analysis of European, World and Standardized tones
[10] GSMA IR.92	IMS Profile for Voice and SMS - <a href="https://www.gsma.com/newsroom/wp-content/uploads/IR.92-v15.0-4.pdf">https://www.gsma.com/newsroom/wp-content/uploads/IR.92-v15.0-4.pdf</a>

## 5. Terms and definitions

**Tone:** A audible tone to the caller or the called subscriber, created in the handset or the network.

**Announcement:** Voice message instead of or after a tone.

**UE:** User equipment used by a subscriber, typically a fixed phone or mobile phone.

## 6. Abbreviations

ApG	ITS Application Guide
PLMN	Public land Mobile Network
PSTN	Public Switched Telephone Network
UE	User Equipment

## 7. List of tones

Tone name	Frequency (Hz)	Cadence (seconds) (on – off)
Dial Tone	425	<b>Continuous</b>
Ringing Tone	425	<b>1.0 – 5.0</b>
	425	<b>1.0 – 4.0</b>
Busy Tone	425	<b>0.25 – 0.25</b>
	425	<b>0.50 – 0.50</b>
Congestion Tone	425	<b>0.25 – 0.75</b>
	425	<b>0.20 – 0.20</b>
Special Information Tone	950/1400/1800	<b>3 x 0.330 – 2.0,</b> <b>3 x 0.330 – 1.0</b> [+ verbal announcement]
Call Waiting Tone	425	<b>0.2 – 0.5 – 0.2</b> (only once)
	425	<b>0.2 – 0.6 – 0.2 – 3.0 – 0.2 – 0.6 – 0.2</b>
Special Dial Tone	425	<b>0.32 – 0.02</b>
Warning Tone – Operator Intervening	1400	<b>0.1 – 1.5</b>
Warning Tone – Three Part Conference	1400	<b>0.35 – 15.0</b>
Warning Tone – at Time Limit Barring	425	<b>2.0 – 6.0 – 2.0 – 1.0</b> [disconnect call]

## 8. Swedish translation

Swedish translation of names of tones

English name	Swedish name
Dial Tone	Kopplingston
Ringing Tone	Rington / Pårington
Busy Tone	Upptagetton

Congestion Tone	Spärrton
Special Information Tone	Hänvisningston
Call Waiting Tone	Samtal väntar-ton
Special Dial Tone	Speciell kopplingston
Warning Tone – Operator Intervening	Varningston vid telefonistpåkoppling
Warning Tone – Three Part Conference	Varningston vid trepartssamtal
Warning Tone – at Time Limit Barring	Varningston vid tidsbegränsat samtal

## 9. Document history

Edition	Date of publication	Changes
1	November 2023	First edition