



Telecommunications equipment – Subscriber equipment – Attachment requirements for analogue connection to a public switched telephone network – Amendment 2

Telekommunikationsutrustning – Abonentutrustning – Tekniska krav för analog anslutning av abonentutrustning till ett allmänt tillgängligt telefontät – Tillägg 2

Introduction

This amendment refers to Edition 2 of SS 63 63 42. It aligns the Swedish voice telephony requirements with EN 301 437. This amendment replaces the amendment SS 63 63 42 T1.

1 New wordings

In clause:

0 Introduction

Replace the first two sentences with:

This standard is based on ETSI TBR 21 [8] and ETSI EN 301 437 [9].

Replace the last sentence with:

Guidance for connection of terminal equipment in series and/or parallel may be found in ETSI EG 201 120 [11].

In clause:

2 Normative references

Insert the following references:

[5] G.101 The transmission plan

[6] P.51 Artificial mouth

[7] P.38 Transmission characteristics of Operator Telephone Systems (OTS)

ETSI standards

[8] TBR 21 Terminal Equipment (TE) ; Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE (excluding TE supporting the voice telephony service) in which network addressing, if provided, is by means of Dual Tone Multi Frequency (DTMF) signalling.

- [9] EN 301 437 Terminal Equipment (TE) ; Attachment requirements for pan-European approval for connection to the analogue Public Switched Telephone Networks (PSTNs) of TE supporting the voice telephony service in which network addressing, if provided, is by means of Dual Tone Multi Frequency (DTMF) signalling.
- [10] TBR 38 Public Switched Telephone Network (PSTN); "Attachment requirements for a terminal equipment incorporating an analogue handset function capable of supporting the justified case service when connected to the analogue interface of the PSTN in Europe".
- [11] EG 201 120 Public Switched Telephone Network (PSTN) ; Method of rating terminal equipment so that it can be connected in series and/or in parallel to a Network Termination Point (NTP)

In subclause:

4.4.2 Impedance for ringing signals

The last word in the note shall read: 12k Ω .

In subclause:

4.7.3 Sending power limitations

Remove the text: "where the output signal is generated electrically within the TE" from the title.

In subclause:

4.7.3.1 Mean sending levels

Add the following after the requirement part:

For voice telephony terminals: When stimulated by a Pseudo Speech Signal at a level defined in A.3.4.2, table A.0, the mean sending level in the frequency range 200 Hz to 3 800 Hz over a one-minute period shall not be greater than -9 dBm when the TE interface is terminated with the reference impedance Z_R . This requirement does not apply to DTMF signals. TE meeting the requirements of TBR 38 [10] Clauses 4.2.1.1 and 4.2.2.1 shall be deemed to be compliant with the requirements of this clause.

In subclause:

4.7.3.2 Instantaneous voltage

Add the following after the requirement part:

For voice telephony terminals: During DTMF signalling and when stimulated with the Pseudo Speech Signal at a level defined in A.3.4.2, table A.0, column "5 Vpp", the peak to peak voltage measured in the frequency band 100 Hz to 20 kHz shall not exceed 5,0 V when the TE interface is terminated with the reference impedance Z_R .

NOTE: It is recognised that due to the statistical nature of speech signals, the peak to peak voltage level could under some circumstances of real use exceed 5 V. It is recommended that when stimulated with the Pseudo Speech Signal at a level of +10 dBPa, the peak to peak voltage measured in the frequency band 100 Hz to 20 kHz should not exceed 8,0 V when the TE interface is terminated with the reference impedance Z_R .

In subclause:

4.7.3.3 Voltage level in a 10 Hz bandwidth

Add the following after the requirement part:

For voice telephony terminals: No requirement for Voice telephony terminals.

NOTE: Voice telephony terminals meeting Clauses 4.7.3.1 and 4.7.3.2 shall be deemed to be compliant with the requirements of this clause.

In subclause:

4.7.3.4 Sending levels above 4,3 kHz

Add the following after the requirement part:

For voice telephony terminals: The requirement above shall apply when the TE is stimulated with the Pseudo Speech Signal at a level defined in A.3.4.2, table A.0

After Table 5, add the following note:

NOTE: The power level (in dBm) refers to the absolute value of the measuring impedance at 1020 Hz (cf. 3.1.7).

In subclause:

4.7.4 Sending power limitations in case the output signal is generated in real time from an integral acoustic source

Delete subclause 4.7.4.

In subclause:

4.7.5.2 Output Signal Balance

Add the following after the requirement part:

For voice telephony terminals: The requirement above shall apply when the TE is stimulated with the Pseudo Speech Signal at a level defined in A.3.4.2, table A.0

In Annex A:

A.1 Scope

Replace last word on first line with TE.

Insert a new clause:

A.3.4 Voice signal to be used during test

A.3.4.1 Signal

Pink Noise: For the purpose of testing analogue voice-band interfaces of terminals, the pink noise test signal is band limited to the frequency range 200 Hz to 3 800 Hz.

- a) Where analogue filters are used, the slopes of the band limiting filter shall be at least 24 dB/octave and the out-of-band attenuation shall be at least 25 dB (see Figure A.1a).
 - The 1/3 octave spectrum of the electrically generated pink noise shall be equalised to within ± 1 dB, while the acoustically generated pink noise shall be equalised (in free field) to within ± 3 dB.

NOTE: When measured with 1/3 octave bandwidth at standard frequencies, an ideal filtered pink noise signal will be attenuated 1,1 dB at 200 Hz and 0,9 dB at 4 kHz compared to a non-filtered pink noise signal.

- b) Where digital filters are used the detail of a) above applies, but with the 3dB attenuation points set at 225 Hz and 3563 Hz instead of 200Hz and 3800Hz.

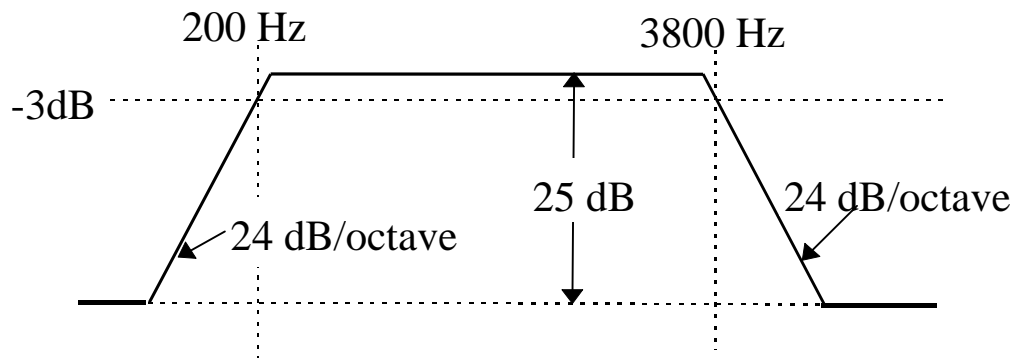


Figure A1.a – Response for band-limiting filter

Pseudo Speech Signal: This is a speech test signal (see definition below) with 11 cycles and then followed by a period of 5,6 s ± 20 ms OFF giving an activity ratio of approximately 28%.

NOTE 1: The total OFF time after the 11th ON burst will be 5,75 s.

NOTE 2: The timing tolerances given above will result in a tolerance for the r.m.s. level of ± 0,1 dB.

This Pseudo Speech Signal is repeated for as long as is necessary for any measurements to be made. Where the supplier declares that the Pseudo Speech Signal is not appropriate for the intended use of the TE, an alternative test signal may be specified by the supplier providing that the overall activity ratio during a one minute period shall be within the range of 23% to 33%. Any alternative signal shall be adjusted to give the same r.m.s. level over a one minute period as the level for the Pseudo Speech Signal.

Speech Test Signal: A band-limited pink noise signal (see definition above) that is continuously modulated to be ON for a period of 250 ms ± 5 ms and OFF for a period of 150 ms ± 5 ms. The signal level specified refers to the level of the signal during the ON period.

A.3.4.2 Levels

Table A.0: Input signal levels

Type of TE	Stimulus generating device	Stimulated point	Input signal level at stimulated point during ON period		Example
			Nominal	5 Vpp	
			A.4.7.3.1, A.4.7.3.4 and A.4.7.5.2	A.4.7.3.2	
TE with handset or headset	Artificial mouth	Microphone at MRP	-4,7 dBPa	+0 dBPa	
Handsfree TE	Artificial mouth	Microphone at HFRP	-28,7 dBPa	-24 dBPa	
TE that delivers to the PSTN speech signals received from the network via an analogue TCP	Analogue NTP simulator	TCP	-12 dBVemf	-7 dBVemf	Answering machine that records speech from an analogue PSTN line
TE that delivers to the PSTN speech signals received from the network via a digital TCP	Digital NTP simulator	Digital TCP	-12,5 dBm0	-7,5 dBm0	Answering machine that records speech from a digital PSTN line
TE that delivers to the PSTN speech signals received at an analogue ICP	Analogue TCP simulator	ICP	-4 dBVemf	+1 dBVemf	Voice mail on a PBX that delivers speech which was previously recorded from a analogue extension line
TE that delivers to the PSTN speech signals received at a digital ICP	Digital TCP simulator	Digital ICP	-12,5 dBm0	-7,5 dBm0	Voice mail on a PBX that delivers speech which was previously recorded from a digital extension line
TE that delivers to the PSTN signals received at an auxiliary input	External equipment	Aux. input	According to manufacturer's instructions		Speech signals from external equipment

NOTE 1: The analogue NTP and TCP simulators shall be generators presenting a source impedance of Z_R defined in figure A.1. Equalisation and level calibration of the pink noise signal shall be done with the simulator disconnected from the load.

NOTE 2: A level in dBm0, as specified for stimulation at digital interfaces, is the level expressed in dB with respect to the 0 dB_r point as defined in ITU-T Recommendation G.101 [5].

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As an aid to the understanding of the table A.0 above, Figure A.1b is given.

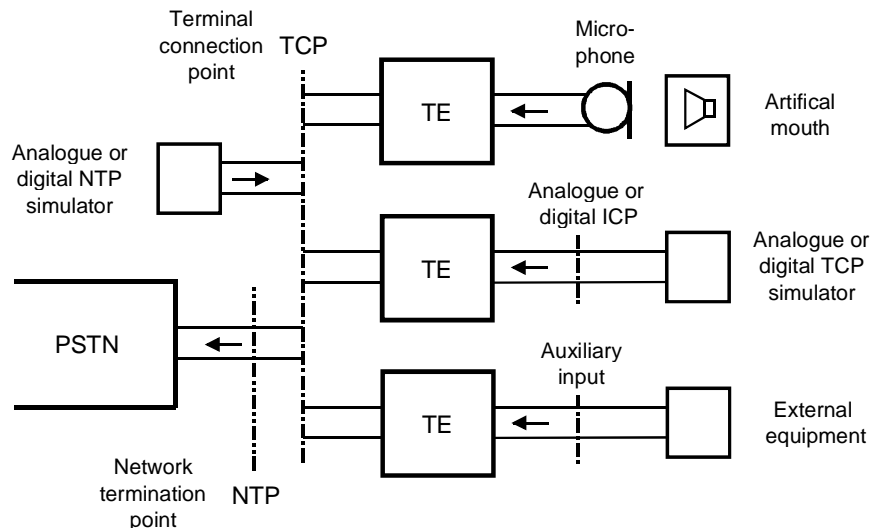


Figure A.1b – Input signals

A.3.4.3 Electro-acoustic interfaces

A.3.4.3.1 Handset

Mouth Reference Point (MRP): Generally the appropriate Mouth Reference Point from ITU Recommendation P.64 [2] shall be used. Where a supplier has declared that the ITU MRP would be inappropriate for the intended use of the TE, then the microphone positioning described by the supplier shall be applied.

A.3.4.3.2 Hands-free

Hands-Free Reference Point (HFRP): A point located on the axis of the artificial mouth, at 50 cm from the lip ring, where the level calibration is made in free field. It corresponds to the measurement point n° 11, as defined in ITU-T Recommendation P.51[6].

A.3.4.3.3 Headset

For headsets the same measuring methods apply as for handsets. If the microphone positioning for testing is not defined by the manufacturer, it will correspond to the "corner of the mouth" position as defined in the ITU-T Recommendation P.38 [7], clause 1, Note.

A.3.4.3.4 Other interfaces

TE with other transducers arrangements shall be tested in accordance with the manufacturer's instructions.

In subclause:

A.4.4.1 DC Resistance

In the purpose, add the Ω symbol after 1 M

In subclause:

A.4.4.4 Resistance to earth

DC feeding arrangement: Feed resistance: 850 Ω .

In subclause:

A.4.7.3 Change title to: **Sending power limitations**

In subclause:

A.4.7.3.1 Mean sending levels

Add the following text to the test state and measurement points:

,or stimulated using the appropriate test signal.

Add the following text to the 1st sentence in the measurement execution part:

,or simulated by applying a Pseudo Speech Signal at the nominal excitation level.

In subclause:

A.4.7.3.2 Instantaneous voltage

Add the following text to the test state:

,or stimulated using the appropriate test signal.

Replace the text under measurement points by the following:

The TE is operated in accordance with its intended use to:

- send representative combinations of its declared output signals, or;
- be exercised to send to line DTMF signals, or;
- be stimulated using the appropriate test signal.

In subclause:

A.4.7.4 Sending power limitations in case the output signal is generated in real time from an integral acoustic source

Delete subclause A.4.7.4.

In subclause:

A.4.7.5.2 Output Signal Balance

Replace the text in the measurement execution part with the following:

The TE is set in the loop state transmitting DTMF characters or other representative signals to the line, or stimulated using the appropriate test signal.

In Annex B:

Table B.1 – Conditions table

Add a new condition C.15:

<i>Reference</i>	<i>Condition</i>	<i>Status</i>	<i>Support (Y/N)</i>	<i>Comment</i>
C.15	Is the TE equipped with an internal signal generator?	If YES then M else N		

Table B.2 – Requirements table

Amend the requirements R.11 - R.14 as follows:

<i>No.</i>	<i>Subclause</i>	<i>Requirement in this standard Title</i>	<i>Status</i>	<i>Support (Y/N)</i>
R.11	4.7.3.1	Mean sending levels	C.14 and C.15	
R.12	4.7.3.2	Instantaneous voltage	C.6 and C.14 or C.15	
R.13	4.7.3.3	Power level in a 10 Hz bandwidth	C.15	
R.14	4.7.3.4	Sending power level above 4,3 kHz	C.6 and C.14 or C.15	

In Annex C:

Replace ETS 300 001 with EN 300 001.