COVERING NOTE

GENERAL SECRETARIAT INTERNATIONAL TELECOMMUNICATION UNION

Subject: **Erratum**

Geneva, 7 December 2000

Recommendation ITU-T G.108 (09/99)

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

ITU-T Recommendation G.108 (09/99)

Application of the E-model: A planning guide

1. The following Table of Figures and Table of Tables should be inserted under "Contents".

TABLE OF FIGURES

Union internationale des télécommunications
Place des Nations 1211 GENÈVE 20 Suisse – Switzerland – Suiza

TABLE OF TABLES

2. Item d) of the Introduction should read:

"Planning of private networks is more complex than single PBX-configurations, therefore sufficient (tutorial) information about the planning and calculation methods needs to be provided."

3. Subclause 4.5.3: the second sentence of the 4th paragraph should read:

"A variety of multiplexing systems is in use in the existing networks:"

4. Subclause 7.3.2.3: the last sentence of the 2nd paragraph should read:

"Thus, the maximum delay attributable to codec-related processing in IP based systems operating in real-time is:"

5. Subclause 7.5: the last sentence of the last paragraph should read:

"For coding laws other than A-law/μ-law (e.g. according to Recommendations G.726, G.727 or G.728), the parameter qdu is, for transmission planning, replaced by the equipment impairment factor (Ie) (see 7.6)."

6. Subclause 7.6: 2nd sentence should read:

'In contrast to the quantization distortion due to the standard 8 bit PCM coding (A-law or μ-law), these impairments can not readily be quantified with a number of qdu.'

7. Subclause 7.8: 2nd sentence of the second paragraph should read:

"Therefore, the advantage factor A should be used with care and with respect to the business interest of the private network customer, where users may judge specific advantages in telecommunication with another degree than in the usual private domain."

8. Subclause 7.10.4: the last sentence of the first paragraph should read:

"For analogue telephone sets, STMR, and to some extent LSTR, depend on the degree of matching between the balance impedance of the telephone circuit and the input impedance of the terminating line interface in the PBX in conjunction with the impedance of the ports interfacing 2-wire facilities."

9. Subclause 7.10.5: 4th sentence should read:

"The room noise in normal office environment, as it can be assumed for the business domain of private networks, can be expected in a range of 30 to 50 dB(A)."

10. Subclause 7.10.6: 1st sentence of the last paragraph should read:

"Nevertheless, it should be observed that these types of artificially generated noise, as stated above, are of a substantially different nature than traditional noise-related parameters which are taken account of by the E-Model."

11. Subclause 7.10.7: 1st sentence should read:

"In case that a digital sequence, which has been transmitted does not (or with errors) arrive at the destination, it is a common method for data transmission to notify the sender of this fact and to initiate a second transmission of the same sequence."

12. Subclause 7.10.7: 2nd sentence of the second-to-last paragraph should read:

"With respect to the first and second type of FEC, as listed afore, their properties are part of the respective Standards and their effectiveness is included in the equipment impairment factor (Ie) for such codecs under errored conditions (see Tables 2b and 2c)."

13. Subclause 8.2.2: the following sentence should be inserted after the 2nd sentence in the 4th paragraph:

"For illustration, the cordless telephone is one conforming to the DECT standard [50, [53]."

14. Subclause 8.2.2: 1st sentence of the 5th paragraph should read:

"Cordless telephones conforming to the DECT standard [50], [53] insert an additional mean one-way delay of approximately 14 ms between acoustic interface of the portable part and the network interface of the fixed part (see Table A.1)."

15. Subclause 8.2.2: 3rd sentence of the 5th paragraph should read:

"Therefore, the DECT standard requires precautions to suppress the reflected signal, via the use of an Echo Canceller (EC), together with a Soft Suppressor (SS)."

16. Subclause 8.2.2: the last sentence of the 5th paragraph should read:

"More detailed information about echo control in DECT cordless telephones is provided in Annex C."

17. Subclause 8.2.2: 2nd sentence of 6th paragraph should read:

"Figure 16 shows in more detail the relevant components for echo control in a DECT terminal, most of which reside in the fixed part."

18. Subclause 8.5: 2nd sentence should read:

"In contrast to the standard PCM coding and decoding according to the A-law or μ-law (Recommendation G.711 [15]), these impairments are expressed in terms of "equipment impairment factor" (Ie), instead of Quantization distortion units (qdu)."

19. Subclause 9.5: the brackets should be removed in the 13th paragraph to read as follows:

"Calculations for the configuration and values of Figure 15 result in values for the round-trip delay, Tr = 28 ms and for the weighted echo path loss WEPL = 54 dB."

20. Subclause 9.5: the brackets should be removed in the 14th paragraph to read as follows:

"As explained in 7.3, the absolute one-way delay (Ta) causes major impairments only when the delay exceeds 150 ms, i.e. the value for the absolute delay, Ta = 28 ms, for the configuration of Figure 15 will have no influence on the result."

21. Subclause 9.5: the 4th sentence of the last paragraph should read:

"The minimum value of echo loss enhancement according to the DECT Standard [50], [53], for example, is 6.5 dB."

22. Subclause 9.7: the 1st sentence of Note 1 should read:

"For the calculations shown in this Recommendation the algorithm of the E-Model has been taken from Recommendation G.107 [3] (12/98) at the time of publication."

23. Subclause 10.2: the last sentence should read:

"A preference should be given to those echo cancellers, which are in accordance with accepted standards, such as Recommendations G.168 [12] or G.165 [11].

24. Subclause 10.5: the 2nd sentence should read:

"For a specific type of echo canceller, which may be inserted into the network subject to planning, there are two feasible approaches how this echo canceller can be considered in the E-Model calculations:"

25. Table A.2: the title of the first column should read:

"**Licensed: TDMA [48]**"

26. Subclause A.1.8: second sentence of the first bullet should read:

"These coders employ mainly the different ADPCM algorithms described in Recommendation G.721 (1988), G.726, and G.727."

27. Subclause A.1.10: the last sentence of the second-to-last paragraph should read:

"In general, the speech level is sufficiently low if the send loudness rating at the echo canceller input is SLR ≥ 7 dB."

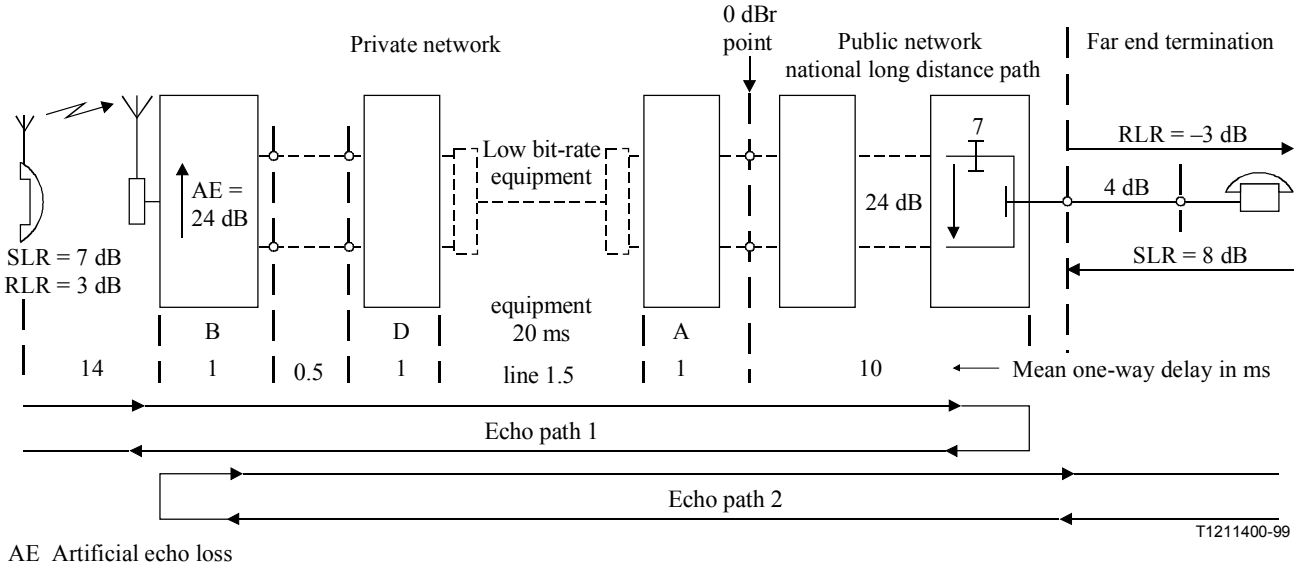
28. Annex B: the first sentence of Note 2 should read:

"For the calculation of the following examples the algorithm of the E-Model has been taken from Recommendation G.107 [3] (12/98) at the time of publication."

29. Subclause B.1.3: the last sentence of the last paragraph should read:

"It should be noted, that these echo cancellers are, with the exception of the permitted echo path delay, nearly identical with those according to Recommendations G.165 [11] or G.168 [12]."

30. Subclause B.1.4: replace Figure B.7/G.108 – Basis for calculation of reference configuration 2 – with the following:



AE Artificial echo loss

31. Subclause B.2.2.1: the second sentence should read:

"An advantage factor of A = 5 has been assigned to unlicensed technology (PACS, WUPE, PCI, PWT) whereas an advantage factor of A = 10 has been assigned to licensed technology (TDMA [48])."

32. Subclause B.2.6.3.2: the title should read:

"**Licensed: Wireless processing delay: 100 ms average (TDMA [48])**"

33. Subclause B.2.7.3.2: the title should read:

"**Licensed: Wireless processing delay: 100 ms average (TDMA [48])**"

34. Subclause B.2.8.3.2: the title should read:

"**Licensed: Wireless processing delay: 100 ms average (TDMA [48])**"

35. Subclause B.3: the third sentence of the 4th paragraph should read:

"In order to maintain a good end-to-end speech transmission performance, the speech contained in coded frames should be less than 64 ms of speech per IP packet (see 7.5/G.177 [13] on Temporal (Syllable) Clipping)."