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| [The International Teleocmmunication Union - Connecting the World.](http://www.itu.int/) | | **International telecommunication union**  **Telecommunication Standardization Bureau** | |  |
|  | | | Geneva, 4 October 2023 | |
| **Ref:** | TSB Circular 141  SG12/MA | | **To:**  - Administrations of Member States of the Union  **Copy to:**  - ITU-T Sector Members;  - Associates of ITU-T Study Group 12;  - ITU Academia;  - The Chairman and Vice-Chairmen of ITU-T Study Group 12;  - The Director of the Telecommunication Development Bureau;  - The Director of the Radiocommunication Bureau | |
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| **Subject:** | **Proposed deletion of Recommendations ITU-T P.862, P.862.1, P.862.2 and P.862.3 agreed to by ITU-T SG12 at its meeting in Mexico City, 19-28 September 2023** | | | |

Dear Sir/Madam,

1 At the request of the Chairman of Study Group 12 (Performance, quality of service (QoS) and quality of experience (QoE)), I have the honour to inform you that this study group, in its meeting held in Mexico City, 19-28 September 2023, agreed to initiate the deletion of the above mentioned ITU‑T Recommendations, in accordance with the provisions of clause 9.8.2.1 of Resolution 1 of WTSA (Rev. Geneva, 2022). This agreement was reached without opposition from the Member States or Sector Members acting on behalf of Member States under No. 239 of the ITU Convention present at the meeting.

2 **Annex 1** gives information about this agreement, including an explanatory summary about the reasons for the deletion.

3 In conformance with Resolution 1, Section 9.8.2.1, the deletion will come into force if no objection to the deletion is received by 2359 hours UTCon **4 January 2024**.

Should any Member States or Sector Members acting on behalf of Member States under No. 239 of the ITU Convention be of the opinion that deletion should not be accepted, they should advise their reasons for disapproving and the matter would be referred back to the study group.

4 The result of this consultation will be announced shortly after the deadline via a TSB Circular and published in the ITU Operational Bulletin.

Yours faithfully,

Seizo Onoe  
Director of the Telecommunication  
Standardization Bureau

**Annex**: 1

**Annex 1  
Recommendations proposed for deletion:   
ITU-T P.862, ITU-T P.862.1, ITU-T P.862.2, ITU-T P.862.3**

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| **Recommendation ITU-T P.862, *Perceptual evaluation of speech quality (PESQ): An objective method for end-to-end speech quality assessment of narrow-band telephone networks and speech codecs* (02/2001)** |
| *Summary:* |
| This Recommendation describes an objective method for predicting the subjective quality of 3.1 kHz (narrow-band) handset telephony and narrow-band speech codecs. This Recommendation presents a high-level description of the method, advice on how to use it, and part of the results from a Study Group 12 benchmark carried out in the period 1999-2000. An ANSI-C reference implementation, described in Annex A, is provided in separate files and form an integral part of this Recommendation. A conformance testing procedure is also specified in Annex A to allow a user to validate that an alternative implementation of the model is correct. This ANSI-C reference implementation shall take precedence in case of conflicts between the high-level description as given in this Recommendation and the ANSI-C reference implementation.  This Recommendation includes an electronic attachment containing an ANSI-C reference implementation of PESQ and conformance testing data. |
| *Reasons for the deletion of the Recommendation listed above:* |
| The *Perceptual evaluation of speech quality* (PESQ) speech quality prediction algorithm (approved in 2001) was developed to predict listening quality in pure narrowband speech transmission scenarios. It is thus unable to provide accurate and reliable results in the case of advanced time warping and packet-loss replacement technologies as well as dynamic gain adaptions which are typical in today’s VoIP and VoLTE connections.  To address these limitations and extend to more recent technologies, Recommendation ITU-T P.863 *“Perceptual objective listening quality prediction”* (initially approved in 2011, latest edition in 2018) was developed which covers both narrowband and fullband modes.  The narrowband mode in ITU-T P.863 maintains backward compatibility with P.862 allowing a seamless transition from P.862 to P.863, while the fullband mode has become the standard for quality measurements in current telephony networks.  Consequently, the PESQ-related Recommendations ITU-T P.862[.x] are no longer pertinent in today's telecommunication landscape. |

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| **Recommendation ITU-T P.862.1, *Mapping function for transforming P.862 raw result scores to MOS-LQO* (11/2003)** |
| *Summary:* |
| ITU-T Rec. P.862 provides raw scores in the range –0.5 to 4.5. It is desired to provide a MOS-LQO (P.800.1) score from P.862 to allow a linear comparison with MOS. This Recommendation presents the mapping function and its performance for a single mapping from raw P.862 scores to the MOS-LQO (P.800.1).  This will allow MOS-LQO scores from ITU-T Rec. P.862 to be comparable independent of the implementation of ITU-T Rec. P.862. The given function for transformation presented in this Recommendation has been optimized on a large corpus of subjective data representing different applications and languages. |
| *Reasons for the deletion of the Recommendation listed above:* |
| See reasons for deletion of **Recommendation ITU-T P.862, *Perceptual evaluation of speech quality (PESQ): An objective method for end-to-end speech quality assessment of narrow-band telephone networks and speech codecs* (02/2001)**. |

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| **Recommendation ITU-T P.862.2, *Wideband extension to Recommendation P.862 for the assessment of wideband telephone networks and speech codecs* (11/2007)** |
| *Summary:* |
| ITU-T Recommendation P.862.2 describes a simple extension to the perceptual evaluation of listening speech quality (PESQ) algorithm defined in ITU-T Recommendation P.862. It allows ITU‑T Recommendation P.862 to be applied to the evaluation of conditions, such as speech codecs, where the listener uses wideband headphones. (In contrast, ITU-T Recommendation P.862 assumes a standard IRS-type narrow-band telephone handset which attenuates strongly below 300 Hz and above 3100 Hz.) This Recommendation is mainly intended for use with wideband audio systems (50-7000 Hz), although it may also be applied to systems with a narrower bandwidth. |
| *Reasons for the deletion of the Recommendation listed above:* |
| See reasons for deletion of **Recommendation ITU-T P.862, *Perceptual evaluation of speech quality (PESQ): An objective method for end-to-end speech quality assessment of narrow-band telephone networks and speech codecs* (02/2001)**. |

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| **Recommendation ITU-T P.862.3, *Application guide for objective quality measurement based on Recommendations P.862, P.862.1 and P.862.2* (11/2007)** |
| *Summary:* |
| ITU-T Recommendation P.862.3 provides some important remarks that should be taken into account in the objective quality evaluation of speech conforming to ITU-T Recommendations P.862, P.862.1 and P.862.2. Users of ITU-T Recommendation P.862 should understand and follow the guidance given in this Recommendation.  This Recommendation forms a supplementary guide for users of ITU-T Recommendation P.862, which recommends a means of estimating listening speech quality by using reference and degraded speech samples. The scope of ITU-T Recommendation P.862 is clearly defined in itself. This Recommendation does not extend or narrow the scope, but provides necessary and important information for obtaining stable, reliable and meaningful objective measurement results in practice. |
| *Reasons for the deletion of the Recommendation listed above:* |
| See reasons for deletion of **Recommendation ITU-T P.862, *Perceptual evaluation of speech quality (PESQ): An objective method for end-to-end speech quality assessment of narrow-band telephone networks and speech codecs* (02/2001)**. |