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SERIES P: TELEPHONE TRANSMISSION QUALITY,
TELEPHONE INSTALLATIONS, LOCAL LINE
NETWORKS

Application of ITU-T P.863 and ITU-T P.863.1 for speech processed by blind bandwidth extension approaches

ITU-T P-series Recommendations – Supplement 27

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Supplement 27 to ITU-T P-series Recommendations

Application of ITU-T P.863 and ITU-T P.863.1 for speech processed by blind bandwidth extension approaches

Summary

Supplement 27 to the ITU-T P-series of Recommendations provides a method for the application of ITU-T P.863 to speech signals processed by a blind bandwidth extension (BBE), which is complementary to the existing procedures given in Recommendation ITU-T P.863.1. When bandwidth extension techniques are used, not only does the reference bandwidth need to be set but ITU-T P.863 also has a limited ability to discriminate small bit rate and bandwidth improvements. These quality differences are clearly distinguishable in subjective tests. For ITU-T P.863 tests, a complementing bandwidth requirement check is needed and detailed.

History

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Introduction

Recently the industry has started to move from narrowband speech coders (NB) to wideband (WB) or super-wideband (SWB) coders. However, until complete coverage has been achieved, a significant proportion of calls will still use legacy narrowband. Even then, calls from landlines will likely still be narrowband for some time.

Blind bandwidth extension (BBE) technology aims to solve this problem, by transforming NB speech into WB or SWB speech. A requisite to successful deployment of BBE technology is having a good evaluation methodology. In this document, we propose that ITU-T P.863 in conjunction with a bandwidth requirement is a suitable methodology for BBE performance evaluation.

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