README and USER AGREEMENT for the SRMR Matlab Toolbox

This Matlab toolbox computes the adaptive speech-to-reverberation modulation energy ratio measure (SRMR), as described in the reference below. The program operates on 8kHz or 16kHz sampled *speech* files (algorithm has not been tested for audio/music files), with higher correlations with subjective MOS ratings obtained with 8kHz sampling rate. A simple energy thresholding VAD algorithm is used to remove silence segments longer than 50ms and should be replaced if noisy files with low SNR vales are to be tested.

The SRMR toolbox is being provided *"as is"* under the condition of sole scientific, non-commercial use. By using the toolbox, you agree to the following definitions and conditions:

Definitions:
1. User: The person or organization that downloads the SRMR toolbox or any part of it.
2. Provider: Tiago H. Falk, INRS-EMT, Montreal, QC, Canada.

Conditions:
1. The SRMR toolbox is provided without any guarantee.
2. No legal claims of any kind can be made from accepting or using the toolbox.
3. The toolbox provider is not liable for any damage that may result from downloading, installing, or running the SRMR toolbox.
4. Use of the toolbox is solely for scientific, non-commercial purpose.
5. The provider retains all rights, including copyright and intellectual property ownership, embodied in the SRMR toolbox.
6. The user will inform the provider of any bugs/errors encountered while using the toolbox.
7. For any publications which report results obtained using the toolbox, the following citation should be used:

T. Falk, C. Zheng, W.-Y. Chan, A Non-Intrusive Quality and Intelligibility Measure of Reverberant and Dereverberated Speech, IEEE Trans Audio Speech Lang Process, Vol.18, No.7, pp.1766-1774, Sept.2010.

Acknowledgements/Requirements:
Thanks to Mrs. Lu Huo for providing the ITU-T P.56 speech voltmeter. The gammatone filterbank design uses Malcolm Slaney's Auditory toolbox and the necessary files have been included in the "auditory" directory as Matlab p-files. Note that the Matlab Signal Processing Toolbox may be needed in order to run the main SRMR script. The script has not been optimized for processing speed.

Please send comments to tiago.falk@ieee.org.

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Usage: SRMRval=main(wavefile);

Sanity check:
The directory "audio" contains a clean speech file F1_010.wav and its reverberant counterparts with reverberation times (T60) ranging from 0.4-1s (increments of 0.1s) and 1.5 and 2s. The script "Batch_SRMR_test.m" computes SRMR* for all files described in "test_filenames.txt". The computed SRMR* values for these 10 test files are shown in "Test_results.xls". The reverberation-to-speech modulation energy ratio (RSMR, i.e., the inverse of SRMR) is shown to attain a correlation of 0.996 with the true T60.
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