
K-Meter
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Implementation of a K-System meter according to Bob Katz' specifications

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FLAC-compressed wave file (44.1 kHz, 24 bit, stereo)
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Please verify correctness of peak meter and maximum peak meter programmatically. In “ITU-R BS.1770” mode, make sure that measured levels equal the left channel's level.

Given levels describe the left channel. The left channel is delayed by one second, while the right channel's level has been attenuated by 1.93 dB.

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00:00.000 - 00:02.000  silence
00:02.000 - 00:07.000  square wave (  20 Hz, -41.0 dB FS peak)

                       [left  peak meter should read -21.00 dB (K-20)]
                       [right peak meter should read -22.93 dB (K-20)]

                       [left  maximum peak should read -21.00 dB (K-20)]
                       [right maximum peak should read -22.93 dB (K-20)]

00:07.000 - 00:09.000  silence
00:09.000 - 00:14.000  square wave ( 180 Hz, -29.0 dB FS peak)

                       [left  peak meter should read  -9.00 dB (K-20)]
                       [right peak meter should read -10.93 dB (K-20)]

                       [left  maximum peak should read  -9.00 dB (K-20)]
                       [right maximum peak should read -10.93 dB (K-20)]

00:14.000 - 00:16.000  silence
00:16.000 - 00:21.000  square wave ( 530 Hz, -17.5 dB FS peak)

                       [left  peak meter should read  +2.50 dB (K-20)]
                       [right peak meter should read  +0.57 dB (K-20)]

                       [left  maximum peak should read  +2.50 dB (K-20)]
                       [right maximum peak should read  +0.57 dB (K-20)]
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```
00:21.000 - 00:23.000  silence
00:23.000 - 00:28.000  square wave (1111 Hz,  -8.3 dB FS peak)

                       [left  peak meter should read +11.70 dB (K-20)]
                       [right peak meter should read  +9.77 dB (K-20)]

                       [left  maximum peak should read +11.70 dB (K-20)]
                       [right maximum peak should read  +9.77 dB (K-20)]

00:28.000 - 00:30.000  silence
00:30.000 - 00:35.000  square wave (1501 Hz,  -0.1 dB FS peak)

                       [left  peak meter should read +19.90 dB (K-20)]
                       [right peak meter should read +17.97 dB (K-20)]

                       [left  maximum peak should read +19.90 dB (K-20)]
                       [right maximum peak should read +17.97 dB (K-20)]

00:35.000 - 00:37.000  silence
00:37.000 - 00:42.000  square wave (2890 Hz, -36.0 dB FS peak)

                       [left  peak meter should read -16.00 dB (K-20)]
                       [right peak meter should read -17.93 dB (K-20)]

                       [left  maximum peak should read +19.90 dB (K-20)]
                       [right maximum peak should read +17.97 dB (K-20)]

00:42.000 - 00:44.000  silence
00:44.000 - 00:49.000  square wave (4190 Hz, -69.5 dB FS peak)

                       [left  peak meter should read -49.50 dB (K-20)]
                       [right peak meter should read -51.43 dB (K-20)]

                       [left  maximum peak should read +19.90 dB (K-20)]
                       [right maximum peak should read +17.97 dB (K-20)]

00:49.000 - 00:51.000  silence
00:51.000 - 00:56.000  square wave (8345 Hz, -85.0 dB FS peak)

                       (it seems like I have driven Sound Forge's test
                        tone generator to its limits -- the peak level
                        meter readings given below have been measured
                        using the "Statistics" dialog in Sound Forge)

                       [left  peak meter should read -65.05 dB (K-20)]
                       [right peak meter should read -66.99 dB (K-20)]

                       [left  maximum peak should read +19.90 dB (K-20)]
                       [right maximum peak should read +17.97 dB (K-20)]

00:56.000 - 00:59.000  silence
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Validation settings
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File: peak_meter.flac
Host SR: 44 100 Hz
Channel: RMS: All, ITU-R: 1
Display: [x] Peak meter level
[ ] Average meter level
[x] Maximum peak level
[ ] Stereo meter value
[ ] Phase correlation