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## 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)

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Please verify correctness of peak meter and maximum peak meter programmatically.

Given values describe the left channel. The right channel is delayed by one second and its level has been attenuated by 1.93 dB.

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)]  
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

#### Validation settings

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File: peak\_meter.flac  
 Host SR: 44 100 Hz  
 Channel: All  
 Display: [ ] Average meter level  
           [x] Peak meter level  
           [x] Maximum peak level  
           [ ] Stereo meter value  
           [ ] Phase correlation