

# ICRA

## Noise signals

Ver. 0.3.

**International Collegium of Rehabilitative Audiology.**  
Hearing Aid Clinical Test Environment Standardization Work Group.

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1. In each channel: **Unmodulated random Gaussian noise.**  
Male weighted<sup>1</sup> idealized speech spectrum<sup>2</sup> . Normal Effort  
Level:  $L_{ref}$   
2 min.
2. In each channel: **Unmodulated random Gaussian noise.**  
Male weighted idealized speech spectrum . Raised Effort<sup>3</sup>  
Level:  $L_{ref} + 5.7$  dB  
2 min.
3. In each channel: **Unmodulated random Gaussian noise.**  
Male weighted idealized speech spectrum . Loud Effort<sup>3</sup> Level:  
 $L_{ref} + 12.1$  dB  
2 min.
4. In each channel: **3 band speech modulated noise (3bSMN).**  
Female weighted<sup>1</sup> idealized speech spectrum . Normal Effort  
Level:  $L_{ref}$   
5 min.
5. In each channel: **3 band speech modulated noise (3bSMN).**  
Male weighted idealized speech spectrum . Normal Effort  
Level:  $L_{ref}$   
5 min.
6. In each channel: **2 persons babble, 1 female 3bSMN + , 1 male 3bSMN.**  
Idealized speech spectrum . Normal Effort  
Level:  $L_{ref} + 3$  dB  
10 min.
7. In each channel: **6 persons babble, 1f + 1m + 2f<sub>-6dB</sub> + 2m<sub>-6dB</sub>, all 3bSMN.**  
Idealized speech spectrum . Normal Effort  
Level:  $L_{ref} + 4.7$  dB  
20 min.

8. In each channel: **6 persons babble, 1f + 1m + 2f<sub>-6dB</sub> + 2m<sub>-6dB</sub>, all 3bSMN.**  
Idealized speech spectrum . Raised Effort  
Level:  $L_{ref} + 10.7$  dB  
10 min.
9. In each channel: **6 persons babble, 1f + 1m + 2f<sub>-6dB</sub> + 2m<sub>-6dB</sub>, all 3bSMN.**  
Idealized speech spectrum . Loud Effort  
Level:  $L_{ref} + 17.2$  dB  
10 min.
10. In each channel: **Calibration Tone : 1 kHz.**  
Level:  $L_{ref}$   
2 min.

**Notes:**

1. Male weighted spectrum: HP 100 Hz 12 dB/oct.,  
Female weighted spectrum: HP 200 Hz 12 dB/oct.
2. Idealized speech spectrum according to ANSI S3.79 draft v3.1-07/03/1993
3. Raised and loud effort according to ANSI S3.79 draft v3.1-07/03/1993

*All signals in both channels are uncorrelated.*

*All levels are measured as long term RMS.*