

Tone Burst ABR Settings

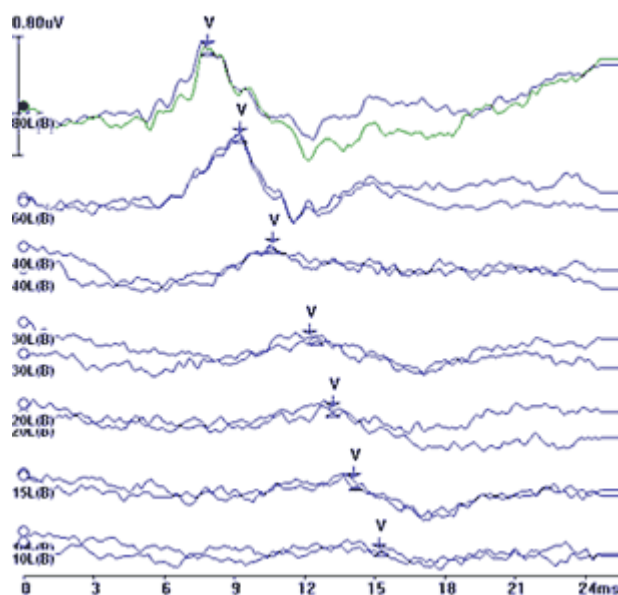
Auditory Brainstem Responses are usually acquired using click stimulation. However, click stimulation distributes the energy of the sound over the entire frequency spectrum and provides no frequency specific information. This specific information can be used to help with hearing aid fitting and other types of diagnosis.

Stimulus:	Tone Bursts.
Envelope:	Exact Blackman.
Duration:	500 Hz: 8000us 1000 Hz: 5000 us or 4000 us 2000 Hz: 5000 us or 4000 us 4000 Hz: 5000 us or 2000 us 8000 Hz: 5000 us or 1000 us.
Masking:	None.
Rate:	27.7/sec or 38.5/sec. Slower rates are used to enhance wave I. Rate should not be a multiple of the line current (e.g. 60 Hz).
Polarity:	Condensation for 500Hz and/or Alternating for all frequencies.
Transducers:	Insert Earphones.
Intensity:	80 to 95 dB HL for Neurodiagnosis. 90 dB HL down to 0 dB HL for Threshold search.
Filters:	30 – 1500 Hz (for Adult ABR and infant ABR).
Notch Filter:	OFF. ON if there is excessive electrical line noise present.
Amplification:	100x
Analysis Time Window:	25.6 milliseconds for 500 Hz and 1000 Hz; 12.8 milliseconds for all others.
Sweeps:	2000 – 2048.
Electrode Montage:	Ipsilateral or Contralateral Array.

Tone Burst Analysis

A tone burst series used for threshold detection is displayed in the following figure. The series shown is for a 500 Hz tone presented using the parameters outlined in the previous table.

Notice that the latency of the response increases as the intensity of stimulation is decreased.



The following graph shows the relationship of latency with respect to frequency. Note that lower frequency tones have a higher latency value than higher frequency tones, reason why it is recommended to use a wider time window at lower frequencies.

