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Registered to ISO 9001:2008

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APPLICATION NOTE

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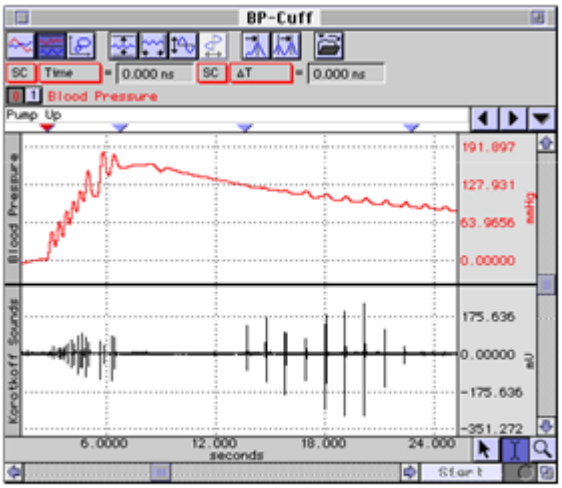
Application Note 153 TSD108 AND SS17L Physiological Sounds Microphone

The physiological sounds transducer (microphone) connects to the DA100C amplifier (TSD108) or the MP3x/4x hardware (SS17L). The transducer can be used with the Noninvasive Blood Pressure Cuff or as a stand-alone device. If used with the cuff, Korotkoff sounds can be recorded for easy determination of systolic and diastolic blood pressure. When used on its own, it can record a variety of acoustical signals, including heart sounds and sounds associated with rubbing or grinding (e.g., Bruxism). The acoustical transducer element is a Piezo-electric ceramic disk that is bonded to the interior of a circular metallic housing.

Grounding Note When using this transducer with the EBI100C module, do not connect the GROUND pin of the TSD108 to the DA100C module. Doing so will cause inaccurate impedance measures, because the TSD108 contact surface is tied to the isolated ground. An alternative is to insulate the TSD108 from the skin surface by using a latex balloon or some other non-conductive barrier. If the latter procedure is followed, the GROUND pin may be attached to the DA100 module.

- **TSD108:** Korotkoff signal is recorded by a DA100C amplifier set to AC, 5000 Hz LP and a gain of 50 to 200.
- **SS17L:** To record the Korotkoff signal, select SS17L preset from MP3x/MP4x > Set Up Channels menu.

The signal for the physiological sounds transducer is usually further conditioned by the software. In a calculation channel, the signal can be bandpass filtered from 50 to 200 Hz. The sampling rate for the entire recording needs to be about 500 Hz, assuming the physiological sounds transducer is used.



Cuff Blood Pressure Versus Korotkoff Sounds

TSD108/SS17L Specifications

Frequency Response:	35 Hz to 3500 Hz
Housing:	Stainless Steel
Sterilizable:	Yes (contact BIOPAC for details)
Noise:	5 µV rms – (500 Hz - 3500 Hz)
Output:	2 V (p-p) maximum
Weight:	9 g
Dimensions:	29 mm diameter, 6 mm thick
Cable Length:	3 m
Interface:	DA100C (TSD108), MP3x (SS17L)
Calibration:	None required
TEL100C Compatibility:	SS17