

V. Malini, A PC-based audiometry system, M. Tech. Thesis, School of Biomedical Engineering, Indian Institute of Technology Bombay, 1991.

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Abstract – Audiometry involves quantitative determination of the degree and nature of hearing impairment. In this project, a PC-based screening audiometry system has been developed. The system consists of a PC with a data acquisition peripheral, and an audio attenuator-amplifier unit which can be controlled by the digital output of the data acquisition peripheral. The system generates and presents the stimulus to the subject. The intensity variation is brought about by the attenuator. The thresholds are determined according to a standard adaptive algorithm.

The system can implement three types of audiometry: operator controlled, automated, and subject controlled. In the operator controlled mode, the operator has complete control over the stimulus parameter selection and threshold determination. In the automated and the subject controlled modes, the threshold is determined automatically after the operator starts the program and specifies some experimental parameters.

In addition to providing advantages in terms of better reliability, flexibility, speed, and simplicity of use, this audiometry system is intended to facilitate easy data storage and retrieval for mass audiometry testing in schools and factory workforce.