

A PORTABLE PHONATION DURATION METER HAVING LOUDNESS LEVEL CONTROL

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SYED SAHAL NAZLI ALHADY B. SYED HASSAN
School of Electrical Engineering,
MARA Institute of Technology,
40450 Shah Alam, Selangor.
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ABSTRACT

In this project a portable phonation duration meter has been developed. This device is cheap and thus common people can effort to purchase it for their personal use. The device displays the duration of continuous phonation in second and stores it. Additional displays using LEDs have also been provided to indicate loudness level 'set' and the actual loudness of the phonation produced by the user. The device can be operated by 9V DC source and thus can be used in any condition.

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CHAPTER 1

1.0 INTRODUCTION

Bioengineering have been revolutionized by electronic devices. Bioengineering is the application of engineering principles and design in the solution of medical problems. The area of biomedical engineering is concerned with bioactivity, which encompasses the nervous system and regulates most life process. The biomedical engineer assists the regulation and uses bioelectric signals for diagnostic purpose.

Some of the biomedical instruments are unique to the field of the medicine but many are adaptation of widely used physical measurements. A thermistor for example changes its electrical resistance with temperature, regardless of whether the temperature is of an engine or the human body. The principles are the same. Only the shape and size of the device might be different.

Development in the area of bioengineering led to the invention of pacemaker, the defibrillator, the electrocardiograph and phonation duration meter, amongst other devices. The pace maker is a device that senses and restores the normal contraction rhythm of a heart muscle by