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Author I-Pin Kuo
Author's Email Address No Public.
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Abstract
Mouse plays an important role in the input peripherals for a computer system. A mouse is the special tool for controlling the cursor. Different voltages of EOG signals can be acquired when our eyes move along the horizontal and vertical directions. The purpose of this research is to measure the different EOG (Electro-Oculography, EOG) signals resulted from eye movements. The measured voltages will be transmitted to VCO (Voltage Controled Oscilloator, VCO), and then VCO will transfer the different voltages to different frequencies of square waveform signals. The square waveform signals can replace the pulse trains generated by circle disk encoder, as the input signal of infra red sensor in the mechanical mouse. Once this interface control IC receives the square waveform signals, the cursor can move with different speeds depending on the different frequencies of square waveform, and then we can achieve the purpose of applying the EOG signals resulted from eye movements to control the mechanical mouse. Therefore, our study can be applied hopefully in a computer system which can help people with upper limbs amputated, the serious disabled or the patients who have to lie on the bed for a long time. It should be a good news for them.
Advisory Committee Shih-Chung Chen - advisor

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