SELF MADE MODERN MEASUREMENT EQUIPMENTS, EASY AND EVER-AVAILABLE

OPROESCU Gheorghe
Facultatea de Inginerie din Braila
oproescu.gheorghe@ugal.ro

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Any computer contains leastways a mouse, a sound plate and resident software. With these devices together with a little own contribution either calculator can be transformed into a modern and efficacious numerical measurement equipment. The sound plate can be used as acquisition plate with minimal two channels. The mouse can be used as displacements transducer, an optical mouse needs not a direct contact with the mobile support and the mouse can read the movement from a few millimeters distance. Easy self made software can operate these information.

The sound plate together with the resident "sound recorder" can accept electrical signals at its microphones or line inputs. Uncompressed PCM-file is advantageous because offers direct all pure values but, unfortunately the public information about the structure of the files contains errors and the presented work corrects its.

An optical mouse can read its relative displacements in ratio with a support without direct contact. This property permits the detection of the relative movement and, together with a dedicated program can analyze different movements. For example the rotation of the flywheel can be analyzed contact less and without markers on the wheel, with the rapprochement of the mouse from the analyzed surface. Alike can be analyzed any movement as the movement of the continuous-belt conveyer, of the experimental vehicle etc. The algorithm is very easy, contains a few steps only and is detailed in extended work. The sound plate, the mouse and any calculator becomes an all-purpose measure instrument for displacement, trajectory, speed from all type (rotation, linear etc), acceleration; the mouse can read, for example, the rotation of the rotor of the mechanical flow-meter and transform a mechanical instrument in a numerical instrument with memory.

I have used additionally my own self-made software in Delphi-language in order to process the obtained information.

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