TESTING MOTION QUALITY OF PHOTOCOPIERS

DIGITAL INPUT/OUTPUT ANALYSIS

Timing stability is an important quality measure for many mechanical systems. Variations in the delivery cycle time of manufactured parts in a high-speed assembly line or the fluctuations in the rotational period of an engine can induce lower quality or lower efficiency.

We have used our digital input/output (http://www.viewpointusa.com/prod_dio64.php) time-stamping plug-in card to analyze the timing of many types of processes such as these with great success, leading to the improvement of many designs.

A specific example of how we used this technology to test copier paper handling performance can be found at:

http://www.evaluationengineering.com/archive/articles/0699test.htm

This paper discusses a variety of measurements that have been made on photocopier subsystems. Some main features of interest in copier performance are paper handling and speed consistency.

A measure of the quality of paper handling is the timing consistency at which paper is delivered to subsequent subsystems in the paper path. If paper is delayed too much or the delivery timing between subsequent pages varies too much, a paper jam can occur. Speed consistency is important since speed variations appear as ripples in the printed image. Typically, variations are related to mechanical vibrations. Identifying the vibration frequencies leads to improved designs to minimize the vibration amplitudes or to move the offenders to less objectionable frequencies.

There are many other similar applications for moving mechanisms. Please call or email us to discuss how the DIO-64 can help you be successful.