



“Cutting Performance System for Machine Tools”

By Manufacturing Laboratories, Inc.

(www.mfg-labs.com)

MetalMAX™ is a package of applications that permits the user to predict cutting performance (allowable depths of cut, optimum spindle speeds, and feed rates) based on the measurement of dynamic characteristics of tool stack-ups. This performance can vary from machine to machine and depending on tool and arbor setup. The MetalMAX™ system provides a quick, easy and systematic method for **maximizing metal removal rates** and cutting horsepower allowing users to get the most from their machines.

FEATURES AND BENEFITS SHEET

Feature

- Utilizes Windows Platform Generic Hardware and Software (Pentium Class or better).
- Rapid and Simple 2-channel Frequency Response Testing (“Tap” Testing)
- Immediate Stability plot Generation
- 4-channel data acquisition with easy and rapid setup.
- Milling Simulation Package
- Audio Monitoring Package using MLI’s patented Harmonizer technique.
- Optional user friendly Finite Element Package tailored for analysis of machine tool spindles and tool stack-ups.
- Optional Tool Database Management software for collection, management and storage of data and typical tooling information.

Benefits

- Select system base hardware (notebook or Desktop) and operating system Windows 95/98/NT based on individual needs. No need to purchase additional computers or expensive hardware.
- Easy to use interface and procedure permits shop floor personnel to perform analysis and interpret results. Comparison of tool stack-ups on various machines is easy. Allows the user to take the mystery out of tool dynamic performance.
- Provides immediate feedback on permissible depths of cut and optimal spindle speeds.
- Easy means to monitor machine vibrations for periodic comparison and preventive maintenance.
- Allows precise determination of cutting performance limits, dynamic cutting forces, and stability plots.
- Excellent tool for fine tuning cutting performance predictions using the most reliable speed selection package in the industry.
- Modeling of the spindle permits accurate prediction of tool stack-up dynamics without the need for measurements. Allows excellent what-if analysis of tooling and spindle modifications.
- Convenient and easy-to-use tool tracking database which tracks not only normal tooling data but all the data collected by the MetalMAX package.