

# Dynatest 6450 Lightweight Profilometer<sup>®</sup>

For smoothness measurements on Portland Cement and asphalt concrete pavements, Dynatest offers the 6450 Single/Dual Wheelpath Lightweight Profilometer<sup>®</sup> (LWP). This device was developed for use by paving contractors for quality control/quality assurance on paving projects.

Its lightness and low tire pressure make it the ideal choice for operation on newly constructed Portland Cement Concrete pavements.

Optionally equipped with two sensors, both wheel paths can be profiled simultaneously. International Roughness Index (IRI) is reported on a real-time basis. Pavement elevation data is calculated at 1 inch (25.4mm) intervals and recorded at user-selectable intervals.

Post-processing software, provided with each LWP, provides the following additional functionality:

1. Profilograph modelling, including calculation of PI and locating bumps.
2. Conversion of profile elevation data to the format specified in Texas Department of Transportation's Tex-10001S specification.
3. Calculation of Mays Ride Meter statistics.
4. Determination of must-grind quantities and locations.

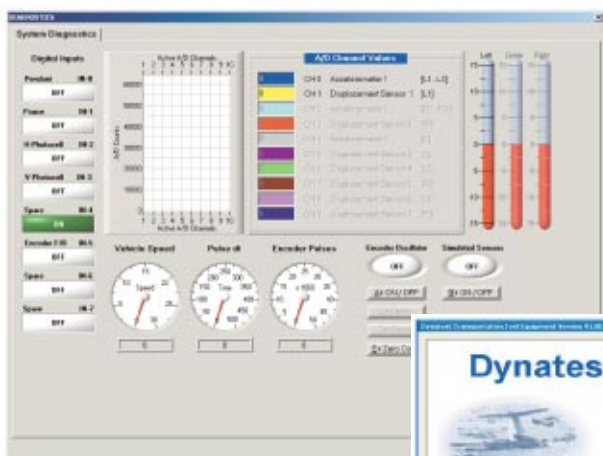


THE DYNATEST 6450 LIGHTWEIGHT PROFILOMETER<sup>®</sup> WITH DUAL SENSORS

## The heart of the Lightweight Profilometer<sup>®</sup>

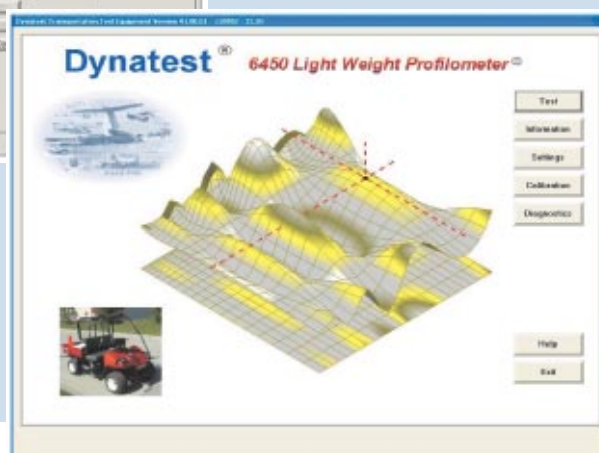
The heart of the LWP is a PC/104 based computer linked by an ethernet cable to a standard notebook computer. The notebook runs a user-friendly Windows-based field data collection program that comprises the interface between the LWP and operator. The LWP utilizes a Dynatest patented Model T3000IR non-contact infrared sensor combined with an accelerometer to calculate inertial profile elevations. The T3000 IR sensor has a 10 inch (254mm) standoff with a +/- 3 inch (+/- 75mm) operating range. Completing the system is a wheel-mounted distance encoder and optional printer.

The LWP has been independently verified to meet Class 2 requirements of ASTM E950 "Standard Test Method for Measuring the Longitudinal Profile of Travelled Surfaces with an Accelerometer Established Inertial Profiling Reference", and also meets TxDOT TEX-10001-S. Typical precision and bias numbers are 0.014 inch (0.36mm) and 0.031 inch (0.79mm) respectively, when using a 200ft (61m) wavelength cut-off filter.



LWP SYSTEM  
DIAGNOSTICS SCREEN

DATA COLLECTION  
OPENING SCREEN



Within the ranges outlined in the specifications the accuracy of the profile elevations and roughness statistics are negligibly affected by variations in vehicle weight, speed, temperature extremes, sunlight, wind, and pavement colour and texture.