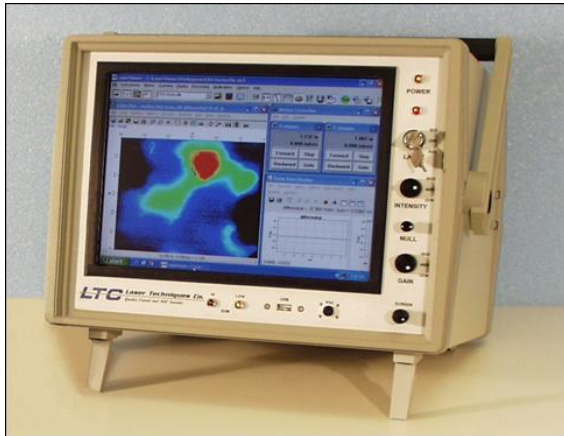


LaserViewer™ Software

The LP-4000i series Data Acquisition and Control instrument employs our proprietary LaserVieweri data acquisition and reporting software, a commercially produced, standard product employing a Windowsi -based platform. LaserVieweri is designed for use on the LP-4000i series DAC instrument to acquire multi-channel laser profilometry, LaserVideoi imaging (LVI), laser-scanned FPI and straightness data in the laboratory, shop or field.



LP-4000™ Data Acquisition and Control Instrument



LP-4210F™ Field Grade DAC Instrument

Laser and Motion Control

LaserVieweri is an operator-configurable laser sensor and motion control software interface. It allows the operator to create and run complex scan routines. Laser control can be modified through the software to adapt to different surfaces and reflectivity to optimize inspection data through gain control, power level and intensity.

Data Acquisition

LaserVieweri displays calibrated data in real-time during the inspection scanning process. Data acquisition routines are operator operator-configurable and can be saved as unique Workspaces. Performance calculations display the estimated scan duration, completion time and data rate

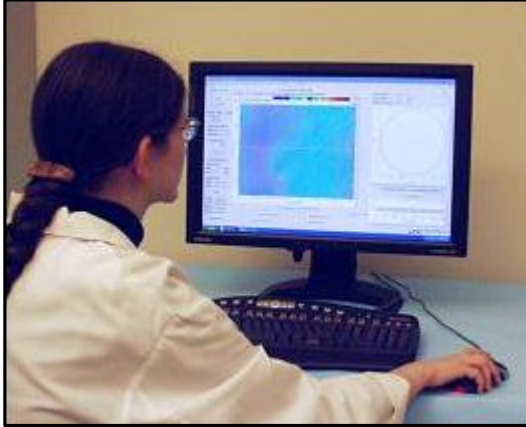
Data Display and Analysis

LaserVieweri displays a color plot image of calibrated profile and LaserVideoi information with cross-sectional and axial display of surface profile data. Analysis modules for post processing of data including but not limited to calculating: area, ovality, max fs diameter, minimum diameter, horizontal reference subtraction, vertical reference subtraction, remove centering offset, remove DC offset, remove undefined data, remove bad data, variable median filter, averaging filter, and invert data

Customizable Operator Interface

LaserVieweri can be configured for customer-specific applications. In this manner, only functions and views specifically required for a given task are displayed to the operator. The graphic user interface can be configured for simplicity of operation and application-specific functionality. In addition, a variety of custom data analysis modules are available.

LaserViewer™ Advanced Analysis Software



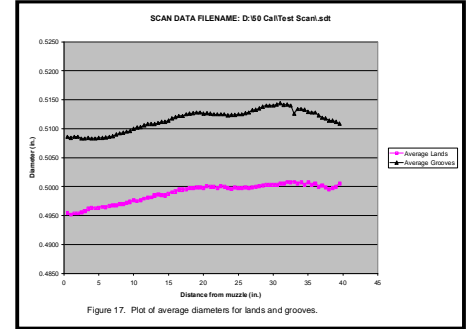
LABORATORY SERVICES BRANCH TEST REPORT

DATE OF MEASUREMENT: 10/10/2013 12:08:08 PM
OPERATOR: Jmrbde
INSTRUMENT: 4000i Cable
SERIAL NUMBER: X92 123
NUMBER OF POINTS: 103
MEASUREMENT TEMP: 25.0 deg F
TEST PROGRAM:
TEST DIRECTOR:

SCAN DATA FILENAME: D:\Data\Scan
SCAN DATA ANGULAR RESOLUTION: 0.5 deg
APPROXIMATE SCALAR RESOLUTION: 5 MICRONS (0.002mm)
SCAN DATA AXIAL RESOLUTION: 0.02 in
REPORT AXIAL RESOLUTION: 0.05 in
NUMBER OF PLAN SAMPLES PER CALCULATION: 15
NUMBER OF GROOVE SAMPLES PER CALCULATION: 31
REPORT GENERATION: 10/20/14
NOTE: Last 15 in the first and last 30 degrees at the outside end

COMMENTS:

Diameter calculations											
Dist. from	Scan	Lands	Grooves	Lands	Grooves	Lands	Grooves	Lands	Average	Average	
inch	mm	100	200	300	400	500	600	700	800	900	Grooves
05	-31.22	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
1	-31.72	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
15	-31.22	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
2	-31.72	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
25	-31.22	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
3	-31.72	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
35	-31.22	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
4	-31.72	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
45	-31.22	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
5	-31.72	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
55	-31.22	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
6	-31.72	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
65	-31.22	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
7	-31.72	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
75	-31.22	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
8	-31.72	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
85	-31.22	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000
9	-31.72	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000	0.4850	0.5000



LaserVieweri Advanced Analysis is an add-on software package designed for in-depth analysis and reporting of complex laser profile data sets. This software module is intended for use "off-site" to provide enhanced capabilities with the freedom and portability to conduct remote data analysis and collaboration. Separate from the Data Acquisition and Control instrument, LaserVieweri Advanced Analysis is ideal for presentations and remote-located decision-makers, allowing the LP-4000i series DAC instrument to continue collecting data.

Advanced Data Analysis

LaserVieweri Advanced Analysis software employs additional filters, processors and expanded functionality, enabling quantitative assessment of the condition of a test article. Advanced features include, but are not limited to

- Merge data from two sets
- Crop data to isolate features or interesting areas
- Multiple file comparison
- Reference subtraction
- Zoom, tilt, pan
- Local feature measurement
- Additional mathematical filters
- Display in flat or cross-sectional perspective
- Data rotation about axis
- Multiple color palette display options

LaserViewer™ 3D and Advanced Report Generator

LaserVieweri Advanced Analysis is designed to be compatible with LaserViewer 3Di and Advanced Report Generator software package. LaserVieweri 3D is ideal for visual analysis of complex 3D profilometry data. Our Advanced Report Generator is available as a custom reporting module add-on depending on the application.