



## SQM 600

## INTERGRATED SCANNING DATA ACQUISITION AND COLOR GRAPHIC SYSTEM



### TURN-KEY SYSTEM

SQM 600 is a fully integrated 3-D color graphics data acquisition system. The standard SQM600 system includes a late model desk top computer, a motorized linear/rotary scanning stage, 2-Axis controller, Color Printer and an SQM200 Surface Quality Monitor. All scanning and data acquisition is controlled by ROTOSCAN™ software.

The system can be used to scan a cylindrical sample surface and acquire data using any analog sensing device. It displays graphics in both color map and 3-D Topo map formats, with the ability to print out a color hard copy. The data can also be rinted out, in a matrix format, listing the linear/rotary position nd associated signal value.

### SOFTWARE FEATURES DESCRIPTION SCANNING

Enables the user to scan any cylindrical sample surface inside or outside, acquire data and display a color map on the monitor. The user can define the number of of readings around the circumference, the number of steps and the step-

size in the linear (Z) direction. These scan parameters are automatically saved and recalled to scan additional parts or re-scan the same part after some surface treatment. The feature is helpful in visualizing the effect of any treatment/ changes to the surface.

### COLOR GRAPHICS DISPLAY

A seven-color interactive graphics mode allows rapid visual analysis of the data. In this mode, the user has the ability to PAN and ZOOM onto a portion of the color map. The ZOOM portion can also be saved as a file. Two color maps can be displayed simultaneously to visually compare the two scans. This enables the user to visually analyze the effect of any treatment or the variation in two parts. Another feature is the ability to normalize, i.e., subtract point-by-point, one file from another. The resultant file is displayed in a 3-D type format.

A 3-D Topo map of the data can also be displayed on the screen. In this display mode, the user has the ability to tilt and rotate the image and set the Z-scale factor to visually enhance differences in the surface characteristics.



## SOFTWARE FEATURES DESCRIPTION (CONT'D.)

### ANALOG TO DIGITAL CONVERSION

An analog input of 0-5 VDC is standard input for the system. Other ranges of DC signal can be accepted with a minor modification, done at no additional cost. The SQM600 can accommodate any instrumentation that has an output which ranges within the standard or modified analog signal range.

### REPORT GENERATION

Any graphic image displayed on the screen can be printed on the color printer, which comes complete with the system. All scan parameters are also printed automatically. It is possible to print a list of all sensor data values, along with their corresponding linear/rotary position. The high, low, mean, and standard deviation of the scan are also printed out.

## DETAILED PRODUCT SPECIFICATION

### Linear/Rotary Scanning Stage:

- 6" Diameter Rotary Table ( $\theta$  - Axis),  
6" Z - Axis Travel with Sensor Holder\*
- Manually operated radial placement of sensor. A 1" travel micrometer allows for the fine adjustment

### Controller

- Two (2) Axis Stepping Motor Controller

### Model SQM200 System

- Surface Quality Monitoring System

### Desk Top Computer

- Late model mother board and processor, Hard Drive,  
3 1/2" Floppy Drive
- 17" Color Monitor
- Keyboard
- Stepping Motor Controller Card
- Analog to Digital A/D Card

### ROTOSCAN SOFTWARE

- Scanning Routines for defining number of readings around the circumference, the stepsize, in the linear direction
- File saving and management routines
- Color Graphics Display routines with Pan & Zoom capability. Displays as a Color Map or Topographic Map
- Copy display to the printer
- Data File printing capability

## OPTIONS

- Larger R and/or  $\theta$  travel Rotary table diameter and/or linear travel
- Replace SQM200 Surface Quality Monitoring System with other analog surface characterization sensors