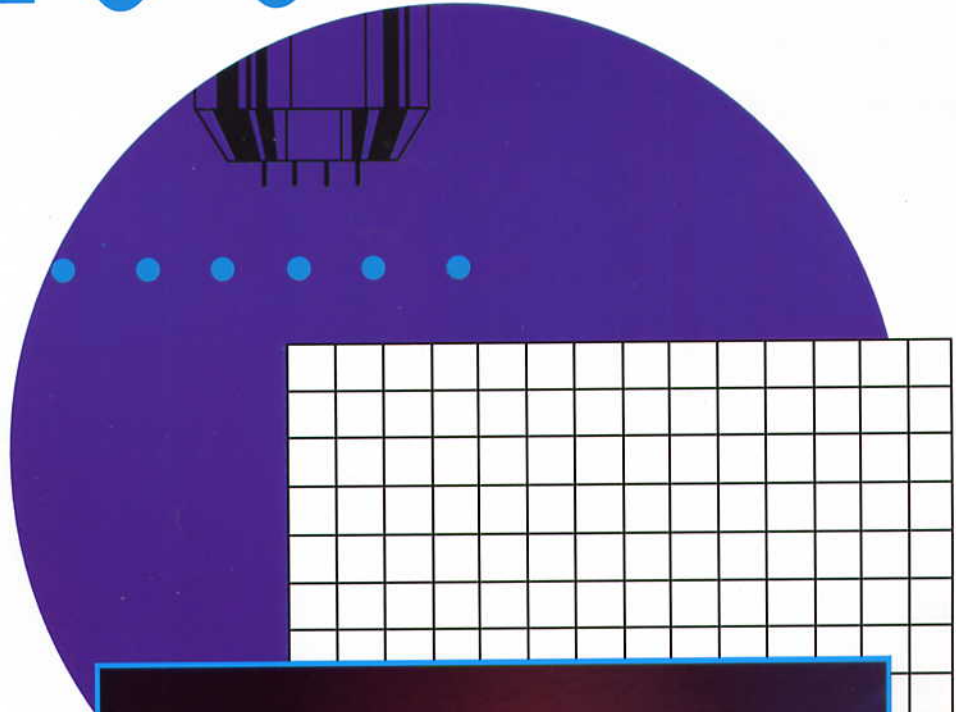


1100 SERIES

Far Reaching Four Point Probe Systems



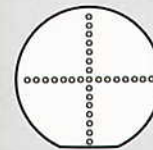
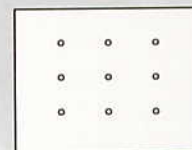
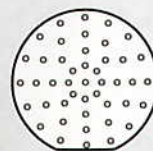
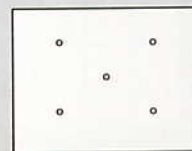
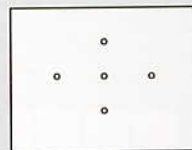
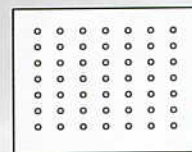
THE HIGH PERFORMANCE AND VERSATILE SYSTEMS

The 1100 series four point probe systems give you all the advantages you have come to expect from Four Dimensions -- measurement quality and reliability. Each of these systems provides the users with the ability to measure sheet resistivities of large flat film on a plate specifiable up to 24 inches square in maximum size. The 1100 series includes versions C,D,PPC, and S. The C version is computer controlled with capability to do mapping, process setup, data management, SECS I,II, SPC, auto calibration, probe repeatability check, ASKII data extraction, subtraction and many others. The D version has the capabilities of the C version plus extension of its measurement range to $8E11$ ohm/sq for amorphous Si films. The S version is C version minus SPC and SECS I,II. The P version has no computer control and is designed for making quick measurements at 1, 5 and 9 sites for different size of plate and printing the data on paper tape. The PC version is an advanced P version allowing automatic measurement at more sites and presenting data in various units.

X-Y MOVEMENTS TO REACH THE MEASUREMENT SITES

Up to 650 sites can be measured automatically. The contour and 3-D maps can be generated from these data. The array of measurement sites can be circular, Cartesian, in a window or of specially assigned pattern.

Some of the arrays are shown below:



It is possible to aim and make measurements at some small patterns on a production plate. Arrangement has to be made with the factory for this capability.

OPERATION IS SIMPLICITY ITSELF

To make measurements, the operator simply puts the plate on its designated position then, for the computer versions (C,D,S), select a stored process and key in the ID or, for key-button controlled versions (P,PC), key in the test setup and press the START button. The rest will be taken over by the machine.

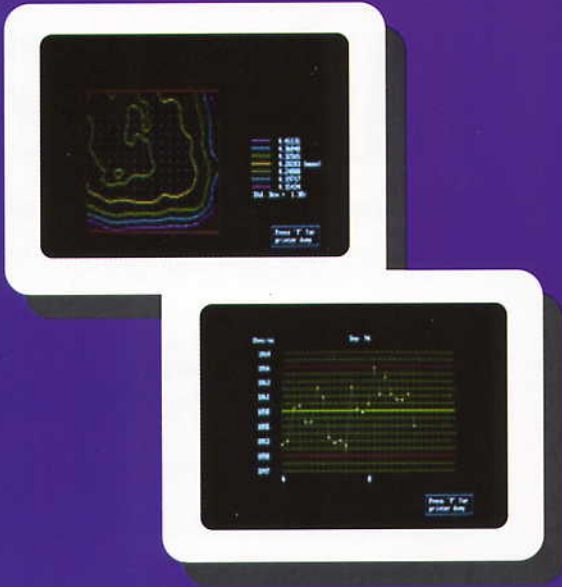
The computer controlled versions, C, D and S, allow the operator to sort, recall, edit and/or print out the stored data sets for mapping and/or analyzing with a few key-strokes. They also let the maintenance do the complete calibration within a few minutes through key operation. The C and D versions allow SECS II communication while the machine is not in standby state.

MEASUREMENT SPECIFICATIONS

The 1100 series measurement capability is defined by the following specifications:

- Plate maximum size: Specifiable up to 24 inch square.
- Sheet resistivity range: from <1 m ohm/sq to >800 K ohm/sq for all versions except version D, from <1 ohm to $>8E11$ ohm/sq for D version.
- Accuracy of the electronics: $< 0.1\%$
- Repeatability of the electronics: $< 0.05\%$
- Input impedance: $>1E12$ ohms throughout the measurement range.
- Measurement repeatability $< 0.2\%$ one sigma typically.
- Double configuration switching for improved measurement performance and automatic edge correction.
- Current and voltage set automatically for measurement.
- Compliance voltage ± 130 volts in current range $0.25 \mu\text{A}$ to 2.5mA .
- Compliance voltage ± 10 volts in current range higher than 2.5mA .
- Current resolution: 16 bit A/D.
- Measurement calibration NIST/VLSI traceable.





FACILITIES REQUIREMENTS

Power.....100/115/230VAC, 50/60Hz, 0.3 KVA

Vacuum.....20" Hg

Tabletop Footprint.....30"depth X 55"width X 22"height
(Standard size)

Total Weight.....130 Lbs.
(Standard unit)

PROBES

Probe Spacing.....1 mm (Standard)

Probe Force Range.....60-150g (Standard)

| TYPE | TIP RADIUS (μ) | MATERIAL |
|------|----------------------|----------|
| A | 25 | WC |
| B | 100 | WC |
| M | 300 | WC |

PRINTER

Printer Type.....Epson Dot Matrix, or HP Desk Jet

FOUR DIMENSIONS, INC.

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REPRESENTED BY: