

## DOUBLE SIDED PROBING SYSTEM

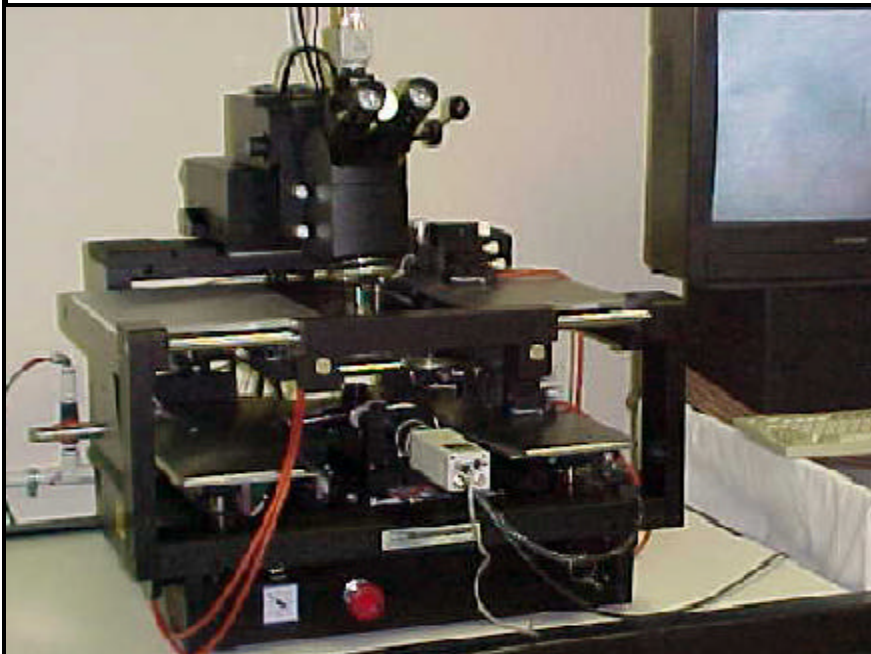
### Introduction

Probe the *backside* of the wafer and probe the *front* side of the wafer simultaneously with Micromanipulator's Double Sided / Backside Probing System. This robust, stable solution finds application for Emission Microscopy, Optical Device Characterization, and MEMS analysis. Using the model 8065 or the model 8860 probe station as the base for this system, probe front only, backside or double sided. Micromanipulator's wafer carrier approach provides flexibility for wafers or DUTs, even "odd" ones.

### Features

- Wafers are mounted in an elevated wafer carrier assembly which mounts on prober base frame.
- Removable rack accepts the wafer carrier.
- Dual top side platens for backside probing.
- Bottom side probing from the standard platen.
- Use standard manipulators (525 style recommended).
- 8" x 8" (200 x 200 mm) wafer carrier travel.
- 8" (200 mm) focus block on topside microscope to allow double sided or standard probing.
- Topside microscope travel 4" x 4" (100 mm x 100 mm).
- Bottom side microscope has 8" x 8" (200 mm x 200 mm) range of travel.
- Monocular microscope for underside viewing, features 6.5x zoom range. Includes mount for prober stage, remote control illuminator with fiber optic light guide. Standard magnification range: 73x - 472x on 13" screen. Auxiliary lenses optional.
- Underside Microscope has remotely controlled Zoom and Focus.

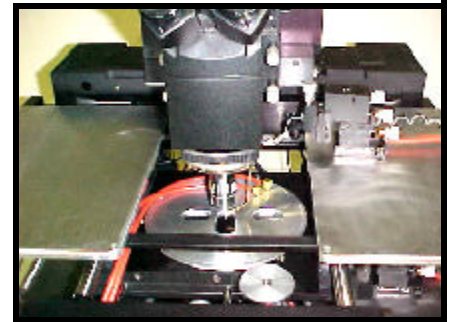
*Double Sided Probing System features a wafer carrier support plate.*



### Control Features of the System

The station provides control of:

- Underside Camera X-Y (via station stage) and Lower platen Z.
- Topside microscope X-Y and Z-focus.
- Wafer (DUT) carrier X-Y.



*Close up of wafer carrier.*

### Double sided option is available for:

- Programmable stations 8860-DS(X) (6" or 8").
- Integrated into the station controller (only one controller and joystick are needed to control all motorized system functions).
- Motorized / programmable control of Wafer Carrier X-Y, underside camera X-Y, Platen Z, underside microscope zoom and focus and optional top microscope X, Y and Z provided as programmable selection.
- Control integrated into pcProbe II control software.

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A1014192 rev 1 © 7/02

Specifications subject to change without notice.

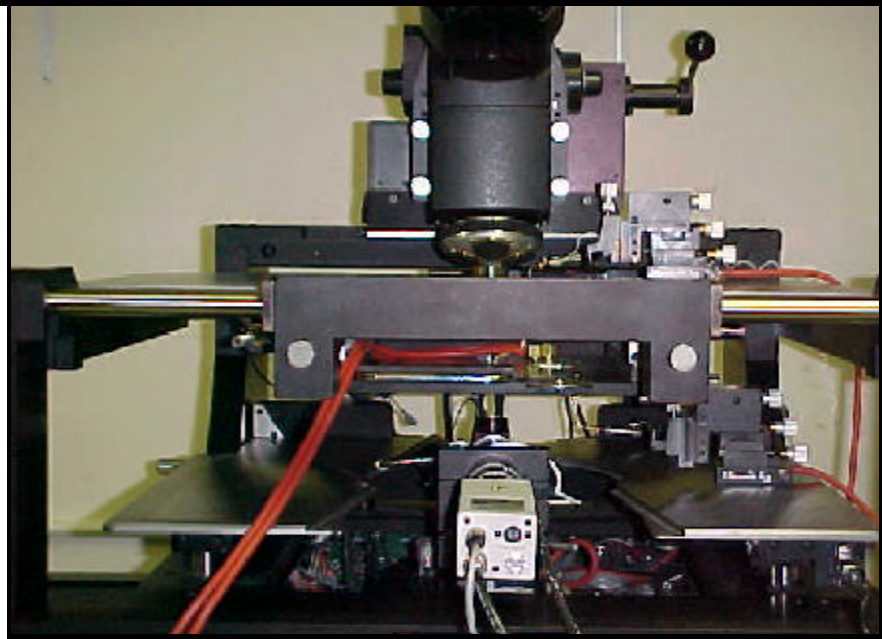
Motorized stations  
8065-DS(X)

- Motorized / interactive joystick control of Wafer Carrier X-Y, underside camera X-Y, Platen Z, underside microscope zoom and focus and optional top microscope X, Y and Z provided as joystick selection.

## Wafer Carrier

(order separately for correct wafer size)

- The Wafer Carrier has a mechanical as well as vacuum hold down.
- The wafer may be rotated by the theta control without touching the wafer.
- The Wafer Carrier support plate supports thinned areas of the wafer allowing for probe or probe card probing.
- The plate may be rotated so any point on the wafer is supported.
- The DUT or wafer carrier is mounted into the transport rack. Slide it in over probes or over a probe card.



Probe both sides of wafer simultaneously.

## FAQs

(Frequently Asked Questions)

### Can I use a standard chuck (or thermal chuck) to do standard probing?

- Yes, the lower side microscope is removable and the theta assembly is the same as a standard 8000 prober.
- Order the station standard (with the appropriate plumbing option) and then the backside option for that station.

### Can I use a standard chuck (or thermal chuck) to do standard probing without removing the Double Sided Assembly?

- You can probe from the standard platens without removing the wafer carrier transport if desired. This will just limit the microscope travel to about  $\pm 1$ " (25 mm).

### Can I planarize the wafer carrier?

- Yes. The carrier mounts in slides and planarity (left to right) can be adjusted. Front to back planarity is set at the factory and is not affected by insertion of the carrier.

### Can I use any probe holder?

- The probe holder must be shaped properly for top side or underside probing. But any probe type (coaxial, triaxial, etc.) can be made in this shape. Contact the factory with your requirements.

### Can I use a probe card?

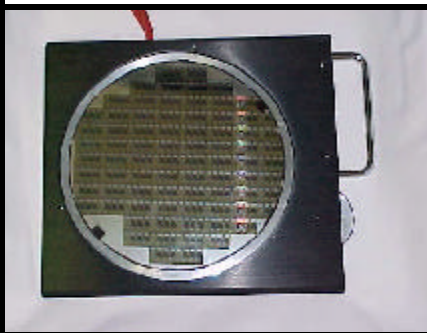
- Yes, probe cards are supported with an inverted probe card holder.

### Can I use any manipulator?

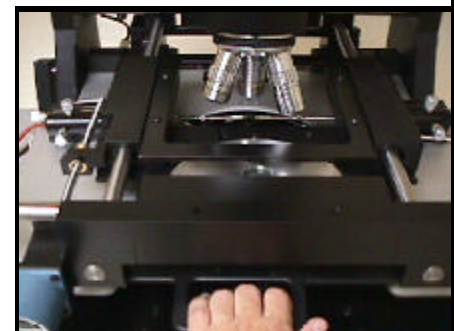
- The models 525 and 2525 provide the most flexibility in height adjustment. Also, the quick Z feature of these manipulators is very useful in this application. Others can be used but we recommend the 525 / 2525 models.

### Can I retrofit an existing station?

- Yes. The station must come back to the factory for the installation.



Front side of wafer on carrier.



Wafer carrier pulled out for loading sample.