

Introduction

The Low Current capability of the HP 4156 can be fully realized with the following Micromanipulator probing station configurations. These configurations will provide a complete "4156 Ready" probing system in either manual or semi-automatic form.

Configuring a System:

Order the items indicated from sections I through VI below (section VII are options). Items listed as "V1" are for 110v 60 Hz operation. For 230v 50 Hz operation change "V1" to "V2." Items listed as "V0" are 110v 60 Hz / 230 v 50 Hz switchable.

I. The Station:

Order a manual or semi-automatic station as desired:

8060-FS8-V0-1-N

Manual station features:

- 8x8" (200mm) manual stage drive.
- 4x4x2" (XYZ) manual microscope drive.
- Kelvin Triaxial chuck wiring, also supports 0-400 deg H1000 chuck.

8860-FS8-V0-1-N

Semi-automatic station features:

- 8x8x1" (XYZ) programmable stage/platen drive.
- 4x4x2" (XYZ) manual microscope drive.
- Kelvin Triaxial chuck wiring, also supports 0-400 deg H1000 chuck.
- PCP2-CORE pcProbe II Control software and control computer.

Note: For operation to -65 deg C change "N" in above part numbers to "M."

Note: HP-VEE and IC-CAP feature drivers for pcProbe based semi-automatic stations. For semi-automatic use with ICS order pcWAFER and ICS-PCP-2 in options below.

II. The Microscope:

(recommended model)

USMC-REM-V1: 10x eyepieces; 2, 10, 20x objectives, fiber optic illuminator.

Note: See options for additional objectives.

III. Chuck Options

Order either or both ambient and/or thermal chuck (station allows easy switching of chucks).

8800-EVS-LN8: 8" ambient triaxial chuck.

CHK8800-8A: 8" Triaxial thermal chuck will function from -65 to 400 deg C.

IIIA. For Thermal Chuck:

Order a heat and cool controller for temperature range desired:

For ambient to 400 deg C:

order both

- H1000-DC1-V1: DC heat controller.
- C1000-V1-HE: Self-contained cooling option (cools to ambient).

For 0 to 400 deg C: *order both*

- H1000-DC1-V1: DC heat controller.
- C1000-V1-C-0: Self-contained cooling option (cools to 0 deg C).

For -65 to 400 deg C:

order both

- HC1000-DC1: DC heat controller and -65 deg C cooling controller combined. 230V input power required.
- HC1000-65-2.5G: Cooling fluid for -65 deg system (1.0 gal).

Note: Micromanipulator semi-automatic probe stations and thermal chucks may be used to obtain low current measurements with all controls and powered components on.

IV. Manipulators, Probe Holders, Probe Tips:

Choose one of the following manipulator/probe assemblies:

2525VM-79K: Manipulator / Kelvin probe assembly includes

- 200 TPI manual manipulator with fast Z lift.
- 79-8000-HTD0-03 Probe holder Kelvin Triaxial with high temp isolator.
- 7A-60 Probe tip, pre-bent to 60 deg attack angle, 0.005" tip, 0.35 um point radius. One box of 10 tips.

2525VM-79SW: Manipulator/ single wire probe assembly includes:

- 200 TPI manual manipulator with fast Z lift.
- 79-8000-HT0-03 Probe holder single wire Triaxial with high temp isolator.
- 7A-60 Probe tip, pre-bent to 60 deg attack angle, 0.005" tip, 0.35 um point radius. One box of 10 tips.



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V. Shielded, Dark Enclosures:

Choose one of the following options:

8800-DRYSHLD-HP:

Integrated dry, dark and shielded environment.

Includes:

- 8800-DRYSHIELD: Integrated Dark, shielded environment with internal dry air distribution channels.
- 8800-RELIEF-HP:

Strain reliefs (one pair) for HP 4156 Kelvin cables (mounted on sides of probe station).

8800-ISE-HP: Shielded, dark dry mini-enclosure. Includes strain relief feedthroughs for HP 4156 and internal dry air distribution channels.

8800-LTE-HP: External Shielded, Light Tight Enclosure plus integrated dry environment.

Includes:

- 8800-LTE External LTE.
- 7000-LTE-HP4156 Feedthrough panel for HP4156 (qty 2 one on each side of LTE).
- 7000-LTE-SOCK Universal hose and cable feedthrough (qty = 2).
- SUB-TABLE-9100 Isolation sub table for vibration isolation table and 8800-LTE.
- 8800-TEMPSEAL Integrated dry environment for 8800 probers with internal dry air distribution channels.

Note: User must supply dry air for all dry environments above.

VI. Vibration Isolation Tables:

Recommended for manual systems:

9102-02-21-GR48 30" x 48" table with front and back guard rails, 1300 LB capacity.

Recommended for semi-automatic systems:

SPP9512016 Vibration isolation table with rack mounted prober controller. Includes:

- 9102S-02-21-GR48 30" x 48" vibration isolation table.
- 19" rack in table with prober controller mounted in rack.
- Heavy duty castors.
- Monitor and keyboard shelves.

VII. Optional items:

Select for manual or semi-automatic systems as indicated:

8800-FPC-ADJLN8: Fixed Probe Card holder for low current stations. Use with all stations.

Silver Series Low Current Probe

Cards: See data sheet for specifications and configurations. Use with all stations.

Microscope Options

(for all systems):

- **US-TILTHD-B:** Tilthead binocular assembly adjusts to different user heights.
- **US-OB-50X:** Objective 50x 20.5mm WD .42 NA.
- **WM-130:** Objective 80x 15mm WD .50 NA.
- **WM-131:** Objective 100x 13mm WD .55 NA.

Software Options

(all items for semi-automatic systems only):

- **PCP2-WAFER:** pcProbe II wafer map module.
- **ICS-PCP-2:** ICS to pcWafer DDE interface

Note: To complete the interface to ICS both pcWafer and ICS-PCP-2 are required.

- **pcTC:** Thermal chuck and DDE "master" control program.
- **pcBRIDGE:** Translator for external computer interface via RS-232 or GPIB (GPIB also requires 8800IEEE-IO).
- **8800IEEE-IO:** GPIB hardware for pcBridge.

Video Options:

- **PC2-FG-1-V1:** Integrated video capture and display module for pcProbeII. For semi-automatic systems only.
- **WM-155-V1:** Video camera and monitor system with microscope adapter. Recommended for manual systems. For semi-automatic systems, PC2-FG-1-V1 is recommended.

8860-THETA: Motorized / programmable theta control option for semi-automatic systems only.

8800-DRY-1-V0: Dryer unit. Cleans and dries facility air for input to prober dry environment. Can be used with all systems.

900VM: Motorized, programmable manipulators provide remote probe control. Contact factory for exact configuration for manual stations (900VM-L/R-REM) or semi-automatic stations (900VM-L/R).

Product Photos

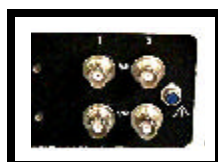
Application Note



8860 probe with 8800-ISE and HP 4156 Parametric Test System.



Gate Oxide sweeps produced on the 8860 system pictured above.



7000-LTE-HP4156 Feedthrough panel shown with HP Kelvin cables (cables must be purchased through HP directly).

