

CHECKMATE *Series*



At Signatone we like to think of the CheckMate Series as the Swiss Army Knife™ of analytical probe stations, which shouldn't be confused with the *One-Size-Fits-All* (or two) approaches of the competition. Why should you have only 2 choices - manual or semiautomatic? The CheckMate Series can be configured with as much, or as little automation as you need today, with the flexibility to upgrade as your needs change, which they no doubt will - SIGNATONE - your partner for intelligent probing solutions.



PERFORMANCE, QUALITY, VALUE

SIGNATONE®

Advanced Microprobing Solutions Since 1968

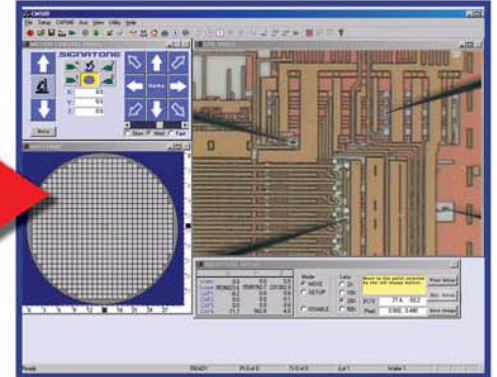
UPWARD MOBILITY FOR PROBE STATIONS



Put velvety-smooth 17 axis control in the palm of your hand with the ThumbDrive joystick. Sub-micron control has never been so easy, or precise. An FA "must have".



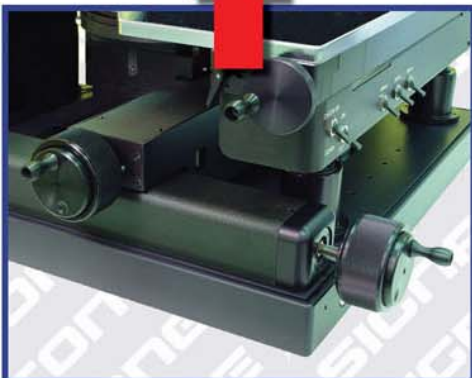
OS independence? Our customers demanded it. As long as your controller has either USB or GPIB, we've got you covered. No more surprises when you install the latest S/W.



The culmination of over 15 years of probe station automation, FlexProbe seamlessly integrates all elements of control into a highly-intuitive, single-layer user interface.



Option 200 adds motorized axes with proportional joystick control, along with convenient stage and microscope transport selection and remote chuck up/down control.



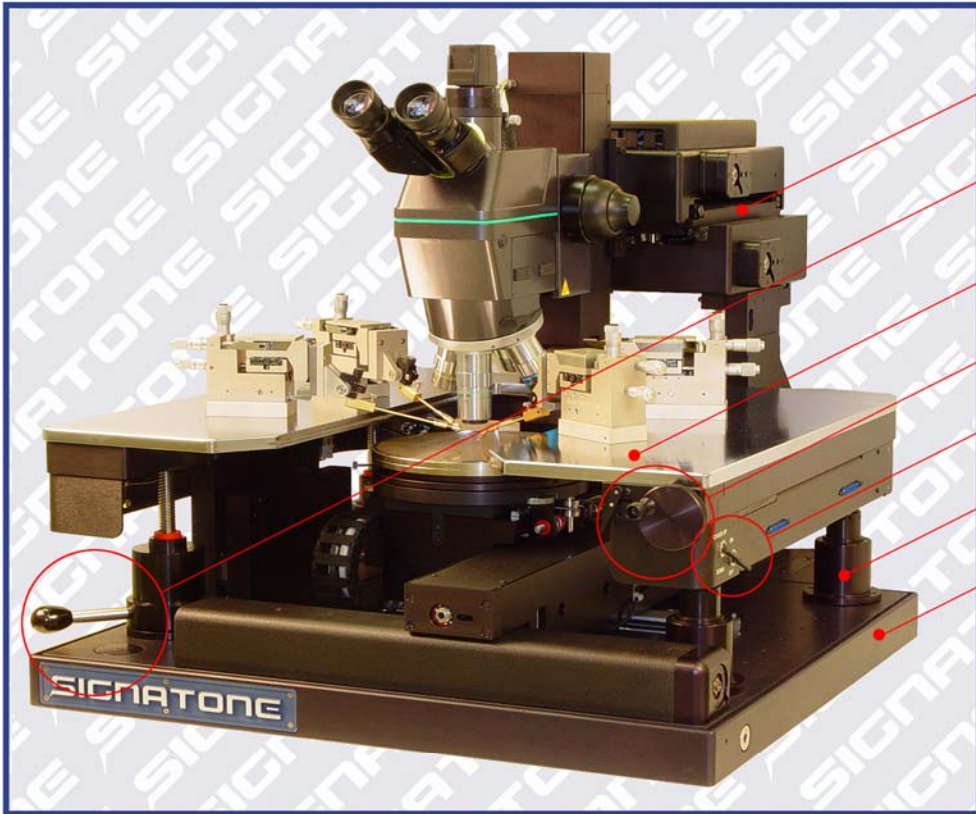
CheckMate manual stations utilize coaxial coarse and fine drive knobs for the utmost in control and convenience. As your needs change, so can your prober, *In Your Lab!*

The CheckMate Series of analytical probe stations reflects a very simple philosophy of design - make it strong, make it stable, make it accurate, but above all, make it easy to use. At Signatone we believe that when you get it right, it's simple. Since your probing applications are varied and complex, the ideal prober will be able to adapt as your needs change, and setup changeovers should be measured not in hours, but in minutes.

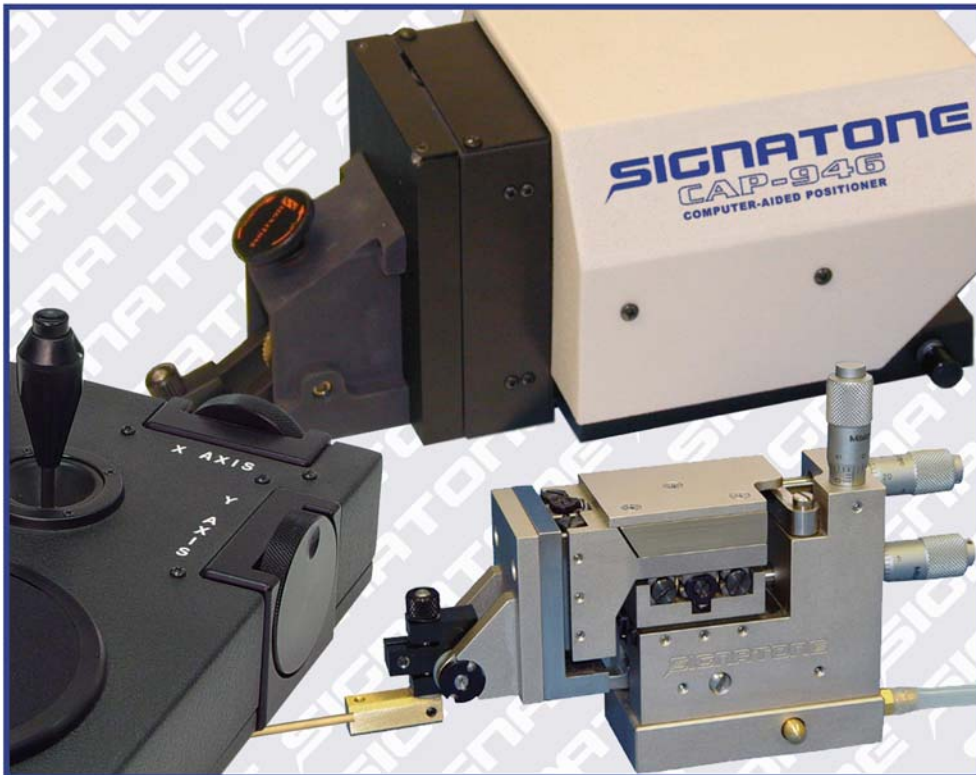
You should also be able to maintain your probing investment over time. The average life expectancy of a modern prober exceeds a decade, yet the semiconductor industry changes daily, often radically. That's where CheckMate's modular architecture can be your salvation. Want to motorize your manual station? Upgrade to semiautomatic? Need to add programmable positioners for Failure Analysis, but don't need a fully automated station? *No problem!* Want to do it in your lab? Quickly? *No problem!* That modularity also benefits you when you buy your station initially. Purchase only the level of automation you need, and know that when you need more technology, it'll be available, at no penalty. Signatone -

We Listened!

UPWARD MOBILITY FOR PROBE STATIONS



- 10" cross-roller bearings for smooth, stable operation and load support
- Leadscrew-driven contact/ separate control with hard "down stop" for repeatability
- Choose from nickel steel or aluminum platen
- 2" platen range with lock
- Pneumatic chuck contact/ separate switch
- 4-point platen support and lift
- 2" base plate for superior rigidity



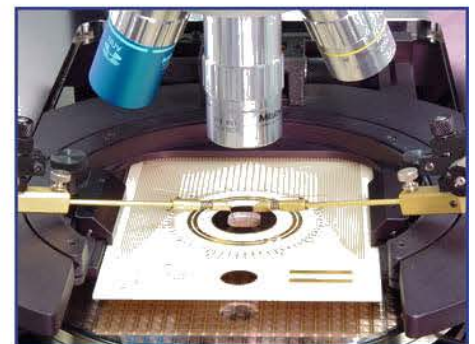
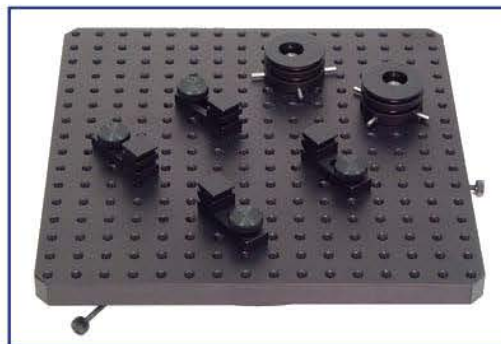
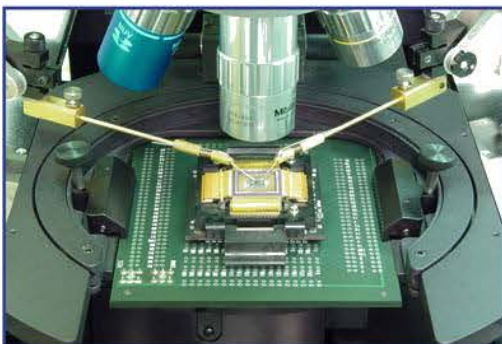
As geometries continue to shrink the need for ever increasing resolution, and in some cases, hands-off operation, becomes more and more critical. For manual users we recommend the SP-150, which mounts all three micrometers in a rigid rear apron, which minimizes vibration coupling. For deep sub-micron work we offer our 50 nM CAP-946 programmable positioner, with our ThumbDrive joystick, which yields unmatched precision and control. This provides additional utility in light-tight applications requiring remote positioning.

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Specifications

	<u>CM-21X/31X</u>	<u>CM-22X/32X</u>	<u>CM-23X/33X</u>	<u>CM-25X/35X</u>
X-Y Stage				
Travel	200mm/300mm	200mm/300mm	200mm/300mm	200mm/300mm
Resolution	Manual	Motorized Manual	0.1µm	0.1µm
Repeatability	Manual	Motorized Manual	1.0µm	1.0µm
Accuracy	Manual	Motorized Manual	3.0µm	3.0µm
Speed	5mm/.5mm Per Turn	20mm/Sec	50mm/Sec	50mm/Sec
Bearings	Carriage & Rail	Carriage & Rail	Carriage & Rail	Carriage & Rail
Stage Drive	Coarse/Fine Knobs	DC Motors, Joystick	DC Motors, Encoded	AC Servo, W/Scales
Z Stage & Theta				
Z Range	Contact/Separate	Contact/Separate	Contact/Separate	0.375"
Resolution	Pneumatic ↑↓	Pneumatic ↑↓	Pneumatic ↑↓	0.06µm
Repeatability	2.0µm	2.0µm	2.0µm	0.1µm
Contact/Separate	0.015"	0.015"	0.015"	Programmable
Theta Range	± 7.5 Degrees	± 7.5 Degrees	± 7.5 Degrees	± 6.0 Degrees
Resolution	0.35µm/0.55µm	0.35µm/0.55µm	0.35µm/0.55µm	0.055µm/0.075µm
Chuck				
Diameter	200mm/300mm	200mm/300mm	200mm/300mm	200mm/300mm
Metallurgy	Au/Ni Plated Al	Au/Ni Plated Al	Au/Ni Plated Al	Au/Ni Plated Al
Vacuum	Multiple Zones	Multiple Zones	Multiple Zones	Multiple Zones
Flatness – Ambient	< 6µm/8µm	< 6µm/8µm	< 6µm/8µm	< 6µm/8µm
Thermal	< 20µm/25µm	< 20µm/25µm	< 20µm/25µm	< 20µm/25µm
Platen				
Z Range	2", Locking	2", Locking	2", Locking	2", Locking
Contact/Separate	0.15"	0.15"	0.15"	0.15"
Lift	4 Pt. Leadscrew Driven	4 Pt. Leadscrew Driven	4 Pt. Leadscrew Driven	4 Pt. Leadscrew Driven
Metallurgy	Ni or Al	Ni or Al	Ni or Al	Ni or Al
Positioner Support	Vac./Mag./Bolt-Down	Vac./Mag./Bolt-Down	Vac./Mag./Bolt-Down	Vac./Mag./Bolt-Down
Microscope Transport				
Range	2" x 2"	2" x 2"	2" x 2"	2" x 2"
Resolution	Manual	Motorized Manual	0.1µm	0.1µm
Repeatability	Manual	Motorized Manual	2.0µm	2.0µm
Accuracy	Manual	Motorized Manual	10.0µm	10.0µm
Z-Lift	4" Pneumatic	4" Pneumatic	4" Pneumatic	4" Pneumatic
Facilities & Mechanical				
	<u>200mm</u>	<u>300mm</u>		
Dimensions (HxWxD)	55 x 66 x 78.5 (21.6" x 26.0" x 30.9")	59 x 75 x 98 (23.0" x 29.5" x 38.7")		
Net Weight	91 kg (200 lb.)	160 kg (375 lb.)		
Shipping Weight	150 kg (325 lb.)	205 kg (450 lb.)		
Air	2 CFM @ 30 PSI	2 CFM @ 30 PSI		
Vacuum	400mm/15" Hg	400mm/15" Hg		



Signatone offers a wide range of standard and custom accessories for wafer and non-wafer applications. Contact us for more information.

SIGNATONE

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