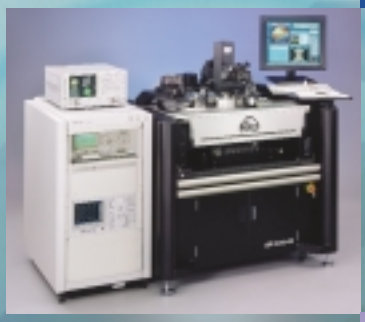




Unmatched features and performance, now available in a 300mm wafer prober

The Cascade Microtech S300 probe station sets the measurement standard for 300mm wafer test. Whatever your application: device characterization, wafer-level reliability, e-test, device modeling, or yield enhancement, the S300 with integrated MicroChamber® and AttoGuard™ technology provides the lowest noise, leakage, and residual capacitance. Thus creating a measurement environment to satisfy the accuracy and speed of the most demanding applications. The S300 assures best-in-the-world measurements, now for 300mm.

CASCADE® MICROTECH

Innovating Test™ Technologies

Best-in-the-world measurements - now for 300mm wafers

300mm wafers present you with more than enough difficult test and measurement challenges. That's why we believe that your probe station should be "invisible" to your test instruments, allowing you access to the full measurement range of your DC, RF and other test instruments. The Cascade Microtech S300 Probe Station does just that, and more.

The Cascade Microtech S300 Series Probe Station builds upon the unmatched electrical performance and popular features of our Summit and Alessi 8 in. prober series, and incorporates a new integrated system design which makes on-wafer probing even easier than before. Convenient access to all controls, fast sub-micron motion control, and the new Nucleus Prober Control Software, enable increased test throughput and productivity.

With Cascade, you get not only precision tools, but the analytical test experience, applications support, and continuing emphasis on advanced research that has led to the revolutionary S300 Series Parametric Wafer Probing System. With the S300 Probing System, Cascade Microtech continues to assure best-in-the-world measurements.



The S300 is available with Cascade's patented MicroChamber providing a light-tight, EMI-shielded, and dry environment. Wafers are easily loaded using the integrated, locking roll-out stage.

Superior DC/CV Measurements

With devices getting smaller and line widths continuing to shrink, accurate and repeatable femtoamp level dc measurements are not a luxury any more, they're a necessity. To achieve these accurate and repeatable DC/CV on-wafer measurements, ultra-low noise, leakage, and measurement settling times are critical for a probing system. Mechanical & system scaling issues associated with using larger 300mm wafers make this even more critical.

To provide this increased electrical performance, and support larger 300mm wafers, the Cascade S300 series probe station utilizes our new 3rd generation Triaxial chuck. Designed specifically for 300mm wafers, this ultra-low noise and ultra-low capacitance chuck, allows you to access the full measurement range of existing and new DC parametric test instrumentation. Now you can easily measure below 1fA, and 1 fF. Whatever your application: wafer-level reliability, e-test, modeling, or yield enhancement, the Cascade Microtech S300 series Probe Stations deliver best-in-the-world DC/CV measurements.



Above: Easy access to the wafer is provided on the S300.

Superior RF Characterization

A complete microwave test solution goes far beyond simply connecting the probes, probe station, and test instrumentation. With Cascade Microtech you get not only precision tools, but the analytical test experience you need to make accurate, repeatable, on-wafer measurements.

A complete customized Cascade Microtech RF/Microwave test system includes a S300 series probe station, patented Air Coplanar® Probes, NIST-verified Impedance Standard Substrates, powerful Prober Control and WinCal Calibration Software, as well as complete accessories.

Our close association with Agilent Technologies (formerly Hewlett Packard) ensures that the full potential of your vector network analyzer extends right to the wafer level.



Superior Design

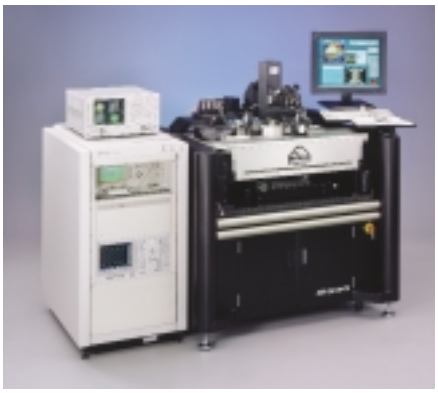
Patented MicroChamber® for Fast, Noise-Free Results

Cascade's integrated MicroChamber® is a low-volume, enclosed area around the chuck, providing a dark, moisture-free, EMI- and RFI-shielded measurement environment for your device under test (DUT).

Ideal for thermal applications, the low-volume MicroChamber purges in less than 15 minutes with dry air or nitrogen for moisture and frost-free measurements down to -55°C. And all probe station controls remain outside the enclosed chamber, so you'll always have easy access to positioners, microscope and chuck controls – while the DUT remains dry & protected inside.

Easy Wafer Handling

With the S300, wafer handling has never been easier. The S300's locking, rollout stage glides completely forward and completely clear of the station's platen and frame to easily and safely load 6", 8" and 12" wafers. Even small 1mm wafer shards can be tested with ease.



RF and DC device characterization with no compromises.

Precision Stage

In addition to the precision motorized X-Y-Z stage, the S300 has a new motorized theta – with closed loop encoding now on all 4 axes – providing precise, repeatable 300mm wafer alignment.

The S300 also has complete manual controls for all 4 axes, in addition to motorized control of the wafer stage. This allows "hands-on" manual control as well as "hand off" joystick and remote programming control of the system.



The S300 has complete manual controls for all 4 axes in addition to motorized control for semiautomatic stations.

Fully Integrated System for Speed and Convenience

- Built-in Anti-vibration Support
- Rigid granite base
- Integrated mounts for monitor, keyboard, mouse and joystick
- Convenient access doors for storage
- Integrated Dry Air Purge Management

Setting the Industry Standard for Precise DC/CV Measurements on 300mm Wafers



FemtoGuard® for Low Level DC Characterization

At the heart of Cascade's ultra-low noise chuck systems is the patented FemtoGuard technology that extends triaxial guarding around and under the wafer chuck, inside the shielded MicroChamber environment.

The newly designed high performance 300mm FemtoGuard chuck, together with its triaxial connections, provides ultra-low noise and leakage measurements down to less than 1 femtoamp across the entire 300mm wafer surface.

AttoGuard™ Technology for Ultra Low Level CV and IV Measurements

Cascade's AttoGuard technology further enhances measurement performance for both thermal to 300°C and ambient characterization, delivering the best low-capacitance measurements in the industry. The AttoGuard extended shield allows critical device capacitance measurements to be made down to attofarad levels, guaranteeing full measurement range of your parametric tester.

S300 systems with AttoGuard, also enhance IV measurements with fast millisecond chuck settling time, and the lowest guarded thermal chuck noise in the world.

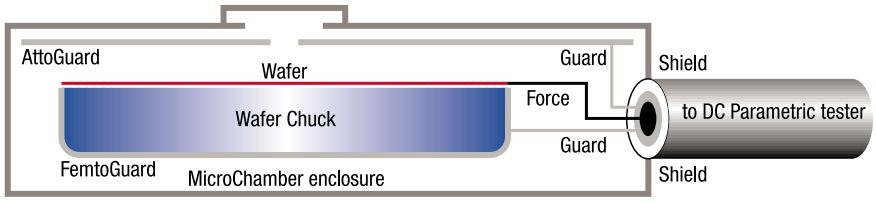
New High Performance Thermal Chuck

Increased chuck size (300mm) and improved sub-fA level performance, requires a revolutionary chuck design. Developed exclusively by Cascade Microtech, the S300 features new High Performance Triaxial thermal and non-thermal chucks.

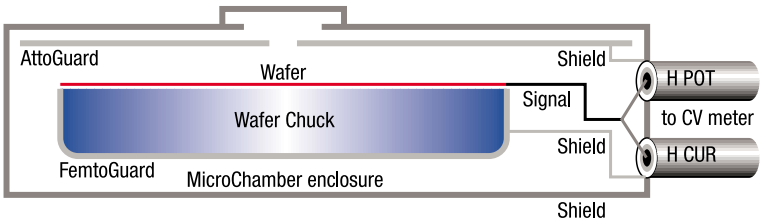
The thermal sub-system within the new Cascade Microtech guarded thermal chuck now operates free from thermal electrics through the use of an advanced DC heating system. Larger capacity chiller, faster transition and improved heat transfer speeds your measurements with greater reliability than ever before. -55°C or ambient to 200 or 300°C in one system. Simple.

The advanced High Performance thermal and non-thermal chucks use Cascade's patented guarding and shielding technology, producing the legendary low-noise, low-leakage, low-capacitance measurements that only Cascade Microtech can deliver. Proven technology you can trust.

For high temperature 300°C systems the platen is air cooled, and safety interlocks are incorporated.



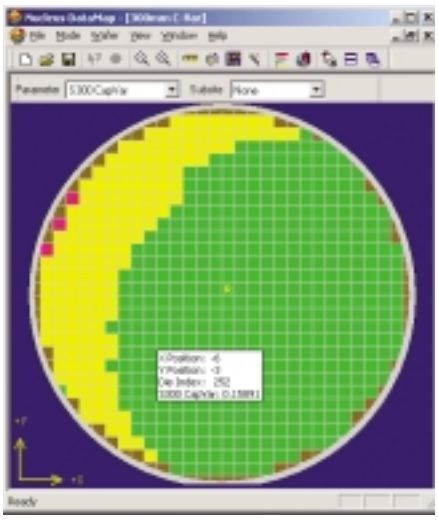
Patented AttoGuard configured for high-speed FemtoAmp IV measurements.



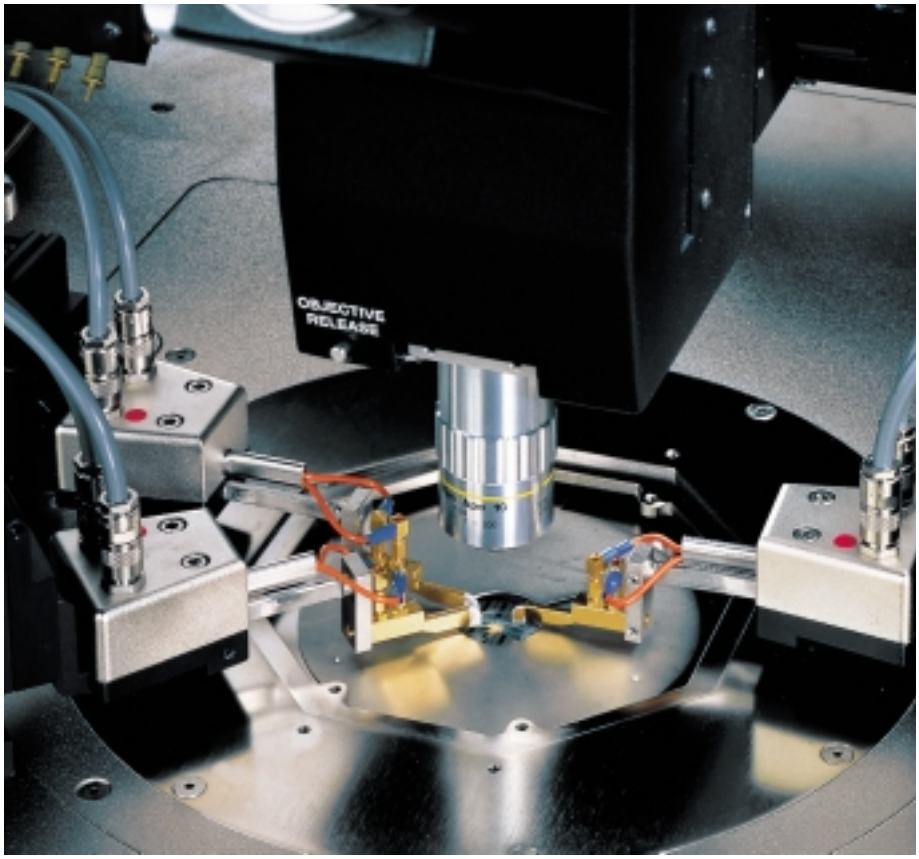
Patented AttoGuard configured for AttoFarad resolution CV measurements.

The AttoGuard™ enhances system performance in 4 critical ways:

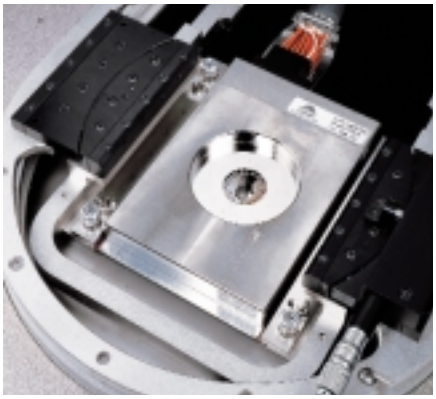
- 10 attofarad capacitance resolution: The AttoGuard surrounds the DUT with the CV instrument's quiet ground providing a complete shield. The full measurement range of high resolution CV meters is now attainable.
- Femtoamp level IV measurements: The AttoGuard is augmented with triaxial chuck connections for low noise IV measurements down to 1 fA.
- Single zero CV measurements: Like a Faraday cage, the AttoGuard presents a constant potential to the wafer regardless of the position of the chuck minimizing capacitance variation to typically less than 1 fF. Complete wafer, topside-to-substrate measurements can be made with a single zeroing of the capacitance metering system reducing test time and errors.
- Faster ramped IV measurements: The AttoGuard reduces residual chuck capacitance from hundreds of pF to below 2pF. Orders of magnitude lower capacitive error currents and chuck settling time allow for very fast ramped IV substrate measurements.



The AttoGuard reduces the capacitance variation of chuck measurements to <2fF. (Without AttoGuard technology, due to chuck positioning and varying system offsets, capacitance measurements can have large pA level errors (>1000fF).



Cascade's AttoGuard completely shields the probes from the influence of the chuck and wafer below.



The Probe Card provides up to 48 low-leakage probes for measurements below 5 fA.



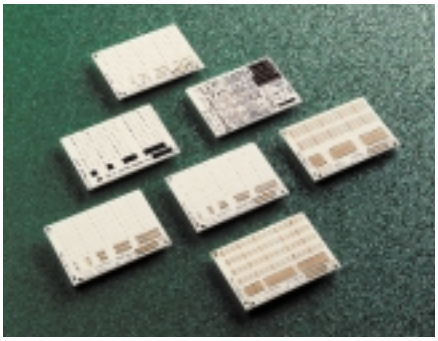
High-performance ceramic DCP Probes ensure less than ±10 fA of leakage + noise current over a -55°C to 300°C operating range.

Create Accurate Device Models with Superior RF Calibration Technology

The technology that makes Cascade products the industry standard for over temperature RF device characterization is carried forward into the S300 design. Patented thermally isolated auxiliary chucks that do not rotate with the chuck, maintaining critical alignment; MicroChamber provided EM shielding; Wincal calibration and parameter extraction software; pad parasitic removal software; and high quality RF and power bypass probes provide a complete solution for your RF probing requirements.

The heart of any RF probing system is the ability to provide accurate calibrations. Without which, the collected S-parameter data is meaningless. Only Cascade Microtech offers the proven accuracy of LRRM calibrations with load inductance compensation.

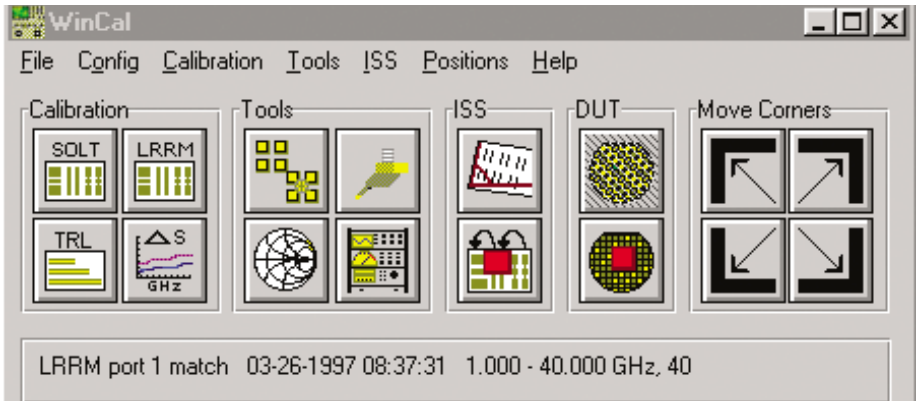
RF device characterization and modeling has become mission critical for 300mm wafer production and the technology in the S300 will provide the accuracy needed to insure success.



Using Cascade Microtech calibration substrates ensures greater accuracy and better repeatability for on-wafer calibration.



Network Analyzer and probe station integration insures fast, easy, and accurate RF results. Cascade's software and hardware integration with all major VNAs enables a probing environment where fast and accurate measurements are made easy.



NIST Verified ISSs

Cascade's family of impedance standard substrates (non-dispersive calibration standards usable through 110 GHz) support all of your high-frequency probing applications, including Pyramid Probe™ cards.

Powerful WinCal Software

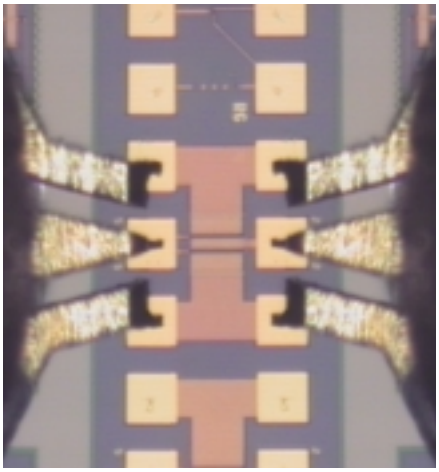
Cascade's WinCal Calibration Software provides the simplest, most accurate, repeatable, network analyzer calibrations for precision on-wafer measurements. New pad parasitic removal routines incorporated into the software perform one-step corrections for device pad parasitic removal. WinCal assures measurement integrity by allowing you to monitor system drift.

Cascade's WinCal Calibration Software offers the proven accuracy of NIST-verified LRRM calibration with load-inductance compensation. LRM/LRRM calibration along with Cascade's ISSs provides the highest accuracy in the industry.



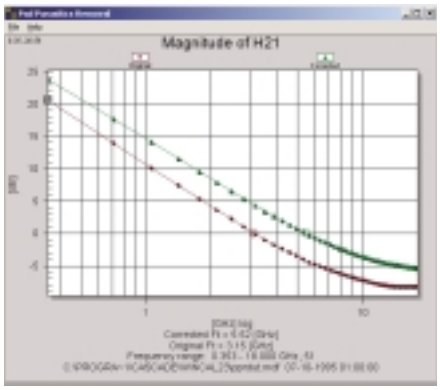
Patented HPC Probes

On-wafer device characterization measurements demand the best performance from a probe. That's why Cascade Microtech developed is HPC-series probes. Unlike general purpose probes that tradeoff electrical performance for production ruggedness, our HPC-series probes are designed to tackle the exacting demands of on-wafer, device characterization measurements.

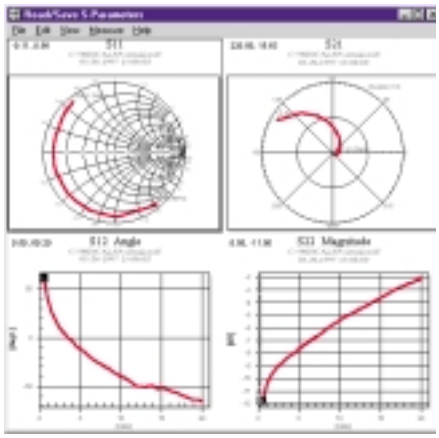




Superior tip visibility insures repeatable probe placement on ever shrinking pad geometries. 40, 50 and 65 GHz versions are available for both gold and aluminum pad probing.



Silicon device Ft measurements before and after pad parasitic removal using WinCal software.



Wincal calibration software also conveniently displays S-parameter information.



Non-rotating auxiliary chucks maintain a constant alignment even after wafer changes, optimizing the probe station throughput.

Cascade Microtech S300: Integrated High Performance and Easy to Use

Sturdy Optics Mount Options
- High stability tilt-back bridgemount ideal for probing fine structures 25 x 25 mm (1 x 1 in.)
- Large area bridgemount with linear lift ideal for array and large-area probing 203 x 127 mm (8 x 5 in.)

Convenient Connection Panels
- Solid anchor for triax, dual triax and quadrax SMU cables - CV meter BNC cables
- Fast reconfigurability for various IV/CV test needs

Improved Top-hat
- Set up in <1 minute
- 20% larger working area
- Optimized for all DC and RF measurement probes

Flexible Seals
- Accommodates up to 8 low noise probe positioners
- 53 mm *X-Y* microscope adjustment range
- Ensures light-tight and EMI integrity

Patented MicroChamber®
Chuck enclosure ensures light-tight, EMI-protected measurements, eliminates dark box making over-temperature measurements easy

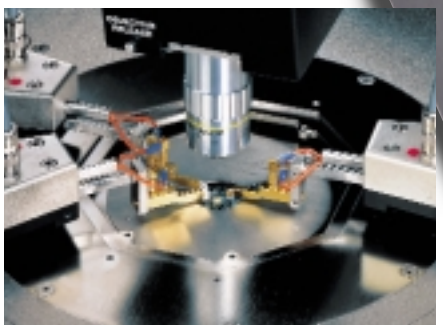
Safety Interlocks
- *X-Y* motion control safety interlock
- IV instrument high voltage safety interlock

Safely Load and Unload Wafers
- Full wafer access via locking roll out stage

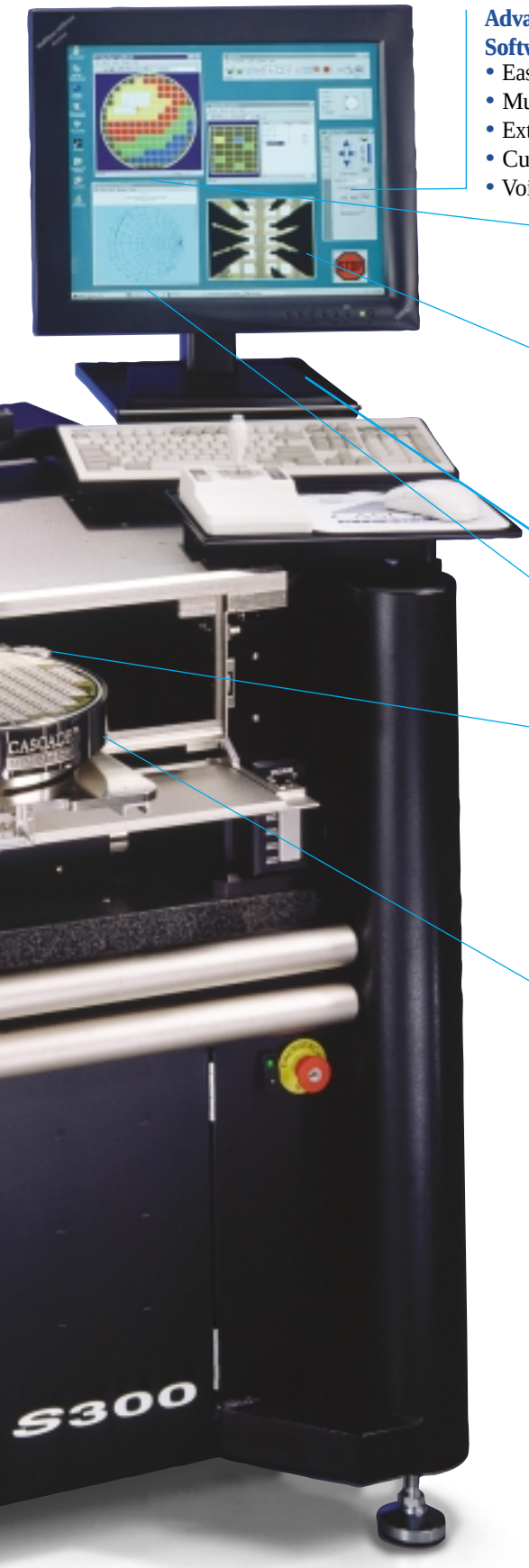
Stable Computer System
Industrial grade rack mount computer runs Windows NT for superior software reliability

Integrated Storage Area

Patented AttoGuard™
- Makes the station invisible to your IV and CV instruments
- <1fA noise in Triaxial IV measurements
- 10aF resolution CV measurements







Advanced Nucleus™ Prober Control Software on Windows®NT

- Easy-to-use graphical interface
- Multi-user support
- Extensive on-line help
- Customizable setups
- Voice Feedback

Fast Test/Measurement Automation

- Real-time wafer mapping
- Point-and-shoot probe plan
- IEEE, DDE/OLE support

Powerful WinCal Calibration Software

Provides the simplest, most accurate, repeatable, network-analyzer calibrations for precision on-wafer measurements

Integrated Accessory Mounts

Read/Save S-Parameters within WinCal

Read, display, and store S-Parameter data to file in Touchstone format

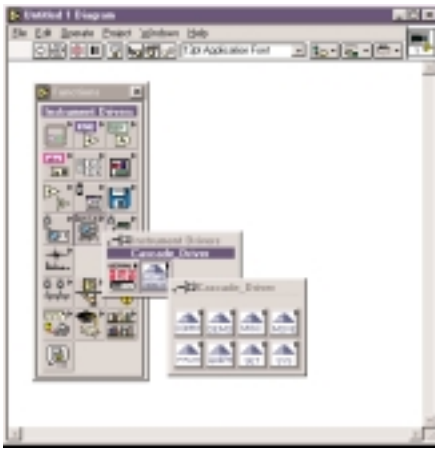
Quick Access to RF Calibration Standards

Two patented auxiliary stages with separate vacuum control incorporated with the chuck provide quick access to ISSs for VNA calibrations and verifications and stable 50 Ω calibrations for overtemperature measurements

Integrated Thermal Chuck

Fully integrated guarded or coaxial thermal chuck heats or cools your test devices, not your calibration standards.

Patented FemtoGuard® Triaxial Guarding Technology



Seamless Test Software Integration

- Metrics I/CV
- Agilent VEE and IC-CAP
- LabVIEW™
- ATN NP5 and Load Pull



Fully Compatible with Agilent Test Instrumentation

Our close association with Agilent ensures that the full potential of your test instruments now extends right to the probe tips.



High-accuracy Programmable Micropositioners

- Hands off sub-micron device probing
- Enable automatic test and TRL calibrations
- Manual override knobs on x, y, and z axis

Easy-to-use multi-purpose probe station for Failure Analysis and R&D labs

In addition to superior DC & RF measurement performance, the S300 is designed to meet today's stringent testing requirements, with ultra-high resolution for analytical probing and semiautomatic operation. Powerful Nucleus software allows semiautomatic testing of semiconductor devices with sub-micron resolution at the touch of a button.

Multi-purpose Probing

The S300 accommodates a wide variety of applications making it an ideal platform for multipurpose and failure analysis probing. The power-assisted tilt-back microscope and platen lift handle make application changeover and needle replacement effortless.

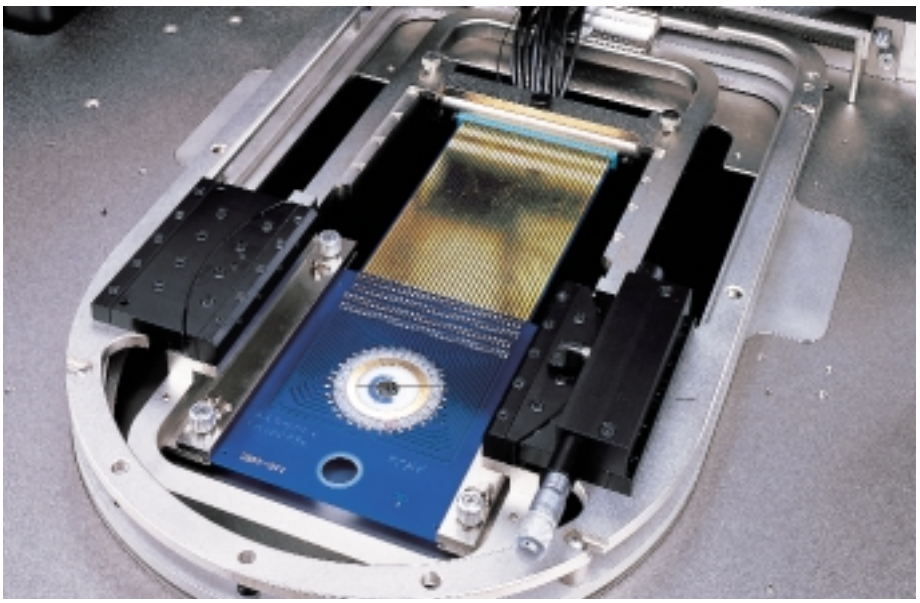
The excellent vibration-isolation design of the S300, allows you to easily resolve line widths at the sub-micron level, making the probe station ideal for testing on-wafer integrated circuits. The long 10mm Z stage travel, and extra platen lift also allows for easy packaged part fixturing and testing.



High Accuracy Programmable Micropositioners with manual override knobs for x, y, and z axis



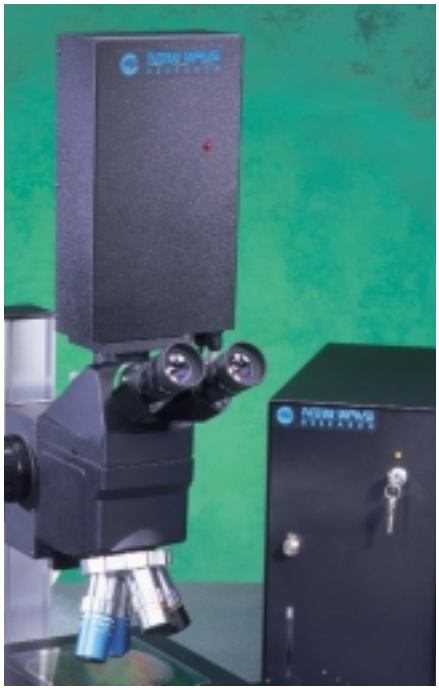
Manual loading of precious 300mm wafers is Safe and Easy with the locking roll-out wafer chuck. For completely hands free loading, a robotic wafer loader with E15.1 FOUP load door port is available.



The High Force Probe Card Holder has tilt-up hinges for easy edge connector probe card insertion.

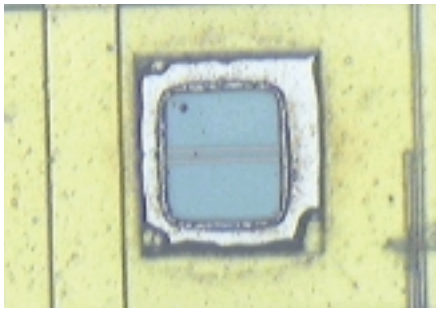
New S300 Tools for Multi-purpose Probing

- Dark Box for light-tight measurements without a MicroChamber
- Low profile Probe Card Holder for simultaneous probing with a needle and probe card.
- High Force Probe Card Holder can support multi-needle cards requiring up to 20Kg (44lb) load force
- High temperature thermal chuck systems for Yield & WLR measurements
- Air flow management system provides critical temperature uniformity with thermal chucks



Perform a wide range of laser cutting operations for semiconductor design verification and failure analysis.

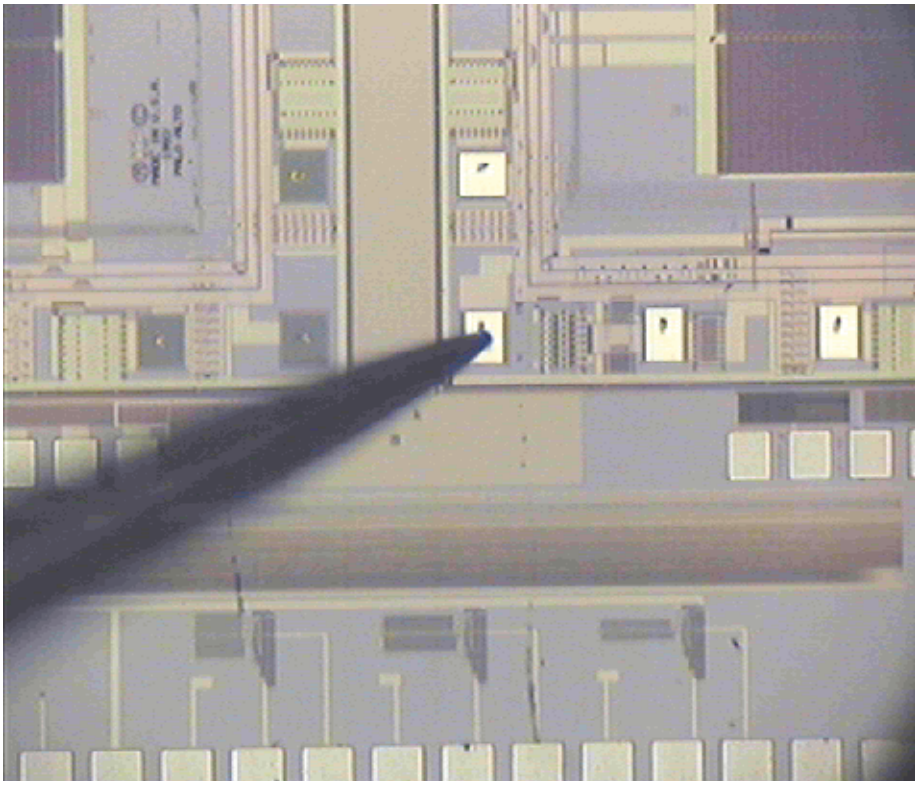
Application	Common Problem	Cascade Advantage
Liquid Crystal Analysis	Thermal defect location	Temperature gradient control to 0.1°C throughout full temperature range with crystal solutions, available from approximately 30°C to 100°C.
Emission Microscopy	Photon generation defect location	System integration with commercially available emission microscopy products.
Internal Node Probing	Submicron device probing	Localized deprocessing with multiple wavelength laser systems combined with hands-off programmable positioners.
Application Specific Set-ups	Wasted time and aggravation when changing from application to application	Manual and motorized override of all programmable functions under closed-loop continuous tracking conditions. Extremely useful for fast probe tip replacement in programmable and CAD navigation environments.
WLR High-Temperature Reliability Measurements	Temperature unit must be cycled off to make low-leakage measurements	fA level leakage measurements can be made with the thermal unit on, providing increased throughput



Using the precision motorized microscope transport (optional) and Nucleus Prober Software, you can navigate to a test node, remove the Polyimide & SiO2 over metal lines, cut down to metal 3, and then probe with sub-micron stability



Passivation removal is simple when you add a laser system to the S300 analytical probe station. Use about 50 shots of very low UV energy (355nm) through a 50X NUV objective.



Integrated Nucleus Live Video with mouse "Point and Shoot" makes hands-off sub-micron probing seem simple. Nucleus software also integrates all GUI features for motion control into a one easy-to-use panel.

Superior Nucleus 32-bit NT software enables maximum prober reliability and test productivity

At the heart of a semiautomatic wafer probe station is the control software. The software must make it easy to control the prober and all its functions. Nucleus does that and more. This next generation prober control software is powerful, yet extremely flexible, easy-to-learn and use, and allows you to customize the control of your S300 semiautomatic probe station.

New Advanced Features

Nucleus utilizes all the features and customer experience of our previous PCS and Galaxy prober software, while adding many new and advanced capabilities. Nucleus now simplifies the tedious task of creating wafer/sub-die maps for auto-stepping data collection, and integrating test software is now even easier. It's extremely easy to use and operate for first time-users performing simple tasks, and it provides many advanced features for more complex test applications

Stabile and Reliable Software

Nucleus uses an ultra-stable, 32-bit software core, designed to run with Windows®NT™/2000. Together, these provide a stable and robust environment for precision motion control. The Nucleus System Manager manages all prober hardware, including the 4-axis stage with full closed-loop encoder feedback, while the Nucleus Interface manages the GUI. This client-server design enables rock-solid stability needed for increased test productivity.



Graphical User Interface

The Graphical User Interface (GUI) allows engineers and test operators to quickly learn and use the probing system software. Toolbars are created to provide often-used features with animated icons to enhance the visual presentation. New features include:

- Pop-up HELP for instant on-screen information
- Right mouse clicks offer useful programming choices
- Customizable toolbars & buttons

Multi-user Support

To get the best productivity from your prober system, multiple engineers and test operators can share the S300 system. Nucleus supports multi-user operation by providing:

- Log-in security
- Personalized user ID's for all users
- And Save/Restore of all software settings



Audio & Voice Prompts

To improve ease-of-use, and increase productivity, Nucleus features customizable user sounds and voice prompts. They provide audible feedback to important probing events and supplement visual actions. You can keep your eyes on the important test wafer, and let the prober speak to you.

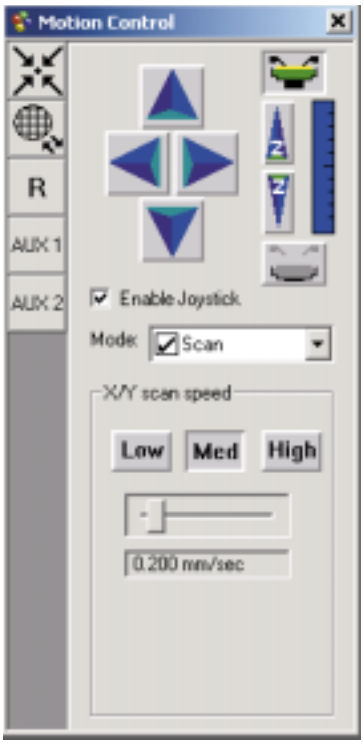
Wafer Mapping

The extensive wafer mapping and data configuration editor adds considerable capabilities to maximize test accuracy. Assigning colors for different data parameters enables you to make a rapid assessment of the wafer's performance.

- Real-time data monitoring for Pass/Fail, and other tests
- View device performance maps
- Mouse click wafer moves
- Graphical sub-die editor

Productivity Tools

- Extensive on-line help & user guides eliminates paper manuals from your clean room
- Built in hardware verification confirms system functionality
- New remote programming tools for developing and debugging custom test software
- Operator alerts via E-mail. "last die tested" or "vacuum lost" , etc.
- 2-point wafer alignment for fast and easy theta setup
- Distance tool for measuring wafer die dimensions



Completing the Software Test Solution

Test Automation and Software

A complete DC/CV parametric test solution is composed of much more than just the best prober measurement system, and the best parameter analyzer, it's also the best test software and automation tools.

The Cascade Microtech S300 probing system can be expanded from a precision parametric wafer prober and test instrument, though to a fully integrated automated measurement system complete with low leakage or RF probe card, switch matrix and Windows based software for maximum accuracy, productivity, and easy to use.

Integration Tools

We partner with key semiconductor companies to provide integration tools to develop complete solutions. Whether you want to use an existing test software package or develop your own test software environment, Cascade provides a complete set of tools for an integrated solution.

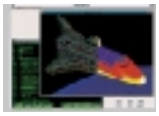


A rigid granite base with anti-vibration support make a stable measurement platform. Ample storage area is provided for the computer controller and accessories.

Support for Industry standard test software includes Metrics I/CV, Agilent IC-CAP, BTA Technology BSIMPro, RelPro+, Silvaco UTMOST, and many others.

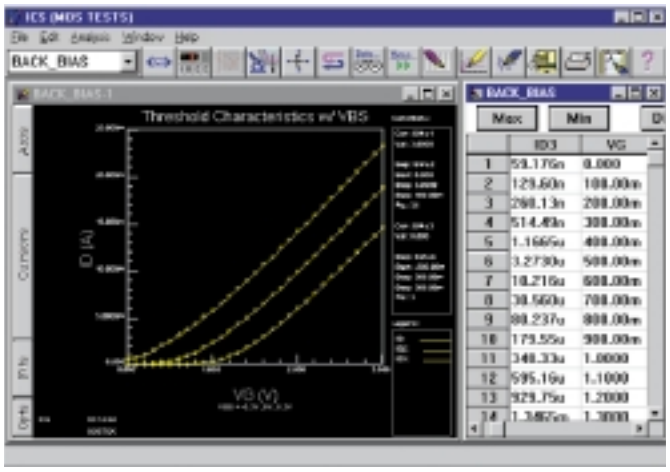
Drivers and sample programs are available for Agilent VEE, LabView, MS Visual BASIC, and HP/TransEra BASIC for Windows.

VEE The user-friendly, iconic-based Visual Engineering Environment, Agilent VEE is ideal for repetitive measurement automation, and custom test development.

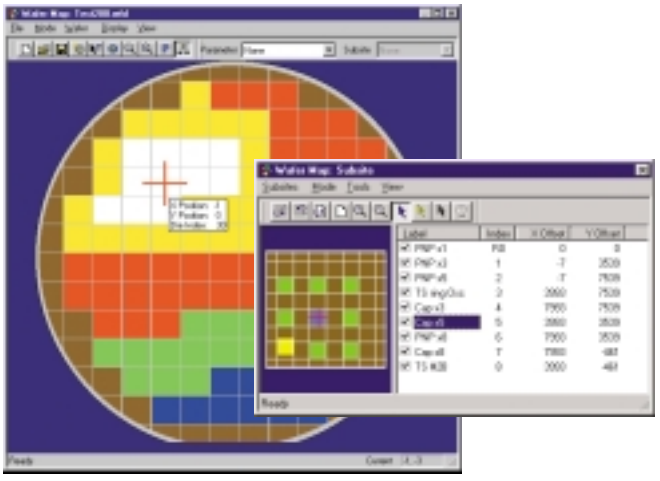


HP BASIC

Connect PCS to HP/TransEra "BASIC for Windows" by using the Cascade ATN/BASIC Toolkit.



Data collection and analysis are easy using the I/CV built-in graphical analysis and database, especially designed for semiconductor applications.



Automate test sequences with a wafer probe plan. Point and click to easily add or remove a test die, then start the probe plan using real-time graphical wafer mapping.

S300 DC/CV Measurement Advantage

Measurement	Common Problem	S300 Measurement Advantage
Cox- C-V measurement	Capacitance varies depending on probe or chuck location. LCR meter must be zeroed at each site	Extended probe tip shielding along with MicroChamber assures <2 fF capacitance variation over entire chuck surface. No need for zeroing
Hot-Carrier Induced Gate Leakage	Long measurement settling time	Ultra-low-capacitance Cascade Microtech probes and probe cards reduce settling time to milliseconds
Icp - Gate Charge-Pumping	Wafer chuck adds noise to substrate, limiting substrate current measurement	S300 AttoGuard chuck allows 1 fA substrate current measurements
TVS - Triangular Voltage Sweep	EMI from thermal chuck heater perturbs DUT measurement area	S300 FemtoGuard thermal chuck reduces perturbations providing up to 3,000x more sensitivity for mobile charge detection
Hfe - Gummel Plot	High capacitance (pF range) causes DV/DT errors; very slow voltage sweeps must be used	Ultra-low capacitance probes and accessories allow fast, error-free sweeps
High-temperature device characterization	High-capacitance chuck results in long measurement settling times and possible test equipment oscillation	Guarded chuck reduces chuck capacitance by 50 times. Guaranteed compatibility with Agilent parametric testers
WLR high-temperature reliability measurements	Temperature unit must be cycled off to make low-leakage measurements	fA level leakage measurements can be made with the thermal unit on, providing increased throughput

S300 RF Measurement Advantage

Over-Temperature S-Parameter Measurements	• Moisture or frost accumulation on wafer. Long purge times for dry box • System calibration drift is often > 10% over temperature	• Patented low-volume MicroChamber is purged in < 15 min. with dry air or nitrogen allowing frost-free measurements to 55°C • WinCal software checks stability of probes, cables, and VNA to user-definable limits. Auxiliary chucks holds an ISS for re-calibration and contact substrates for planarity checks
Noise Parameter	Probe and cable losses limit source gamma and accuracy	Ultra-low loss ACPs and source mounting hardware can reduce losses < 0.25 dB max.
Ft Measurements	Pad parasitics mask intrinsic Silicon device parameters	WinCal's pad-parasitic removal routines de-embed Ft measurements to reveal intrinsic device performance
Lightwave/OE	Laser diode impedances are too low to use a 50W probe for pulsed bias measurements	Resistive matching ACP probe allows broadband impedance matching

Probe Station Performance

X-Y Stage
Travel: 301 mm x 301 mm
(11.9 in. x 11.9 in.)
Resolution: 0.1 µm (0.004 mils)
Repeatability: ≤ 2 µm (0.08 mils)
Speed: > 51 mm/sec (2 in./sec.)
Accuracy: ≤ 4 µm (0.16 mils)
Bearings: Precision ball

Z Stage
Travel: 10.0 mm (395 mils)
Resolution: 1 µm (0.04 mils)
Repeatability: ≤ 3 µm (0.12 mils)
Speed: >15 mm/sec (0.6 in./sec.)
Lifting capacity: ≤ 15kg (33 lb.) *
*Measured at edge of 300mm chuck

Theta Stage
Travel: ± 7.5 degrees
Resolution: 0.5 µm (0.02 mils)*
Repeatability: ≤ 3 µm (0.12 mils)*
*measured at edge of 300mm chuck

Chuck
Size: 304 mm (12 in.) diameter
Material: Nickel or gold-plated aluminum
2 integrated auxiliary stages:
Multi-Zone vacuum controls
Flatness: thermal chuck < 30 µm
non-thermal 15 µm

Platen
Z lift range: 1.3 mm (0.05 in.)
Z lift type: Precision 4-point Linear
Repeatability: ≤ 3 um (0.12 mils)

System includes
Wafer loading support with Roll-out chuck
Anti-vibration system
Storage area for computer controller & accessories
Castor wheels, and System leveling feet.

Typical Probe Station Configuration

Optics Bridgemount
System Controller
Microscope
- Optem A-Zoom
- Mitutoyo FS60
- Olympus StereoZoom

Positioners
Probes
Cables & Accessories
Thermal Chiller/Controller
Video System

Facility Requirements

Vacuum: 400 mm (15 in.) of Hg min.
Dry air purge: (thermal systems only) 3 liters per sec.
(6 SCFM) with dewpoint of <-65°C
Compressed air : 0.5 litres/sec (1 CFM @ 85 psi. min.)
Power: 115 V @ 2 A, 230 V @ 1 A 50/60Hz

Dimensions

Station: 132 cm (W) x 113 cm (D) x 108 cm (H)
(52 in. x 44 x 41in.)
Net weight: 780 kg (1,720 lb.) including optics bridgemount

Regulatory Compliance

All S300 series stations conform to CE mark and are ETL listed.

For More Information

Refer to the *Nucleus 2.0 Prober Control Software* data sheet for more information on station control software.
Refer to *S300 Configuration Guide* for more information on accessories to complete your system.

Parametric System Electrical Performance

Model Number	Thermal System	Probe Leakage + Noise P-P		Probe Card Leakage + Noise		Chuck Leakage + Noise P-P		Residual Chuck Capacitance	Capacitance variation
		off	on	off	on	off	on		
S300-56X & S300M-56X	No	<1 fA	--	<5 fA	--	1 fA	--	0.4 pF	2 fF
S300-75X & S300M-75X	Yes	<1 fA	<10 fA	<5 fA	<10 fA	1 fA	<100 fA	75 pF	75 fF
S300-86X & S300M-86X	Yes	<1 fA	<5 fA	<5 fA	<5 fA	1 fA	<20 fA	<2 pF	2 fF

Ordering Information



S300

300mm

- Non-MicroChamber
  - Non-Thermal — S300-10X
  - Thermal — S300-16X
  - High Temp Thermal — S300-16XHT
- MicroChamber
  - Non-Thermal — AttoGuard — S300-56X
  - Thermal
    - Standard — S300-65X
    - FemtoGuard — S300-75X
    - FemtoGuard w/AttoGuard — S300-86X
  - High Temp Thermal
    - Standard — S300-65XHT
    - FemtoGuard — S300-75XHT
    - FemtoGuard w/AttoGuard — S300-86XHT

- *Where "X" is 1 for nickel plated and 2 for gold plated chuck. (e.g. S300-16**1**)*
- *Order numbers shown are for Semiautomatic stations. For manual station, add "M" to order number, after "S300". (e.g. S300**M**-161)*
- *Add "-8" to model number for 200mm (8 in) chuck. (e.g. S300-161-**8**)*

S300 Accessories

High Stability Optics Bridge Mount 118-491

Large Area Optics Bridge Mount 118-492

Triaxial Connection Panel (for High Stability Mount only) 118-640

Probe Card Holder (MicroChamber version) 118-391

Computer Accessory Platform Kit
(for computer monitor, keyboard, mouse & joystick) 118-770

Video Monitor/Accessory Platform 122-295

Thermal Controller and Chiller (-55 to 200ºC)
230V, 60Hz: 120-251-C
230V, 50Hz: 120-251-E

Thermal Controller (Amb. to 200ºC)
230V, 50/60Hz: 120-391-H

High Temperature Controller/Chiller units available . . . .call for order number

FOUP Wafer Loader available . . . . . .call for order number

CASCADE MICROTECH

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