



## PanScan Freedom with Multi-Angle, High Resolution Optical Access to Tip/Sample Junction

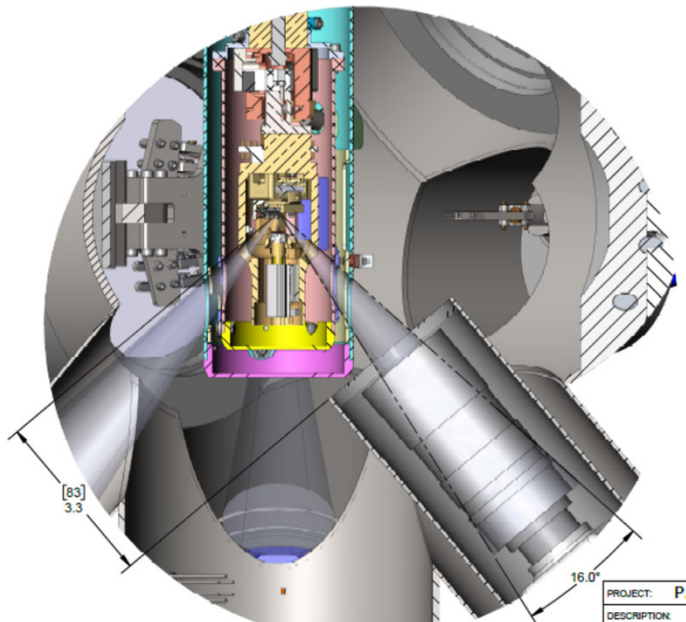
### *PanScan Freedom: Better by Design*

RHK's dedicated staff of the industry's most experienced scientists and engineers worked for years to optimize every component of PanScan Freedom. Its advantages are clear: lowest noise, lowest drift, superb STS, ultimate convenience, experimental flexibility, and increased productivity. And never any cost or hassle for LHe.

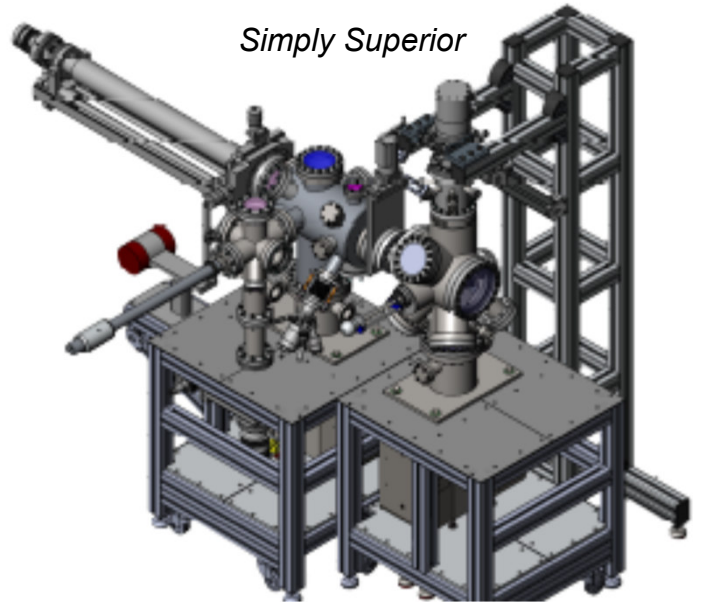
### *Devotion to Engineering Excellence Brings New Breakthroughs*

Now RHK scientists open a whole new window on Freedom capabilities and advantages:

**Unmatched, multi-angle, high resolution optical access to the LT tip/sample junction.**



### *Simply Superior*



PanScan Freedom's small footprint, ultra-compact layout, and easy expandability are preserved while High Resolution Optical Access achieves 4 micron resolution across a broad solid angle, therefore allowing probe positioning to specific sample features with precision of 2 microns.

Users gain a direct line-of-sight view of the tip/sample junction and the ability to manipulate the camera and light source for optimal contrast on graphene and other low-contrast samples, while still assuring LT tip and sample uniformity.

With RHK's superior design and engineering, users can now conduct research into new areas requiring enhanced optical access without sacrificing LT stability or cryogen-free operation.

**Not just remarkable...  
revolutionary.**

**Only from RHK.**



## RHK Broadens the Frontiers of Atomic Scale Research

Every day, in university and government labs around the globe, RHK research platforms lead to new discoveries in nanotechnology. Founded in 1981, RHK Technology brings over 30 years of experience to the design and manufacture of advanced UHV SPM instruments. Our installed base continues to grow and now includes nearly 250 systems and 1500 controllers. In addition, RHK's surface science systems integrate only the best analytical and preparation instruments from top industry suppliers. To further advance products and performance, we consult top scientists on our Technical Advisory Board as well as customers confronting new research challenges.

RHK delivers compelling value and proven quality to broaden the frontiers of atomic scale research.

For over 30 years the world's leading researchers have depended on RHK to deliver the highest performance SPMs and control systems. ***Now, RHK offers our innovative optional enhancement to the PanScan family with increased optical resolution capabilities, which is ideal for researchers who want to identify and navigate to specific sample features before scanning.***

Purpose-Built Hardware, Electronics, and Software for lowest noise, highest performance, and industry leading performance. Innovation in every nanometer from the industry's most experienced designers.

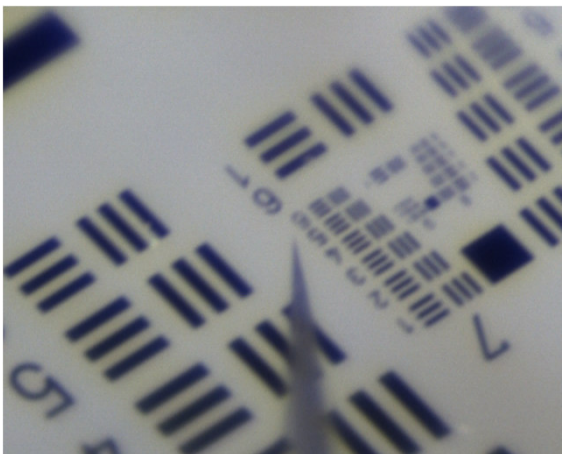
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### Option: Improved Optical Access for 4 $\mu$ m Resolution

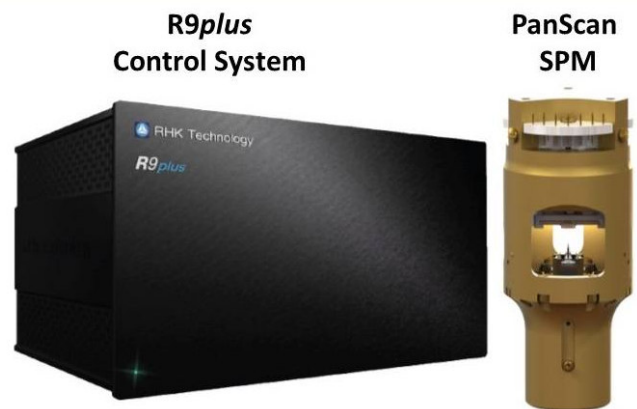
- Precise positioning of the probe onto a specific area of the sample with a precision of 2 microns
- Light and lens can be adjusted to provide optimum contrast for low contrast samples such as graphene
- Capability available on up to three separate chamber ports for multi-angle high resolution optical access
  - Lens/camera assembly can be included

No adverse impact on PanScan Freedom advantages: 9K base temperature, lowest noise, lowest drift, superb STS with tip & sample at same temperature, 3D coarse motion, and more.

**All with no cost or hassle for LHe!**



Optical image of the tip-sample junction on a USAF 1051 resolution test target showing 4 micron resolution in a PanScan Freedom, thereby allowing probe positioning to specific sample features with precision of 2 microns.



Explore with Confidence



**RHK Technology**  
Imaging the Future of Nanoscience