

# SSPM-3055

## Super Scanning Probe Microscope



EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

**Analytical Technologies Limited**

An ISO 9001 Certified Company

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## ►► Performance

- Multi-function: AFM, LFM, STM, Conductive AFM, MFM and EFM.
- Multi-Mode: Contact Mode, Tapping Mode, Phase Imaging and Lift Mode.
- SPM in liquid and Environmental Control SPM.
- Real-time temperature and humidity detecting.
- Force Analysis: I-V Curve, I-Z Curve, Force Curve and Amplitude Curve.
- Nano-Processing and manipulating: Lithography Mode and Vector Scan Mode.
- Fast automatically tip-engaging.
- Simply change the tip holder to switch between STM and AFM.
- Full digital control, auto system status recognition.
- Sample movement system inside.
- With a 32-bit Digital Signal Processor (DSP) from Texas Instruments, 4.8 billion times of calculation per second can be achieved.
- Controller and Computer connected through a 10M/100M Fast Ethernet.
- large sample size: up to 45mm, 30mm thick.
- Online Control Software and offline Image Processing Software for Windows.
- Trace-Retrace scan, Back-Forward scan.
- Online real-time 3D image.
- Automatically Brightness and Contrast refresh.
- Data can be loaded out for further analysis.
- Nano-Movie function: Continuous data collection, storage and replay.
- Multi-Analysis: Granularity and Roughness.
- Modularized design for convenience of maintenance and future upgrade.
- Second display monitor and optical microscope system attachable.



## ►► Specifications

<b>Functions</b>	Atomic Force Microscope (AFM) which has full coverage of Contact Mode, Tapping Mode, Phase Imaging and Lift Mode. Lateral Force Microscope (LFM). Magnetic Force Microscope (MFM). Scanning Tunneling Microscope (STM). Conductive AFM, SPM in liquid, Environmental Control SPM. Nano-Processing System including Lithography Mode and Vector Scan Mode.
<b>Resolution</b>	AFM: 0.26nm lateral, 0.1nm vertical. STM: 0.13nm lateral, 0.0nm vertical.

<b>Technical Parameters</b>	Current Sensitivity: $\leq 10\text{pA}$ Force Sensitivity: $\leq 5\text{pN}$ Image Pixels: 128 X 128, 256 X 256, 512 X 512, 1024 X 1024, 2048 X 2048 Scan Angle: 0-360° adjustable Scan Rate: 0.1-100Hz adjustable Pre-setting Tunneling Current: 0.001-10nA Bias: -10-+10V Temperature Sensitivity: 0.1°C, Humidity Sensitivity: 0.5%RH
<b>Electronics</b>	CPU: 32-bit Digital Signal Processor (DSP) at 600MHz from Texas Instruments. DAC: 20 channels of 16-bit DAC; ADC: 20 channels of 16-bit ADC Communication Interface: 10M/100M Fast Ethernet.
<b>Mechanics</b>	Sample Size: Up to 45mm X 45mm, 30mm thick Engagement: Auto engagement with travel distance of 30mm and precision of 50nm
<b>Software</b>	Online Control Software and offline Image Processing Software for Windows Vista/XP/2000/9x.

## ►► Introduction



- SSPM-3055** Scanning Probe Microscope is one of Being Nano-instruments latest, original most innovated, mainstay designs and remains a highly dependable unit. The unit has a full coverage of SPM techniques of STM, AFM, LFM, Conductive AFM, MFM, EFM, Environmental Control SPM and Nano-Lithography And the unit is designed to provide images from atomic scale to 100 $\mu\text{m}$  in size.

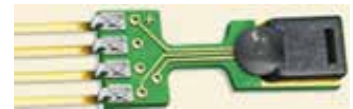
- **SSPM-3055** system is designed for multi-function of Nanolithography, including Graphical-nano-lithography, vector scan and DPN.



- **With** a Digital Signal Processor (DSP) SSPM-3055 system, which shows high performance from Texas Instruments, 4.8 billion times of calculation per second can be achieved. Therefore SSPM-3055 can handle complicated multi-functional tasks efficiently.



- A real-time environmental temperature and humidity detecting system is embedded in **SSPM-3055** system.



- A real-time operating system of spm/DNA is embedded in **SSPM-3055** system. the stability and flexibility of the whole facility are ensured The unique design of the spm/DNA brings more security of the whole system. For example, tip can be protected when an emergency such as computer breakdowns and power shutdowns.



- Easy system installation by simply connect-ing the SPM controller and the computer with a Ethernet interface which has superiorities of
  1. Faster and large signal transmission;
  2. Better compatibility, a laptop or a desktop computer can be used;
  - 3 The electronical interference can be eliminated;
  - 4 Lip to 100-meter long connection, unlimited connecting distance on LAN or Internet;



- A two-level sample movement system is embedded in SPM to provide precise tip-sample location



## HPLC Servicing, Validation, Trainings and Preventive Maintenance :

**HPLC Servicing** :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

**Trainings** :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

**AMC's/CMC** :AMC's/CMC :We offer user training both in-House and at customer sites on HPLC principles, operations, trouble-shooting.

**Validations** :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

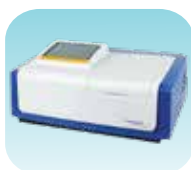
**Instruments** :Instruments :We offer instruments/Renting Services Modules like pumps,detector etc. on Rent.



## About Analytical Technologies

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Reader/Washer



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Carbon 3800



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Ion Chromatograph



Water purification  
system



## Regulatory compliances



## Corporate Social Responsibility

Analytical Foundation is a nonprofit organization (NGO) found for the purpose of:



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1. Research & Innovation Scientist's awards/QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at [Info@analyticalfoundation.org](mailto:Info@analyticalfoundation.org)

2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds,souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.

## Reach us @



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