Performa Invoice

Buyer:

Seller: Nano Technology System Corporation (NATSYCO)
Address: Incubation Center for Medical Equipment and Devices (ICMED)
Imam Khomeini – Hospital, Tehran, Iran
Telefax: +98 (21) 66 562812-15

We are pleased to submit the information of **NAMA-STM**-edu system, specification and our latest price and sales conditions as you inquired about.

	Description of good :
	NAMA-STM edu is an advanced scanning tunneling microscope capable of providing clear, accurate and reproducible 2D and 3D images in nano meter-scale. ***Now with New Advantages :*** 1-Constant Current and Constant Height mode 2-Adjust Sample so easy 3- Electronic control PID Steps. 4- Camera view sample and tip And so many options……..

Main parts of each system includes:

Consisting of:	**Qty**
1- Electronic control system	1
2- Special box for isolation of electrical and mechanical noi	1
3- STM Head, camera and light inside the isolation box	1
4- Interface boards	1
5- Software CD	1
6- Connection cables and related connectors	10
7- Interface cable	1
8- Computer Case	1
9- Key board	1
10- Mouse	1
11- LCD monitor 17"	1

L-type Frame

Consisting of a two column precision aligned, high stiffness structure with a fixed lower T-slot table and locking handle. Absolute thermal drift balance is achieved by appropriate material and dimensional selection. All mechanical parts are assembled on the L-type frame with modular designs for easy maintenance and repair.

Z -Approach Module

Consisting of a precision aligned sliding mechanism and high accuracy linear motor:

Z movement resolution = 0.1 *nm*

High mechanical stability is achieved through rigid structural components accompanied by almost zero-backlash mechanism.

Tip- Holder Module

Consisting of a precision aligned 3-D of freedom mechanism and high accuracy 3 axes piezo scanner:

Range of X,Y Tip deflection = 1 µ*m*
Range of Z (vertical) Tip movement = 1 µ*m*
X,Y scanning resolution = 0.12 *nm*

High mechanical stability is achieved through rigid structural components accompanied by almost zero-backlash mechanism. Ergonomic considerations are implemented for easy and fast tip replacement.

X-Y Table
Consisting of handheld clamp, a easy aligned 2-D sliding mechanism and sample holder. Ergonomic considerations are implemented for easy and fast sample replacement.

Digital Electronics
Includes tunneling current measurement with very low noise signal amplification achieved due to the advanced transmission and filtering techniques.
Includes position controllers for all microscope functions through keyboard, mouse and trackball.

Specifications include:

Maximum X,Y line scan frequency = 20 Hz
Sample Bias Voltage range = ± 10 V
Sample Bias resolution = 0.3 mV
Current Set point range = ± 100 nA
Current set point resolution = 3 pA
Maximum equivalent intrinsic Current noise = 10 pA Rms
Controller cut off frequency
Normal mode= 1 Hz – 10 Hz – 100 Hz –500-Hz- 1000 Hz-2000 Hz
Maximum data sampling rate = 100 Hz
Maximum X,Y step frequency = 100 Hz
Power consumption:
Input: 220V 50-60 H3 – 0.7A
Scanning speed: adjustable; 20 lines/ second max.
Scan size and positions: adjustable

Bumpless transfer function providing delicate transfer of control from computer to automatic electronic control and vice versa.

Ultra Phase logarithmic converter used for loop linearization

Windows-Based Software
User friendly windows–based software provides full control over the hardware and a wide range of image processing facilities:
Image size, resolution and live image all adjustable.
Scan in both constant height and constant current modes.
Ability to show various views of different images simultaneously
View images in 2D and 3D
Using different palettes
Edit palettes

	Select View each scan line in the image Flexible coloring Different filters: - Median - Low pass Average - Low pass Gaussian - High pass - High boost - Plane adjust - Log - Scale - Negative - Resample - Crop - Line adjust Show images as icons Automatic and manual tip approach Select the tip speed to move Live display of tip during approach Select scan area Scan with selectable resolution Scan with selectable frequency Different PID configurations Zoom capability Manual Tip movement Select CSP and sample Bias **Computer specifications** P5K ASUS, 4 GB Ram, HDD 160 GB, CPU Core2duo 6550 Intel, DVD-RW, Vga 512 MG 8500GT, AV/PV Maker Capture. The Manufacturer reserves the right to change the computer specification according to topical situation in the computer market. **Monitor specification** 17" LCD display monitor **Camera and Cold beam** Camera and Cold beam inside the isolation box for monitoring the tip

	position and movement: Camera resolution is approximately x100. Cold beam for preventing any thermal drift. **Spare parts:** - Sample holder - Conductive silver paint - Small mechanical tool box - STM Tips - Checking sample	**Qty** 1 1 1 1 2

Installation by Local agents product Engineer
Training: One person may attend the operator training course during 3 days according to the schedule (Appendix 1) at NATSYCO site in Tehran.

Terms and conditions:

Guaranty:
12 months from installation completion or 15 months from ex-work dispatch according to Appendix 2.

Service support:
Spare parts are guaranteed to be available for a minimum period of 10 years.
Installation and service support is available from local agent in Iran- Tehran.

Time of Delivery:
1-2 months from confirmed order and receive 50% cash in advance.

Price
72,000,000 +8%tax in Toman

Terms of Delivery:
CIP Tehran

Terms of Payment:
50 % cash in advance
50 % cash on delivery
Bank Account: 104-2-2522915-1, Eghtesad E Novin Bank, Kargar Shomali Branch, Tehran. Iran.
In favor of Nano System Pars.

Validity:
This Performa Invoice is valid for 30 days.

Export packing:
Pack in 7 boxes Gross weight approximately: 58 Kg.