CN5000
SCANNING PROBE MICROSCOPE
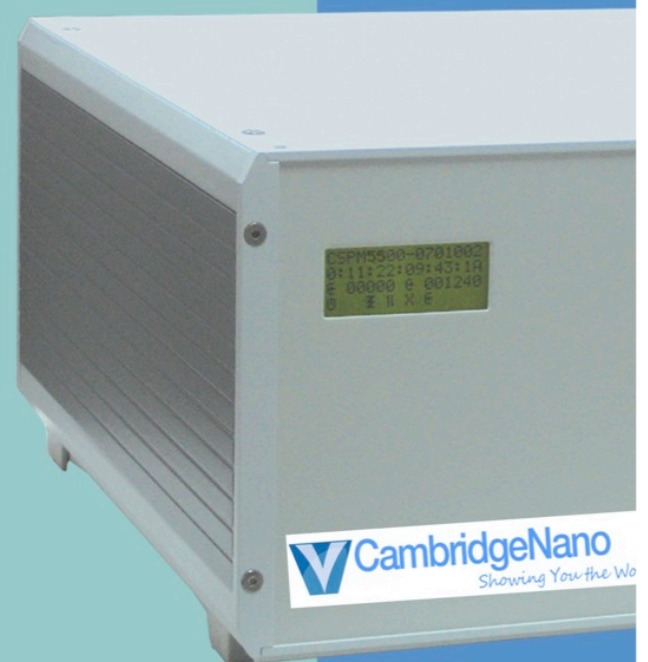
CambridgeNano Ltd.

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Specifications

Functions
Contact–mode AFM
Dynamic–mode AFM
Lateral force microscopy (LFM)
Scanning Tunneling Microscopy (STM)

Resolution
AFM: 0.26 nm lateral, 0.1 nm vertical
STM: 0.13 nm lateral, 0.01 nm vertical

Scan Parameters
Lateral scan range: 10 µm
Vertical scan range: 2 µm
Image pixels: 128x128, 256x256, 512x512, 1024x1024
Scan angle: 0–360°
Line scan rate: 0.1–100 Hz

Electronics
CPU: 32–bit DSP at 600 MHz (Texas Instruments)
Fast 16–bit DACs
Fast 16–bit ADCs
Communication interface: 10M/100M Ethernet

Mechanics
Sample size: Up to 45 mm in diameter, 30mm thick
Tip–sample engage: Automatic approach with travel distance of 30 mm and step size 50 nm.

Software
Online control software ("SPM Console"), offline image processing software. Compatible with Windows 7, Vista, XP, 2000 and 9x

Features

High performance

Atomic resolution
Large sample size
Fast scanning
Controlled by DSP for fast, reliable performance
Realtime operating system runs in electronics chassis
Fast ethernet connection with computer

Multi-Function

Atomic Force Microscope (AFM) – contact & dynamic mode
Scanning Tunneling Microscope (STM)
Lateral Force Microscope (LFM)
Point Spectroscopy: I-V curvees, I-Z curves, Force curves
Real-time 3D image display
Multi-channel signal acquisition
Trace-retrace scans
Multiple analysis tools: granularity & roughness

Easy operation

Fast automatic tip approach
Switch between STM & AFM by changing tip-holder
Full digital control, automatic system status recognition
Software-based inertial sample movement
Nano-movie function: continuous data collection, storage and replay
Modularised design for convenience of maintenance and future upgrade