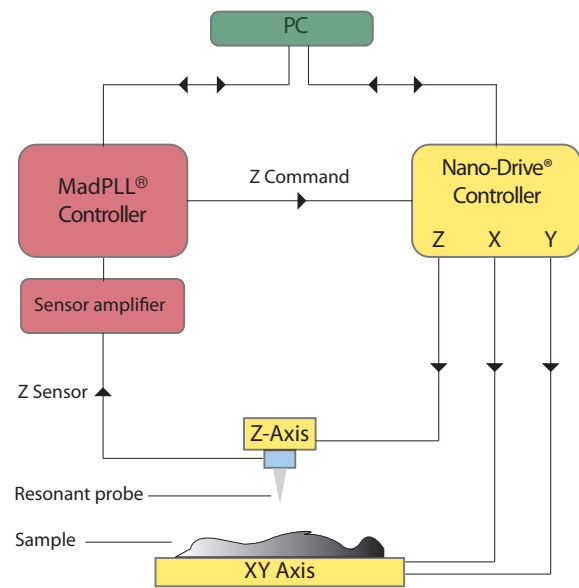


# SPM-M kit Customization

The SPM-M kit may be customized to your application by substituting different nanopositioning systems and adding in automated micropositioning. A range of accessories, including probes and isolation enclosures, are described in a separate brochure. The schematic, shown at left, is a typical AFM instrument layout.

The motion control components can be divided into two categories: probe positioning and sample positioning. In all applications, it is necessary to have at least a single axis of nanopositioning and an automated approach for the probe. Examples of stand-alone probe positioning and combination probe and sample positioning configurations are shown below.

All configurations shown are compatible with the MadPLL® phase lock loop controller and included AFMView™ software.

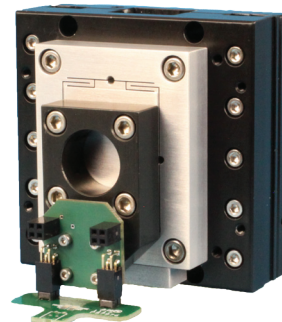


Schematic of a typical AFM instrument

## Examples



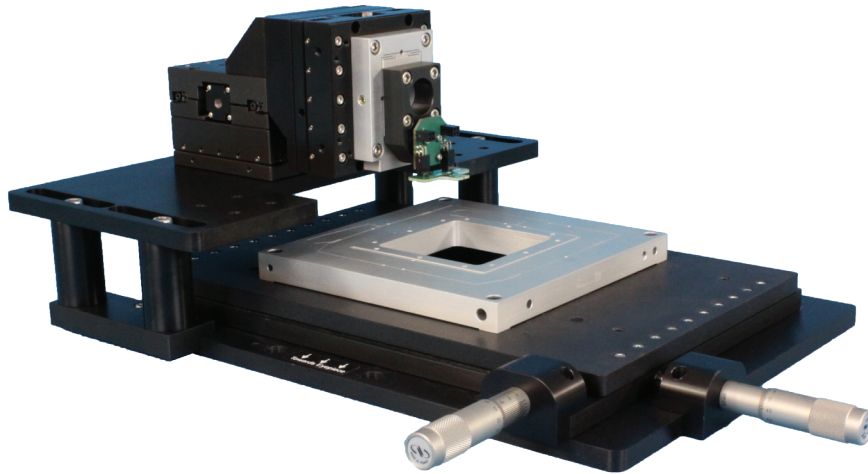
▲ A three axis high resolution tip scanner. A single axis motorized approach is provided by the SPM-MZ. The high resolution tip scanner is the Nano-HS3M with  $10 \times 10 \times 5 \mu\text{m}$  of motion. This example is designed for users who require picometer precision.



◀ A simple probe positioning configuration. This probe positioner uses an MMP1 automated positioner for the z-axis approach and a Nano-OP30 nanopositioning system for the high resolution probe positioning and feedback. The adapter for the probe mounting board is included with the MadPLL® controller.

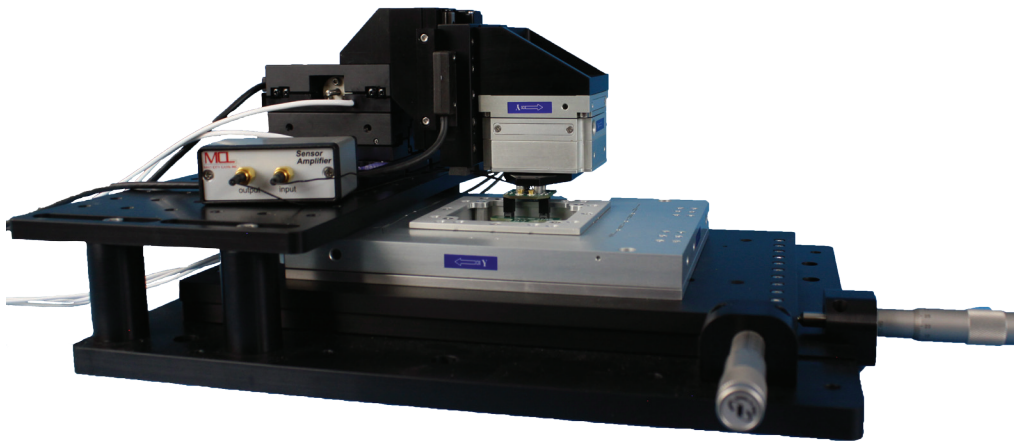


▲ Three axis probe positioner with three axis micropositioning of the probe head. Ideal for use on optical tables when mounted on an optional platform (as shown). The probe nanopositioner is a compact custom nanopositioner with  $100 \times 100 \times 20 \mu\text{m}$  of travel. The probe head micropositioning is the MMP3H micropositioning system.



*Combined probe positioner and sample positioner for an AFM for use on an inverted optical microscope. The probe positioner comprises a 3 axis motorized positioner with a high resolution Nano-OP30 to hold the probe mounting board.*

*The sample is positioned using the Nano-View® 100-2/M system. This sample positioner comprises a high resolution  $100 \times 100 \mu\text{m}$  nanopositioning stage paired with a high stability manual microscope stage.*



*Combined probe positioner and sample positioner for an AFM or NSOM for use on an inverted optical microscope. The probe positioner comprises a 3 axis motorized positioning with a custom three axis nanopositioner with  $100 \times 100 \times 20 \mu\text{m}$  travel range. The probe positioner is designed for automation and high precision. The sample is positioned using the Nano-View® 100-3/M system. This sample positioner comprises a high stability  $100 \times 100 \times 100 \mu\text{m}$  nanopositioning stage paired with a manual microscope stage.*

#### Related products

- SPM-M kit
- MadPLL®
- SPM Accessories