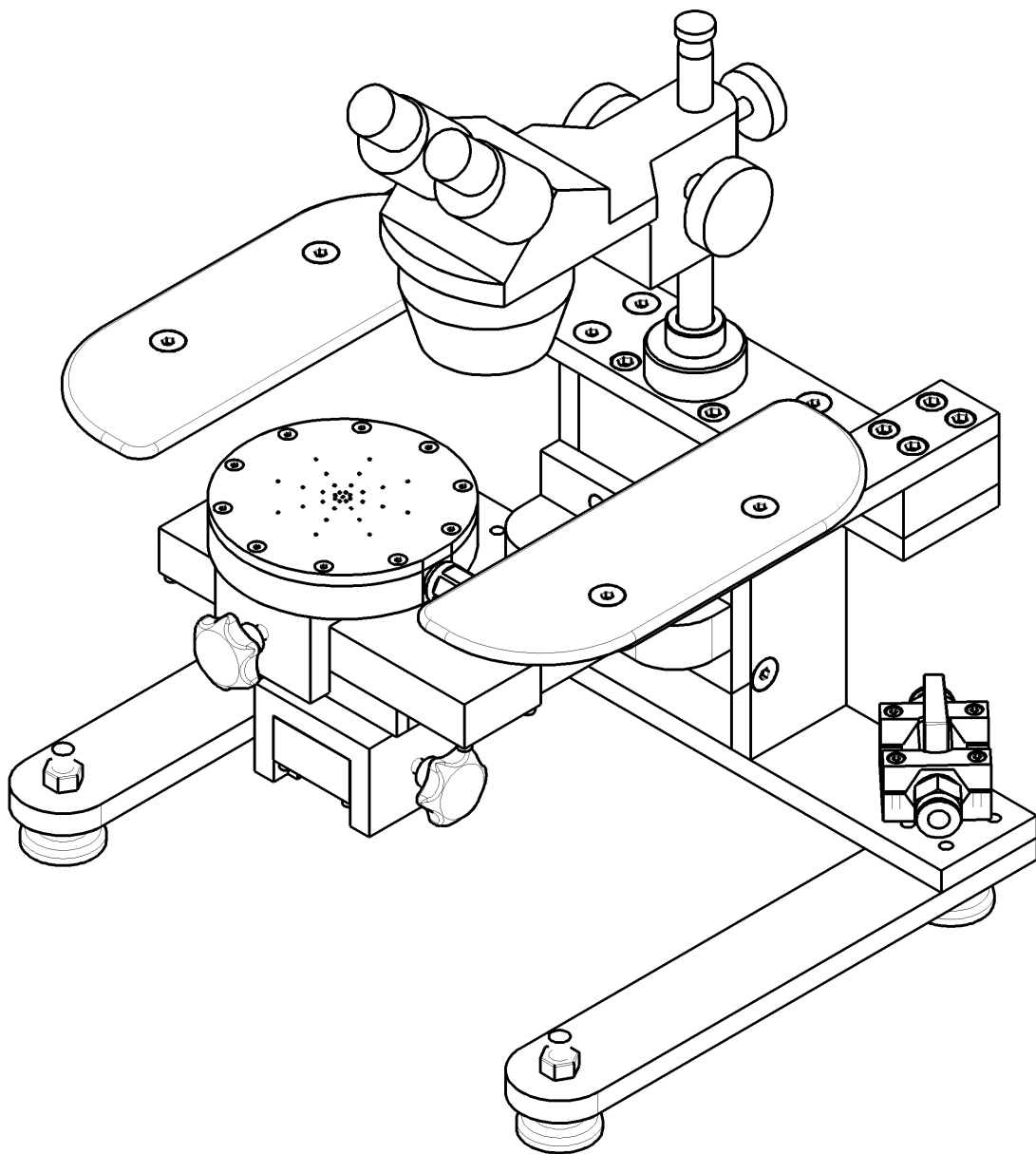


Manual

# Probe Station

Andreas Ernst 2005



## Procedure:

Put the sample on the chuck and switch on the vacuum. If it is small you may use a mask to close the other holes in the chuck.

If the sample is already mounted to a device lower the X-Y table, which is height adjustable for about 20 mm. For this use the three screws at the back. The X-Y table itself is moveable in all directions about 50 mm.

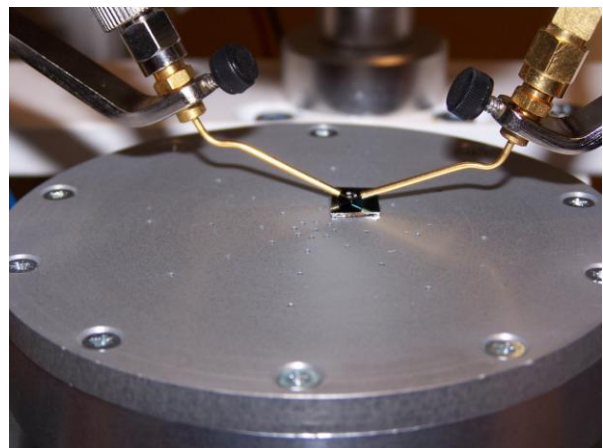
Connect the cables to the manipulators before measuring!

Once the sample is visible in the microscope use the micromanipulators to contact the pads. Because the needles are tilted be careful when you lower them. If you force it too much they will scratch the surface. You also should avoid moving the needles in X-Y directions when they are already in contact.

The light is adjustable in brightness. Because the power supply can manage up to 18V and the bulb works with 12V the knob for voltage is covered. To adjust the brightness use the knob for current.

## Attention:

Always use the wrist band to avoid electrical discharge!



## Technical details:

### Microscope:

Novex AP-8 (50.930)  
Interpupillary distance 55-75 mm  
20x/40x or 40x/80x, depending on eyepiece



### Light source:

max 30W, 12V, Halogen bulb

### Power supply for the light source:

HY1803D

- HY1803D 230VAC / 0-18V, 0-3A
- 3 1/2 LCD for voltage/current monitoring
- Output 0-18V, regulated
- 4 mm terminals
- 54W



### Vacuum:

8mm tube

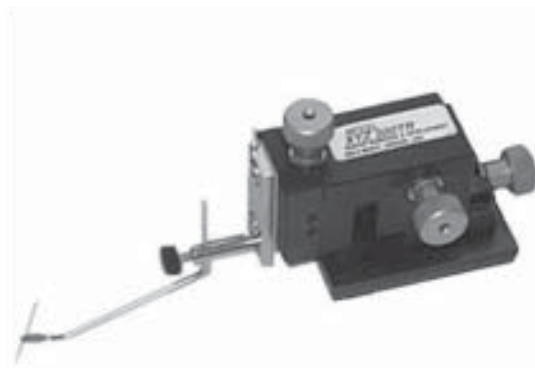
### Manipulators:

#### Quater XYZ-300 TR & TL

Test positioner

Specifications:

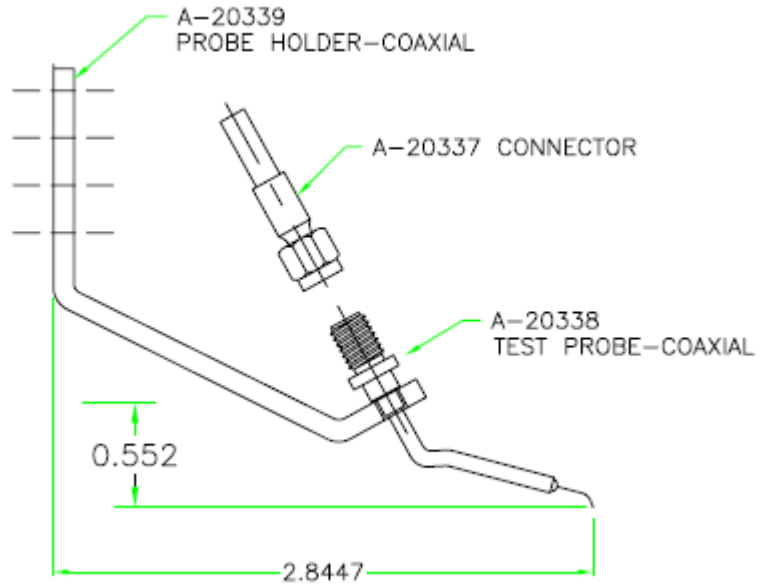
Height: 2.000" Nominal  
Base footprint: 1.500" X 2.000"  
Travel: X, Y, Z axis = .300" = 7.6 mm  
Resolution: .025" per turn = 0.64 mm  
A-20307 Magnetic Base  
A-20240 Test Arm Holder, includes:  
A-20241 Insulator  
H-20260 Connecting Pin  
A-20235 Test Arm, includes:  
H-20242 Test Needle



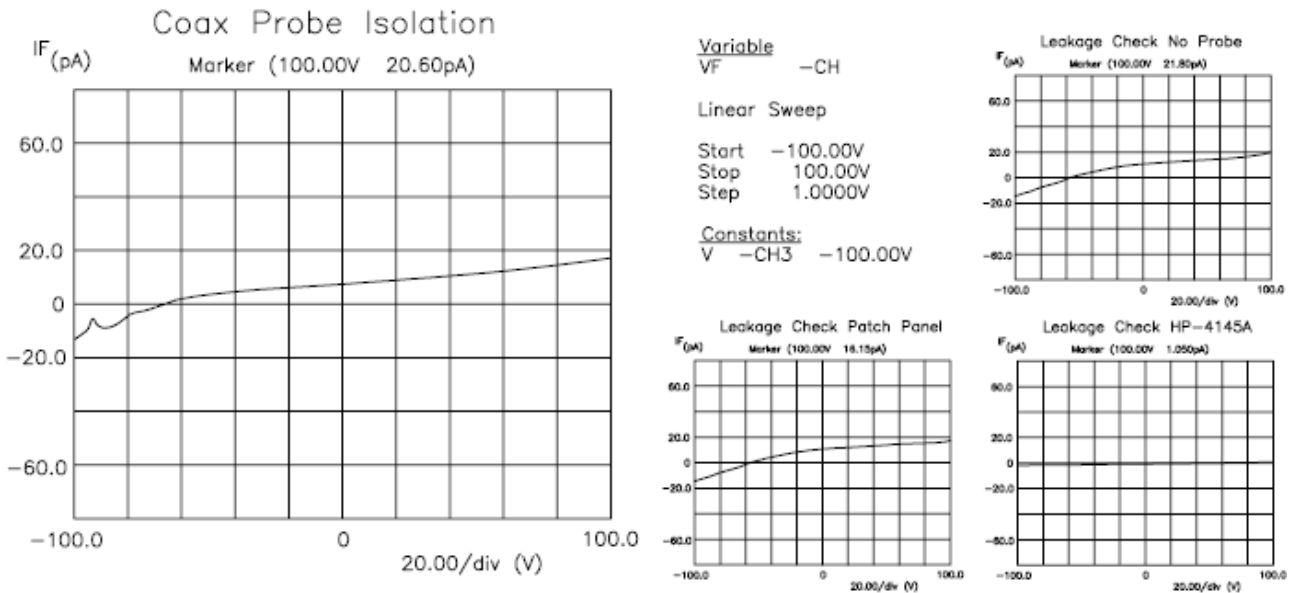
The **XYZ-300** Test Positioner is a general purpose positioner intended for industrial, medical, biological, semiconductor, and general scientific applications. It provides 3-axis motion with .300" (7.6 mm) movement on each axis. Motion is controlled by three adjustment screw knobs that provide .025" (0.64 mm) resolution per turn. Components are made of precision ground dense aluminum with lifetime lubrication. Slide bases and components are made of dense aluminum with a black anodized finish. Available in Left hand (**XYZ-300-TL** see photo), or Right hand (**XYZ-300-TR** see drawing) configuration.

### A-20340 COAXIAL PROBE

The compact Coaxial Probe is adaptable to any Quater XYZ-300 and XYZ-500 positioner. A-20340 COAXIAL PROBE Assembly consist of a A-20338 TEST PROBE and A-20339 PROBE HOLDER. Components are made out of brass and copper with a gold plated finish. Center conductor is tungsten wire with .120 taper angle and .0005 radius contact point. Supplied A-20337 SMA connector is compatible with RG-55, 142, 223, and 400 coaxial cables.



RF/Microwave connector impedance:  
50 Ohms  
Frequency range: 0-18 GHz  
Voltage rating: 500 V peak.



### Grounding:

The grounding-cable on the back has to be connected to the grounding in the laboratory.

