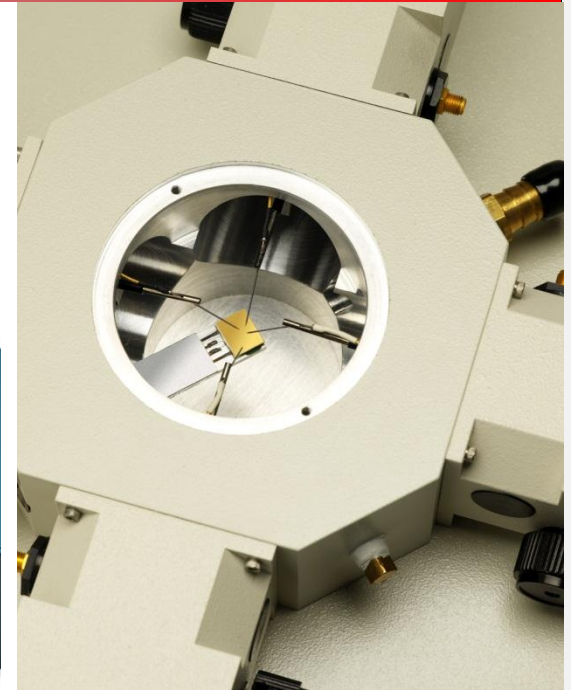
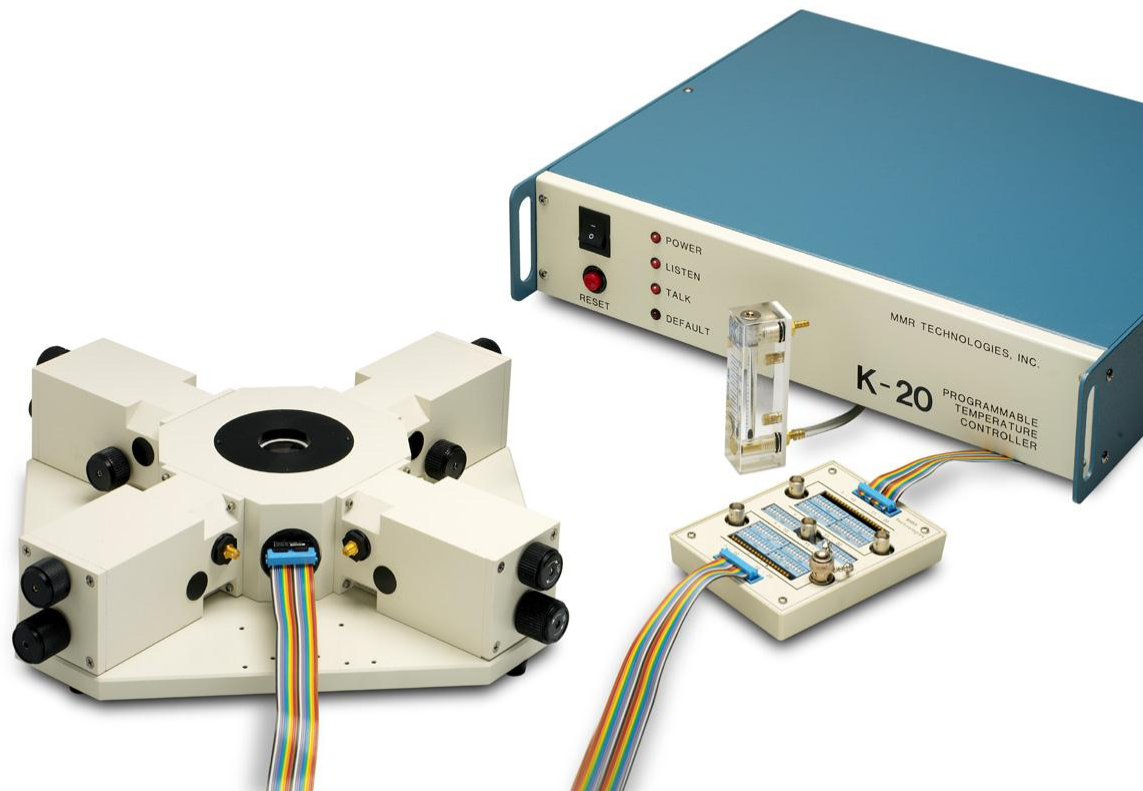


VARIABLE TEMPERATURE MICROPROBE SYSTEM

Low Temperature MicroProbe

THE VTMP/LTMP SYSTEM



COMPONENTS IN A VTMP SYSTEM

- Pure high-pressure gas (greater than 1800 psi)
 - Gas Lines, Pressure Gauge, etc
- Filter/Dryer Apparatus
- Refrigerator or Helium Cryostat
- Computer
- Temperature controller
- Circuit Breakout Box
- Vacuum Pump
- MicroProbe Chamber
- Micromanipulators (1 to 7)
- (optional) Air Table, Turbo Pump, Optics

GAS, LINES, GAUGES, ETC

- 99.998% Prepurified Nitrogen at 2640 psi or higher
- High Pressure Nitrogen Regulator
- High Pressure Nitrogen Lines (supplied)
- Gas Flow Meter (supplied)

FILTER/DRYER SYSTEMS

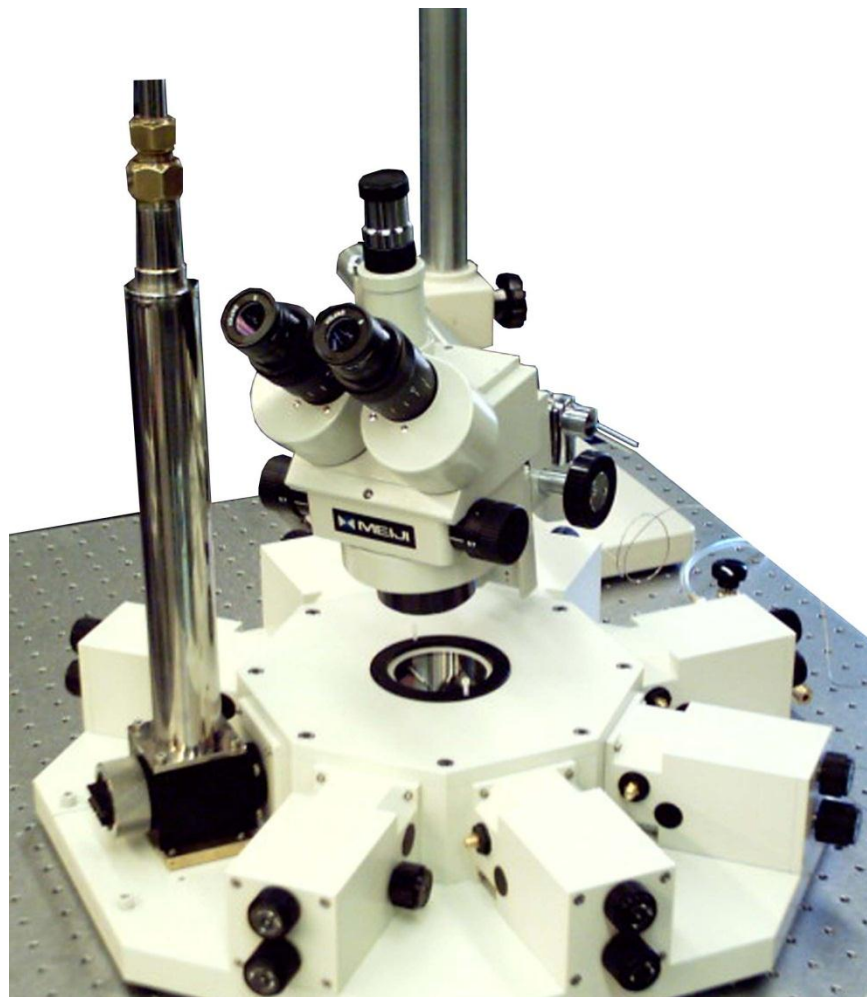


THE JOULE-THOMSON REFRIGERATORS

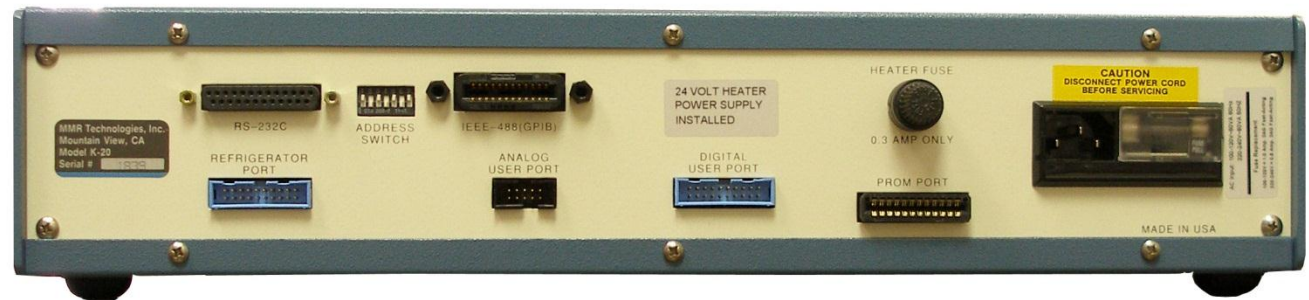


R2400-XX

THE HELIUM CRYOSTAT



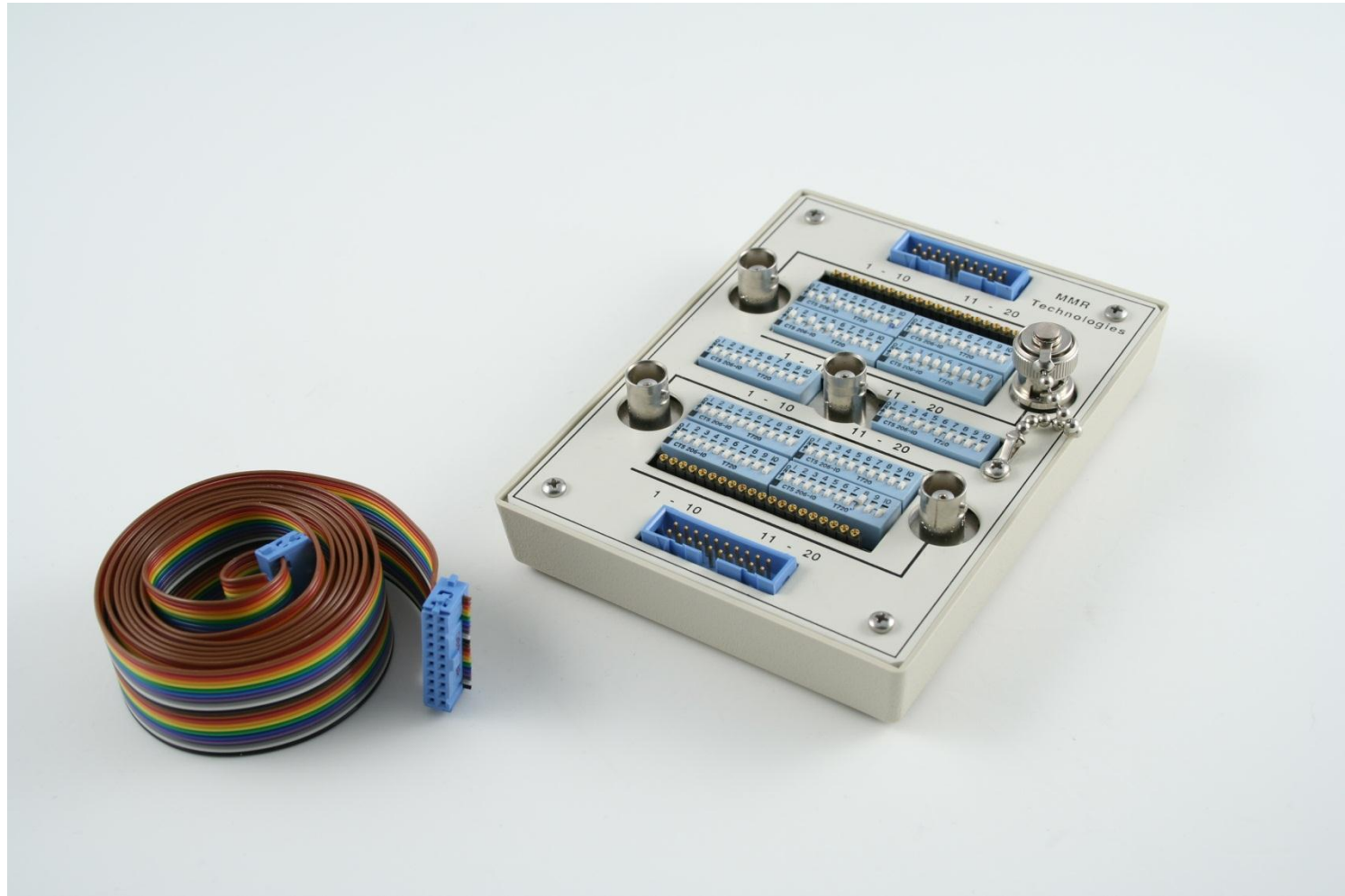
K-20 PROGRAMMABLE TEMPERATURE CONTROLLER



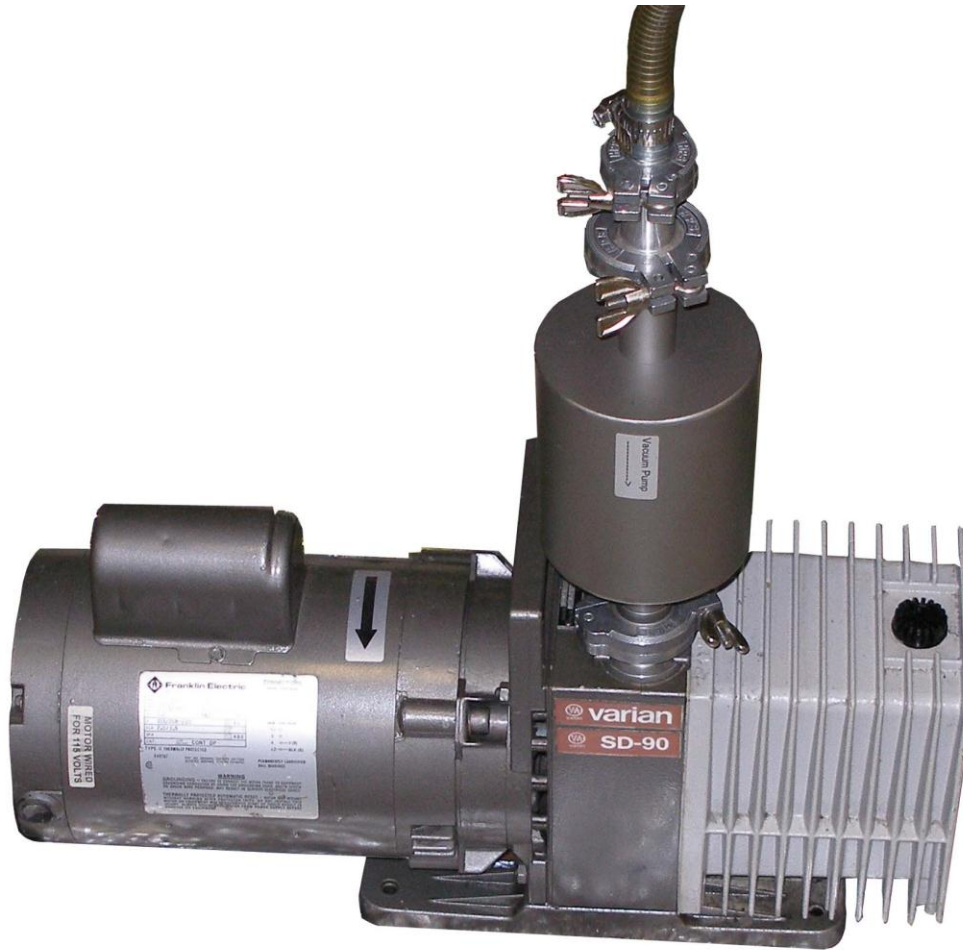
COMPUTER SYSTEM

- Pentium Processor, 1 GHz minimum
- CD-ROM Drive (4x)
- 250 MB RAM
- 50 MB free on hard drive
- 1 RS232 Serial Port or USB Port
- For more information on computer compatibility and requirements, refer to the Microprobe Setup Presentation

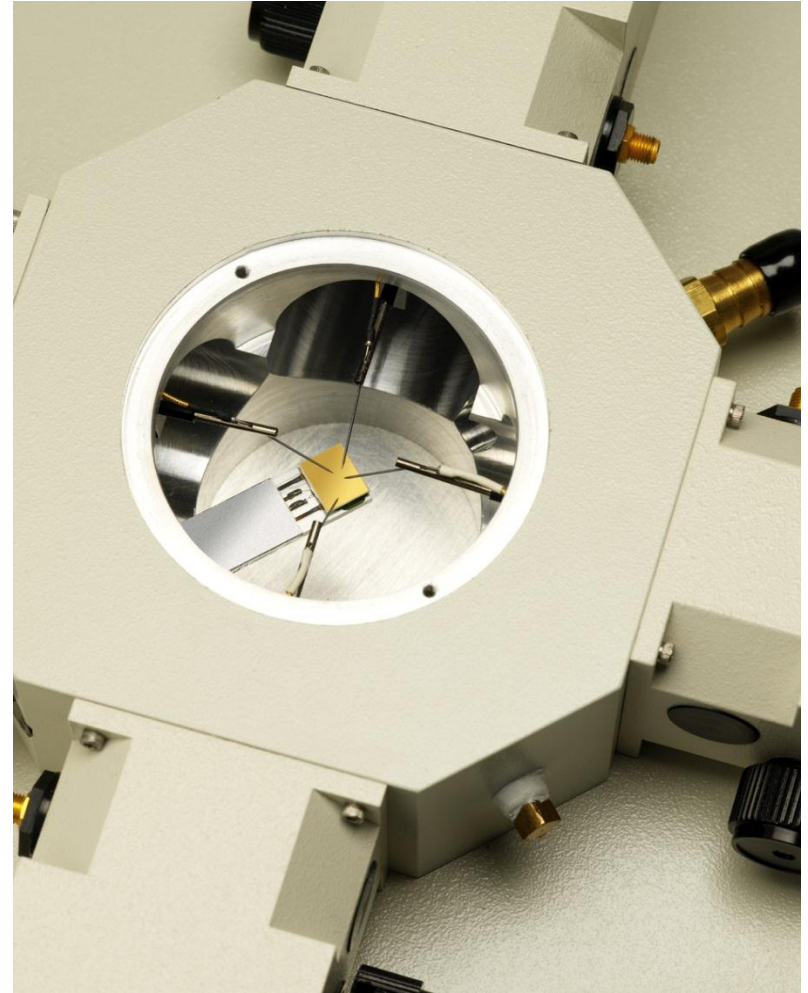
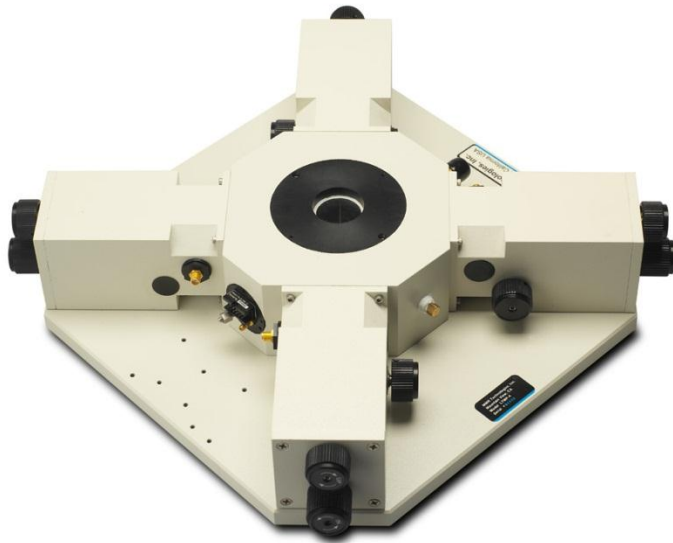
CIRCUIT BREAKOUT BOX



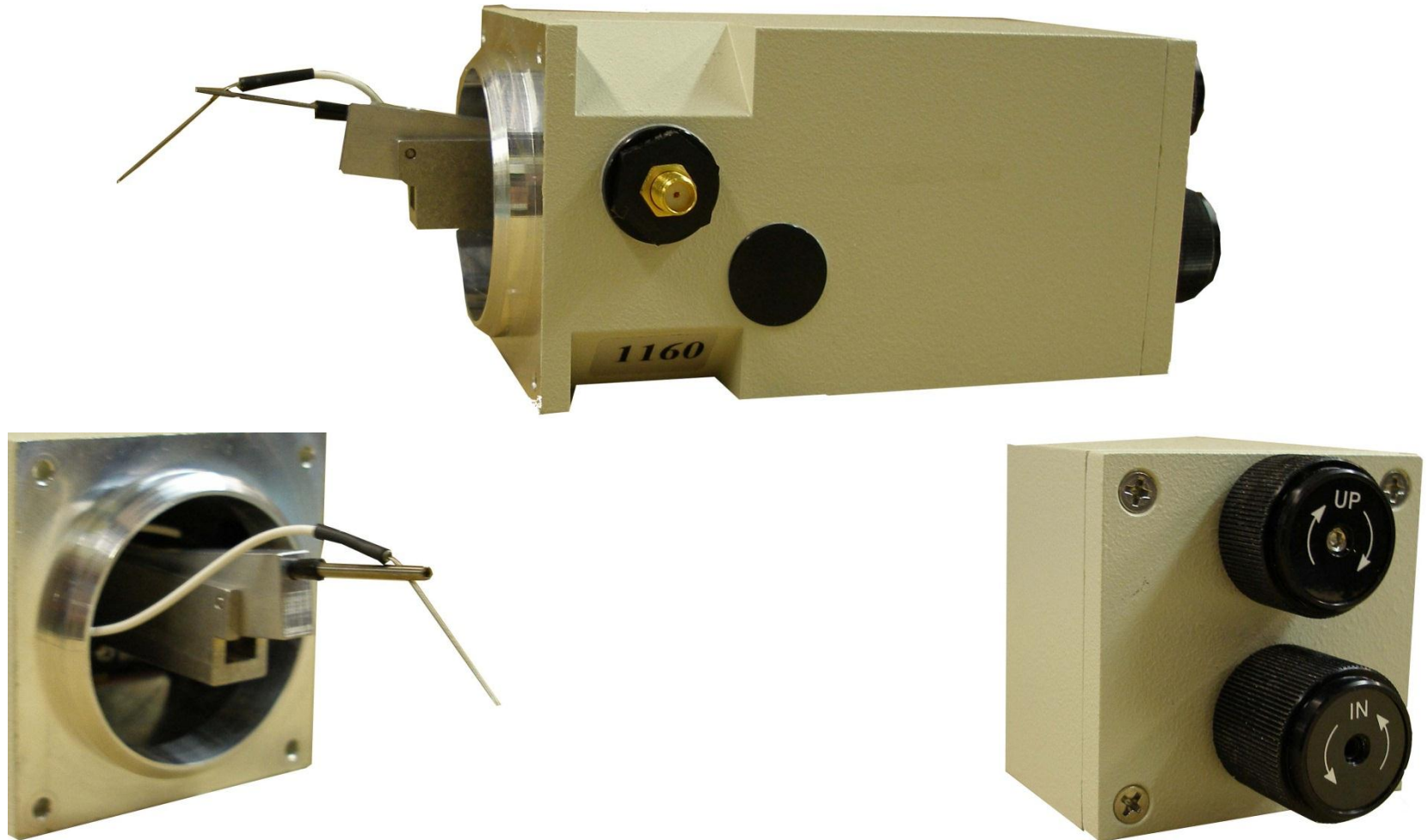
VACUUM PUMP AND ACCESSORY KIT



MICROPROBE VACUUM CHAMBER

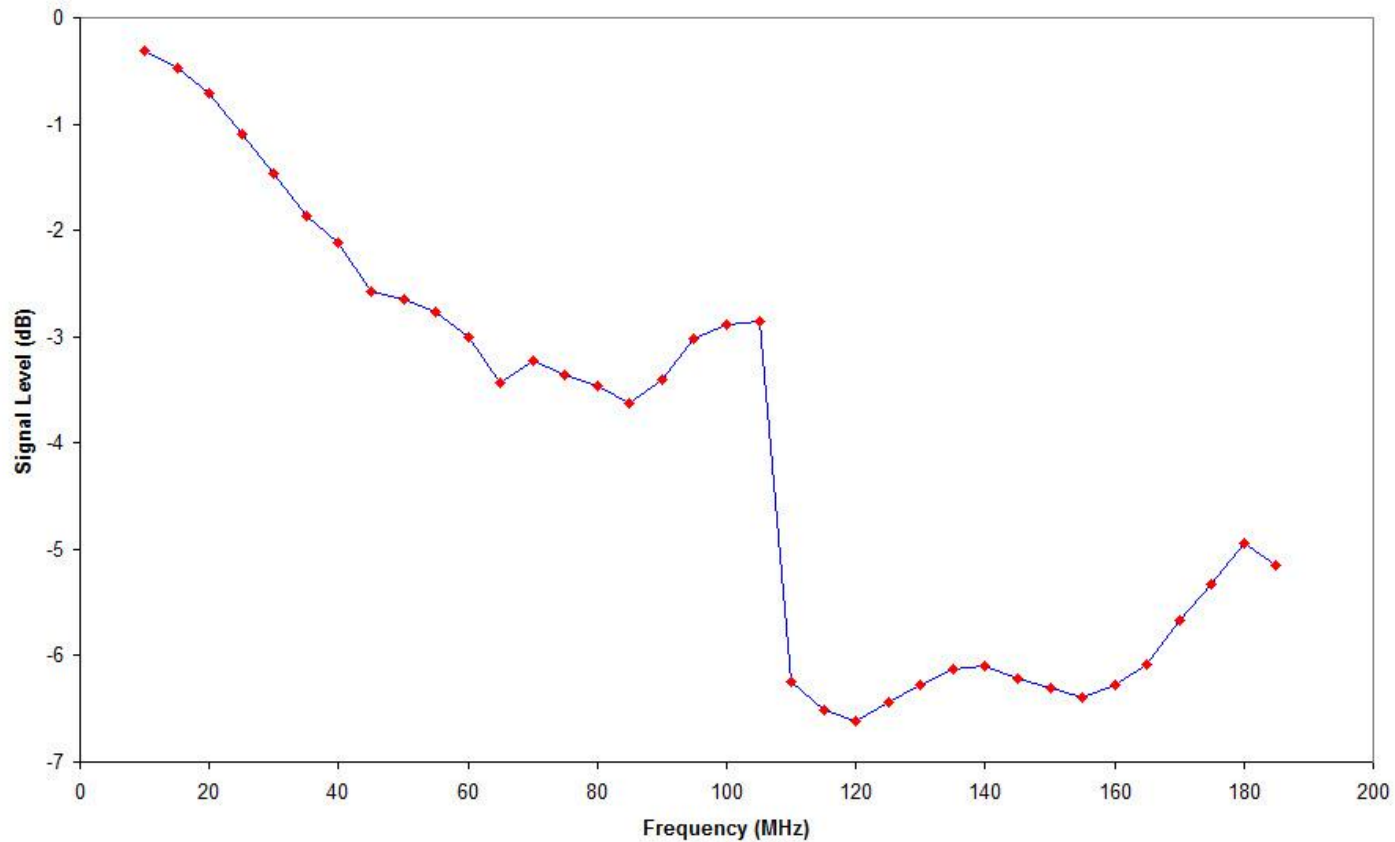


MICROMANIPULATOR



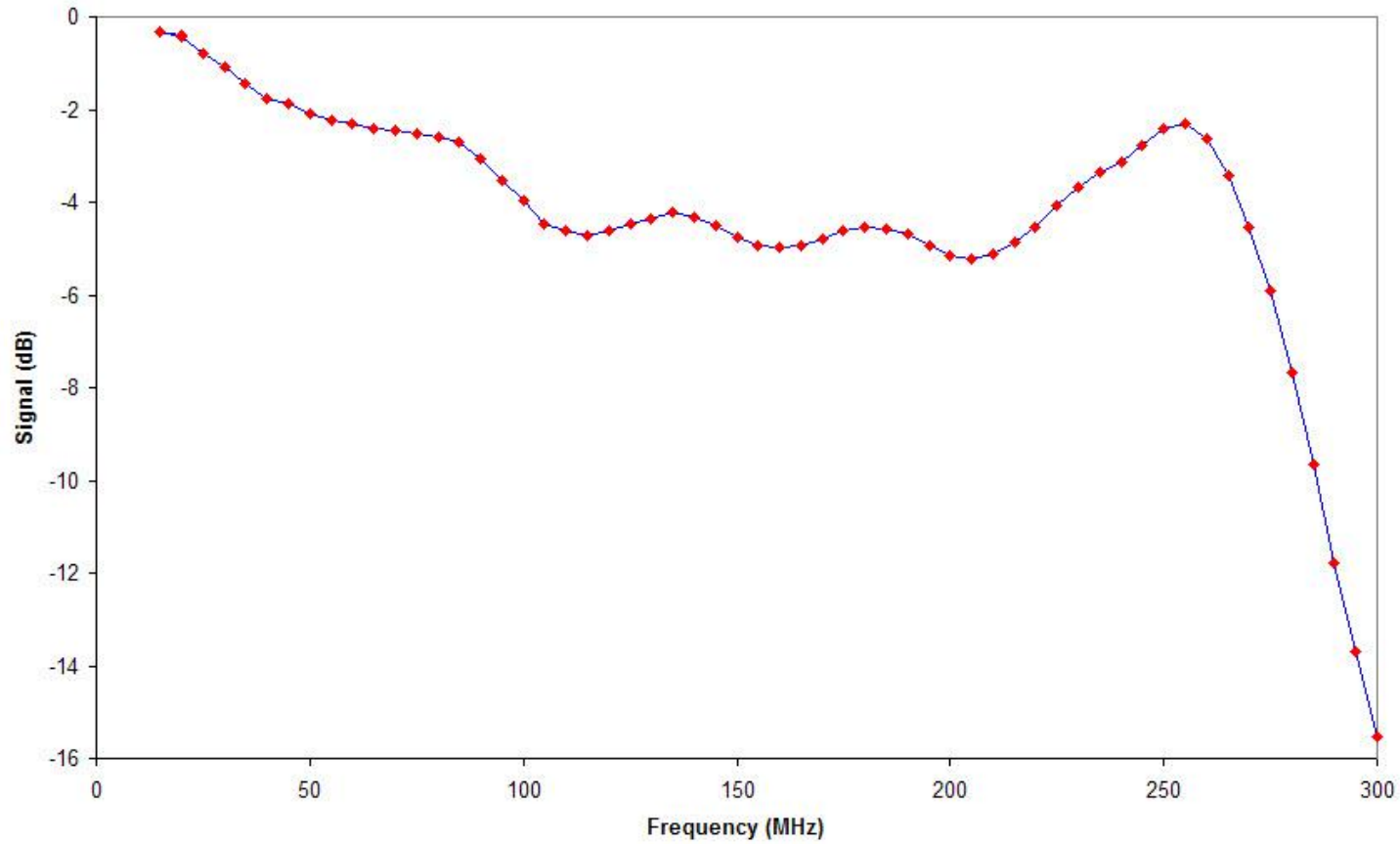
STANDARD MICROPROBE SYSTEMS – FREQUENCY RESPONSE

Frequency Response of the Standard Microprobe Shielding



HIGH FREQUENCY MICROPROBE SYSTEMS – FREQUENCY RESPONSE

Frequency Response for the High Frequency Microprobe System (LTMP-MHF)



POSSIBLE TEMPERATURE RANGES

Kelvin Scale

- 70 K to 580 K
- 80 K to 580 K
- 70 K to 730 K
- 80 K to 730 K
- 300 K to 730 K
- 10 K to 400 K

Centigrade Scale

- - 200 °C to 305 °C
- - 190 °C to 305 °C
- - 200 °C to 455 °C
- - 190 °C to 455 °C
- 25 °C to 455 °C
- - 263 °C to 125 °C

$$K = °C + 273$$

POTENTIAL APPLICATIONS

- Deep Level Transient Spectroscopy
- IC Studies
- Optical Studies
- Material Studies
- Testing of IR Detectors
- Micromanipulation
- MEMS
- Four-Point Electrical Measurements
- And many more....