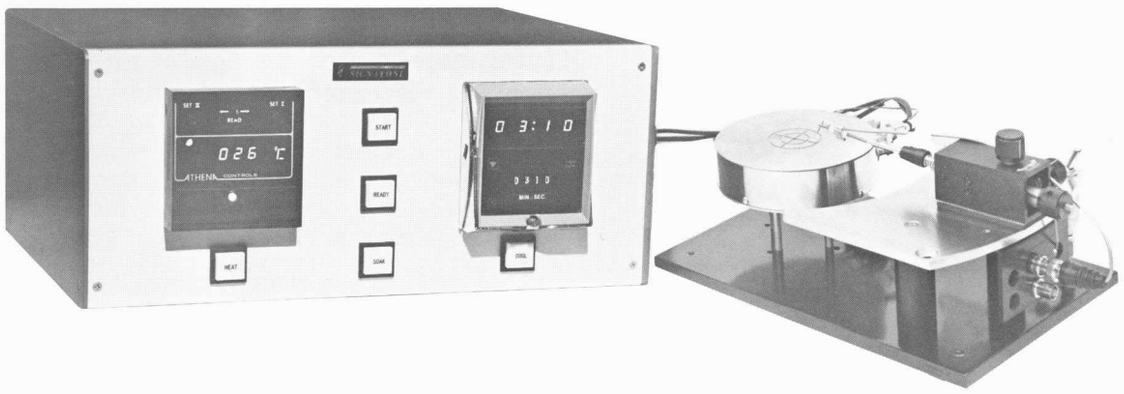
SIGNATONE®

MODEL S-1040

AUTO DIGITAL TEMP.
HOT CHUCK SYSTEM

SIGNATONE
CATALOG NO. 340
DIGITAL H/C SYSTEM



MODEL S-1040
FOR AUTOMATIC TEMPERATURE CYCLING
FAST RESPONSE AND EXCELLENT ACCURACY

- Typical complete cycle (up plus down) four min.
- Digital proportional temperature controller
- Digital timer
- Excellent accuracy and control
- 4 5/8 inch gold plated chuck
- Optional remote control by CV plotter

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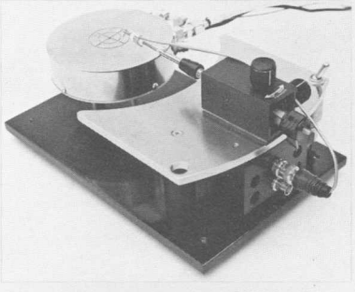
S-1040 CONTROLLER

The System S-1040 Automatic Cycle Controller and Hot Chuck Assembly is designed for error free, fast, and accurate operation in an on-line production environment. After proper installation and adjustment, the system will heat, soak, and cool four inch or smaller wafers rapidly and accurately under manual or automatic control from the C.V. Plotting System. Digital controls for both temperature and soak time combined with digital temperature display and clear indicator lamps give error free reproducible operation and minimize training requirements.

Upon receipt of a "cycle start signal" (either manual or from the C.V. Plotter) the system will begin to heat. The Digital Time Proportional Temperature Controller adjusts the "power on time" as a function of the hot chuck temperature deviation from the set point. The solid state power switching occurs when the a.c. line current is crossing zero value (zero cross-over switching) so that no high frequency signals which might interfere with the capacitance measurement are generated.

The Digital Soak Timer has a maximum time of 99:99 min, is actuated when temperature proportioning starts and counts the seconds down until the soak at high temperature is complete. Then the coolant (usually tap water) turns on and cools the chuck rapidly. After the chuck is cool, the "ready" light turns on and a "cycle complete" signal is presented to the C.V. Plotter for automatic second plot. The coolant remains on for a few minutes to remove residual heat from the body of the chuck, however, the cycle can be restarted at any time the controller is calling for heat, i.e. the H/C. temperature is below the set point temperature.

HOT CHUCK AND STAND



HOT CHUCK AND STAND

The probe stand is designed for use with the S-725 lead screw micropositioner or any of the Signatone Joy stick type micropositioners. The Hot Chuck is isolated from electrical ground and has a standard BNC connector for contact via coaxial cable to the CV plotter.

HOT CHUCK

S-1040 HOT CHUCK

The Hot Chuck is a new rugged construction designed to give both maximum performance for heating and cooling combined with outstanding reliability. Signatone has developed a new 600 watt resistance wire heater in an inconel sheath which combines the performance of the filament heater with the reliability of the wire wound heater giving rise to the characteristics specified.

Cooling is accomplished by passing the coolant, usually tap water, through the cooling coil which is thermally connected to the underside of the gold plated brass chuck. Temperatures below room temperatures can be achieved by passing chilled liquids through the cooling coil. Please call for information on controllers and temperature baths for low temperature operation.

The Hot Chuck has facility for vacuum, hold down electrical connection with standard BNC connectors or tab, and mounting hole for type J. Thermocouple.

SPECIFICATIONS – COMPLETE SYSTEM

Heating room to 300°C:	240 sec.* (180 typ.)
Cooling 300°C to 50°C:	90 sec.* (30 sec.typ.)
Temperature control after tuning and settling:	±1°C or ±1% of setting
Chuck diameter:	4-5/8" x 1" thick
System power:	6 amps at 120 volts only
Controller dimensions 17" x 12" x 7-1/4":	WT 4 lbs.
Stand dimensions 11" x 7" x 4":	WT 10 lbs.

Call for information on remote control signal levels.

*Spec limit with proportioning controller not functional because tuning of the proportional controller can slow the response slightly. Cooling is specified using 20°C tap water flowing at 4 gal./minute.

SIGNATONE® CORPORATION

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TELEX 171596 AAA Com Suvl

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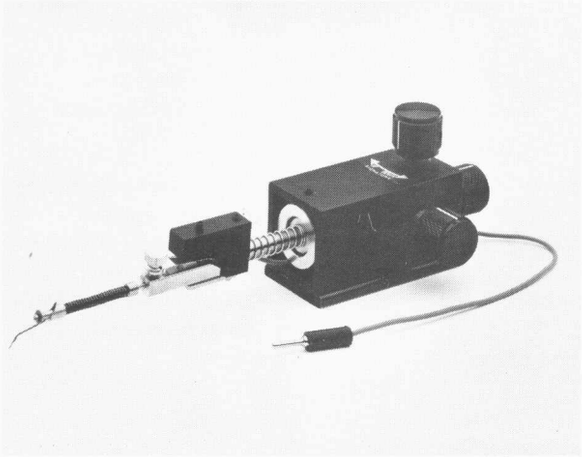
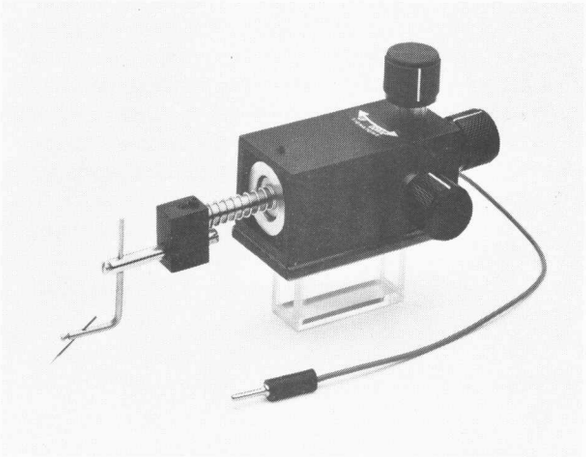
HIGH RESOLUTION MICROPOSITIONER

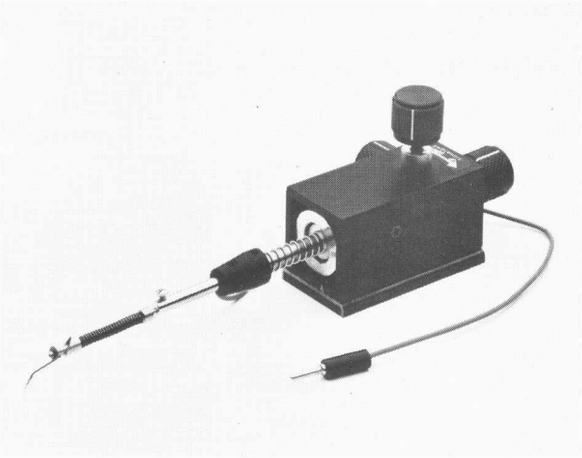
S-725A



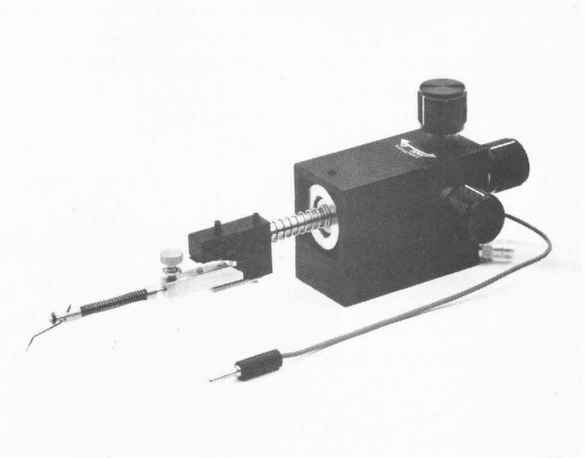
S-725B



S-725C



S-725D



- Independent X, Y, Z Motion
- 80 Threads Per Inch
- Large Scanning Area
- Adjustable Probe Pressure
- Left or Right Hand Configuration

SIGNATONE
3687 Enochs Street
Santa Clara, California 95051 (408) 732-3280

The S-725 series micropositioners have been a favorite in the Semiconductor industry since its introduction in 1973. The economical price and high resolution combine to make the S-725 the best buy on the market.

The S-725 is designed for general purpose probing of LSI circuits and hybrids. The independent, 80 thread per inch motion allows accurate positioning to 5 microns. The .5 inch scanning area allows positioning on even the largest circuits and allows flexibility in probing hybrids. The knurlled knobs smoothly control the motions. Each of the motions are spring-loaded to prevent backlash. The control knobs are also conveniently placed at the rear of the micropositioner to allow one hand to touch and control all three motions at one time. An 8 inch copper wire is soldered into the nose piece which holds the probe tip holder. The wire terminates in a male phone tip jack. The nose piece is isolated from the body and control knobs by a delrin (plastic) block. All S-725 micropositioners are available with the X control on the right hand or left hand side.

S-725A

The S-725A micropositioner is the most common of the series and includes all standard features. Also, the S-725A features a strong magnetic base with a plastic cover to prevent scratching of the probe station platen. The S-725A also features spring pressure adjust. The spring pressure adjust may be set to allow no more than 10 grams of pressure on the probe tip at one time. The pressure adjust also assures contact pressure uniformity of all similar micropositioners.

S-725B

The S-725B is designed for use on the Signatone S-1007 and S-1008 probe stations. The S-725B features a magnetic base and holds the probe tip holder in a perpendicular position. The S-725B should be used with the model SM-7 series probe tip holders.

S-725C

The S-725C features a magnetic base. The S-725C is similar to the S-725A but does NOT include the spring pressure adjust.

S-725D

The S-725D features a vacuum base which may be released by pressing a button located at the base of the positioner. The vacuum base allows set-up positioning with ease. The S-725D also includes spring pressure adjust.

Specifications

Length	5⅝ inches
Width	1⅞ inches
Height	1⅞ inches
Weight	10.5 ounces

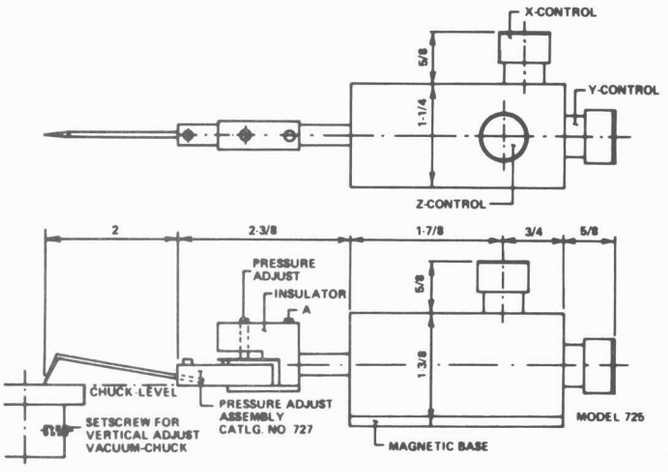
X-motion	500 mill - sweep @ 12.5 mills per knob revolution
Y-motion	500 mill - linear @ 12.5 mills per knob revolution
Z-motion	500 mill - sweep @ 12.5 mills per knob revolution
Spring pressure	10 grams

Ordering Information

Specify S-725 model A, B, C, or D. Also specify right or left hand model. If not specified, right hand model will be shipped.

Availability - generally 1 to 2 weeks ARO.

Terms - Net 30, F.O.B. shipping point.



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