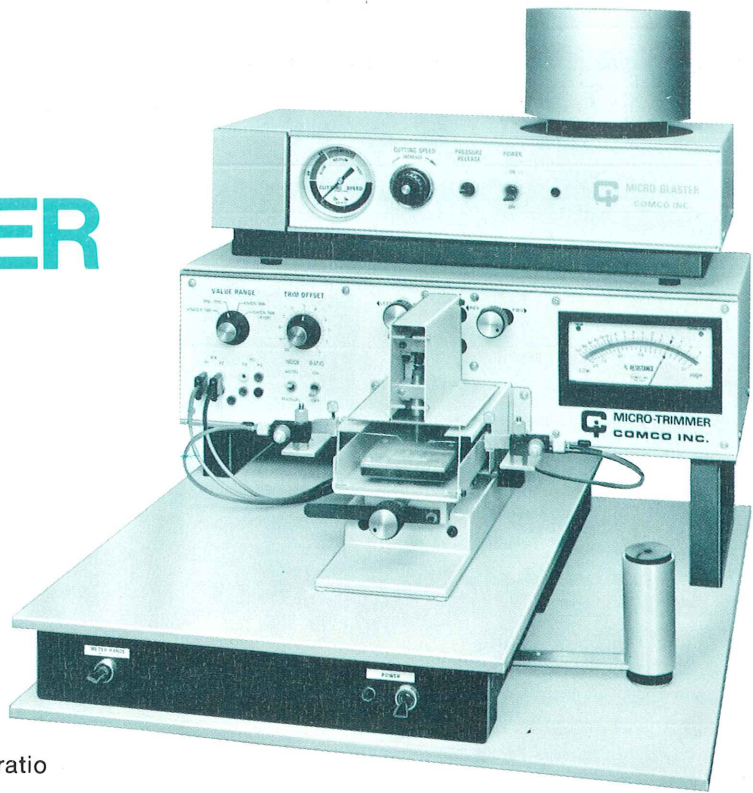




# MICRO TRIMMER

## Model MT-100 Series



**SUMMARY:** The MT-100 Series MICRO TRIMMER is uniquely designed to give the customer the greatest accuracy of resistor trimming available with abrasive trimmers at reasonable production rates and low cost. It is approximately 1/2 the cost of its nearest competitor.

The effect of static electricity has been reduced so that very high resistance may be trimmed easily. A special bridge circuit provides both very high accuracy and long time stability for resistance, ratio or functional trimming.

### OPERATION

The substrate is held on the work platform by vacuum and is accurately positioned in a nest.

Initial setup is simple. (1) Two knobs on the front panel control the nozzle location in X and Y directions. (2) The range selector switch is set for the resistor range to be trimmed. (3) Trim accuracy desired is set with "Trim Offset" knob. (4) Mode switch is set for "Manual" or "Automatic" operation. (5) The probes are adjusted to contact the correct conductor pads and the setup is complete.

The operator then places the substrate in the nest and moves the handle on the right hand side forward. This mechanical motion is transferred to the substrate stage and the substrate moves into position underneath the nozzle. As the substrate travels into position, a micro switch which controls the probe mechanism closes and the probes make contact with the resistor pads. At this time, the percent deviation of the resistor is indicated on the meter. The motion of the handle continues forward until it reaches a stop. At this position, a second micro switch is energized and the resistor may be trimmed. Up to this point, the trimming function was electrically interlocked out of the system so that it was impossible to mistakenly damage other resistors that might have been passing underneath the nozzle. Should the mode switch be set for manual operation, the button on the handle is pressed and the abrasive stream begins to flow. The meter gives the status of the resistor's value. The handle continues forward and the abrasive stream continues until the meter reaches a null position indicating the desired value. The button is now released and the resistor is trimmed.

If the automatic mode is selected, the machine will automatically begin to trim the resistor when it reaches the interlocked release position and will continue to trim until it reaches the desired value when it will automatically shut off. The operator simply provides the forward motion of the handle for the trimming operation; the manual button no longer is used.

### GENERAL

Probes are raised and lowered pneumatically providing positive contact and accurate location for easy trimming of the smallest resistors. A Kelvin probe circuit is used to provide high accuracy for low resistance trimming. The machine will also do ratio and active trimming.

The 4 1/2" null meter contains one range of indication from 100% low to 3% high of desired trim value and a second expanded scale provides a range from 2% low to .3% high. The meter continuously shows trim accuracy before, during, and after trim is completed.

A complete trimming system includes: (1) The Micro Trimmer, (2) MB-101 Micro Blaster Abrasive Supply, (3) MB-302 Vacuum Dust Collector, (4) Resistor Standard or Decade Box, (5) Small Vacuum Pump.

### SPECIFICATIONS

Included with your MICRO TRIMMER are seven different nozzles, and an assortment of spare parts, abrasive powder, and an operating manual.

Air supply required is 0.1 cu ft/minute free air at a maximum of 125 PSI. In most cases only 80 PSI is needed.

Physical size is 18" wide x 22 1/2" deep x 9 1/2" high.

Normal resistance range from 1 ohm to 100 megohms.

Trim accuracy adjustable down to 0.1% for most values.

Substrate Size: up to 2" x 2".

Resistor Power Dissipation: 10mw maximum at maximum unbalance any range.

Power required is 30 watts at 115V, 50/60 Hz.

Shipping weight is 45 lbs.



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