

## Westbond Wedge-Wedge Gold Wire Bonder

West Bonder 7476E is an ultrasonic/thermosonic wedge-wedge wire bonder designed to interconnect wire leads to semi-conductor, hybrid or microwave devices. The machine bonds gold wires ranging from 0.0007 in. to 0.002 in. Bonds are made by the wedge-wedge technique using ultrasonic energy to add work piece heat for gold wire. Wire is clamped and threaded diagonally under the bonding wedge, allowing independent feeding action but requiring front-to-back bonding direction. The bonding tool is guided manually by the operator using hand/eye reference to bond targets and elevations.

Embodied in this tool is a new and unique West-Bond three-axis micromanipulator in which the entire mechanism is arrayed above the work plane, so that there is now no limit to the size of a work piece. Each of the X, Y, and Z axes is straight-line and purely orthogonal, and each can be braked pneumatically on signal. In this application, all axes are braked during the ultrasonic bond time to aid operator control. Dual counterweights balance the pantograph arm and the tool support individually, and they are complemented by an adjustable spring to counterbalance different tool assemblies.

The range of movement of the tool by manipulator control is 0.5625 in. vertically and 0.6250 in. in horizontal directions with an 8/1 ratio of mechanical advantage.

