

WEST·BOND<sup>®</sup> INC.  
WEST·BOND INTERNATIONAL INC.



# 4KE CONVERTIBILITY

## Semi-Automatic

45° Wedge – Wedge

90° Feed – Deep Access Wire

90° Feed – Deep Access Ribbon

Single Ball / Ball – Stitch / Stitch on Ball  
Tab

## ALL IN A SINGLE TOOL HEAD

Two models available 4KE (Low Frequency) and 4KEH (High Frequency)





**AUTOMATIC PRECISION** at a fraction of the cost. Microprocessor controlled motors drive both the Y and Z axes for a series of parallel, single or multiple arched wires maintaining identical loop and bond shapes. This system is ideal for bonding high power, high frequency devices where identical bond and loop shapes are critical. In such applications as • Microwave • Semiconductor • RF and • Hybrid products.

**UNLIMITED PART SIZE:** Access to remote bond targets on large packages or modules with WEST-BOND's throat-less chassis and micromanipulator design. All machines components are arrayed above the horizontal bond plane, eliminating any restriction to package size or shape. The EX version of this system the bonder can be suspended over very large parts.

**CONVERTABILITY:** WEST-BOND introduced the first triple convertible wire bonder back in November of 1969, today WEST-BOND introduces a new tool head that can bond it all: 45° wedge, 90° feed for wire and ribbon as well as ball bonding. A simple exchange of clamp assemblies, bond tool, and wire path provided with the software mode will allow conventional 45° wire feed, deep access wire or ribbon, ball bonding, insulated wire and single point tab / lead bonding. All programmed bond variables as well as machine settings for each bond mode are retained in the machines memory.



**PROGRAMMING:** Individual loop shape and bond parameters are programmed within specific wire types, where there can be up to 30 wire types per device, each wire type having up to five bonds on a single wire. The three modes of operation, wedge, deep access, and ball share 30 devices.

**FEATURES** include 63 KHz ultrasonics with 110 KHz as an option. The machine also features orthogonal X, Y, Z, color video or microscope targeting, pneumatic braking of all axes during bonding and radiant tool heat. Available without the base and work platform as a 4KEX for tabletop or conveyor system. Risers are also available for extra tall parts.

### MACHINE SPECIFICATIONS:

Control Logic: Motorola 68000 microprocessor  
 Memory: 512K of Battery Back-up RAM  
 Data Entry: 12 Key – key pad via LCD Display  
 Bond Targeting: Cross hair generator via 15" LCD CCTV

### BOND AREA

ESD Protection: Conductive and dissipative  
 Bond Platform: 11" x 11" (280 mm x 280 mm)  
     20" x 20" (508 mm x 508 mm) optional  
     Adjustable Height: 0.625" (15.9 mm)  
 Motorized Z Travel: 0.5" (12.7 mm) / 0.000208" (5.3µm) resolution  
 Motorized Y Travel: 0.5 (12.7 mm) / 0.000208" (5.3µm) resolution  
 Y Stroke: 0.150" (3.8 mm) forward, 0.350" (8.9 mm) rearward  
 Maximum Bond Span: 0.349"  
 Manual X and Y Travel: 0.625"sq (17.8 mm<sup>2</sup>) @ 8:1 ratio

### ULTRASONIC SYSTEM

½ wave length, 63 KHz transducer, 110 KHz optional  
 8 bit, 4 watt PLL ultrasonic generator  
 Ultrasonic tool positioning utility  
 Low Power: 2.5 W; High Power: 4 W

### BOND PARAMETERS

Bond Force: 10 – 250 grams (high / low programmable)  
 Bond Time: 0 – 999 ms  
 Programmable: 40 Device with 30 Types; up to 5 bonds per wire  
 Individual power, time and loop control data per wire type  
 Ball Formation: Negative EFO  
 Missing ball detection via Open and Short error

### WIRE AND TOOL CAPABILITY

Au / Al: 0.7 to 3 mil (18 to 75µm)  
 Ribbon: 0.5 x 2mil to 1 x 10 mil (12.5 x 50µm to 25µm x 250µm)  
 Cu Ball Bonding: 0.7 to 1.5 mil (18 to 38µm)  
 Spool: ½" standard; 2" optional  
 Tool Diameter: 1/16" (1.58 mm)  
 Shank Length: 0.750" (19 mm) standard for wedge bonding  
                   0.625" (16 mm) standard for ball bonding

### FACILITY REQUIREMENTS

100 – 120 / 220 – 240 VAC 50/60Hz (needs configuration)  
 50 PSI clean dry air  
 Dimensions: 24.22" (615 mm) W x 22.29" (566 mm) D  
                   x 11.00" (295mm) H  
 Weight: Crated with accessories: 165lbs (75 kg)  
           Uncrated: 75lbs (34 kg)

[www.westbond.com](http://www.westbond.com)

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