

# WEST·BOND·INC.



**4500E – 4600E – 4700E SERIES**

**SEMI-AUTOMATIC WIRE BONDERS**

*Continuing a Tradition of Quality*

# 4500E · 4600E · 4700E Series Semi-Automatic Bonders

**454647E - Three-Way Convertibility, 45° Wire Feed, 90° Wire and Ribbon Feed, or Ball Bonder**

**4546E - Two-Way Convertibility, 45° Wire Feed, or 90° Wire and Ribbon Feed**

**4700E - Single Ball or Ball-Wedge Bonder**



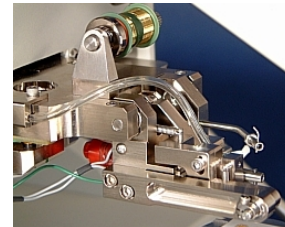
**AUTOMATIC PRECISION** at a fraction of the cost. Microprocessor controlled motor drives for both Y and Z axes bond a succession of parallel, single or multiple arched wires maintaining identical loop and bond shapes. Unlimited deep-reach access to bond targets on IC packages of any X-Y dimension with West•Bond's throatless chassis and micromanipulator designs. Ideal for bonding high power, high frequency devices where identical bond and loop shapes are critical.

**CONVERTIBILITY** for angled and vertical wire feed wedge bonding is easily accomplished with a simple change of clamping mechanisms, both of which are included with Model 4546E. Model 454647E expands convertibility with a tool head and EFO assembly for single ball or ball-wedge bonding. All program variables and bond settings for each configuration are retained in memory between conversions.



**PROGRAMMING** for different types of wire connections are entered into separate buffers, each with individual ultrasonic power, time, force (high or low) and loop control data. Each type may have up to 100 bonds, and may be repeated for any number of wires for up to a maximum of 6,000 individual bonds. Program values, action prompts and fault diagnostics are exhibited on the easy to read 4 line, 40 character LCD sequentially with machine operation.

**ADDITIONAL FEATURES** include 63 kHz ultrasonics, orthogonal X-Y-Z axes with pure vertical Z, color video and microscope targeting, motion slaved Z encoder, pneumatic braking of X-Y-Z axes during bonding, and built-in tool heat. Available with the base and work platform for tabletop applications, or without base and work platform for mounting above any work handling system.



## STANDARD SPECIFICATIONS

CONTROL LOGIC: Motorola 68000 microprocessor

MEMORY: 256KB RAM

DATA ENTRY: Keypad -12 keys

DISPLAY: 4 line, 40 character LCD

DEVICE STORAGE: Battery Backup RAM

MONITOR: LCD Flat Screen

TOOL Z STROKE: 0.5 inch

TOOL Y STROKE: 0.5 inch

MOTORIZED Z RESOLUTION: 0.000208 inch per micro-step

MOTORIZED Y RESOLUTION: 0.000208 inch per micro-step

MANUAL Z ENCODER RESOLUTION: 0.001 inch

FORCE RANGE: Adjustable, 10-250 grams,

BOND FORCE: High / Low Programmable

TRANSDUCER: ½ wave, 63 kHz (nominal)

ULTRASONICS: Built-in, 8 bit, 5 watts

ESD PROTECTION: Protection against Electrostatic Discharge

BALL FAULT DETECTION: Ball bonder

TAIL AND PULL STROKES: Programmable

ANGLED FEED TOOL LENGTH: 0.750 inch

VERTICAL FEED TOOL LENGTH: 0.750 inch

BALL CAPILLARY LENGTH: 0.625 inch

WIRE RANGE: 0.7 to 2 mils, ½ x10 mil gold ribbon (vertical feed)

WIRE SPOOL MOUNT: 0.5 inch with ball bearing roller

MICROMANIPULATOR: Counterbalanced, single lever X-Y-Z

RADIANT TOOL HEAT: Built-in

WORK PLATFORM: Fixed height. Adjustable height priced separately

MICROSCOPE: Selection available (ESD types available)

ILLUMINATOR: Selection available (ESD types available)

WORK HOLDERS: Selection available (ESD types available)

DIMENSION: W=24.218" x D=22.297" x H=11.000"

WEIGHT: 75 lbs uncreated, or 110 lbs accessorized and created

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

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