

One Bonder, Multiple Interconnect Materials



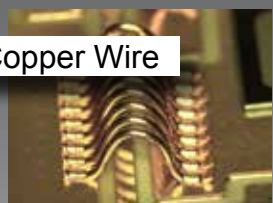
Large Wire



PowerRibbon



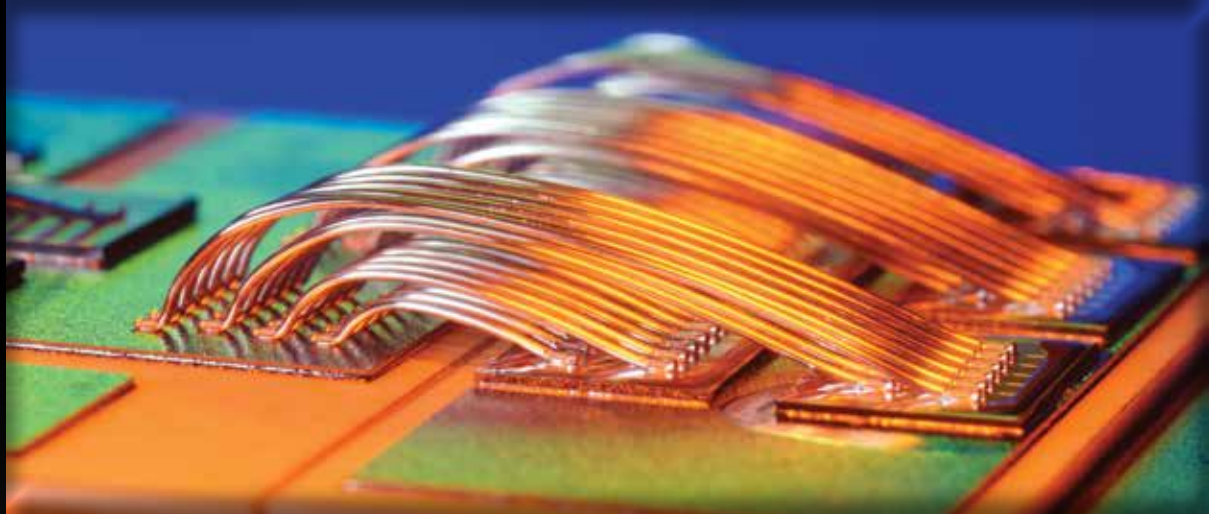
Small Wire



Copper Wire



AlCu Ribbon



Enhanced Capability Hybrid Wedge Bonder

The Asterion Wedge Bonder is built on an enhanced architecture that includes an expanded bond area, new robust pattern recognition capabilities and extremely tight process controls. Together these deliver heightened productivity, bonding quality, and reliability. The enlarged bondable area enhances flexibility and reduces line integration costs. Asterion is driven by a precise new direct-drive motion system that requires minimum maintenance and delivers high repeatability. Powerful new software features, like the graphical editor, make programming complex devices easier, and multi-segmented bonding includes flexible tools to deliver an optimized bonding process.



Advantages

Productivity

- Large bondable area (300mm X 300mm) reduces indexing/loading time
- Improved MTBA with enhanced PR
- Faster cycle time with Direct Drive Motion System and advanced PR modes

Performance

- Very stable platform with minimal frame movement during operation
- Greater bond placement repeatability
- More consistent process results

Configuration Flexibility

- Multiple configuration options available on the same platform; Large wire, small wire and PowerRibbon™
- The large work area envelope with extended side access accepts a full array of automated handling solutions
- Capable of multi-device and multi-lane material handling configurations
- Assorted bond head configurations are offered to meet the specific needs of a variety of applications

Lower CoO

- Reduced preventative maintenance requirements on major components

Advanced Capabilities

- Advanced interconnects with improved Configurable bond head (Cu, Al-Cu wire and ribbon)
- Loop Former option enables advanced square shaped loop profiles

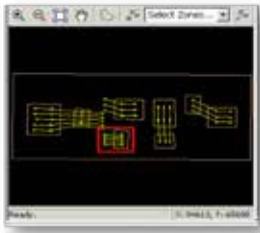
Ease of Use

- New bond head set-up aid option (GBS)
- Intuitive Graphical User Interface (Windows 7 OS)
- Program conversion from 3600/3700Plus to Asterion is supported

Maintenance and Reliability

- Highly reliable direct-drive XYZT motion system requires no adjustments and less frequent preventive maintenance
- Reduced preventive maintenance requirements on major components

Enhancements



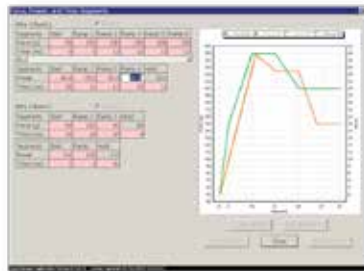
Graphical Editor for convenient program editing



Loop Former option enables advanced square shaped loop profiles



Robust PR (GS4) with Feature Find and Geometric Model modes developed for difficult patterns like direct bonded copper (DBC) substrates



Multi-segmented Bonding cycle allows precise control and flexibility of the bonding process



Bonder Data such as user accounts, security settings, bond parameter sets and wire size data can be transferred from a host to all machines to ensure commonality and production line control



Bonded Device Review can capture camera images after bonding a device in Auto and display them for review while bonding the next device

Additional Enhancements:

- Light intensity calibration normalizes PR light settings across all machines
- Process programs, stored on a host for control, are available to download to individual bonders
- Process logging for each bond can be stored and accessed offline for traceability
- Consumable tracking and bar code verification capability

Options

- Newly designed Graphical Bond head Set-up aid option (GBS) reduces consumable replacement time & ensures a repeatable set-up
- Bond Process Monitoring option (BPM) helps keep tight control of the bonding process
- SECS-GEM option enables factory automation and communication
- Off-line Programming Tool (OPT) creates bonder programs from CAD drawings
- Programmable status light can be programmed for customized conditions

Specifications



General

Power Requirements (Electrical): 180-240VAC, Single Phase, 50/60Hz, 2.0kVA
 Nitrogen: Min 275kPa - Max 1000kPa, 2-10 L/min (Small wire only)
 Work Height: Adjustable 939mm - 985mm from Floor
 Foot Print: 683mm (W) x 1500mm (D) x 1833mm (H)
 Weight: 730kg Uncrated
 CE Certification: Standard

Motion System

X,Y Axes: Linear motors, 0.1µm Resolution
 Bond Area: 300mm x 300mm
 Z-Axis: Voice Coil, 0.1µm Resolution; 50mm Z-Stroke
 Θ-Axis: Direct Drive; ± 220°, 0.0057° Resolution
 Repeatability: ±3.0µm at 3σ

Pattern Recognition/Optics/Vision

Vision System: GS4 Pattern Recognition System
 New PR Modes: Feature Find, Single Point with Angle, Geomodel

Interconnect Options

Large Wire
 Wire Range: 100µm - 500µm Diameter
 PowerRibbon
 Ribbon Range: 500 x 100µm to 2000 x 250µm
 Small Wire
 Wire feed angle: 45° or 60°
 Wire Range: 25µm - 75µm Diameter

Material Handler

Handler Bay:
 With Insert: 710mm (D) x 225mm (H)
 Open Bay: 710mm (D) x 460mm (H)
 Standard Integrated Handlers Available

Non-destruct Pulltesting

Bondhead Pull Test:
 Large Wire ALC bond head
 Configurable bond head