

5020 PMT™



- ❑ Patented Ball Placement & Ball Feed Method & Apparatus
 - ❑ Capable of processing PBGA, CSP BGA, CBGA, and Connector Devices
 - ❑ 30 Second Cycle Time/Carrier
 - ❑ Touch Panel Operator Interface
 - ❑ Comprehensive Diagnostics and Set-Up Options
 - ❑ Adjustable Flux/Paste print Process Parameters
 - ❑ Easy Loading Mechanism
 - ❑ Small Footprint, 1.3M x .8M
 - ❑ Interchangeable Tooling Capability
- BENEFITS:**
- **LOW COST** Capital Investment
 - Highly Reliable and Accurate
 - Qualification Vehicle for High Volume Fully Automated System

SEMI-AUTOMATED BGA BALL PLACEMENT SYSTEM

In support of prototype development and low-medium volume production of Ball Grid Array applications, for PBGA, CBGA, FCBGA, FTBGA, CSP, CABGA, FBGA, ZIF connectors, and custom variations of back-end package assembly. On Target Systems has developed the 5020 PMT Ball Placement System.

The 5020 PMT is a compact, semi-automated system specifically designed for the flux or paste print and placement of solder balls onto various form factors. It also supports JEDEC tray, and singulated device formats. Typical cycle time for the 5020 PMT is 30 seconds for total process.

At the core of On Target systems, is a patented solder ball placement mechanism which, in contrast to other possible pick and place techniques, utilizes Positive Mask Technology (PMT) for its simplicity, repeatability, and accuracy. This placement mechanism is identical that found on On Target Systems higher volume systems, providing a simple migration path as the users' production requirements grow.

The system is designed with a number of adjustable features to provide the user with the greatest degree of control over fluxing and placement parameters. To minimize the set-up time between runs, a range of interchangeable tooling is available for producing a wide variety of device types.

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DEVICE LOADING AND HANDLING

The system can accommodate a variety of BGA and CSP substrates in singulated, panel and strip formats. To process multiple singulated devices simultaneously, an operator directly loads industry standard boats or JEDEC trays into the system. For strips, and for single devices not suited to boats, a range of custom tooling, or carrier options are available.

FLUXING

The solder ball placement system features a dedicated screen or stencil print process, which is compatible with a number of fluxes/Pb or Pb Free paste accommodate process requirements. The system includes an automated flux dispenser with programmable flux feed and low level sensing, a three position micrometer adjustment for screen/stencil to device registration, pneumatically controlled stroke and speed parameters. Other key adjustments, such as snap height and squeegee pressure, give the user complete control over the entire fluxing process.

BALL PLACEMENT

Extremely fast repeatable ball placement is achieved by On Targets Systems patented solder ball placement mechanism which accomplishes simultaneous placement of all balls on all pads of the substrates. An automated ball-feed reservoir eliminates the interruption of material loading to the system.

Differing device configurations are accommodated by a set of interchangeable tooling.

OPERATOR INTERFACE

A touch panel, featuring a backlit LCD display with 12 function keys, easily guides the user through set-up, initialization, operation, error recovery, and diagnostic routines. From the panel the user may choose one of the three modes of operation: set-up, run, diagnostic. Within these modes and at a single keystroke, the system may be instructed for print only, place only, print and place, or dry-cycled operation. Set-up adjustment, controlling the specifics of the printing and placement process, also maybe performed directly at this panel. Security lockouts are provided within the software to prevent any unwanted access.

GENERAL SPECIFICATIONS

Performance

Yield	99.9% Typical
Cycle Time	30 Seconds/carrier Typical
Uptime:	98%
Placement	
Accuracy:	25 µ @ 3 Sigma

PRODUCT RANGE

Ball Pitch:	0.4mm-1.5mm
Ball Diameter:	.02mm-1.0mm
Substrate Thickness:	0.25mm-3.0mm
Singulated Width:	5mm-150mm
Singulated Length:	5mm-300mm
Strip Width:	25mm-150mm
Strip Length:	150mm-300mm
JEDEC capable	

(Consult Sales Dept. for excursions as customized applications are available.)

FACILITY REQUIREMENTS

Electrical:	US: 110 VAC, 5060Hz 10A
International:	240280 VAC, 5060 Hz, 5A
Air:	80PSI min., 120 PSI max 3 CFM

FOR MORE INFORMATION about On Target Systems full line of products, contact sales at (520) 547-2194