

## REMANUFACTURED GENERAL SURFACE MOUNT APPLICATION MACHINES (REMANUFACTURED GSM® PLATFORMS)

### RGSM1, RGSM2

Remanufactured single- and dual-beam GSM Platforms are flexible, fine pitch placement machines that meet the challenges of changing electronic assembly requirements.

Universal's Remanufactured GSM Platforms (the single-beam RGSM1 Platform and the dual-beam RGSM2 Platform) address the entire spectrum of standard surface mount components, while also placing a wide range of odd form components and advanced assemblies such as flip chips and other chip scale packages.

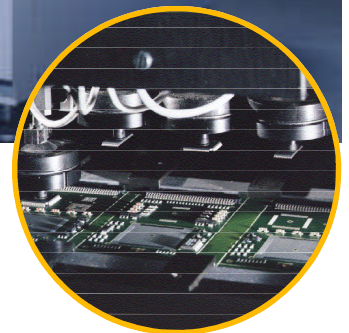
Not only do Remanufactured GSM Platforms meet today's surface mount placement needs, but they can also be adapted to meet tomorrow's requirements. With their modular design, these platforms are easily upgraded in the field with options and enhancements.

RGSM1 and RGSM2 Platforms use standard user interfaces and interchangeable component feeders, placement heads, and inspection cameras. They employ a high-precision positioning system, advanced vision system, and sophisticated control architecture, providing the flexibility, speed, and accuracy essential for future growth.

#### Key Benefits

##### Value

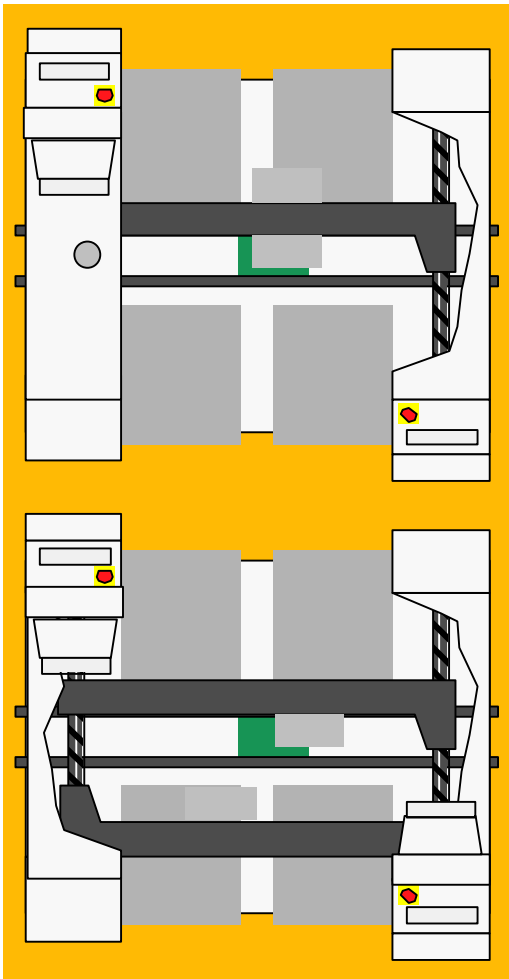
- Protects against capital equipment obsolescence through field upgrades and reconfigurations
- Adapts to changing assembly technology with tooling elements common among GSM Platforms
- Maximizes utilization by minimizing setups and handling the widest range of components in the industry
- Maximizes throughput with the industry's fastest large part tact time and vision-on-the-fly component inspection



- Optimizes productivity by interfacing to factory data collection and automation systems through optional GEM software
- Optimizes throughput with GSM Platform production simulations and line balancing utilities
- Minimizes changeover time and production cost by using optional bank feeder changer, Component Shuttle, and/or Platform Tray Feeder
- Minimizes operator training and simplifies operation with a graphical user interface common among GSM Platforms
- Minimizes support costs with replacement parts, product training, and technical support common among GSM Platforms

## RGSM1 or RGSM2?

Both the RGSM1 Platform and the RGSM2 Platform are price-performance leaders. Your choice depends on your requirements. The RGSM2 Platform promotes increased throughput over the slightly more flexible RGSM1 Platform. Both use common heads, feeders, tooling, and cameras, and share an identical footprint.



Although the RGSM1 Platform and RGSM2 Platform share the same footprint (66"W x 86"D/168 cm x 218 cm), the dual independent positioning systems of the RGSM2 Platform generate a significant increase in throughput.

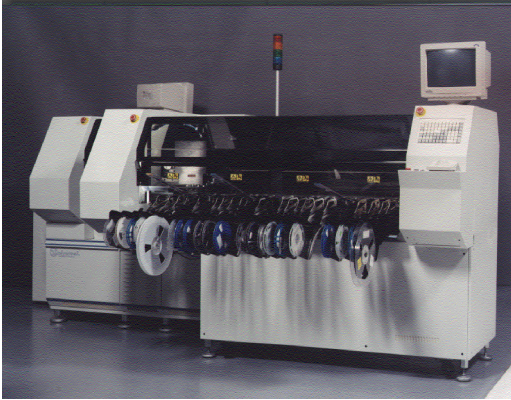
### Positioning System

- One-piece, precision-machined base frame supports an overhead gantry-style positioning system using linear encoders and a patented, software-controlled beam damping system
- X/Y linear Heidenhain scales offer repeatable, accurate performance over many years
- The drive system uses brushless, DC servo motors providing optimal acceleration, deceleration, and reliability

### Vision System

- Features a downward-looking (pattern error correction) fiducial inspection camera
- CAD download specifies the shape and size of fiducials
- Automatically corrects for board variations such as stretch, rotation misalignment, and skew
- Bad board reject identifies and bypasses bad boards during processing





### Board Handling

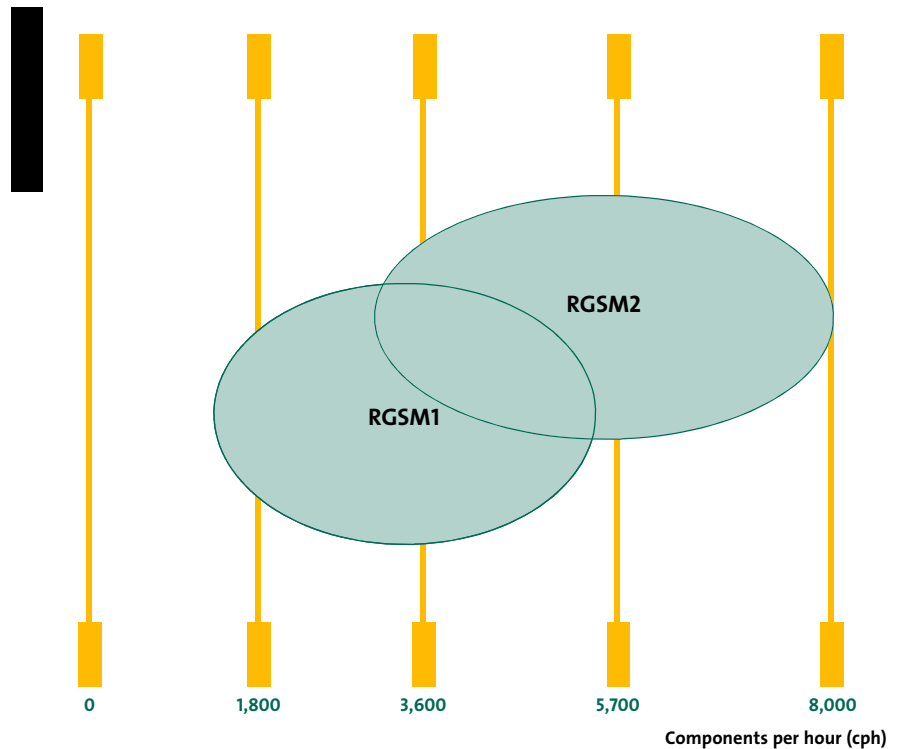
- Optional dual lane board handling eliminates board transfer delays, dramatically increasing throughput
- Programmable width control adjusts conveyor width automatically for fast board changeover
- Mechanical and optical board alignment combine for accurate, reliable board location, avoiding offset errors
- Edge clamping combined with pin-grid board support compensates for board warp, sag, and/or flex during dispensing for maximum flexibility and increased speed
- SMEMA compliant for ease of integration

### User Interface

- Universal Platform Software (UPS) uses a graphical user interface for ease of operation, while a separate CPU drives a real-time machine control system
- Standard UPS software can run on a PC or the machine; programming for next board can be performed while the current board is running or off-line
- Complies with TCP/IP, Ethernet®, and GEM protocols, making board transfer and other communication issues trouble free in mixed vendor environments
- On-line user help is provided through maintenance instructions, operating procedures, drawings, complete operator manuals, and a Web-based troubleshooting guide

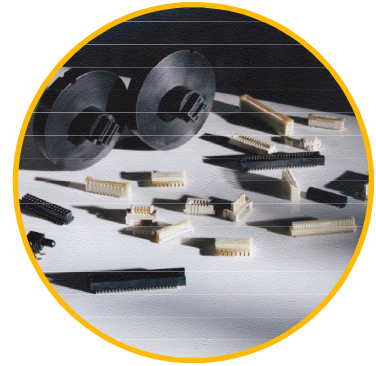
### Programming Interface

- Built-in performance optimizers and simulators make programming and throughput analysis quick, accurate, and easy to perform



### OPTIONS

- **GSM Platform Placement and Dispensing Heads:** Available for use on Remanufactured GSM Platform machines are the FlexJet® Head, Flex Head, High-Force Head, Ultrafine Pitch (UFP300+) Head, Positive Displacement Pump, and Archimedes Metering Valve.
- **GSM Platform Feeders:** Available for use on Remanufactured GSM Platform machines are standard feeders such as tape feeders, track feeders, multi-tube feeders, and stationary matrix tray feeders. Smart feeders, such as the Component Shuttle and Platform Tray Feeder, are also available. Finally, Universal's Applications Engineering Group can develop feeders for special needs.
- **Feeder Bank Changing:** Feeder bank changers permit set up of alternative feeder banks while the machine is operating.
- **Feeder Storage Carts:** Feeder storage carts hold multiple feeders in place, away from the machine when not in use.
- **Board Support:** Board support during component placement minimizes the effects of board warp, sag, and flex.
- **Board Handling:** Conveyors designed and manufactured by Universal's Applied Conveyor Engineering Group transport PCBs between individual machines within a system.



**Remanufactured GSM1 and GSM2 Platform Rebuild Level Matrix**

Remanufacture Levels	Level 2	Level 3	Level 4	Level 5
<b>Frame Style</b>	Pre “L” block	“L” block and higher	“L” block and higher	“L” block and higher
<b>Processor</b>	Minimum 486 33/66 mhz	Minimum 486 100 mhz	Pentium®	Pentium®
<b>Motor Style</b>	CMC or PacSci	CMC or PacSci	PacSci only	PacSci
<b>Vision System</b>	Lantern630 or 630/2	Lantern 630/2	Lantern w/8M upgrade	Lantern w/8M upgrade
<b>Network Card</b>	Option	Option	Yes	Yes
<b>FlexJet Ready</b>	No	Upgradeable if PacSci	Yes	Yes
<b>Operating System</b>	O/S 2 Verson 4	O/S 2 Verson 4	O/S 2 Verson 4	MS Windows 2000
<b>UPS Version</b>	3.x	3.x	4.5x / Upgradeable	UPS + VME Conv.
<b>UPS + VME Conversion Kits</b>	No	Upgradeable	Upgradeable	Yes
<b>Precision Pro Feeders</b>	No	Upgradeable	Upgradeable	Available Option
<b>Power PC</b>	No	Upgradeable	Upgradeable	Available Option
<b>Force Board, CPU xx Lite</b>	CPU 30 Lite / Upgradeable	CPU 30 Lite / Upgradeable	CPU 30/16 / Upgradeable	UPS + VME Conv.
<b>Hard Drive</b>	Min. 4.3 Gb	Min. 4.3 Gb	Min. 4.3 Gb	UPS + VME Conv.
<b>Radisys RAM</b>	Min. 32M	Min. 32M	Min. 32M	Min. 64M <b>Board</b>
<b>CD Rom Kit</b>	Yes	Yes	Yes	Rewritable CD Drive
<b>Board Handling</b>	Staged style	Staged style	Staged style	Staged style
<b>Board Size Limitations with PTF</b>	No	No	No	No
<b>Hover Davis</b>	Yes	Yes	Yes	Yes
<b>Power Upgrade</b>				
<b>CE Mark Capable</b>	No	Yes	Yes	Yes

\*Remanufactured GSM1 Platforms include one Flex Head and two standard UL cameras  
 \*Remanufactured GSM2 Platforms include two Flex Heads and two standard UL cameras  
 \*\*Contact your sales engineer or the Remanufactured Machine Division to determine the correct specifications for your application