



www.uic.com  
email: universal@uic.com

**AMERICAS**  
Tel. 1-800-432-2607 or  
Tel. +1-607-779-7522

**CHINA, SHENZHEN**  
Tel. +86-755-2685-9108

**CHINA, SHANGHAI**  
Tel. +86-21-6495-2100

**EUROPE**  
Tel. +421-2-4930-96-60

©2011 Universal Instruments  
Corporation. All rights reserved.  
All specifications are subject to change.

MC-5336D 10/19



# GENESIS

## SERIES II



the ultimate in  
modular performance

## Series 2 – raising the bar for flexible productivity

Proven, efficient, adaptable performance – that’s Series 2. Universal Instruments’ flagship Genesis Platform has reached a new pinnacle, setting a higher mark for modular, next-generation manufacturing solutions.

Genesis Series 2 builds on best-in-class Genesis performance with improvements in virtually every production metric. Series 2 solutions deliver higher yields and improved flexibility, while reducing capital and operational costs – all leading to a stronger bottom line. Genesis Series 2 is the solution for your next-generation production challenges.

### Proven - the original platform

Universal Instruments pioneered the platform philosophy with the introduction of the GSM Platform. Genesis continues this legacy as the modern-day standard for platform productivity, and Series 2 further expands on that success. A robust platform foundation with fewer moving parts minimizes downtime. Advanced, patented positioning system and head technologies and an expansive complement of proven hardware and software features yield consistent, reliable performance across a wide range of applications.

### Efficient - do more for less

Genesis Series 2 delivers efficient operation for continual savings. From the initial investment throughout the ownership experience, Series 2 delivers cost-effective performance.

Lower initial capital investment:

- 3-8% throughput increase means fewer machines are required
- Scalable optics reduce initial costs by up to 15%

Reduced cost of operation:

- Scrap, waste and rework reduced (higher mag cameras, Vertical Part Sensor verifies part prior to placement)
- 75% changeover time reduction (dual-PTF support, Line Manager’s Flexible Setup)

Improved investment protection:

- 40% increase in maximum PCB length (up to 1016mm)
- Expanded Lightning Head capabilities (track feeding, increased package sizes)



## get a quality product to market fast!

Universal Instruments delivers complete factory-wide process, manufacturing and support solutions from product concept throughout the entire product lifecycle. A technology partnership with Universal Instruments ensures you get a quality product to market quickly and efficiently.



### Adaptable - time is money

Genesis Series 2 is the most versatile solution available. Series 2 features higher utilization while in operation, faster changeovers, and superior uptime. Build today’s products and quickly fine tune for tomorrow’s without changing hardware. Simply change the program, not the line or heads.

### Performance - ahead of its time

Genesis Series 2 boasts best-in-class throughput with a 3-8% CPH increase from Series I across the entire Genesis portfolio. Series 2 also maintains superior small part handling and performance with the addition of higher magnification cameras. Lightning Head technology – the industry’s fastest – integrates high-accuracy, direct-drive theta in the spindles, and closed-loop controls for X,Y, Z, Phi, valves and pick/place touchdown. The newly integrated Vertical Part Sensor (VPS) verifies part presence immediately prior to placement.



“Genesis Series 2 will improve your productivity while saving you money from the initial investment throughout the product lifecycle.”

# Scalable solutions

Genesis Series 2 provides scalable performance with single, dual, and quad-beam platforms. Genesis is the only high-speed solution that delivers maximum productivity, regardless of product mix or production volumes.



## Foundation for success

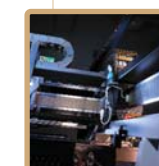
Accuracy starts at the foundation of your production solution. Genesis leverages a base frame that undergoes precision machining to within one micron from corner to corner for extreme accuracy. This robust base is at the root of a Genesis Platform that is backed by an industry-best warranty.



## Exclusive technology, exceptional performance

Patented Variable Reluctance Motor (VRM) linear motor technology is at the core of all Universal Instruments platform positioning system. VRM technology combines powerful acceleration, unmatched precision, and simplified design for robust operation.

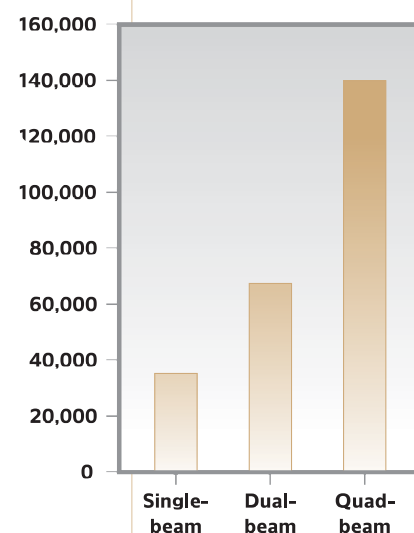
- High-accuracy (1µm resolution), closed-loop positioning control supports current, converging and emerging technologies
- High acceleration – up to 2.5G
- Dual-drive architecture reduces settle times
- Thermally stable, non-magnetic
- Cost-effective – half the cost of off-the-shelf alternative
- Fewer moving parts for minimal maintenance and no adjustments
- 15-year lineage – thousands of Universal VRM platforms in the field today
- Direct drive technology stands the test of time to maintain its accuracy indefinitely



## Incremental capacity

Genesis Series 2 offers incremental units of capacity via single, dual, and quad-beam platforms. With three head options, Universal platforms are designed to react quickly to changing requirements and shifting product portfolios w/o line or module reconfigurations. Need more output? Simply add modules for additional throughput or feeder capacity.

2 BASE FRAMES	3 GANTRIES	3 HEADS



## Superior utilization

A wide overlap in component range between Universal's three placement heads means you get the most out of each module in your production lines. Efficient line balancing coupled with fast setup and changeover in higher mix environments maximizes productivity.

- InLine 4 Head (5kg insertion)**
- InLine 7 Head (150mm)**
- Lightning Head (30 x 30 x 6)**
- Chip
- MELF
- Tant Cap
- SOIC
- TSOP
- DPAK
- QFP
- BGA
- PLCC
- CSP
- Electrolytic Cap
- Connectors
- CCGA
- Odd Form
- Pin-in-Paste
- Flip Chip



### Lightning Head - Speed without compromise

Lightning takes the guess work out of configuring your factory for maximum flexibility and productivity. Lightning delivers the industry's fastest tact rate and an 01005 - 30mm square component range that is without comparison, allowing you to be proactive with the next product you're asked to build.

### InLine7 Head - The all-around performer

The Genesis component range doesn't stop at Lightning's 30mm square maximum. The InLine7 Head quickly and accurately places components as small as 0201 up to 55mm square and 25mm tall with single field-of-view inspection. Gang pick up to seven components.

### InLine4 Head - Unmatched flexibility and odd-form capability

To handle your extreme application requirements, the InLine4 Head supports special processes such as pin-in-paste and flip chip. For components requiring force fit, the InLine4 offers programmable insertion forces from 150 to 5000 grams. Additional features include selectable placement delay and normal, medium and slow tact modes.

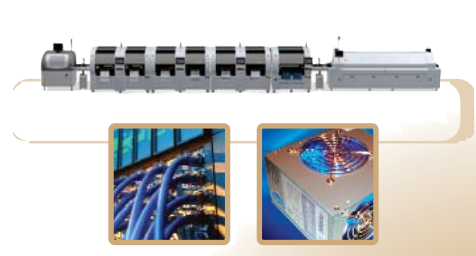


# the ideal solution for any market

With Genesis Series 2, you'll have the confidence to take on any opportunity, no matter how complex the product. From extreme SMT applications, to convergence and semiconductor technologies, Series 2 is up to the challenge.

### Infrastructure & Industrial

- Broad range of component requirements
- Highly complex and expensive assemblies
- High cost to repair and recall
- **Series 2 Advantage**
  - Large board capable
  - Large part range
  - Superior small part handling
  - NPI software - quick ramp to quality and volume
  - Line management tools - expedite changeover and assure accurate setups
  - High throughput - lines in field >200Kcph
  - Low maintenance costs



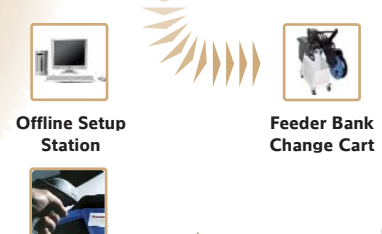
### Ultra-High Mix / NPI

- Single-sided operation
- Wide range of carrier types
- 1-10 lot sizes
- 3-6 changeovers per day
- **Series 2 Advantage**
  - Large board capable
  - Flexible head technologies
  - Easy transition to higher volume



### PRODUCT 2:

Mix of small part, ffp, odd form  
Offline changeover utilizing  
Dimensions Line Manager



### PRODUCT 3:

High % of small parts  
Program creation utilizing  
Dimensions DPO

### PRODUCT 1:

High % of ffp / 1 connector



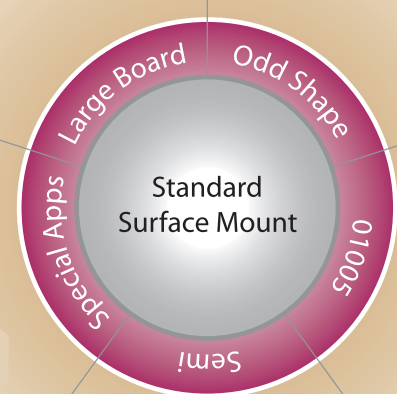
### PRODUCT 4:

High % of odd form  
Board and component design  
utilizing the Adv Process Lab



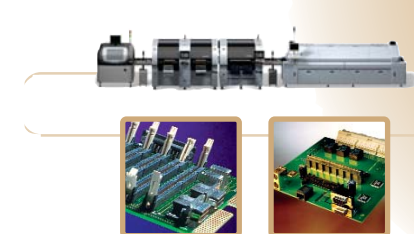
## Change the program, not the line

Genesis solutions give you the flexibility to configure exactly the right line for your specific business requirements. An unrivaled component range ensures outstanding performance, even with a significant change in customer portfolio. Genesis lines don't require hardware reconfiguration to deal with new products, simply change the program and get back to high-performance production.



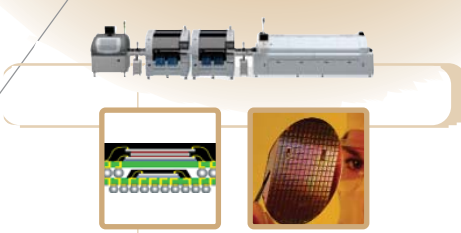
### Special Assemblies

- Broad range of component requirements
- Typical 2-3 machines/line
- **Series 2 Advantage**
  - Flexible head technology - overlap
  - Large gripper nozzle portfolio
  - Extreme odd-shape components
  - Sustainable placement force up to 5Kg



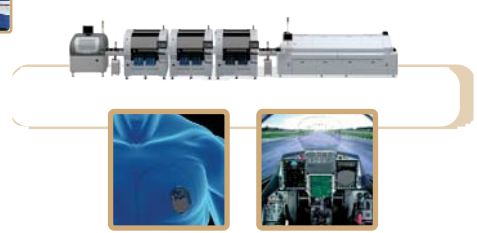
### Semi Convergence

- SiP, PiP, PoP, PQFN, Flip Chip
- High-density small part placement
- < 20 unique part numbers
- **Series 2 Advantage**
  - Superior head technology
  - Innova feeder
  - 20 years of Semiconductor knowledge
  - Superior 01005 capabilities



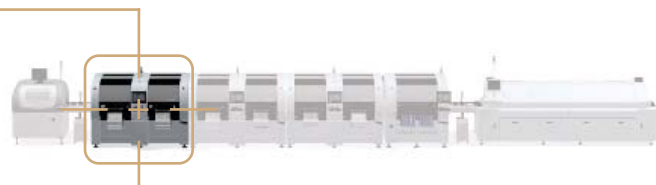
### Medical & Military

- Mission-critical assemblies
- Small form factors - implantables
- **Series 2 Advantage**
  - Superior head technologies
  - Traceability software
  - Superior 01005 capabilities



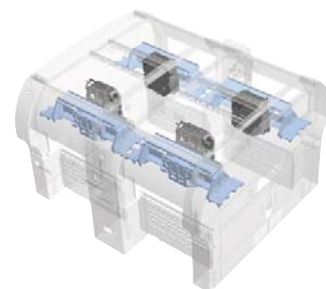
## Genesis GC-120Q

Q-Series (quad-beam) Genesis



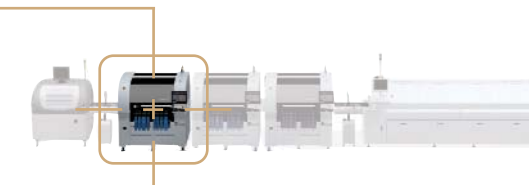
**Powerful performance for high-volume production environments: Consumer, Mobile, Notebook and Automotive**

- Quad-beam, dual-drive overhead gantry system
- Patented VRM<sup>®</sup> linear motor positioning system
- Four 30-spindle rotary Lightning placement heads
- Dual on-the-head camera optics



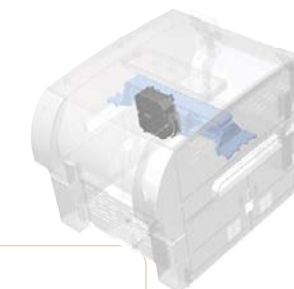
## Genesis GC-30S

S-Series (single-beam) Genesis



**Superb for high-mix NPI environments with multiple changeovers per day and large board applications. Also a high-volume line booster for D and Q-series lines.**

- Single-beam, dual-drive overhead gantry system
- Patented VRM<sup>®</sup> linear motor positioning system
- One 30-spindle rotary Lightning placement head
- Dual on-the-head camera optics



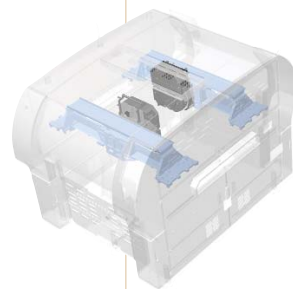
## Genesis GC-60D

D-Series (dual-beam) Genesis



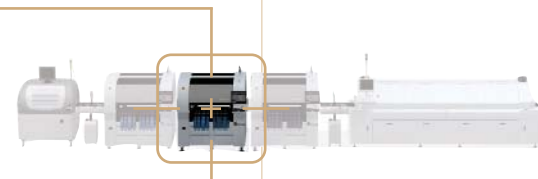
**Flexible, high-speed productivity for medium-volume environments. A powerful line booster solution or high-performance small part placer.**

- Dual-beam, dual-drive overhead gantry system
- Patented VRM<sup>®</sup> linear motor positioning system
- Two 30-spindle rotary Lightning placement heads
- Dual on-the-head camera optics



## Genesis GX-37D

D-Series (dual-beam) Genesis



**A true multi-purpose platform. A versatile stand-alone prototyping solution, a flexible line balancer, or a high-performance multi-function solution.**

- Dual-beam, dual-drive overhead gantry system
- Patented VRM<sup>®</sup> linear motor positioning system
- One 30-spindle rotary Lightning and one 7-spindle InLine7 placement heads
- Dual on-the-head camera (Lightning) and upward-looking camera (InLine7) optics



SPECIFICATIONS		GC-120Q	GC-60D	GX-37D	GC-30S
Placement Rate (cph (sec per comp))	Max	140,000 (0.026)	66,500 (0.054)	48,000 (0.075)	35,000 (0.100)
	1-Bd IPC Chips (1608)	81,000 (0.044)	40,500 (0.089)	27,500 (0.131)	22,600 (0.159)
Accuracy (µm@ 1.33 Cpk/1.00 Cpk)	Chips	----- ±55 / ±42 -----			
	ICs	±55 / ±42	±55 / ±42	±45 / ±34	±55 / ±42
PCB Dimensions (mm ("))	Max (WxLxH)	500 x 700 <sup>1</sup> (19.7 x 27.6)	508 x 1016 <sup>1</sup> (20 x 40)	508 x 1016 <sup>1</sup> (20 x 40)	610 <sup>2</sup> x 1016 <sup>1</sup> (24 x 40)
	Min (WxLxH)	----- 50.8 x 50.8 x 0.508 (2 x 2 x 0.02) -----			
	Max Weight (kg (lbs))	----- 2.72 (6.0) -----			
Component Range (mm ("))	Max (WxLxH)	30 x 30 x 6 <sup>3</sup>	30 x 30 x 6 <sup>3</sup>	150 x 150 x 25 <sup>4</sup>	30 x 30 x 6 <sup>3</sup>
		(1.18 x 1.18 x 0.24)	(1.18 x 1.18 x 0.24)	(5.90 x 5.90 x 0.98)	(1.18 x 1.18 x 0.24)
	Min (WxLxH)	----- 0.18 x 0.38 x 0.10 (0.007 x 0.015 x 0.004) -----			
Machine Dimensions (mm ("))	(LxDxH)	2372 x 2160 x 1930	1676 x 2248 x 1930	1676 x 2248 x 1930	1676 x 2248 x 1930
		(93.4 x 85.0 x 75.9)	(66.0 x 88.5 x 75.9)	(66.0 x 88.5 x 75.9)	(66 x 88.5 x 75.9)
Machine Weight (kg/lbs)		4260 (9400)	3500 (7700)	3500 (7700)	3250 (7150)
Feeder Types		----- tape, stackable matrix tray -----			

<sup>2</sup> Optional Long Board Kit required  
<sup>3</sup> Optional Wide Board Kit required  
<sup>1</sup> 6mm nozzles required  
<sup>4</sup> Consult the General Specification for component capability specifics

### Revolutionary Lightning<sup>®</sup> high-speed placement head – redefining modular productivity

A modular approach to electronics assembly provides the flexibility required to succeed in high-mix production environments. The sacrifice? Typically speed. Lightning gives manufacturers the best of both worlds.

- The industry's fastest placement head – 55ms duty cycle
- VRM technology is fast with 1µm resolution and 25µm precision in Z-travel
- 30 spindles amortizes travel time over more components
- Single pick point eliminates gang-picking concerns and speed derates associated with in-line heads
- Dual on-the-head cameras provide 01005 – 30 x 30mm vision capability – chips, BGA/CSP, Melf, QFP, connectors, up to 6mm tall, on the same head
- Places CSP, WSP, µBGA, and MELF devices at full speed
- Vertical Part Sensor (VPS) verifies part presence prior to placement
- Every Genesis Lightning Head is 01005-qualified before leaving our factory, with a process that can be replicated in yours



- Dual On-the-Head Cameras**
- Both 0.55 and 2.8 mil/pix cameras for 01005 – 30 x 30mm vision
  - Chips, BGA/CSP, Melf, QFP, connectors, up to 6mm tall, on the same head



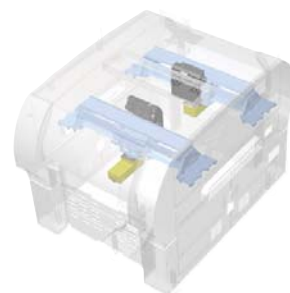
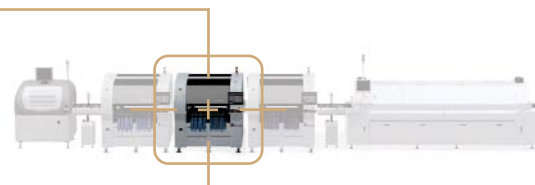
- Intelligent Lightning Spindles**
- Fast and accurate direct-drive theta
  - Vacuum generated at spindle for fast reaction and low maintenance
  - Self-ID intelligence
  - Dry spindle bearing/no oil
  - Automatic spindle bypass

# Genesis GI-14D

D-Series (dual-beam) Genesis

**Best-in-class multi-function machine with fast placement of a wide component range for applications where flexibility and performance per line length are important**

- Dual-beam, dual-drive overhead gantry system
- Patented VRM<sup>®</sup> linear motor positioning system
- Two 7-spindle InLine7 placement heads
- Upward-looking camera optics

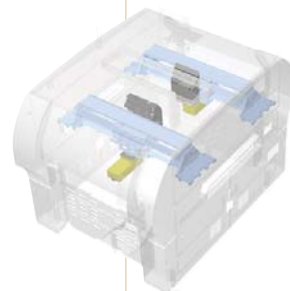
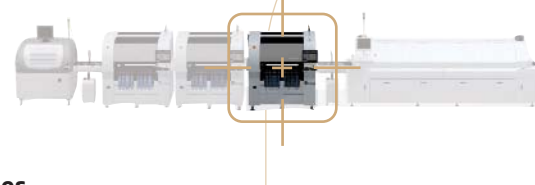


# Genesis GX-11D

D-Series (dual-beam) Genesis

**Versatile IC placement platform perfect for special processes such as Pin-in-Paste, Flip Chip and Odd Form**

- Dual-beam, dual-drive overhead gantry system
- Patented VRM<sup>®</sup> linear motor positioning system
- Mixed-head / dual-head configuration
- Upward-looking camera optics

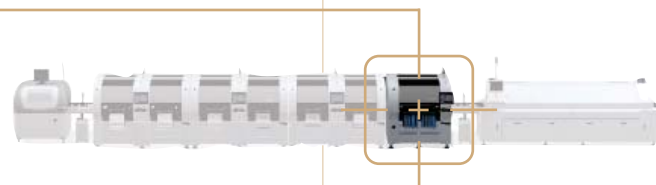


# Genesis GX-11S

S-Series (single-beam) Genesis

**Notebook, Automotive and Consumer products where vacuum formed trays and high-volume odd form placements are required. Also a multi-function solution at end of D and Q-Series lines.**

- Single-beam, dual-drive overhead gantry system
- Patented VRM<sup>®</sup> linear motor positioning system
- Mixed-head / dual-head configuration
- Upward-looking camera optics



SPECIFICATIONS		GI-14D	GX-11D	GX-11S
Placement Rate (cph (sec per comp))	Max	30,750 (0.117)	18,800 (0.191)	16,500 (0.218)
	1-Bd IPC Chips (1608)	21,750 (0.166)	11,400 (0.316)	11,400 (0.316)
Accuracy (µm@1.33 Cpk/1.00 Cpk)	Chips	±60 / ±45	±60 / ±45	±60 / ±45
	ICs	±45 / ±34	±40 / ±30	±40 / ±30
PCB Dimensions (mm ("))	Max (WxLxH)	610 <sup>1</sup> x 813 <sup>2</sup> (24 x 32)		
	Min (WxLxH)	50.8 x 50.8 x 0.508 (2 x 2 x 0.02)		
	Max Weight (kg (lbs))	2.72 (6.0) / 6.8 <sup>2</sup> (15.0)		
	Topside Clearance (mm ("))	26.5 (1.04)		
Component Range (mm ("))	Max (WxLxH)	150 x 150 x 25 <sup>3</sup> (5.90 x 5.90 x 0.98)		
	Min (WxLxH)	0.25 x 0.5 x 0.15 (0.01 x 0.02 x 0.006)		
	Max Weight (g)	27.0 / 130.0 <sup>4</sup>	35.0 / 130.0 <sup>4</sup>	35.0 / 130.0 <sup>4</sup>
Machine Dimensions (mm ("))	(LxDxH)	1676 x 2248 x 1930 (66.0 x 88.5 x 75.9)	1676 x 2248 x 1930 (66.0 x 88.5 x 75.9)	1676 x 2248 x 1930 (66.0 x 88.5 x 75.9)
	Machine Weight (kg/lbs)	3500 (7700)	3500 (7700)	3250 (7150)
Feeder Types		tape, tray, tube, strip, bowl, odd form, wafer, waffle, gel pak		

<sup>1</sup> Optional Wide Board Kit required

<sup>2</sup> Optional Long Board Kit required

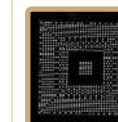
<sup>3</sup> Consult the General Specification for component capability specifics

<sup>4</sup> Requires application-specific quote

## Magellan Digital Camera

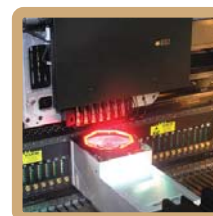
Magellan's advanced technologies and exceptional flexibility make it ideally suited to today's demanding requirements, from new product development and introduction to high-volume, high-throughput applications.

- Large, 55mm field-of-view (FOV) minimizes multiple scans of large bumped/leaded devices
- Provides substantial throughput improvements for applications that typically require multiple FOVs
- High resolution of 1024 x 1024 to facilitate small part feature recognition
- Front, side, and on-axis lighting that can be used individually or in combination
- Lighting intensity is consistent across viewable area for faster, more accurate alignment and inspection
- Lighting calibration is performed on the machine, eliminating machine-to-machine lighting intensity variation



### InLine7 Placement Head

- Provides high-speed IC and chip placement capability
- Gang pick up to 7 components
- Picks from trays, tape, tube and odd-form feeders

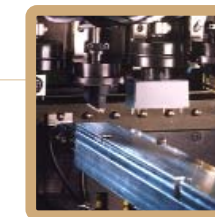
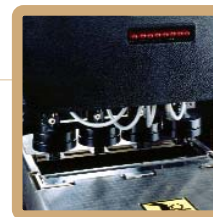


### High-Volume SM/Odd Form Placer

- Extends the GSM Odd Form Legacy
- A large available selection of custom nozzles, feeders, and tracks
- Addresses odd form snap-in components with up to 5kg programmable insertion force
- Add a large-bore nozzle changer and on-the-fly nozzle change capability and you have the industry's premier SM/odd form placement machine

### Easily Configured for PoP

- Specialized options allow you to address this next-generation assembly challenge at competitive speeds
- Take advantage of four-component single flux and paste dip functionality superior to the single-dip capability of others



### Complementary Placement Heads

- A wide overlap in component range between placement heads delivers superior utilization and line balancing
- Fast setup and changeover without reconfiguration or limitation, reducing investment costs and maximizing productivity

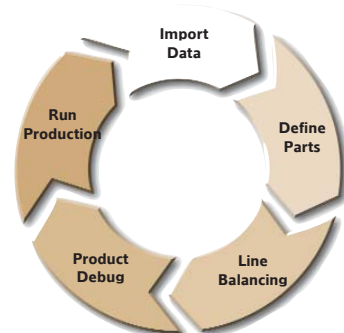


# Equipped to excel with intelligent software

Universal Instruments' Dimensions Software Suite features powerful NPI solutions to accelerate entry of your products into production, and turnkey line management tools that connect Genesis into your overall manufacturing operation.



## NPI Software



Fast, efficient introduction of new products into full production determines success with today's small batch sizes – much more so than outright speed. Use the Dimensions suite of NPI software tools to easily import and verify design data, balance your lines, generate optimized programs, and create grouped feeder setups for minimized changeover time. You can also leverage Genesis' machine-side NPI tools at the line to debug your process step-by-step as you build your first article, and also during full production to fine tune established programs to continuously improve quality and efficiency.

- Import any kind of design data
- Generate balanced and optimized products
- Create grouped setups to minimize changeover
- Debug process problems online
- Achieve a production-ready first pass yield



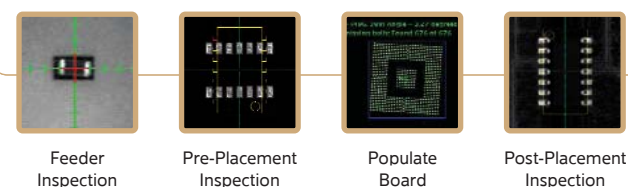
- Part Data Management
- Line Balancing
- Optimization
- Grouping
- Family Group Setups
- Offline Component Scan

- Machine-Side NPI
- Feeder Inspection
- Transfer Board
- Fiducial Inspection
- Pre-Placement Inspection
- Circuit/Offset Inspection
- Populate Board
- Post-Placement Inspection

Run Full Production



### NPI Sequential Tasks

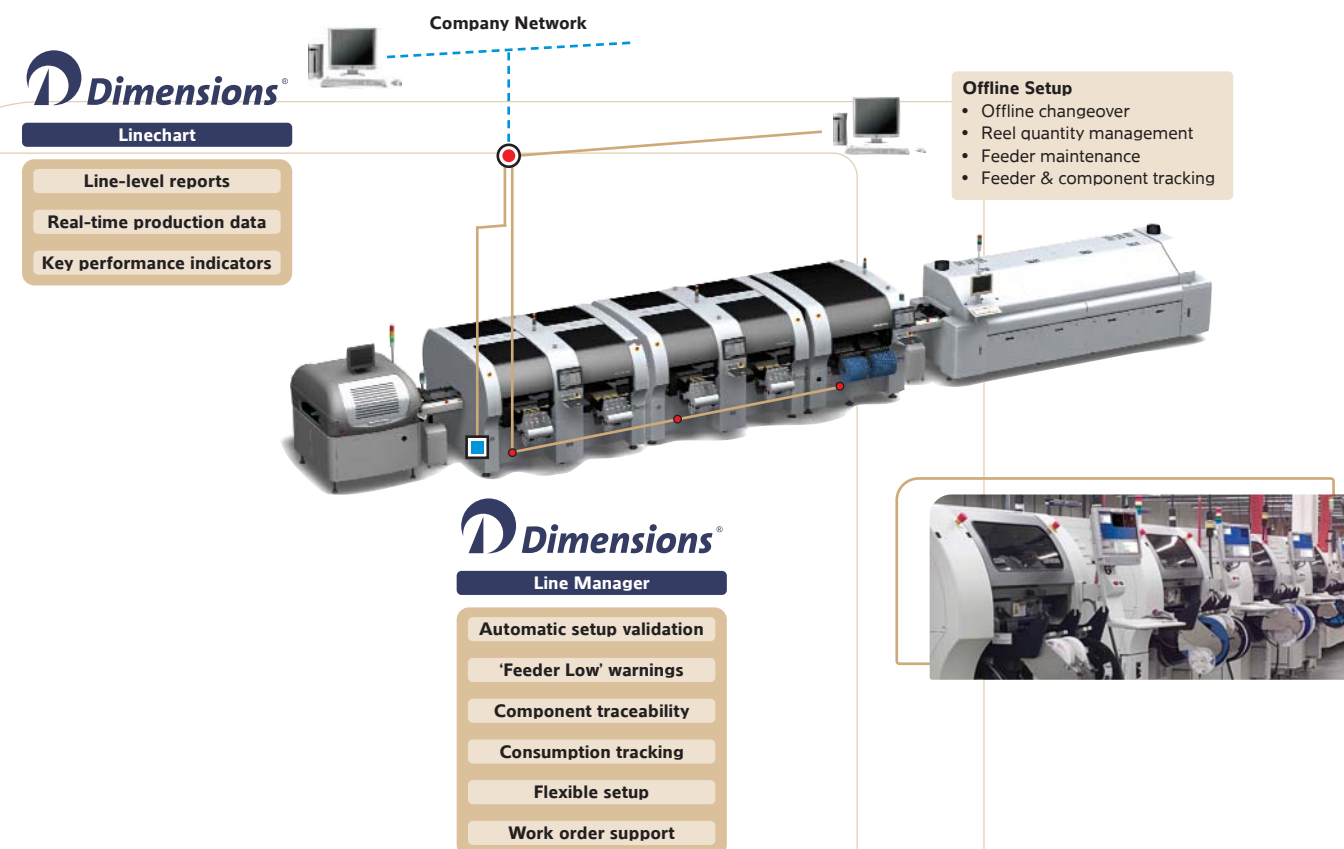


## Dimensions Shop Floor Control Software

Dimensions shop floor control software helps you get more from your Genesis investment. Gain visibility into your lines with Linechart, and use Line Manager to maximize your utilization and track and trace materials during production.

### Dimensions Linechart

Gain visibility into the performance of your Genesis lines from anywhere in your factory. Linechart gives you real-time and historical data for line throughput, efficiency, cycle time, and pick defect rates. Use Linechart to help you stay on target and meet your performance objectives.



### Dimensions Line Manager

**Maximize utilization** by proactively managing changeover and part replenishment. Line Manager's Offline Changeover tools enable operators to prepare offline for the next changeover during production. Choose Flexible Setup, which allows feeders to be placed in any location, or use the traditional dynamic instructions which designate feeder locations. Automatic Setup Validation closes the loop by leveraging intelligent feeders to verify the correct components have been loaded. All of this minimizes unnecessary downtime and helps you get the most out of your Genesis lines.

**Track and trace** using Line Manager's production tracking modules. Component Traceability keeps track of which components went on which boards, while Consumption Tracking monitors the usage of each part, allowing you to provide real-time part usage data to other factory systems. And you can eliminate manual cycle counting and use Reel Quantity Management to keep a count of how many parts are left on all of your component reels. Line Manager's Feeder & Component Tracking modules help operators and kitting specialists find the feeders and components they need, while maintenance technicians can use Feeder Maintenance to manage maintenance and repair activity for each feeder in their factory.

# Versatile **component feeding** solutions

Universal offers the fullest complement of input types in the industry; from strip tape NPI and tube feeders to high-volume continuous-splice tape feeders, random access matrix tray feeding and odd-form feeders to solve any automated assembly solution. A tiered portfolio of component feeding solutions offers the perfect match for any manufacturing environment.

## Tape Feeders



### High-Performance Gold Plus Feeders

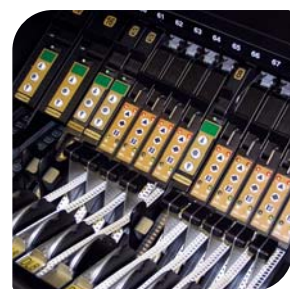
A family of feature-loaded, high-speed, continuous-splice tape feeders.

#### High Performance Gold Plus

- Single-lane
- 71 msec index speed (4mm index)
- 8-88mm tape widths, multi-pitch
- Allows up to 72 inputs/machine
- 0201 qualified - no need for dedicated 0201 feeders
- Continuous splice capability
- Precision locating features (8/12mm) for improved chip delivery performance
- Unique feeder ID and reel detection sensor, compatible with PSV
- Standard High Torque Mode for all 16 - 88mm
- Available 7" or 13" inch reel holder options
- Two-year warranty

#### High Performance Gold Plus 60

- Dual-lane
- 60 msec index speed (4mm index)
- 8mm tape width, multi-pitch
- Allows up to 144 inputs/machine



## Tube Feeders

### Tube Feeder

- Multiple-input track feeder
- Supports and positions component tubes for component transport to the pick position

### Multi-Tube Feeder

- Single-input feeder
- Automatically ejects empty tubes while continuing to pick components
- Can be manually loaded with full tubes during operation

## Special Feeders

### Odd Form Feeders

- A variety of automation solutions for components utilizing bowl, GPAX and other feeding devices

### Strip Tape Feeders

- Delivers components from short strips of 8/12mm tape
- Available in stationary matrix tray form with up to 10 inputs or in single-part number input
- Ideal for NPI or low-volume

## Tray Feeders



### Platform Tray Feeder (PTF)

A random-access stackable matrix tray feeder that increases flexibility, improves line performance, and maximizes throughput.

- Each of the 29 pallets is configurable with up to two unique component types yielding up to 58 different part numbers
- Parts are pre-oriented prior to placement on the transfer belt allowing for gang-picking
- Can be mounted without consuming any feeder slots
- Small, medium, and large depth pallets to accommodate most leaded area array components packaged in matrix trays, medium / large pallets accommodate stacking of matrix trays
- Orientation tray clamps to assure IEC or JEDEC trays are inserted at the correct orientation
- Automatic empty tray removal
- Large Pocket tray removal to accommodate non-standard and larger pocket matrix trays
- Heavy Payload kit to extend the maximum weight of trays and components to 119 lbs
- PSV Barcode Kit accommodates either a Barcode plaque that attaches to each tray stack clamp of a pallet or a pallet extension plate
- Dual-PTF mounting capability doubles tray feeding capacity



### Direct Tray Feeder (DTF)

A random access matrix tray feeder for use when the capacity of a Platform Tray Feeder (PTF) is not required, but the demands are beyond that of a Stationary or Stackable Matrix Tray Feeder.

- Handle JEDEC and non-standard vacuum formed matrix trays
- Operate in 3 modes: Exchange, Concurrent and Job
- Supports Platform Setup validation
- Reduce overall floor space requirements
- Handle components that cannot sit flat on the PTF belt or are too large or tall
- Experience no downtime associated with tray replenishment
- Ability to mount two units per platform

### SMA Stackable Matrix Tray Feeder

- Single input tray feeder
- Feeds standard JEDEC and some vacuum form trays
- Automatic tray exchange
- Applicable for higher volumes of one part number

### Stationary Matrix Tray Feeder

- Single-tray single-part number tray feeder
- Supports and secures the trays for pickup
- Tray height is adjustable to compensate for variation
- Available in three sizes

## Feeder Management

### Feeder Bank Change Cart

- Perform entire bank changeovers in minutes
- Removable feeder bank kit transforms feeder banks into removable banks

### Feeder Storage Cart

- Provides storage for tape, track and/or tray feeders in one convenient location
- Each cart holds up to 132 8mm single-lane feeders

### Feeder Setup Cart

- Provides power and air for offline feeder setup/reload
- Cart design for easy mobility

### Feeder Bank Storage Table

- Reduces changeover time with offline feeder setup and full bank exchange

## Accessories

### Feeder Setup and Calibration Cart

- Uses a precision system to accurately align feeder pockets to the machine's pick point

### Splicing Tools and Materials

- High-quality, field-tested splicing tools that improve machine utilization

### Tape Cutter

- Automatically cuts off small pieces of reel tape and collects them in a bin for ease of disposal
- Accommodates two banks of feeders

### Tape Scrap Bin

- A low-cost means of keeping the production floor clean by collecting the scrap tape