DDM Novastar — Automated Production Systems

Automated pick & place with vision centering

Model LS60V shown
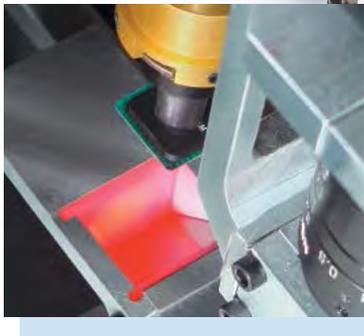
Vision System

The BGA being centered at the left appears on the software window shown at the right. The LV-series vision centering pick and place systems use the full features of Cognex® vision.2
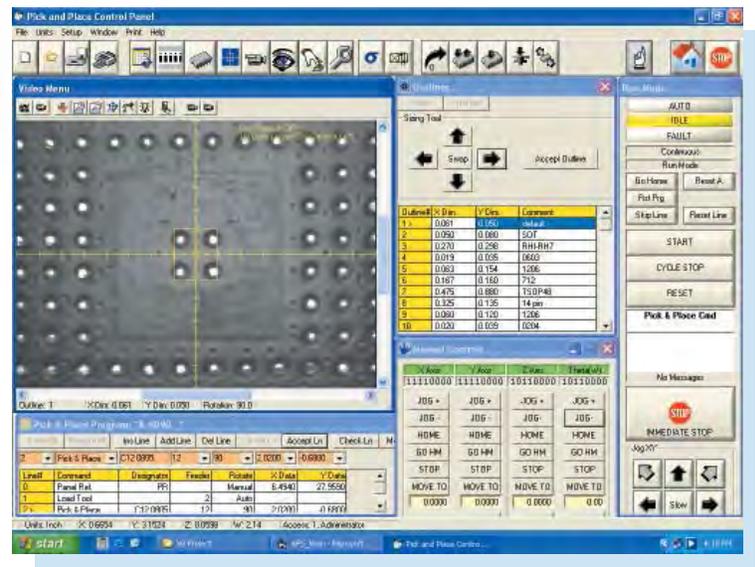
Components

The Cognex® vision assist allows accurate placement of 0201s, ultra micro BGAs, CSPs, QFPs and a wide range of virtually all SMT components.

System Features

- Placement rates up to 4800 cph
- Placement accuracy to ±0.001"
- Capable of placing fine pitch components down to 15 mil
- Resolution of 2µm (0.0000787") and accuracy to ±0.001"
- Cognex® vision system with fiducial correction, bad board mark and pattern recognition
- Optional fluid dispenser

- Friendly, easy to use Windows® based software
- Self-contained vacuum - no shop air needed
- Automatic 4-position nozzle changer
- Accessible, unobstructed work station for operator
- Feeder capability: 144 8mm tape lanes utilizing bank feeders

Feeders

Standard tape feeder sizes include 8mm, 12mm, 16mm, 24 mm, 32mm and 44mm.

The vibratory feeder with frequency and amplitude control can handle loose and tube components.

Unique SuperStrip™ feeders are a convenient way to use short tape strips.

Feeder positions are pre-programmed for quick set-up.

With the optional 12 position 8mm bank feeders, capacity can increase by 50%, i.e. the model LS60V would increase to a capacity of 144 8mm tape feeders.

Fluid Dispenser

Computer controlled in 10 millisecond increments with separate interval/raise-lower speed allows solder paste or adhesive glue to be applied accurately prior to component placement. This time/pressure fluid dispenser has dispense rates up to 10,000 dots per hour.

LS60V and LS40V Standard Features

- On-the-fly component centering with top & bottom cameras
- Automatic 4-position nozzle changer with 4 nozzles
- Friendly easy to use Windows® based software for panelized boards, self diagnostics, error recognition, fault monitoring and more!
- Automatic fiducial correction
- Positional resolution of 0.0000787" (2µm) with closed loop micro step driven motion control and digital encoders

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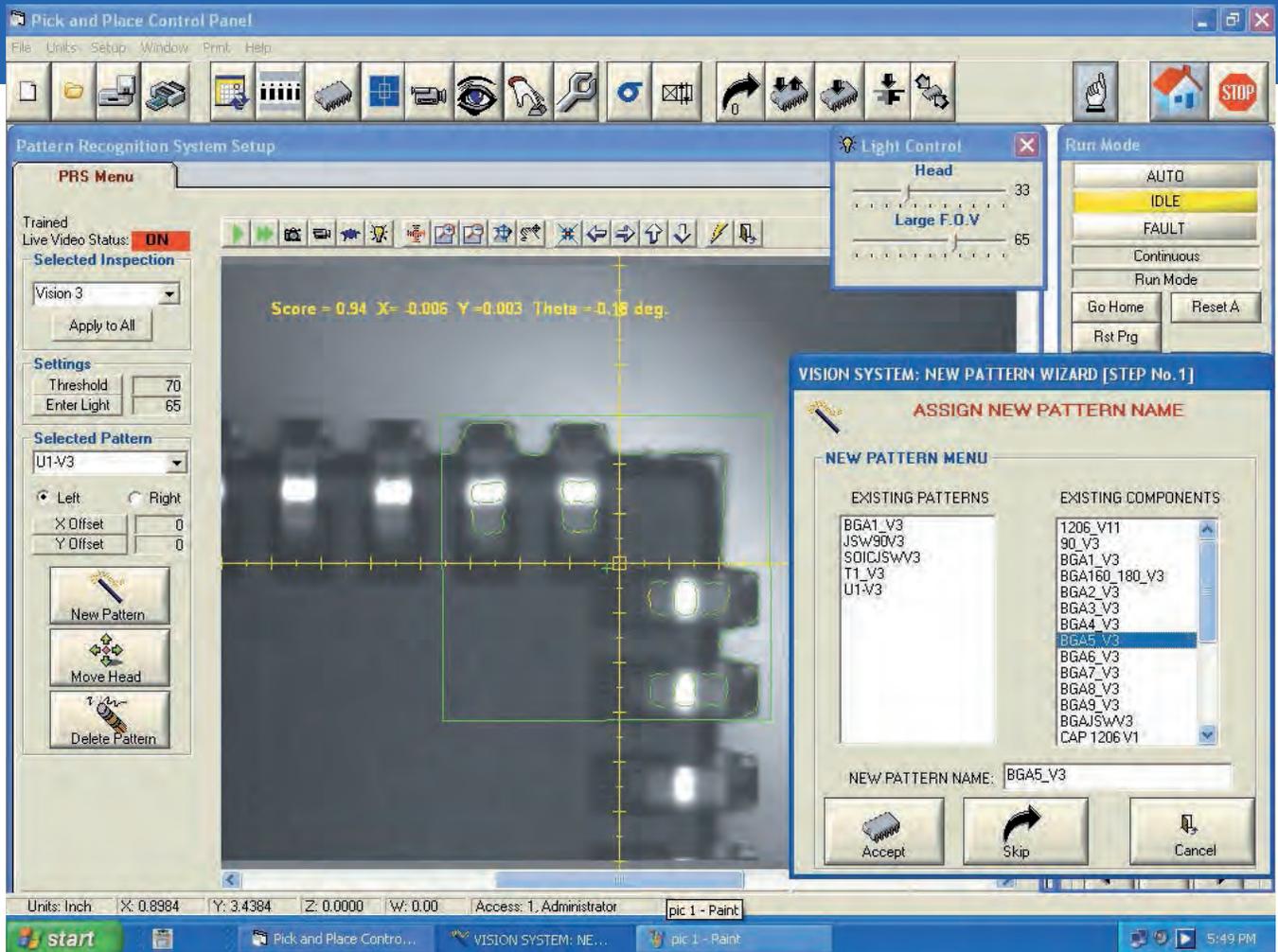
The vision software is Windows® based to allow easy straightforward teach-in, requiring minimal operator training.

LS40V & LS60V Specifications

Max placement rate	4800 cph	System dimensions LS40V	40" x 38" x 53"h (1016 x 1067 x 1346.2 mm)
Typical verifiable placement rate	2500-3600 cph	System dimensions LS60V	40" x 52" x 53"h (1016 x 1321 x 1346.2 mm)
Placement accuracy	±0.001"	Weight LS40V	370 lbs (168 kg)
Smallest component capability	0201s	Weight LS60V	430 lbs (195 kg)
Fine pitch capability	15 mil pitch (0.381mm)	Cognex® vision system	standard 2 camera (top and bottom)
Largest component size	2" (50mm) square body	Vision resolution	up to 10µm
Tape feeders	8, 12, 16, 24, 32, 44 mm (Electrical)	Digital light control	up to 4 illuminators
Bank feeders for taped components	12 8 mm lanes	Automatic 4 position nozzle changer	standard
Tube feeders (bulk also) 8, 10, 14, 18, 24, 32 mm (Manual freq. control)		Operating system	Microsoft Windows™
Matrix Tray Feeders	with Board/Matrix tray holders	Dispenser option, 5, 10 & 30cc syringe holder type up to 10,000 dots/hr.	
Component orientation Ø-axis motion	± 360° in 0.18° step	Power	120 VAC, 50/60Hz, (220-240 VAC available)
Z axis max travel	1.5" (38 mm)	Compressed air Shop air required for dispenser option only, 60 psi	
Max travel area LS40V 22"(X axis) x 22"(Y axis) (560 x 560 mm)		Automatic fiducial & bad board mark recognition	standard
Max travel area LS60V 22"(X axis) x 32"(Y axis) (560 x 813 mm)		Data entry	Coordinate entry, "teach" mode, CAD download