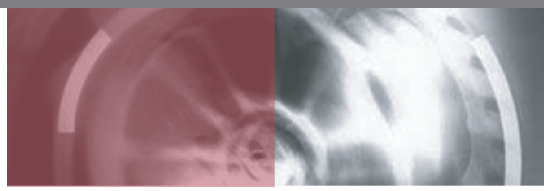
agile
SYSTEMS

White Paper

Case Study



Electronics
Pick and Place Machines

May 2001

Pick and Place Machines

By Peter McDonald

May 2001

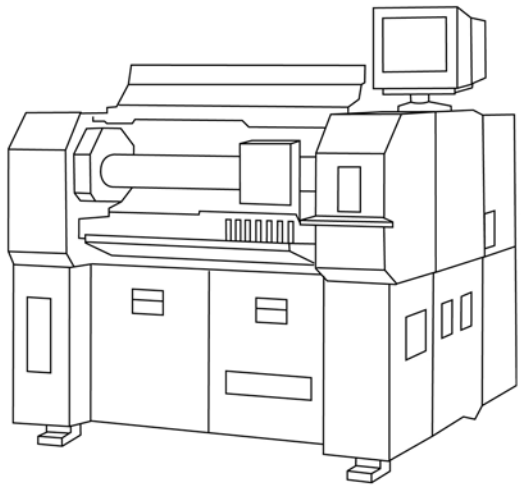
The Challenge

The demand for higher speed, higher flexibility, and higher precision in electronics assembly machines requires new solutions to traditional motion control challenges. High piece placement rates mean high axis counts and tight integration of vision, motion, and I/O systems.

Manufacturers make tough cost-performance tradeoffs for placement head mass, wire harness routing and flex, and computer processing overhead. The challenge in this demanding dual-gantry placement application is to achieve overall cycle times of less than 24ms on each of 18 axis in the placement head. In addition, improvements in placement accuracy and reductions in system cost are specified.

The Solution

By mounting compact Agile MAX™ Modules directly in the moving placement head, an overall reduction in moving head mass and a dramatic reduction in cabling complexity can be achieved. Agile integrates all aspects of motion control (trajectory generation, servo position loops, encoder feedback), servo motor amplifiers, limit switch I/O, and vacuum management into a single compact three-axis package. A distributed network protocol is used to coordinate head placement motion over multiple modules with the gantry motion and vision system.



agile SYSTEMS

AGILE SYSTEMS
575 Kumpf Drive
Waterloo, ON
Canada N2V 1K3

T (519) 886-2000
F (519) 886-2075
E info@agile-systems.com