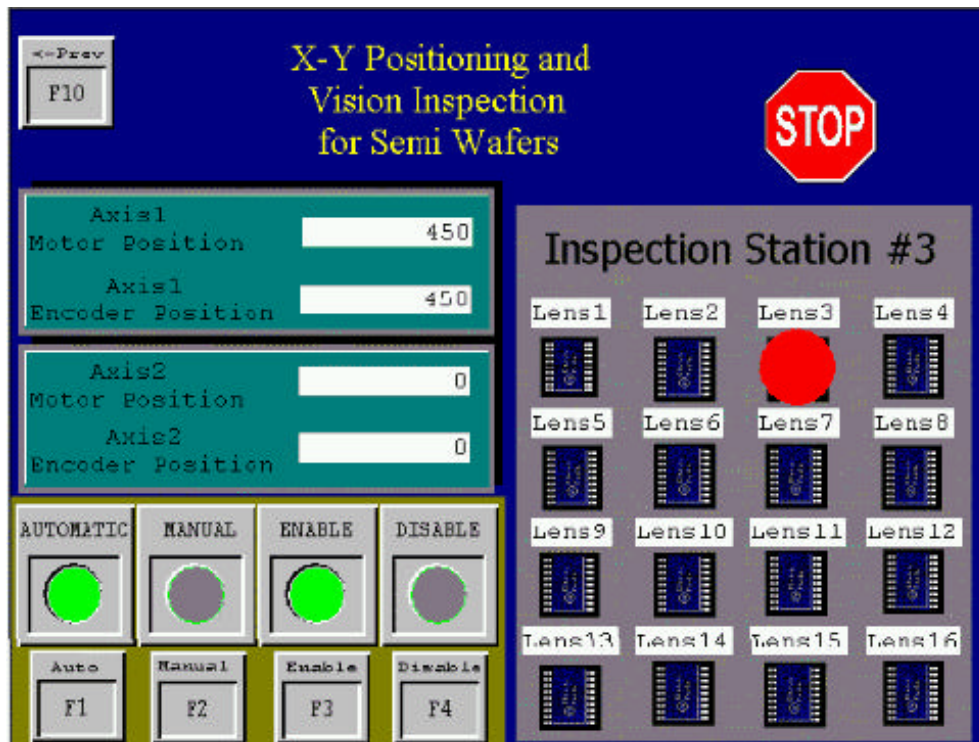



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## Think & Do Featured Applications

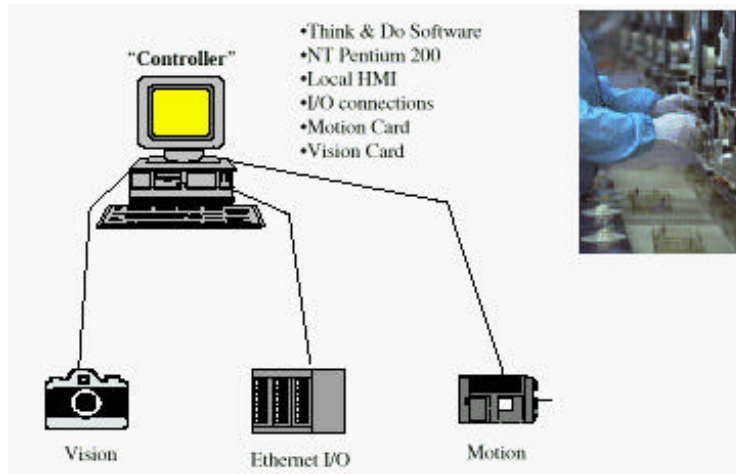
### Inspection Application with X-Y Motion and Vision Integration

There are many applications that may incorporate simple motion and vision inspection systems. This is an example of an inspection station that uses a vision system to inspect the leads of semi-conductor devices that are equidistantly positioned on an X-Y table. This is an entirely automated process that loads a plate of sixteen semi-conductor devices into the inspection station. The table is positioned according to the fixed places of the semi-conductor devices. The overhead camera takes a snapshot of the devices and compares it to the good image in memory. Those devices that did not pass the inspection are later removed by an automated sort.



### Some of the Highlights

- OFF-THE-SHELF COMPONENTS - Control is done with a standard Pentium PC, and a variety of off-the-shelf software packages such as Think & Do Flowcharts for control, HMI, DDE servers, Visual Basic, Vision software, etc.
- MULTIPLE I/O SYSTEMS I/O is based on a combination of a **Automationdirect.com** Ethernet I/O, a motion ISA bus card that provides the loop closure between the motor and encoder, and a high speed vision ISA bus card.
- DATA ACQUISITION and CONTROL The vision system runs as a high priority thread that provides pass/fail data to the flow charts via DDE. The interface to the motion card is achieved with a visual basic program. The program uses a Timer Event that executes at 100msec intervals for reading the motion status and updating the distances, velocities and accelerations.
- FLOWCHART LOGIC controls the process (20 flowcharts, 200 blocks, 28 inputs, 16 outputs), with an interface to the visual basic motion control software via the DDE server.



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  - [Application Stories - Tray Filling with Vision Inspection](#)
  - [Application Stories - Inspection Application with X-Y Motion and Vision Integration](#)
  - [Application Stories - Semiconductor Material Handling Application](#)
  - [Application Stories - Semiconductor Fab Application](#)
  - [Application Stories - Sorting and Conveyor Application](#)
  - [Application Stories - Railroad Classification Yard](#)
  - [Application Stories - Flexible Spring Manufacturing Machine](#)
  - [Application Stories - Transfer Line Station with RF Tag Reader](#)
  - [Application Stories - Packaging with Vision Inspection](#)
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  - [Application Stories - Waste Water Treatment](#)
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