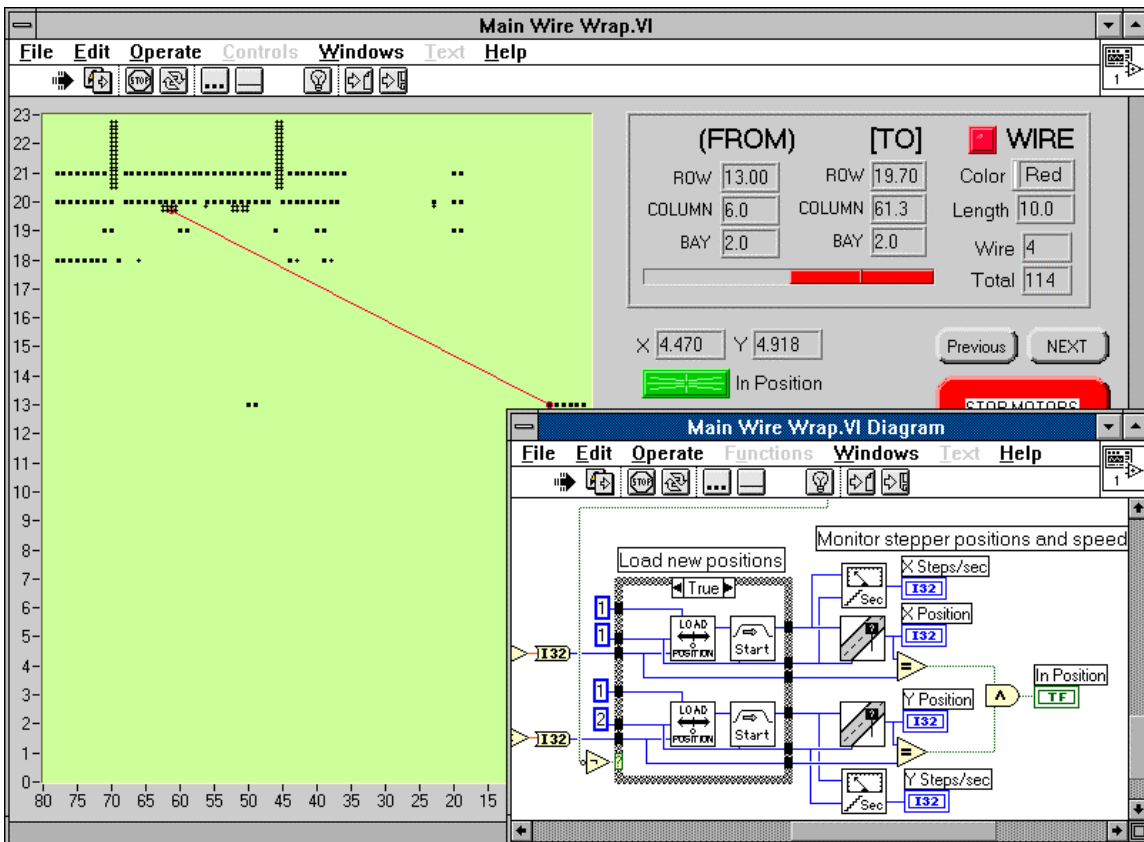


**The Problem:**

Automatic Test Equipment fixtures often need thousands of point to point wire wrap connections made to interface between the spring loaded probes that contact the bottom of a printed circuit board and the driver sensor locations of the test equipment. To increase productivity our customer wanted us to repair an old semiautomatic wire wrap machine and replace the antiquated paper tape reader and hardware logic with software that would run on a PC and interface directly with their clients CAD data.

**The Solution:**

Software was written in LabVIEW that reads in a clients CAD data and parses it into separate fields for wire length, wire color, from position and to position for each wire. This information is then used to illuminate a light next to the appropriate wire bin using the I/O ports on the motion control board. At the same time the software commands the motion control board to put out the required step and direction signal to the stepper motor controllers to place the wire wrap gun directly over the “from” location. Once the operator has made the connection he taps a switch and the machine is positioned over the “to” location for that wire. Tapping the switch again starts the process over using the next wire’s information. Although the operator never needs to look at the computer screen or touch the key pad once the CAD data is loaded, all of the wiring information is displayed on the screen in a clear graphical format so that the operator can visualize where the current wire connections need to be made.



**Hardware Used:**

NuLogic pcStep 2-Axis Stepping Motor Control

**Software Used:**

National Instruments LabVIEW

## NuLogic Motion VI's for LabVIEW