Title: Automated Probe Test Machine

Description
This senior design project will develop a machine for Tektronix to test the crimp strength of the cable-to-probe connection and the tensile strength of probe bulk cable. The machine will use computer to control mechanical speed and travel. The system will use a computer data acquisition system to measure force, elongation, and electrical resistance of cables and probes. The system will have reusable test software profiles with safety limits and fail-safes. When complete, this machine will allow direct comparison between Tektronix products and their competition, and allow a statistical assessment of each product’s strength.

Absolute Minimum Requirements
- Begin with an existing test platform
- Design a hardware interface for the drive load sensor
- Design and fabricate a general purpose test circuit which is capable of measuring 4-lead conductor resistance
- Design and fabrication of a LabView interface to control the motor and electrical test system. The program must be able to perform rudimentary data reduction and store the test data in MS Excel format
- Design and conduct actual testing for system validation, using the developed hardware and software

Desired Features