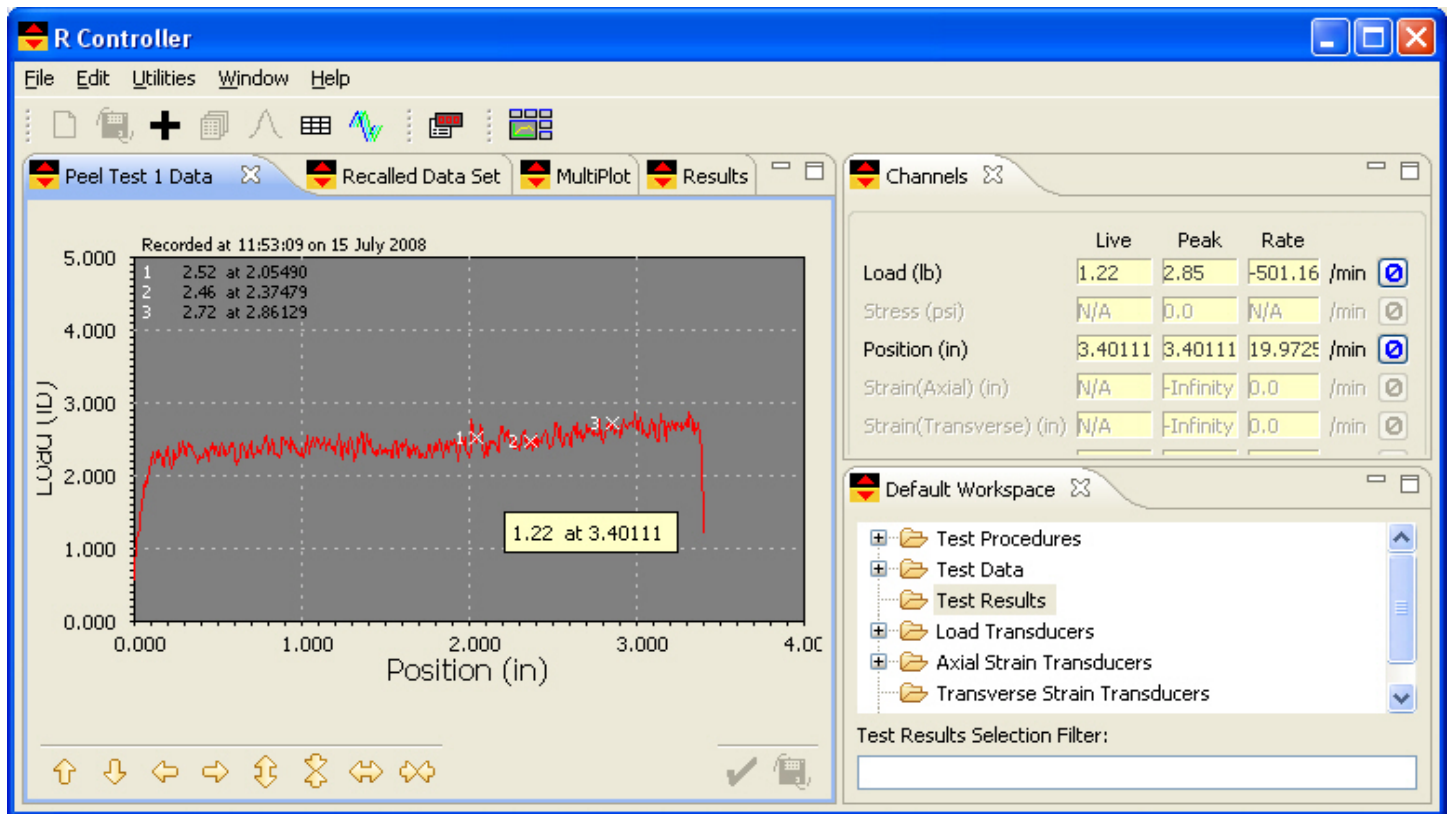


## R Series Controller PC Based Servocontrol

The R Series controller is ideal for labs and researchers who want to perform a variety of tests to characterize a material or a product for mechanical strength.

Tests such as tensile, compression, stress relaxation, creep, flexure, peel, tear, and friction tests - even limited use for sinusoidal load control tests are possible.

Machine control, data acquisition, data plotting, data analysis, and test reporting tasks are performed automatically. The intuitive software program is easy to set up and run, analyze results, and share test data. The software is proven easy to use for both infrequent and experienced users. This fully integrated package offers the ability to assemble and save your own test method 'apps' and associated analyses. Create custom test control sequences (load, strain, stroke control modes) and generate results from an extensive calculations library. In addition, you can create user-defined reports in either a comprehensive single test report with plots and custom headers or multiple test results including a statistical summary of data.



Typical R Software Test Screen

### Controller Features

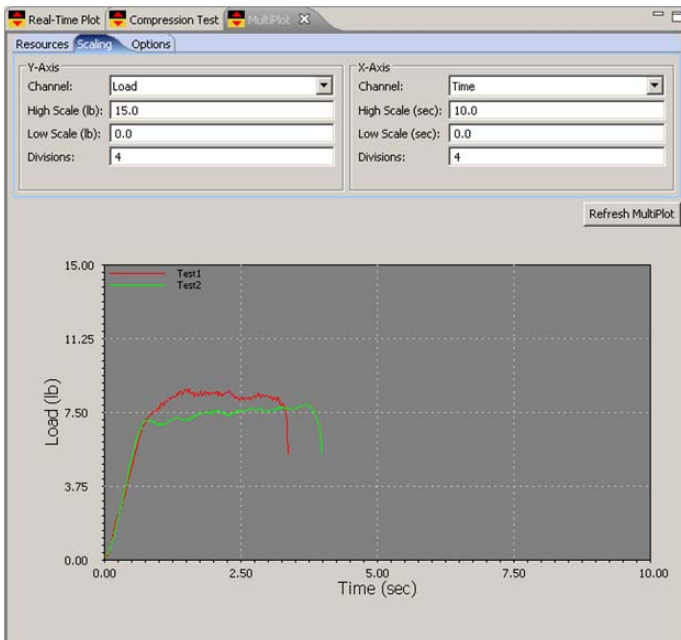
- Servocontrol and data acquisition occurs at speeds up to 1000 samples per sec with a buffer capable of capture & storage of 128,000 data strings (e.g. load, deflection, time). Data acquisition speed is adjustable.
- The electronics include load, strain, position encoder, auxiliary 10V analog input and strain 2 channels.

## R Software

- Live or real time numeric read outs and a scope for load-deflection plots. The software analyses help create reports with tests results.
- Results may be displayed, stored, printed or exported (csv file format)
- Create standard or customized monotonic, cyclic and segmented control profiles or a block profile made up of a customized and repeated assembly of profiles – e.g. ramp, hold, sinewave cyclic, hold, sawtooth cyclic profile - under load or position control.
- Create, save and recall test methods - for accurate and repeatable testing. Protect different set up modes with a password as desired.
- Produce single or multiple test reports. The multiple test report stores a group of tests to the same file and provides a statistical summary for each analysis parameter. An XY plot with multiple XY curves overlaid on the same set of graph axes is optional. Produce hardcopy single test reports, group test reports and load – deflection or X-Y plots. Store test data and results to hard disk in ASCII delimited format for easy import into popular spreadsheet and database programs. User-definable information and report header fields meet reporting needs.
- Units are user selectable in English, Metric and SI units. Large easy-to-read numeric displays show live, peak and rate readings. Plot test data in real time.

## Example Analyses

<b>Analysis Type</b>	<i>Analyses extract values from or calculate values using the test data collected when a test procedure executes. The calculated values are saved as test results.</i>
<b>Load/Deflection/Position</b>	Average Load Between Load and Extension Average Load Over Extension Range Coefficient of Friction Extension at Load Extension at Maximum Load Last Load at Position Last Position at Load Load at Break Load at Extension Point Load at Maximum Position
<b>Maximum/Minimum</b>	Local Maximum Load Local Minimum Load Maximum Load Maximum Stress Minimum Stress Tenacity
<b>Modulus/Strain Ratio</b>	Chord Modulus Modulus of Elasticity Poisson's Ratio Secant Modulus Spring Rate Strain Ratio Tangent Modulus
<b>Yield</b>	Johnson's Apparent Elastic Limit Yield by Offset (Stress) Yield by Offset (Load) Yield - EUL (Stress) Yield - EUL (Load) Yield Halt of Force
<b>Energy</b>	Energy at Break Energy at Extension Energy at Load Energy at Stress Toughness or work of rupture



No.	Date	Time	Specimen	Maximum Load (lb)
1	04-30-09	08:51:32		5.135
2	04-30-09	08:59:59		6.502
3	04-30-09	09:00:09		7.672
4	04-30-09	09:00:46		7.720
High:				7.720
Mean:				6.757
Low:				5.135
Range:				2.586
Std. Dev.:				1.220
+3 Sigma:				10.416
-3 Sigma:				3.099