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A LIST OF CHAPTERS IS SHOWN ON THE LEFT HAND SIDE OF THE SCREEN. CLICKING ON AN ARROW WILL DISPLAY THE CONTENTS OF THE CHAPTER. TO VIEW THE REQUIRED CHAPTER OR SECTION, CLICK ON THE TEXT OF THE REQUIRED HEADING.

THE LIST CAN BE HIDDEN BY CLICKING THE LEFT ICON ON THE TOOLBAR AND WILL BE DISPLAYED BY CLICKING ON THE SECOND TO LEFT ICON.

TO MOVE THROUGH THE MANUAL, USE THE SCROLLBAR OR THE SINGLE ARROWS IN THE TOOLBAR (PAGE UP AND PAGE DOWN). THE DOUBLE ARROWS ON THE TOOLBAR MOVE TO THE FIRST AND LAST PAGES.

THE PAGE CAN BE ZOOMED IN BY CLICKING ON THE MAGNIFYING GLASS IN THE TOOLBAR. THIS TOOL WILL ALSO ZOOM OUT (e.g. WHEN VIEWING CIRCUIT DIAGRAMS) IF THE CTRL KEY IS PRESSED WHEN CLICKING ON THE PAGE.

THE PAGE WILL BE EXPANDED IF THE RIGHT PAGE LAYOUT ICON IS CLICKED JUST TO THE LEFT OF THE SEARCH BINOCULARS ICON. THE FULL PAGE WILL BE DISPLAYED IF THE MIDDLE PAGE ICON IS CLICKED.

SOME OF THE TEXT IN THE MANUAL IS COLOURED:- CLICKING ON BLUE TEXT WILL MOVE TO A LOCATION IN THE SAME CHAPTER AND CLICKING ON RED TEXT WILL MOVE TO A LOCATION IN A DIFFERENT CHAPTER.

TO RETURN TO THE ORIGINAL POSITION AFTER MOVING THROUGH A LINK, CLICK THE RIGHT MOUSE BUTTON THEN SELECT GO BACK.

THIS PROCEDURE WILL ALWAYS MOVE BACK THROUGH THE SCREENS EVEN THOUGH A LINK WAS NOT USED.

LLOYD INSTRUMENTS LTD

UPGRADE NOTES FOR

WINDOWS R CONTROL V1.3

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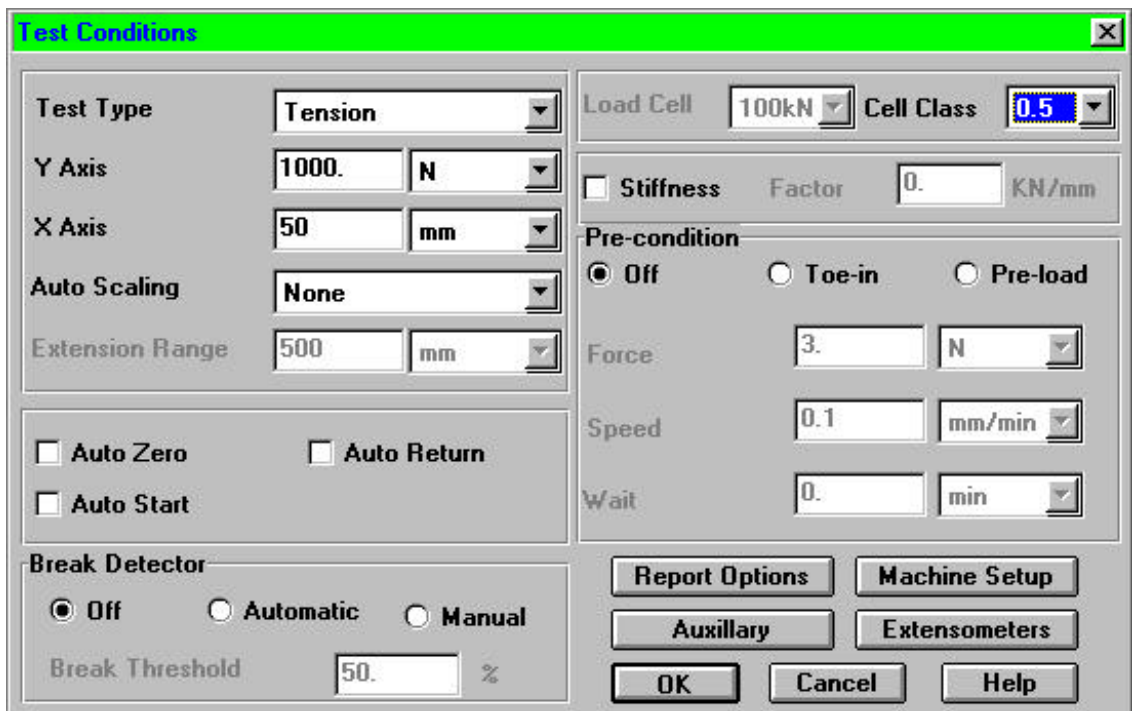
1. INTRODUCTION

1.1 General

This manual is supplementary to the Windows R Control Training Manual Issue 1.0 part number 01/2735. The main concepts and operation of the program is similar to V1.1 so this manual only covers the new features.

1.2 New Features on the Test Condition Screen

When the machine Icon is clicked (or SETUP then TEST CONDITIONS is selected) the TEST CONDITIONS screen is displayed as shown below:-



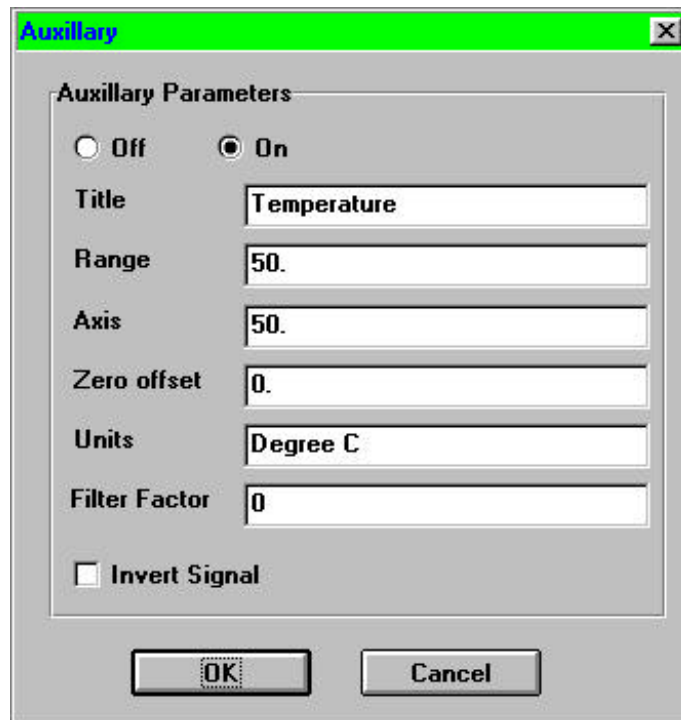
The new features are the Auto Start Check box and the Auxillary button, both of which require the optional multi-purpose Interface PCB, type **PCL812PG**, to be fitted inside the computer.

1.3 Auto Start

The Auto Start feature allows the test to be started from an external **Digital** signal which is connected to pin 1 of CN4 on the optional PCL812PG Interface PCB. The signal is to be held high and should be pulled low when the test is to start. This signal can either be a logic level from an external circuit or can be from an external relay contact. The high level can be given by connecting the relay contact to +5V from CN4 pin 19 and the low level can be given by connecting the relay contact to 0V from CN4 pin 17.

1.4 Auxiliary Input

An external Analogue signal can be plotted **during the test** by connecting it to pin 5 of CN1 on the optional PCL812PG Interface PCB, using pin 6 as the ground reference. The auxiliary graph trace is selected by clicking on the Auxiliary button to display the setup screen shown below:-



The screenshot shows a dialog box titled "Auxiliary" with a green title bar. Inside, there is a section titled "Auxiliary Parameters". At the top, there are two radio buttons: "Off" (unselected) and "On" (selected). Below this are several text input fields: "Title" (containing "Temperature"), "Range" (containing "50."), "Axis" (containing "50."), "Zero offset" (containing "0."), "Units" (containing "Degree C"), and "Filter Factor" (containing "0"). At the bottom left, there is a checkbox labeled "Invert Signal" which is unchecked. At the bottom center, there are two buttons: "OK" and "Cancel".

Select the ON radio button then type a suitable name for the Title and enter the Units to be displayed on the graph. Typical inputs could be:-

Temperature and Degree C
Weight and grams

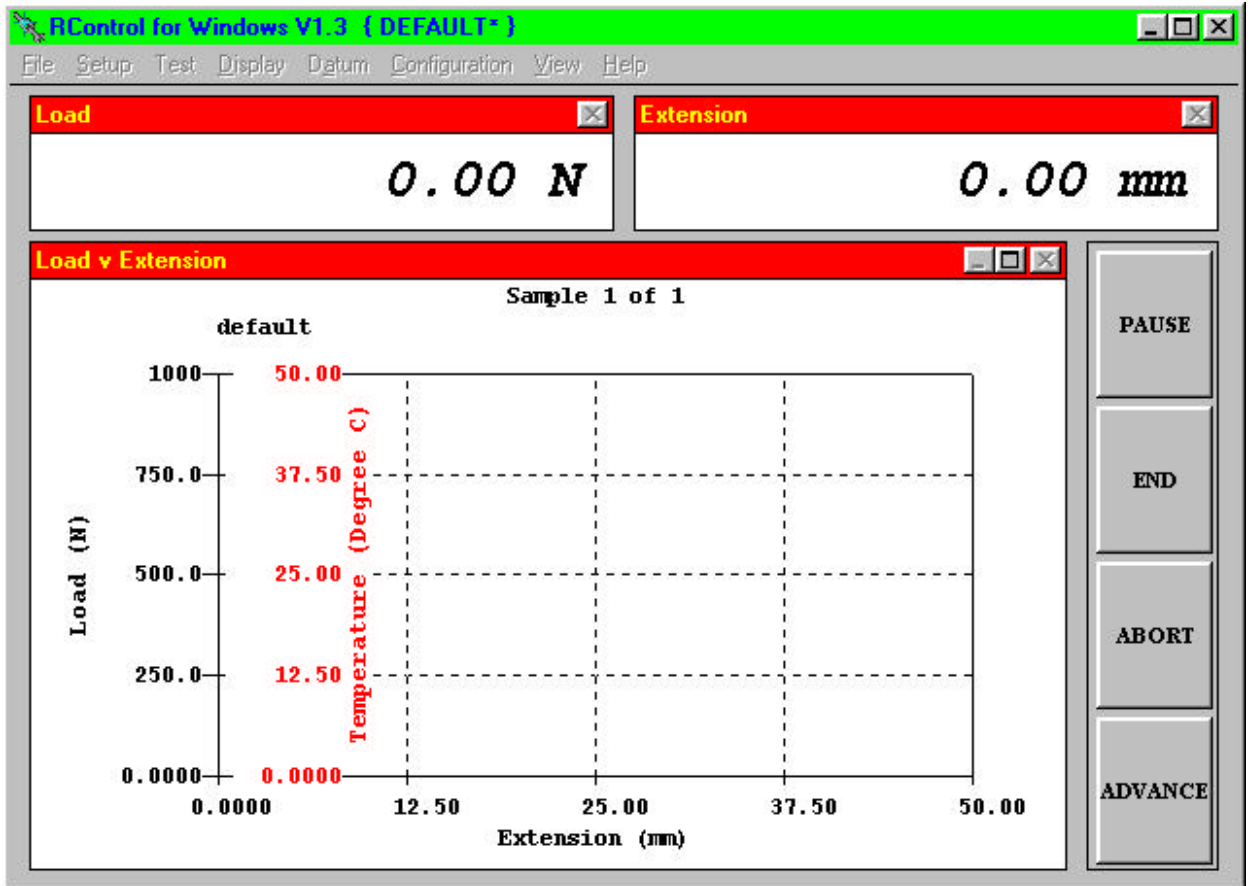
Enter the value for the range and the axis which corresponds to a signal that will feed full scale to the interface PCB. The full scale is set to either +5V or +10V as shown in the Interface PCB section shown later. Typical values could be:-

50 for an electronic thermometer that gives 10V for 50C	(PCB set to +10V range)
1000 for an electronic balance that gives 5V for 1000 grams	(PCB set to +5V range)
2500 for an electronic balance that gives 2V for 1000 grams	(PCB set to +5V range)

Set the Zero Offset and the Filter Factor to 0. The filter factor can be used to give a smoother trace if the signal has high frequency noise spikes.

When the auxiliary input is no longer required, it is disabled by selecting the Off radio button.

When the test is performed, the graph will display two Y axes, the usual Load axis which is drawn in black and the new auxiliary axis which is drawn in red as shown below:-



Graphs of Load/Extension and Temperature/Extension will be drawn during the test but note that the only values that can be obtained from the auxiliary trace are the Maximum Value and the value at a cursor point.

1.5 Additional Results and Commands

The additional results are:-

- MA** Maximum Auxiliary reading of the complete test.
- CnA** The auxiliary reading at a post test cursor point where n can be between 1 and 8, as selected by the Pt1 to Pt8 buttons, i.e. C1A is the reading at cursor Pt1.
- WALL** Wall thickness for a Tubular sample.

The additional Command is:-

- ZERO** Zeroes the Load and Extension at this point of the test

1.6 Entering Tubular Sample Dimensions

When testing a tubular sample using Version V1.1, the sample dimensions were called EXTERNAL and INTERNAL.

For ease of use, the sample dimensions are now called DIAMETER and WALL which refer to the external diameter and the wall thickness as shown below:-

The 'Sample Information' dialog box has a green title bar. It contains the following fields and controls:

- Sample Type: Tubular (dropdown)
- Dimension Type: Manual (dropdown)
- Default Width: 50. (text) mm (dropdown)
- Default Thickness: 1.25 (text) mm (dropdown)
- Default Diameter: 50. (text) mm (dropdown)
- Default Area: 1. (text) mm² (dropdown)
- Gauge Length: 50. (text) mm (dropdown)
- No. of Samples: 1 (text)
- Buttons: OK, Cancel, Help

Before each test, the sample dimensions can be entered using the screen shown below:-

The 'Sample Information' dialog box has a green title bar. It contains the following fields and controls:

- Batch Number: BS 26 (text)
- Job Number: 88 - 98 (text)
- Sample Date: 25/11/98 (text)
- Sample Time: 08:49:06 (text)
- Length: 200 (text) mm (dropdown) READ (button)
- External: 50. (text) mm (dropdown) READ (button)
- Thickness: 1.25 (text) mm (dropdown) READ (button)
- Buttons: OK, Cancel, Help

1.7 PCL812PG Interface PCB

There are two versions of the PCL812PG Interface PCB which have different layouts. The original PCB is approx. 300mm (12 inches) long and the new PCB is approx. 150mm (6 inches) long. The address of the PCB is set using different switch configurations of the DIL switches.

Original PCB

Base Address Hex	DIL Switches				
	Note that switches 7 and 8 are always ON and 6 is not used.				
	1	2	3	4	5
200	ON	ON	ON	ON	ON
210	ON	ON	ON	ON	OFF
220	ON	ON	ON	OFF	ON
230	ON	ON	ON	OFF	OFF
300	OFF	ON	ON	ON	ON
3F0	OFF	OFF	OFF	OFF	OFF

New PCB

Base Address Hex	DIL Switches				
	Note that switch 1 is always OFF and switches 7 and 8 are always ON.				
	2	3	4	5	6
200	ON	ON	ON	ON	ON
210	ON	ON	ON	ON	OFF
220	ON	ON	ON	OFF	ON
230	ON	ON	ON	OFF	OFF
300	OFF	ON	ON	ON	ON
3F0	OFF	OFF	OFF	OFF	OFF

Table of connections and functions

PIN No	ANALOGUE SIGNALS		DIGITAL SIGNALS	
	CN1	CN2	CN3	CN4
1	P0 I/P or Transverse Extensometer	P10 I/P	BIT0 O/P	BIT0 I/P or Auto Start I/P
2	A GND	A GND	BIT1 O/P	BIT1 I/P
3	P1 I/P or Dual Extensometer	P11 I/P	BIT2 O/P	BIT2 I/P
4	A GND	A GND	BIT3 O/P	BIT3 I/P
5	P2 I/P or Auxiliary I/P	P12 I/P	BIT4 O/P	BIT4 I/P
6	A GND	A GND	BIT5 O/P	BIT5 I/P
7	P3 I/P	P13 I/P	BIT6 O/P	BIT6 I/P
8	A GND	A GND	BIT7 O/P	BIT7 I/P
9	P4 I/P	P14 I/P	BIT8 O/P	BIT8 I/P
10	A GND	A GND	BIT9 O/P	BIT9 I/P
11	P5 I/P	P15 I/P	BIT10 O/P	BIT10 I/P
12	A GND	A GND	BIT11 O/P	BIT11 I/P
13	P6 I/P	P0 O/P	BIT12 O/P	BIT12 I/P
14	A GND	A GND	BIT13 O/P	BIT13 I/P
15	P7 I/P	P1 O/P	BIT14 O/P	BIT14 I/P
16	A GND	A GND	BIT15 O/P	BIT15 I/P
17	P8 I/P	V REF 1	D GND	D GND
18	A GND	A GND	D GND	D GND
19	P9 I/P	V REF 2	+5V O/P	+5V O/P
20	A GND	A GND	+12V O/P	+12V O/P

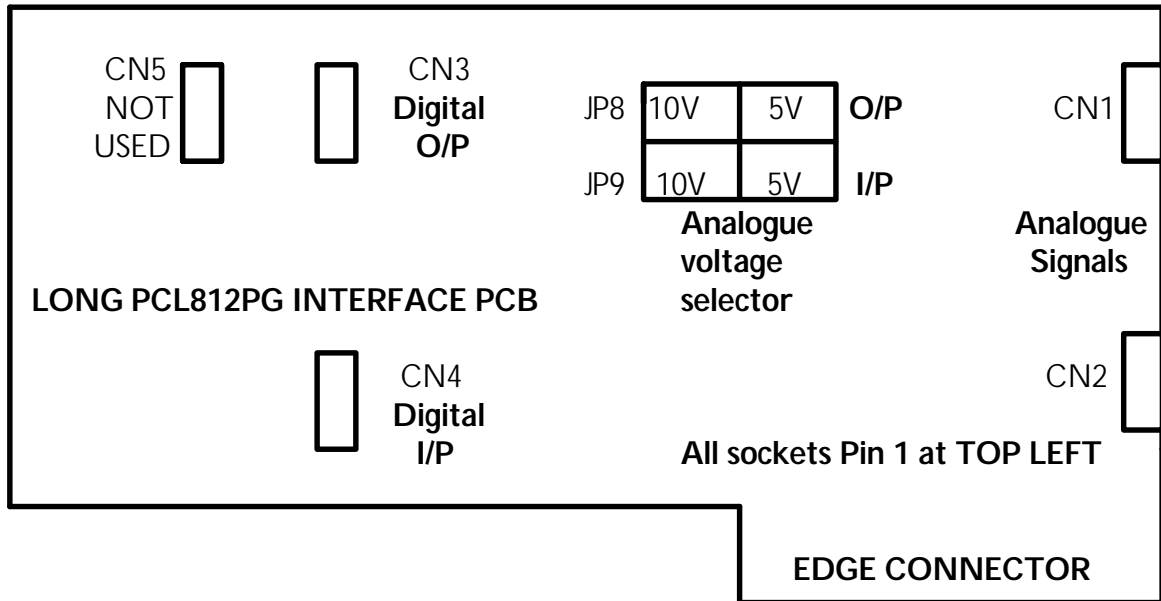
A GND = Analogue Ground (0V).

D GND = Digital Ground (0V).

+5V O/P = Power supply for external device, e.g. Switch.

+12V O/P = Power supply for external device, e.g. Switch.

Original PCB Layout



New PCB Layout

