

Cal Notepad 3.0

This manual is issued under the authority of
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Summary

Operating Cal Notepad software on a PC allows data from Isotech thermometers and calibration equipment to be displayed on configurable chart displays.

Data can also be logged to a file for later analysis and reporting using a spread sheet program such as Microsoft's Excel.

The software can be used to program a Dry Block, Furnace or similar to change set temperature after pre-selected periods of time.

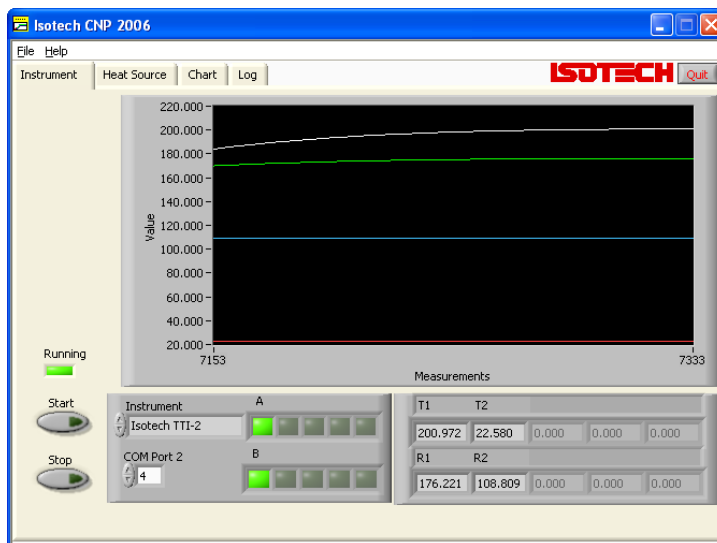
Cal Notepad has been designed and produced by Isotech for use with Isotech equipment.

It can also be used to monitor and log from the F200 and F250 thermometers from ASL, Automatic Systems Ltd.

A license to use Cal Notepad is included with Isotech equipment. If Isotech equipment is not owned please contact Isotech or an Isotech Distributor to purchase a license to use Cal Notepad.

If it is desired to use the software with the F200 or F250 and Isotech equipment has not been purchased it will be necessary to purchase a license.

Please contact Isotech for details.



The screenshot shows the 'Isotech CNP 2006' software window with the 'Log' tab active. It features a menu bar with 'File' and 'Help'. Below the menu bar are tabs for 'Instrument', 'Heat Source', 'Chart', and 'Log'. The 'Log' tab is active, displaying a table for logging data. The table has columns for 'Channels', 'Logged', and 'Points to Log'. The 'Points to Log' is set to 10000. The 'Logged' column shows 1415 points. The table contains the following data:

Channels	Logged	Points to Log
T1	14:45:20	201.0125
T2	14:45:09	200.9970
R1	14:44:59	200.9655
R2	14:44:49	200.9358
H5	14:44:38	200.8929
SP		
Indic		
Fz Indic		
Contact		



For fully automated temperature calibration including coefficient generation and the printing of calibration certificates refer to I-cal EASY, www.isotech.co.uk - a fully functioning thirty day trial version is available.

License – overview

The purchase of Isotech calibration equipment that includes a PC interface permits use of Cal Notepad software with that equipment in accordance with the license below.

Using Cal Notepad with third part equipment when Isotech equipment has not been purchased as above will require a license to be purchased. Please contact Isotech or an Isotech Distributor for the current license fee.

License

Use of the Cal Notepad software program "Cal Notepad" is as granted in this license agreement. In using the CAL NOTEPAD software the user "licensee" is agreeing to the terms of the license. You must read and understand the terms of this license before using Cal Notepad.

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- 4, It is the responsibility of the user to ensure the validity of all stored results and printed certificates. Isothermal Technology Ltd accept no responsibility for any errors caused by inappropriate use, incorrect set up or any other cause; including defects in the software.
- 5, Limited Warranty. Isothermal Technology warrants that CAL NOTEPAD will perform substantially as described in this manual for a period of 90 days from receipt. Any distribution media will under normal used be guaranteed for a period of 90 days.

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CAL NOTEPAD is not designed for situations where the results can threaten or cause injury to humans.

Introduction

What Does Cal Notepad Do?

Control and Logging of Isotech Heat Sources

The software can be used to log from an Isotech Dry Block, An Isotech Liquid Bath, Furnace or Isocal-6 Model. In the software the term “Heat Source” is used to cover this range of equipment.

Cal Notepad can be used to program the heat source to change temperature after fixed periods of time.

Many of the Isotech industrial range of heat sources such as Dry Block Baths can include in addition to the temperature controller a temperature indicator, such models are referred to as the S or SITE models. The SITE models can include a temperature switch test facility. This facility allows for the temperature at which the switch changes state to be recorded.

Cal Notepad can log both the indicator value and the open or closed state of a connected switch.

The software provide configurable chart displays and data can be logged to a tabbed delimited text file that can be opened by spreadsheet programs such as Microsoft's Excel.

Logging from a Temperature Indicator

In addition to logging from a heat source the software can also log from a supported temperature indicator such as the Isotech TTI-7, TTI-22, milliK and the F200 and F250 from ASL.

General Information

Development

CAL NOTEPAD was developed by Isothermal Technology using LabVIEW from National Instruments.

Minimum System Requirements

CAL NOTEPAD requires Windows 95 / 98 or later, a minimum of Pentium 166, 32Mb RAM, 800 x 600 16 Bit colour display.

Serial Cables

The majority of Isotech calibration baths use an RS422 interface and are shipped with an RS422 to RS232 converter cable. This cable is a distinctive yellow colour and should be used from an RS232 port on the PC to the calibration bath.

Isotech temperature indicators include an RS232 cable.

Installing Cal Notepad

Installation from CD

1, Insert the CD in your CD-ROM drive

2, Click on the START button on the task bar, select RUN, type D:\SETUP (Where D: is your CD drive's letter) then click OK

or Installation from Web

1, Download the ZIP file

2, Extract the files to a temporary folder

3, Run setup.exe



4, Follow the prompts which will install the application and the necessary LabVIEW run time support files.

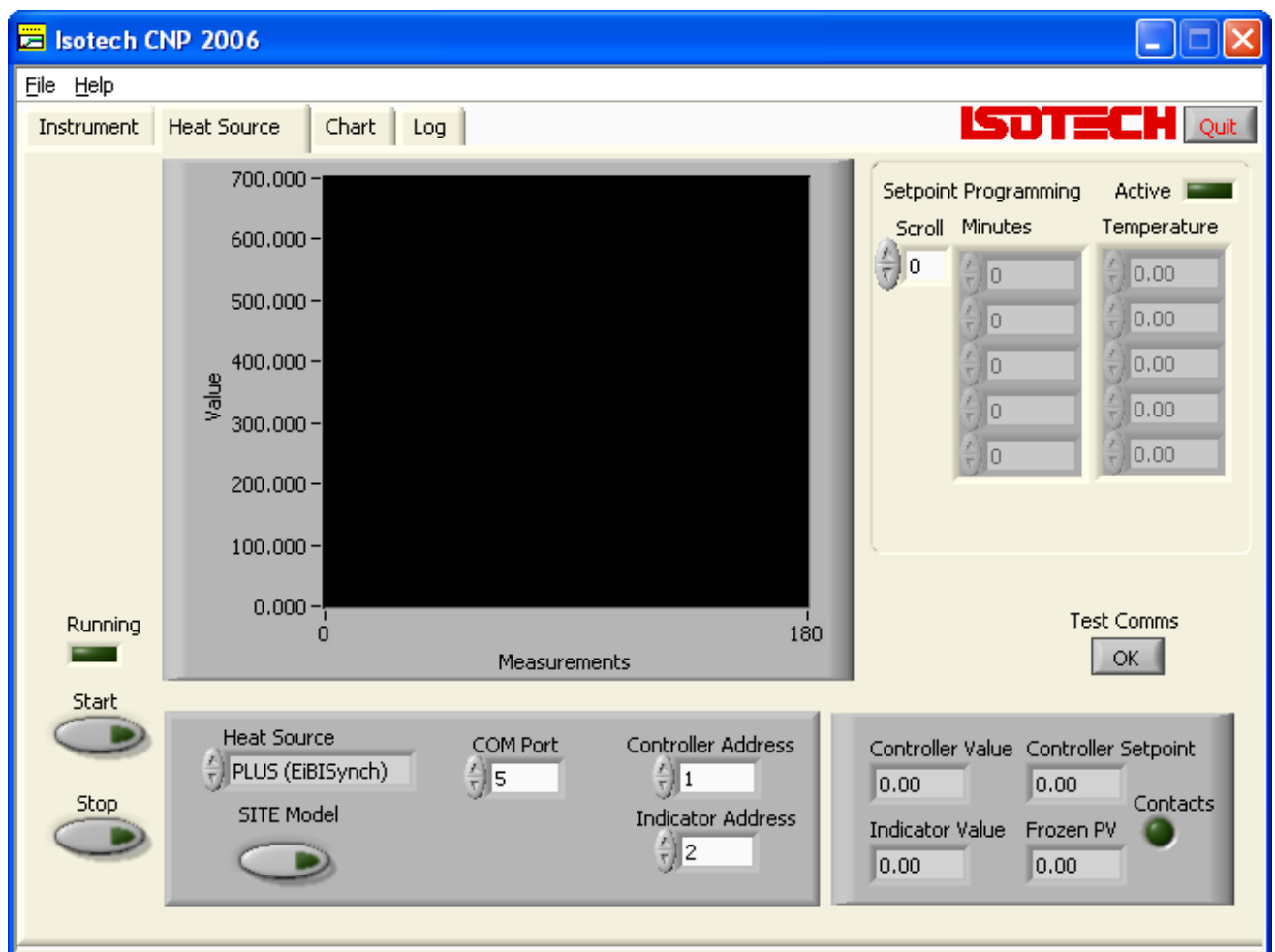
5, Should you ever need to uninstall the software then use the Add/Remove Programs option from the Control Panel.

Alternatively if the CDROM Auto starts follow the prompts.

Starting Cal Notepad

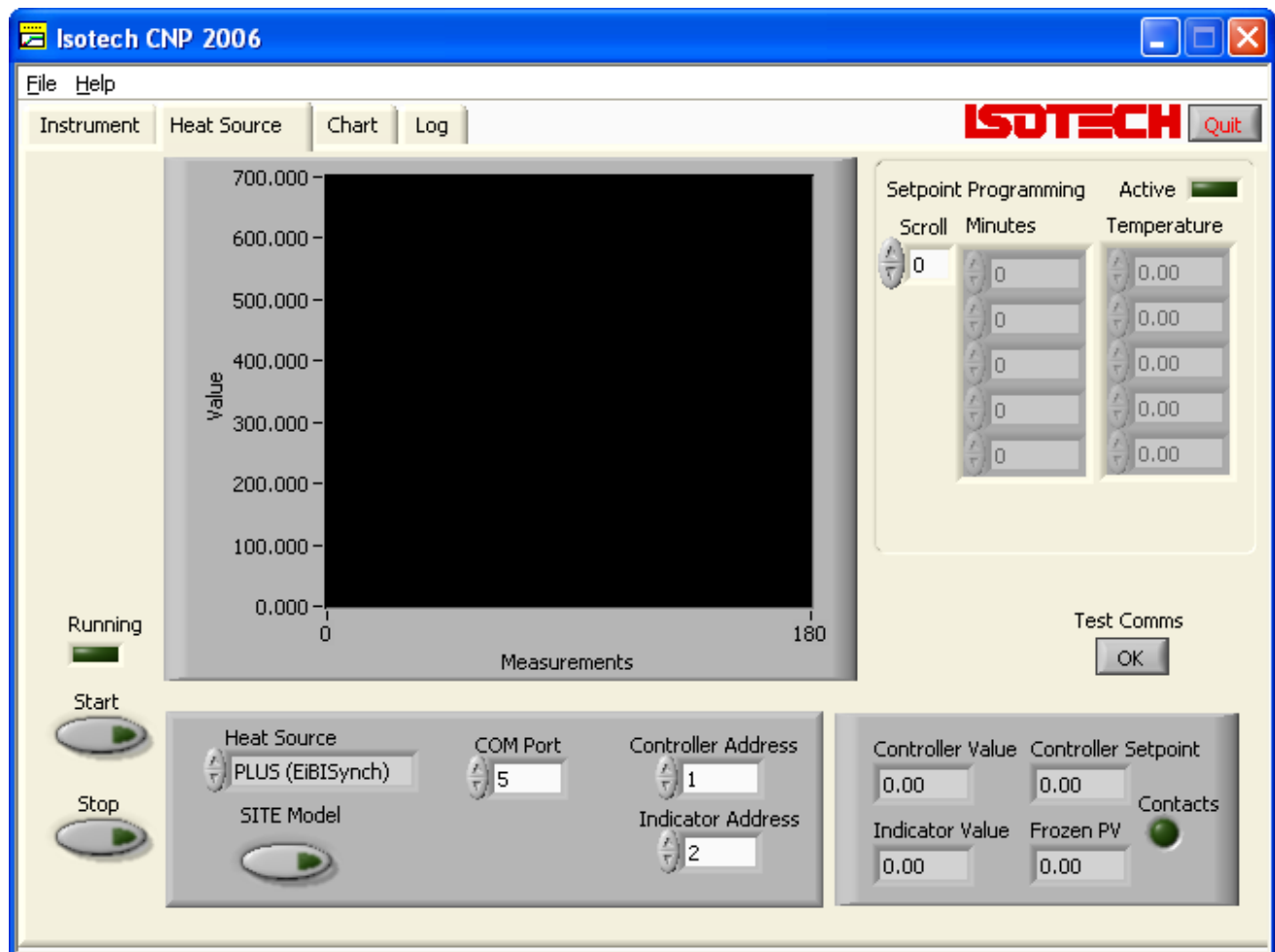
From a Standard Installation: -

- Click the START button
- Highlight PROGRAMS
- Select Isotech
- Select Cal Notepad



The HEAT SOURCE

This Tab allows a Dry Block, Furnace or Liquid Bath to be controlled and monitored.



Set the Heat Source protocol to be either PLUS (EiBiSynch) or 2006 (Modbus). Most equipment produced before 2006 will be "PLUS (EiBiSynch)" and that after this date "2006 (Modbus)"

To check the type set COM Port to that which the Heat Source is connected to, turn the equipment on and press the "Test Comms" button. A message will be shown advising which protocol is found.

The Heat Source Controller will have an address, ensure that matches the set Controller Address. The factory set default value is "1". The address of the Heat Source can usually be checked by pressing the Heat Source controllers Scroll Key (Second Left) until the upper display shows "Addr" with the value on the lower display.

Some Isotech Heat Source models include an independent temperature indicator, these models are known as "SITE" models.

When using a SITE model check the indicator address matches in the same way as for the controller. The default value is "2".

With the values set press the Start button and the chart will be updated.

From the file menu select “Save Settings” to avoid the need to modify the values each time the software is run.

Setpoint Programming

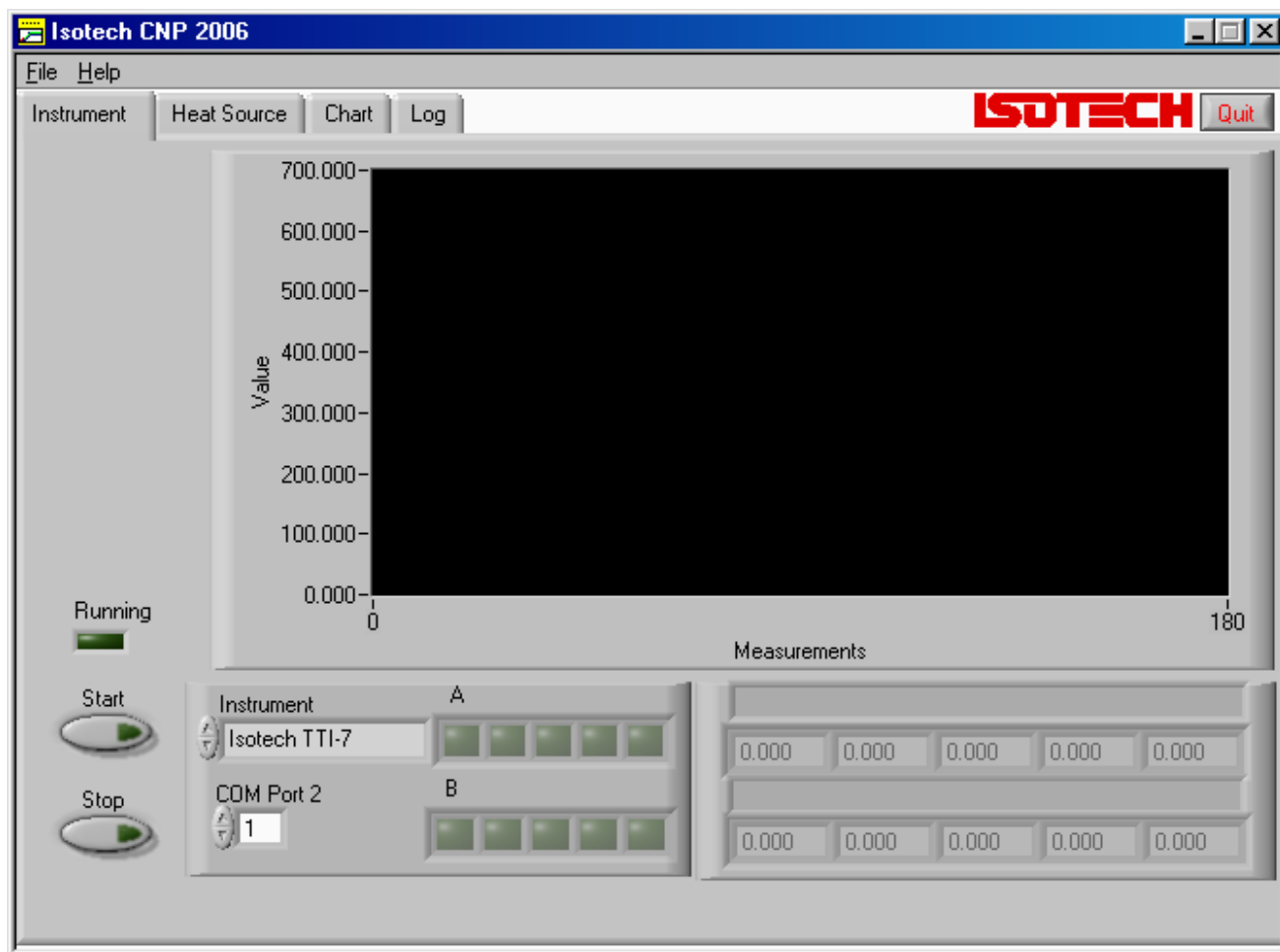
The heat source can be programmed to change the set temperature “setpoint” with time.

Enter the desired temperatures and times in the columns. Use the scroll control to move up and down the list.

The setpoint will change after the programmed time regardless of what temperature the Heat Source is actually at. The program runs from the PC so if the Cal Notepad is closed the setpoint programming will become inactive.

From the file menu select “Save Settings” to avoid the need to modify the values each time the software is run.

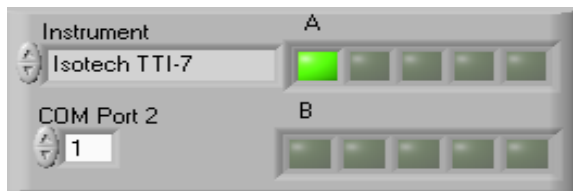
THE INSTRUMENT TAB



This tab allows a temperature indicator to be monitored. Set the instrument type then set the Com Port to the appropriate serial port.

TTI-7 Operation

Some instruments like the TTI-7 can have multiple channel capability. To read Channel A select the first Green Control,



To Read A and B select the control for A and B



For a TTI-7 with internal scanner cards to read channels A0, B1 and B2 set as shown



TTI-22, TTI-10, milliK and microK Operation

Select the channels to from the top row of controls, the lower row is not applicable, The TTI-22 and TTI-10 can have either one or two channels selected, the microK and milliK can have the first three channels selected.



Serial Settings for TTI-22

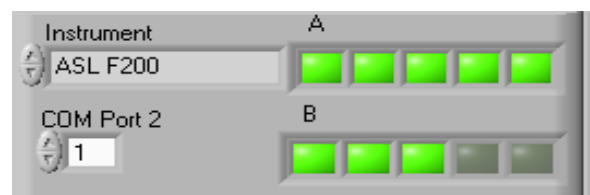
Set the TTI-22 from the front panel to: - 9600, 7 Data Bits, XON / XOFF
(The miliK and microK are fixed and do not need to be adjusted.)

Serial Settings for TTI-10

The TTI-10 has a USB port, when connected to the PC it will appear as a Com Port, identify this from the Device Manager and select that Com Port in Cal Notepad.

F200 Operation

The F200 has up to eight channels, the first row equates to channels 1 through 5 and the lower row can be used to select channels 6 through to 8. The figure shows all eight channels selected.



The instrument needs to be started with Start Button.

From the file menu select "Save Settings" to avoid the need to modify the values each time the software is run.

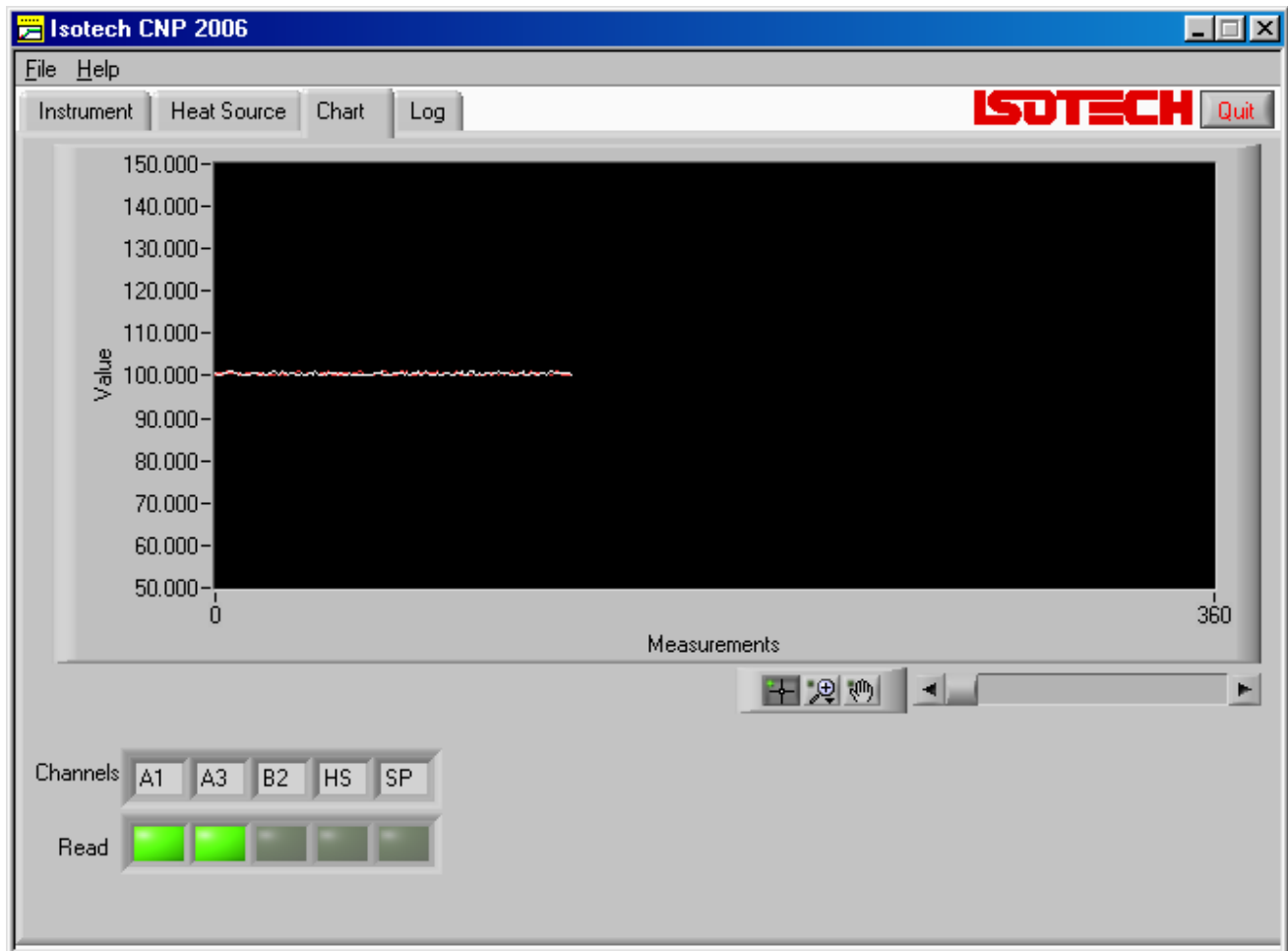
Isotech SITE Indicator Operation

It is possible to use an Isotech SITE indicator on the Instrument Tab. In this case the top row is used to select the address of the Indicator – the first control equates to address 1, the second address 2 through to address 5. It is possible with RS422 to have a maximum of five indicators daisy chained.

The figure shows an example using two indicators with PLUS EiBisynch protocol at addresses 1 and 3



THE CHART TAB



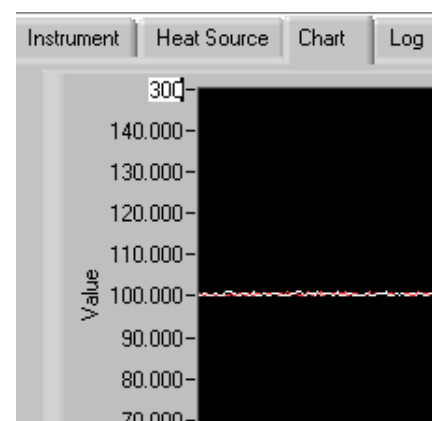
The chart is used to plot values from the temperature indicator and can also include the Heat Source Value and the Heat Source setpoint.

First start the Instrument and Heat Source, the available channels will be shown. Select which channels to plot with the green controls. In the example above channels A1 and A3 from the instrument have been selected, Channel B2, the Heat Source (HS) and Setpoint (SP) are available but have not been selected.

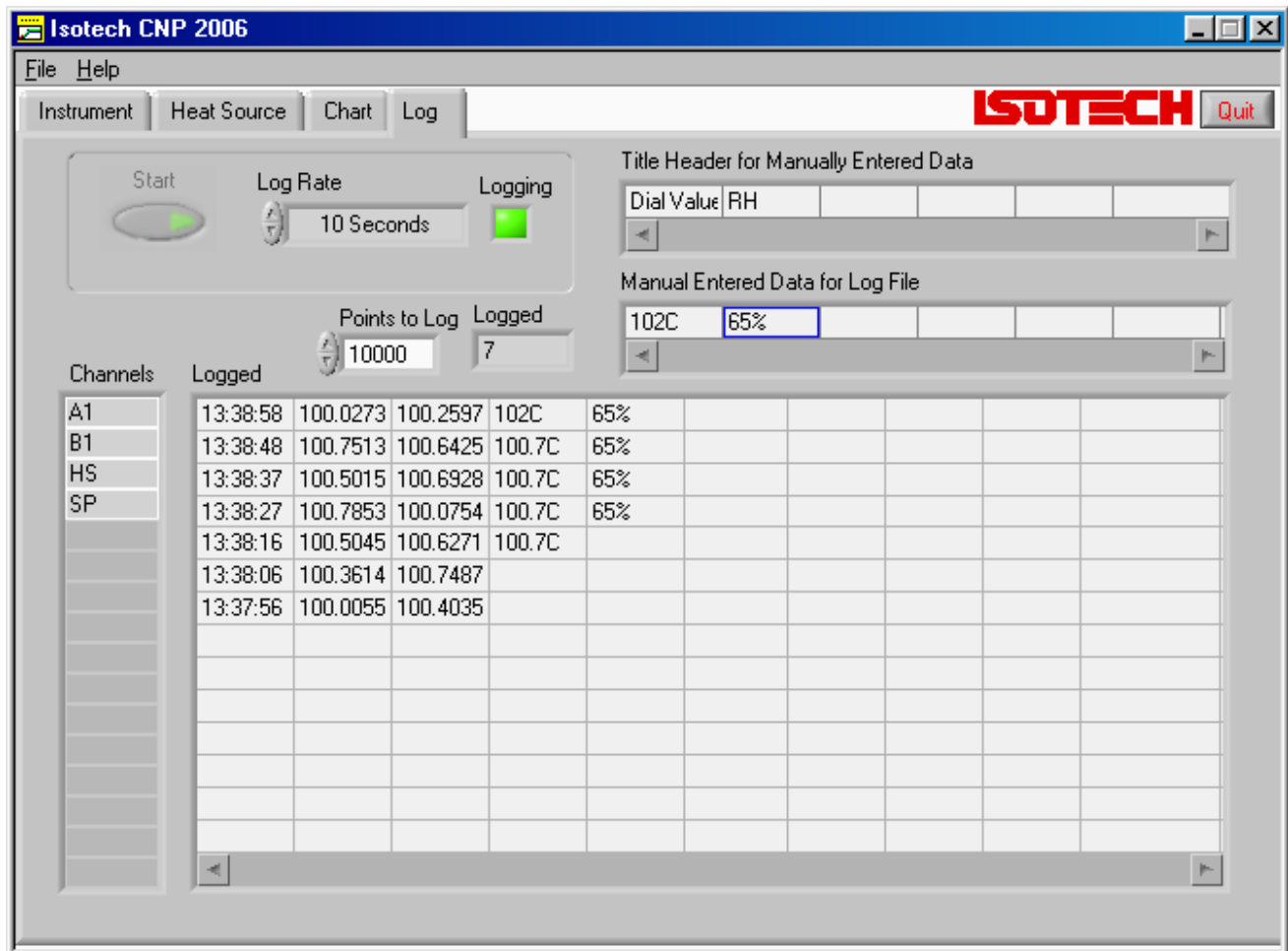
Right Clicking the chart will allow auto scaling to be turned on and off. With autoscaling off change the range of the scale by dragging the cursor over the scale range and then type in the desired value.

Clearing the Chart

The Clear Chart option is available when the chart is "right clicked".



THE LOG TAB



The log tab allows control of logged data. All selected channels are recorded to the log file independently of the chart options.

The selected channels are shown in the left hand "Channels" column, the Logged grid shows up to the last 15 values written to the log file.

The Log Rate includes a "Fastest" option which will write the data as soon as the instrument completes its scan. This time will vary for the type of instrument and the number of channels selected.

The Log File includes a header, user data can be entered by typing the desired information

Data here gets written once to the start of the log file

Title Header for Manually Entered Data				
Dial Value	RH			

```
CalNotepad 3.0 Log File: 21/12/05 14:02:35
Time A1    B1    Dial Value RH
14:02:41    100.653336 100.759729
```

*Data entered here gets written to the log file **each** time*

Title Header for Manually Entered Data				
Dial Value	RH			

```
CalNotepad 3.0 Log File: 21/12/05 14:02:35
Time A1    B1    Dial Value RH
14:02:41    100.653336 100.759729
14:02:51    100.436787 100.467703
14:03:02    100.518861 100.241748
14:03:12    100.389634 100.968729
14:03:22    100.800188 100.905403 102C
14:03:33    100.113409 100.691813 102C 65%
14:03:43    100.682112 100.258467 102C 65%
14:03:53    100.968417 100.451801 102C 65%
14:04:04    100.967412 100.865865 102C 65%
14:04:14    100.230439 100.638508 104C 65%
14:04:24    100.130249 100.446201 104C 65%
14:04:34    100.818748 100.291708 104C 65%
14:04:35    100.469591 100.948954 104C 65%
```

This feature allows manually entered data to be included in the log file along with the automatically logged data.

To Stop Logging

Logging will stop when the number of points logged reaches the "Points to Log Value".

To stop the logging before then stop the Heat Source and Instrument and logging will stop after the next log point.

Trouble Shooting

Can not read Heat Source

Check: -

- 1, The COM port selected in the Options Screen matches the com port to which the bath is actually connected.
- 2, The controller (and indicator) address selected in the Options Screen matches the actual address of the calibration bath.
- 3, The correct serial lead is in use. Use the Isotech supplied lead if possible.
- 4, Check that the Bath and External Indicator are not set to use the same COM Port.
- 5, Check the protocol is set correctly To check the type set COM Port to that which the Heat Source is connected to, turn the equipment on and press the "Test Comms" button. A message will be shown advising which protocol is found.

Can not read external indicator

Check: -

- 1, The COM port selected in the Options Screen matches the com port to which the bath is actually connected.
- 2, The correct serial lead is in use. Use the Isotech supplied lead if possible. For further details refer to the TTI handbook.
- 3, Ensure the instrument is powered up before pressing start so that the instrument will receive any required initialize command.
- 4, Check that the Bath and External Indicator are not set to use the *same* COM Port.

Can not read from TTI-22

Check that the TTI-22 is set from the front panel to: - 9600, 7 Data Bits, XON / XOFF

Can not read from milliK

If the "number of settings per reading" is set high Cal Notepad may time out before the milliK updates.

Can not read from microK

Cal Notepad supports microK models with software version of 1.14.16 or later. Contact Isotech for update details.

