

CyberComm 5000 Version 1.0.0

Data Acquisition Software

Installation & User Guide

CyberScan pH 5000/ 5500

CyberScan PC 5000/ 5500

CyberScan DO 5000/ PCD 5500



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PREFACE

Thank you for selecting a CyberScan Series 5000 touch screen meter. This meter comes with the CyberComm 5000 Data Acquisition Software which allows you easy access and communication via a computer with connection to the meter.

The instruction manual serves to explain the use of the CyberComm 5000 step-by-step installation and user guide to help you familiarize with the software's features and functions. It is structured sequentially with illustration of active software screens and diagrams that explains the various functions and menus available.

This manual is written to cover as many anticipated applications and uses of the CyberComm 5000 software along with CyberScan Series 5000 bench meters only. If there are doubts in the use of the software, please do not hesitate to contact Technical Support at techsupport@eutechinst.com or call us at (65) 6778-6876 for assistance.

CyberComm 5000 software update is available to all customers who have purchased the Series 5000 meters. Please download the latest CyberComm 5000 version via our website at www.eutechinst.com/cybercomm-software.htm

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1 DATA ACQUISITION IN WINDOWS VERSION

1.1 The CyberComm 5000 Data Acquisition Software

The CyberComm 5000 Data Acquisition Software (DAS) package is a user-friendly data acquisition package that provides a convenient way to capture data for future analysis. This CyberComm 5000 is only able to run on Windows[®] Operating System (refer to 1.2 System Requirements for details). Communication between your meter and PC is bi-directional as the meter functions can be remotely controlled by the DAS. Data type stored is in the ASCII format.

[®] Windows is the registered trademark of Microsoft Corporation

1.2 System Requirements

To run the CyberComm 5000 Data Acquisition Software, the following items are required:

1	IBM Compatible PC Pentium and above
2	Windows Operating Systems 95 and above
3	VGA/SVGA Monitor with minimum 800 X 600 resolution
4	RS232C Serial Communication Cable

1.2.1 Setting the Communication Parameters

The meter is capable of different communication configurations for baud rate, parity and stop bits. The values chosen for these parameters of the meter must match those chosen for the computer, same goes for the serial printer if it is connected.

2 INSTALLATION OF CYBERCOMM 5000

2.1 Loading of CD-ROM

See **Figure 1**.

Before running the program, check that the CyberScan Series 5000 meter is properly connected to the computer. It is preferable to connect to either one of the COM (serial) ports available on a computer. Note the number of the COM port that you have connected to the meter as this will be required in setting up the CyberComm DAS later.

- a) Turn on the computer (PC).
- b) Insert the CD-ROM provided into a CD-ROM drive of your PC.
- c) To install the DAS, use the **My Computer** to view the file contents in your CD_ROM drive. Locate and click onto the **SETUP** file under the CyberComm directory. Double-click again on this file and the program automatically starts installation. Alternatively you can use the Add/Remove Programs feature in Control Panel to install the CyberComm and follow the instruction accordingly. If in doubt, please refer to your Microsoft Operating Manual for further details.
- d) See Figure 1: Main Setup, click **Next** to continue setup process.

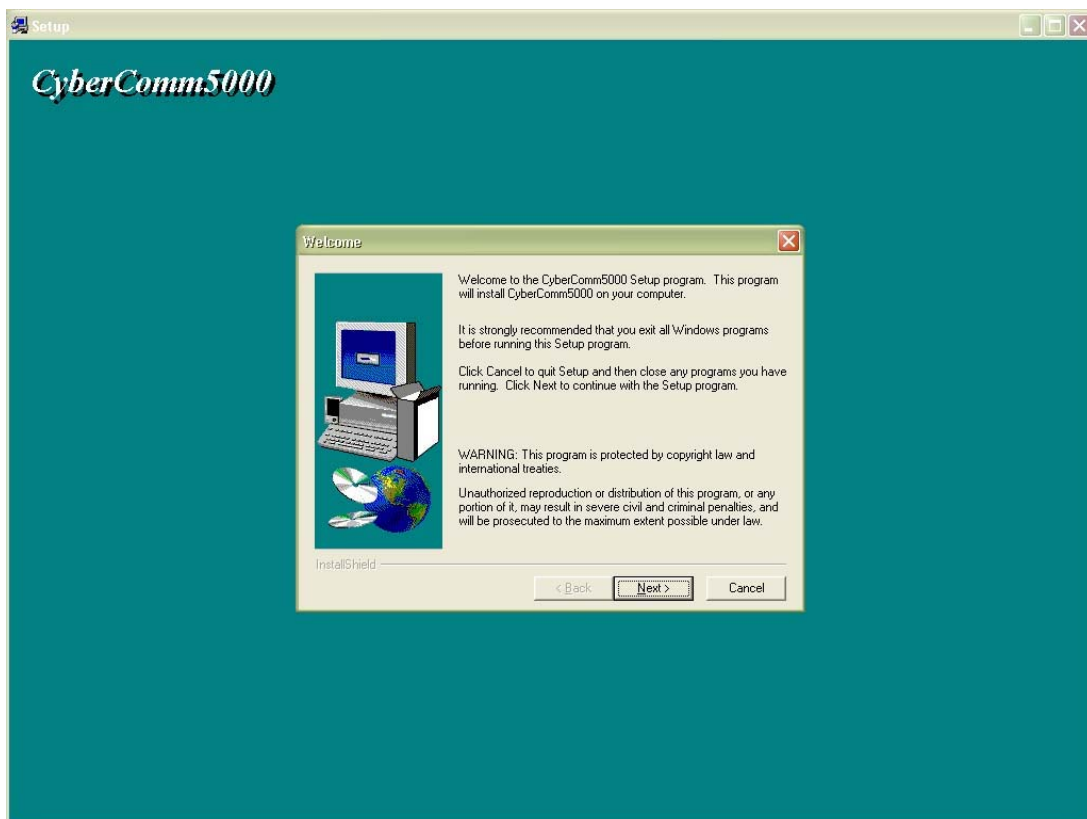


Figure 1: Main Setup

2.2 User Name and Organisation Entry

The CyberComm program (as below) prompts you to enter the name of the user and organization. See Figure 2: User Information.

- a) Key in the information in the respective fields.
- b) Click **Next** to continue setup process. Click **Back** make changes to previous setup option.

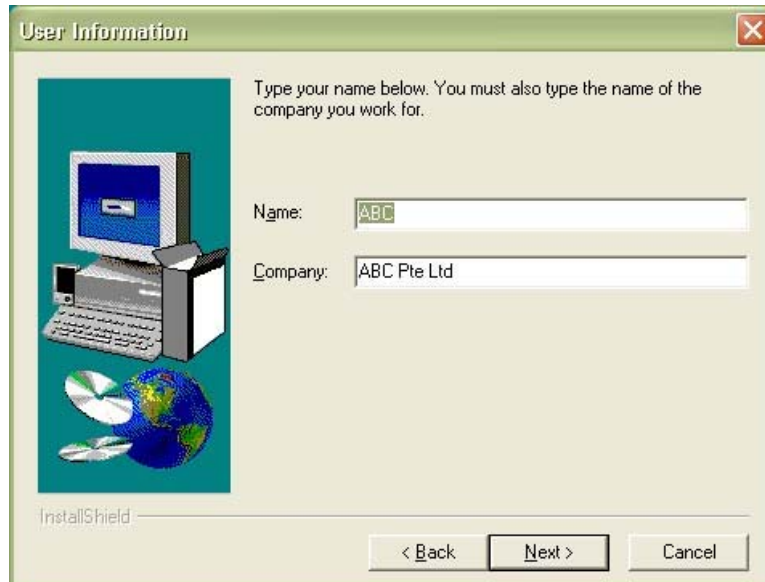


Figure 2: User Information

2.3 Choose Destination Location

This setup option will install the CyberComm 5000 after the destination location is selected. See Figure 3: Choose Destination Location.

- a) Click **Browse** to select destination location.
- b) Click **Next** to continue setup process. Click **Back** make changes to previous setup option.

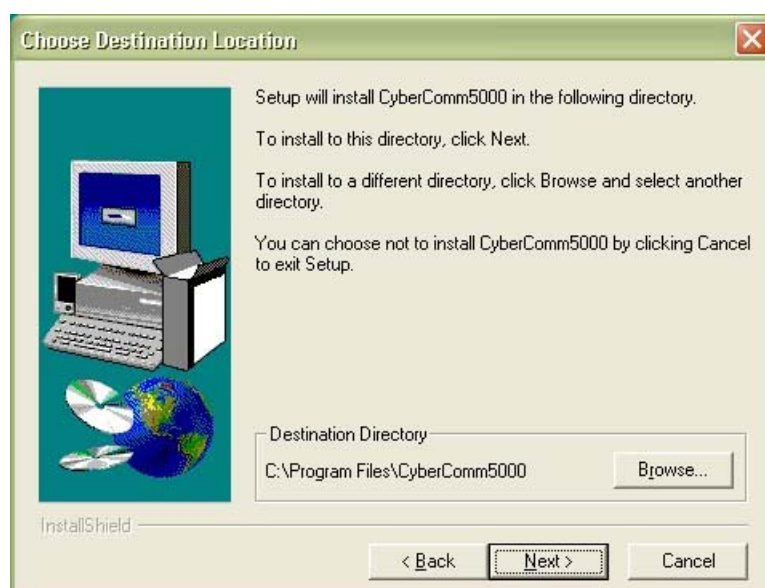


Figure 3: Choose Destination Location

2.4 Setup Type

Select the setup type of the CyberComm 5000 preferred. Default is set as **Typical**. The destination directory for the software to be located must be specified as well. See Figure 4: Setup Type.

- Select **Typical** from the list of setup types.
- Click **Browse** to select destination location.
- Click **Next** to continue setup process. Click **Back** make changes to previous setup option.



Figure 4: Setup Type

2.5 Select Program Folder

Choose to have a new Program Folder or select one from the list of existing folders in which the CyberComm 5000 is to be located. Default is set as CyberComm 5000 to be named as a new Program Folder. See Figure 5: Select Program Folder.

- Select to create a New Folder (e.g.: CyberComm 5000) or utilise an existing folder.
- Click **Next** to continue setup process. Click **Back** make changes to previous setup option.



Figure 5: Select Program Folder

2.6 Start Copying Files

This setup option displays the current settings selected in the previous setup options. See Figure 6: Start Copying Files.

- a) Click **Next** to continue setup process. Click **Back** make changes to previous setup option. Click **Cancel** to terminate setup process.



Figure 6: Start Copying Files

2.7 Setup Completion

“Launch the program file” if you wish to use it instantaneously. Note: The file is now stored in your designated hard-disk location. A shortcut of CyberComm 5000 will be created automatically on your desktop upon setup completion. See Figure 7: Setup Complete.

- a) Select to launch program file: CyberComm 5000.
- b) Click **Finish** to complete setup process.



Figure 7: Setup Complete

3 GETTING STARTED

3.1 Welcome Screen

See Figure 8: Welcome Screen.

- a) Click **OK** after assessing the information provided.



Figure 8: Welcome Screen

3.2 Print Configuration

See Figure 9: Print Configuration Setup.

Set the appropriate requirements for Print Configuration before connecting the meter.



Figure 9: Print Configuration Setup

Print Configuration Option	Description
Communication Port	Connect using the preferred connection port from the drop down menu; 1 or 2 . Default is 1 .
Baud Rate	Select preferred baud rate from the drop down menu: 9600 , 19200 and 38400 . Default is 19200 .
Number of Bits	Select preferred Stop Bits from the drop down menu; 7 or 8 . Default is 8 .
Stop Bits	Select preferred Stop Bits from the drop down menu; 1 or 2 . Default is 1 .
Parity	Select preferred parity from the drop down menu: None (0), Odd (1) or Even (2). Default is None (0).
Serial Output mode	Software default is set at DATA . Ensure meter serial output mode is set at DATA .

3.3 Confirmation Prompt

This Dialog box appears if from second DAS operation onwards, prompting user to overwrite on saved measurement data or create another in the destined directory. See Figure 10; Confirmation Prompt.

- a) Click **NO** to create new measurement data. Go to Section 3.4: File Options, Page 12.
- b) Click **YES** if you want to overwrite current saved data. Go to Section 3.5: Data File Information, Page 13.
- c) Click **Cancel** if you do not want data to be saved.

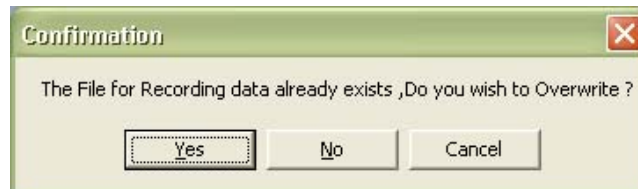


Figure 10; Confirmation Prompt

3.4 File Options

Clicking **NO** in Section 3.3: Confirmation Prompt will bring you to the File Options Screen.

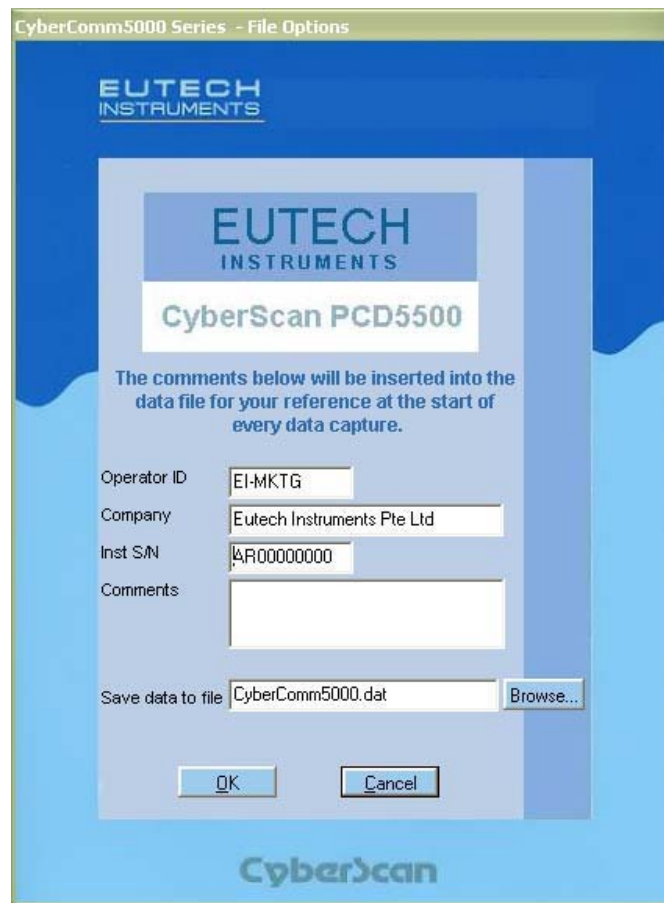


Figure 11: File Options

This screen prompts user to enter information which will be inserted to the data file for reference at the start of every data capture. See Figure 11: File Options.

Field	Description
Operator ID	Identifies the user for every measurement being conducted.
Company	Identifies the organisation of the user.
Inst S/N	The instrument's serial number will be reflected in reports generated.
Comments	Will be inserted to the data file for reference at the start of every data capture.
Save Data to File	Assign the DAS to save data in the selected destined directory.

3.5 Data File Information

Clicking **YES** in Section 3.3: Confirmation Prompt will bring you to the Data File Information Screen.

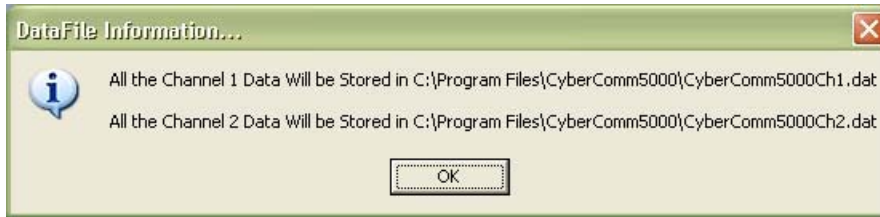


Figure 12: Data File Information

This screen displays the destination folder that eventual data will be saved as .dat format. See Figure 12: Data File Information.

Single Channel Mode

This screen displays one channel's data to be saved in the destination folder.

Dual Channel Mode

This screen displays both channels' destination folders respectively.

3.6 Mode Selection

See Figure 13: Standby Mode with Parameter Selection. The CyberScan PCD 5500 (as shown below) allows you to select from several parameters (pH and Conductivity mode: pH, mV, Conductivity and Ion) (DO mode selection: DO, BOD, OUR and SOUR). The selection of parameter modes depend on the meter connected:

<u>Meter Model</u>	<u>Parameter Modes Available</u>
pH 5000	pH, mV
pH 5500	pH, mV, Ion
PC 5000	pH, mV, Conductivity
PC 5500	pH, mV, Conductivity, Ion
DO 5000	Dissolved Oxygen, BOD, SOUR, OUR
PCD 5500	pH, mV, Conductivity, Ion, Dissolved Oxygen, BOD, SOUR, OUR

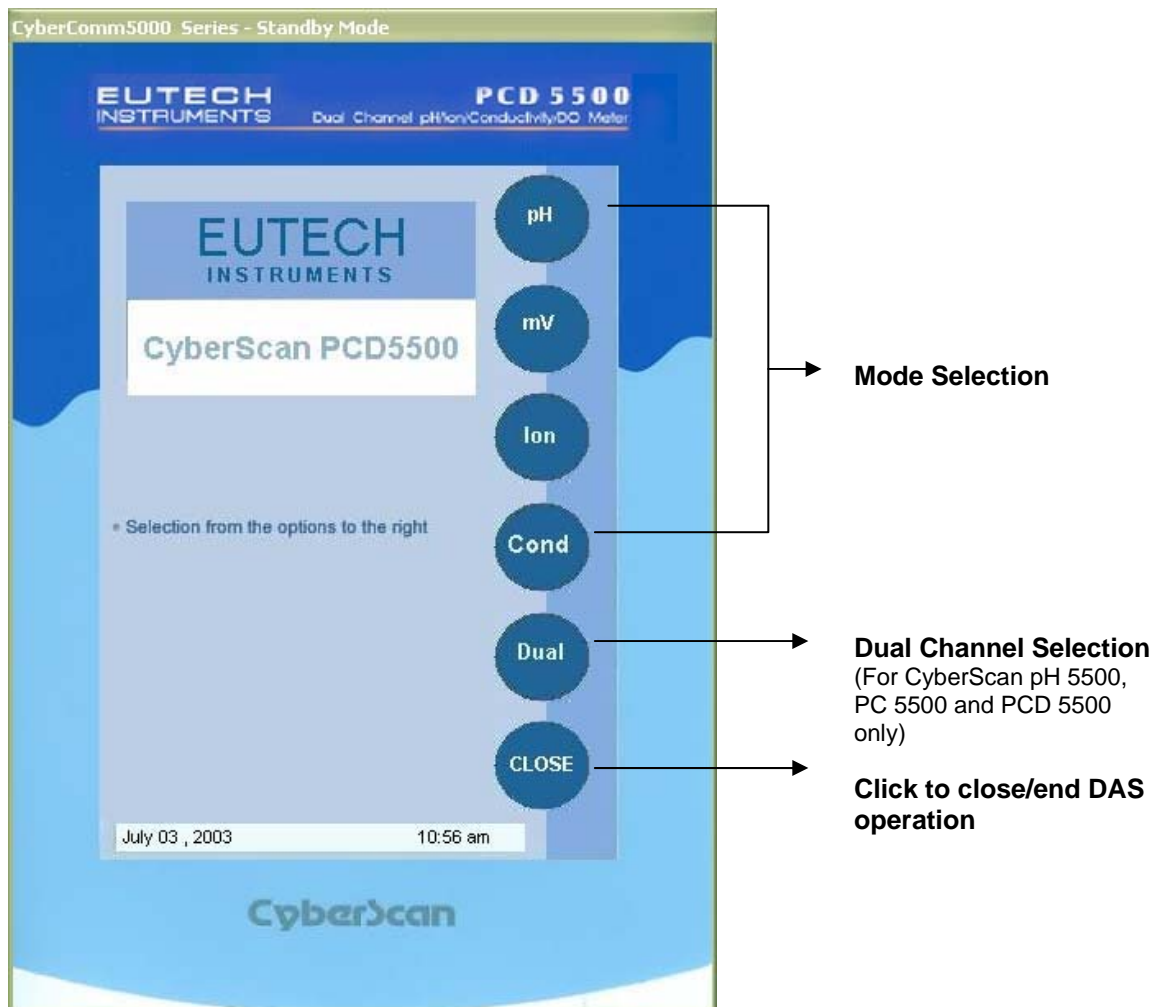


Figure 13: Standby Mode with Parameter Selection

4 METER CONNECTED (SINGLE CHANNEL)

For CyberScan pH 5000, PC 5000 and DO 5000 which are single channel instruments, the DAS screen will display a single parameter mode at one time. Select mode (Section 3.6: Mode Selection, Page 14) and the current reading will be displayed respectively.

See

Figure 14: pH Measurement Mode- Single Channel.

Plot 1 shows Current Mode (pH, mV, conductivity, ion etc.) measurement graph on Channel 1 and Plot 2 shows Current measurement graph (Temperature).

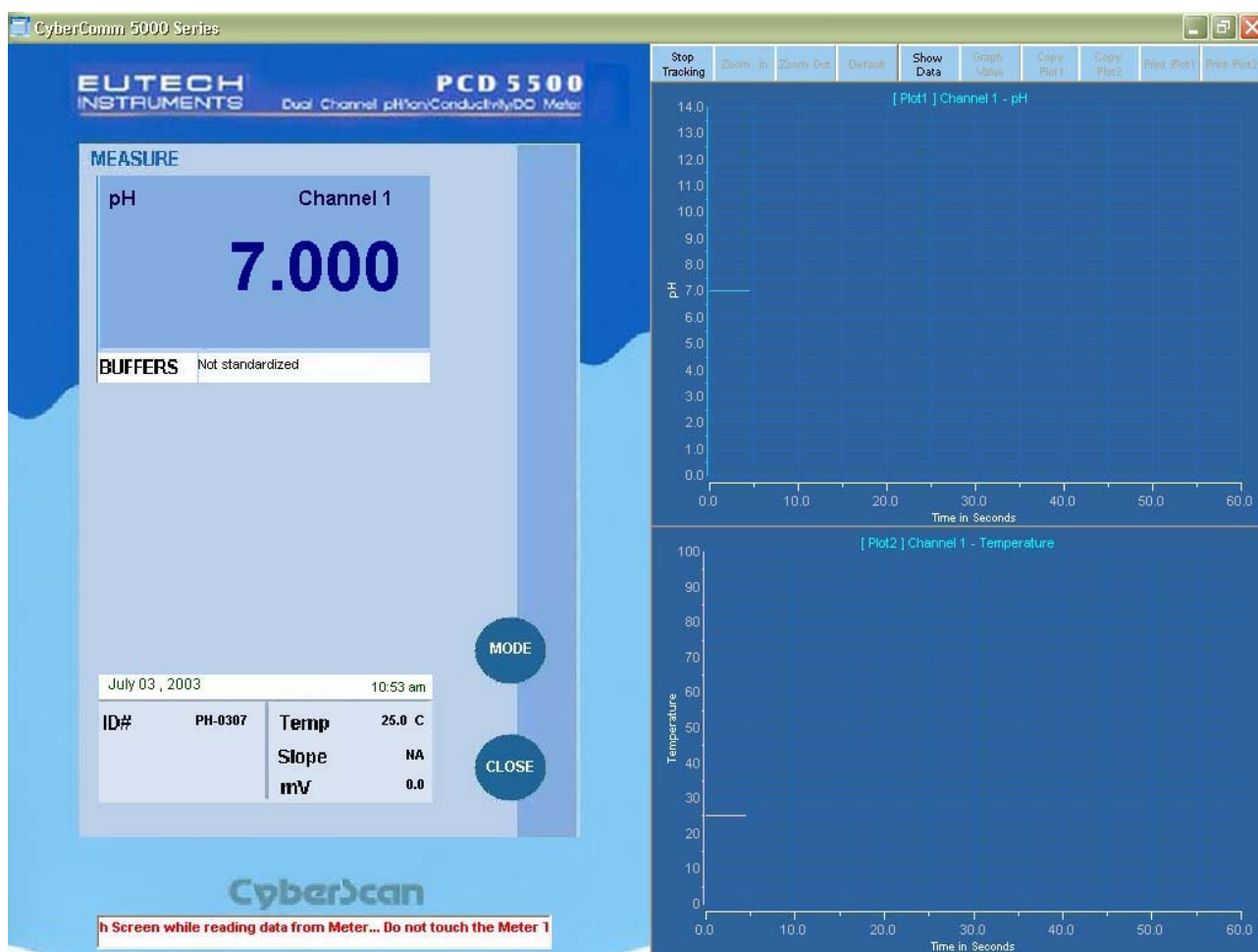


Figure 14: pH Measurement Mode- Single Channel (pH 5000/5500, PC 5000/5500)

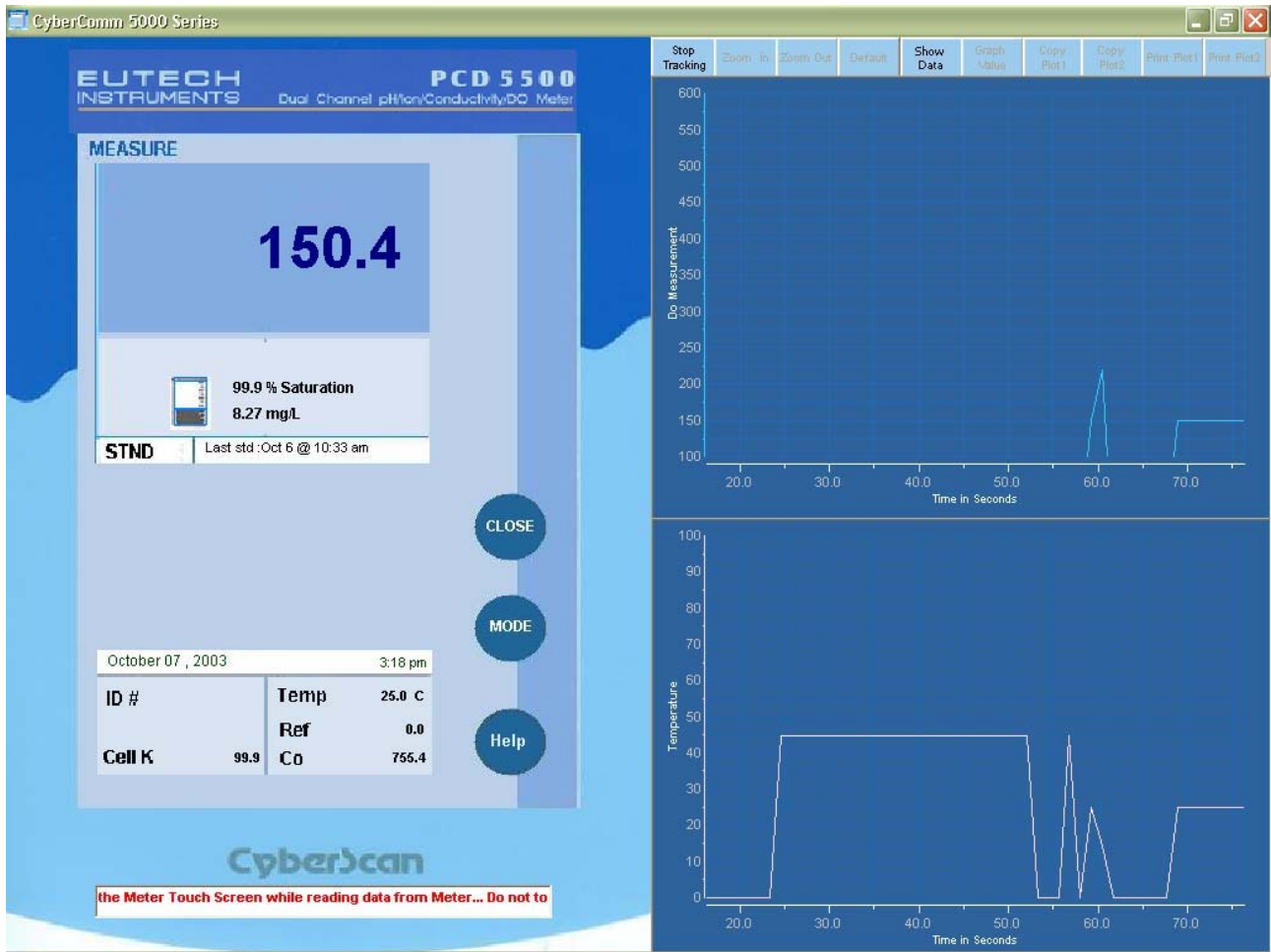


Figure 15: Dissolved Oxygen Measurement mode- Single Channel (DO 5000, PCD 5500)

From the meter

Press **BOD** button during the BOD measurement mode on the meter. A screen on the meter will prompt to enter a Bottle ID number that was saved previously. BOD Results will be shown as below on the meter. See Figure 18.

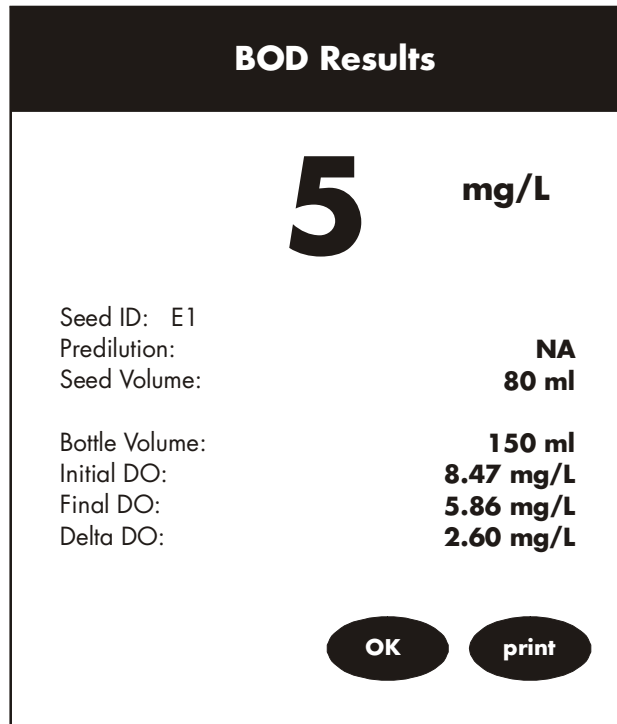


Figure 18: BOD Results screen displayed on meter

Press **print** to export BOD results to CyberComm 5000.

5.3 To export SOUR Results to CyberComm 5000

Select to go to DO mode on CyberComm 5000 (See Figure 16), click on **SOUR** button to display screen as shown in Figure 23.



Figure 23: SOUR Mode

From the meter

Press **SOUR** button from the DO mode main screen to go to SOUR measurement mode. Press **start** to start SOUR measurement. See Figure 21. Press **print** to export SOUR results to CyberComm 5000.

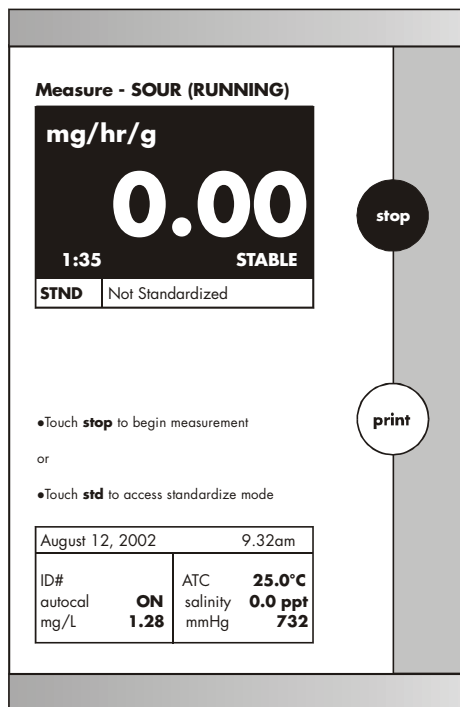


Figure 24: SOUR Measurement mode on meter

6 MENU BAR

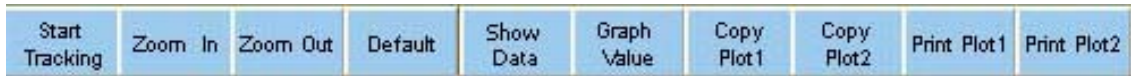
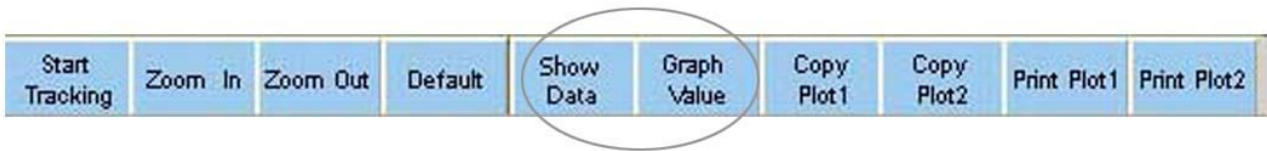


Figure 26: Menu Bar- Same for Single and Dual Channel Meters

Menu Button	Description
Start/ Stop tracking	To stop current measurement and the DAS will immediately stop the data recording. The button will change to 'Start Tracking' when Stop Tracking mode is ON. You are able to toggle between start and stop at any point of the measurement to record data.
Zoom In/Out	These two buttons are for optimised view of the measurement graphs. Click on the respective button to execute task.
Default	Click to have the display go to original settings.
Show Data	Click to view recorded data values in table format. The button will be inactive when 'Graph Value' is ON.
Graph Value	Click to view recorded data values in graph format. The button will be inactive when 'Show Data' is ON.
Copy Plot 1/ Plot 2	Click to copy the selected plot and paste it in other compatible application.
Print Plot1/ Plot 2	Click to print the selected plot via connected printer.

6.1 Data Results Recording

When Show Data menu button is active, the display shows the values recording from the measurement along with other information (time, temperature, slope etc) in a tabular format. See Figure 27: Data Results-Single Channel.



Data is captured approximately every 1 second upon start of measurement by default.

NOTE: Never touch the meter when the DAS is in operation.

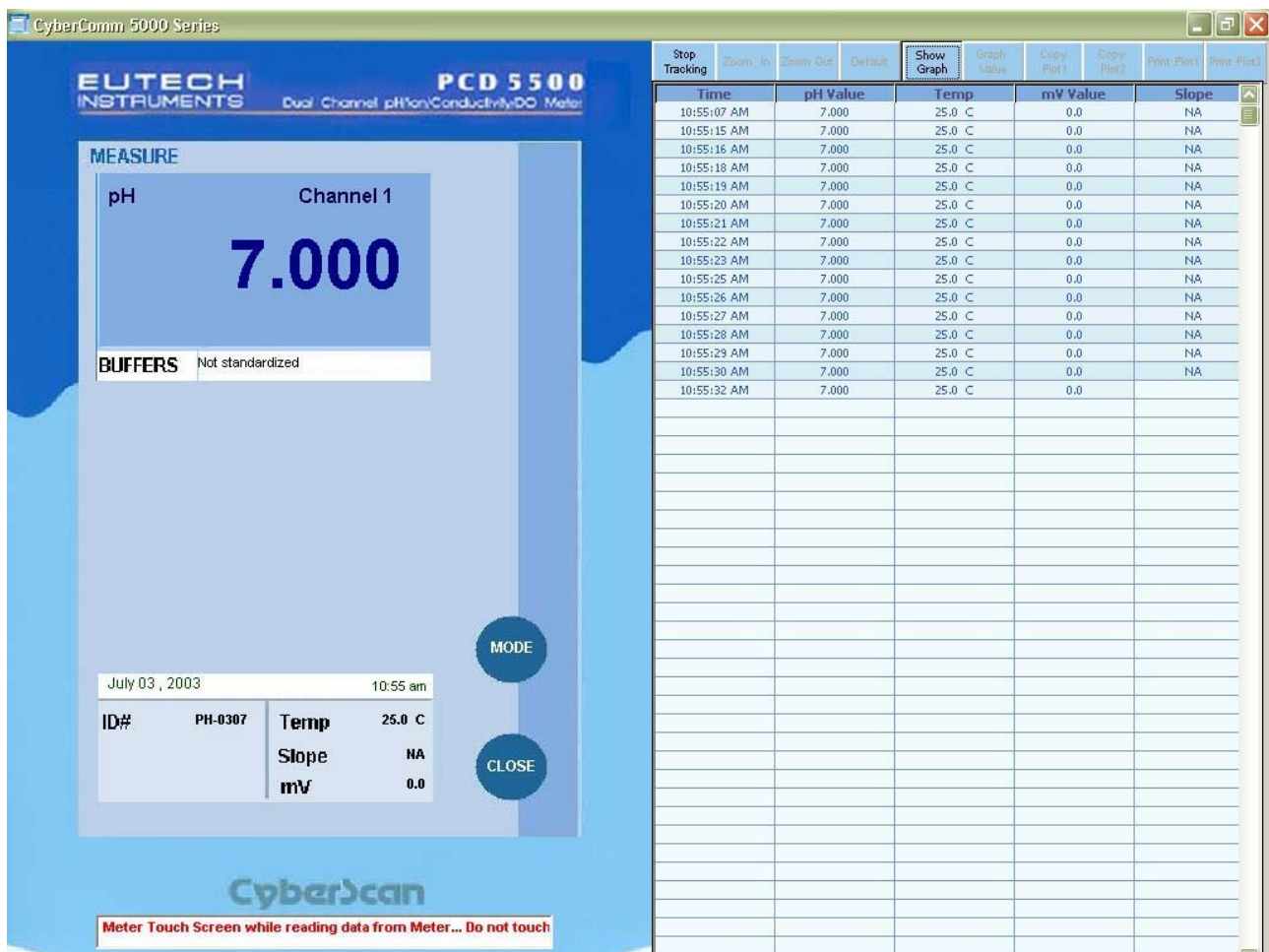
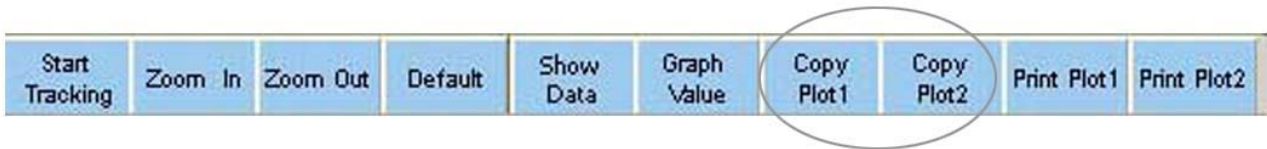


Figure 27: Data Results- Single Channel

7 COPY & PRINT PLOTS

7.1 Copy Plot

Select from the menu bar the function to be carried out. Select to **Copy Plot 1** or **Copy Plot 2**.



See Figure 28: Copied plot in Word doc.

The figure below shows an example of copying a plot and pasting in a Microsoft word (.doc) document.

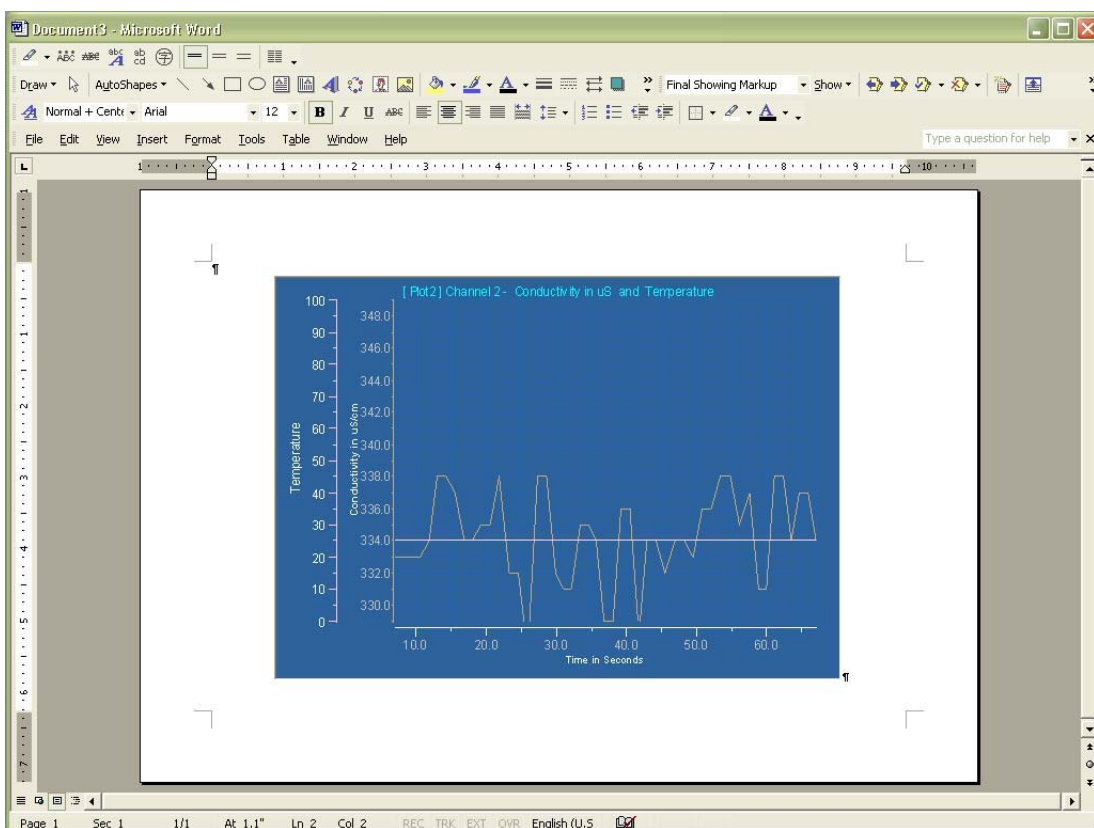


Figure 28: Copied plot in Word doc.

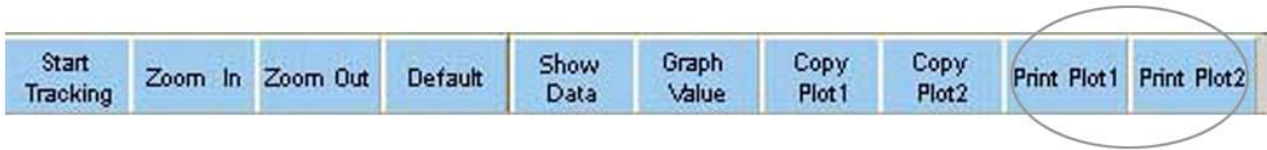
The DAS is capable of transferring the copied information to compatible applications.

Note:

Only one plot can be copied at a time.

7.2 Print Plot

Select from the menu bar the function to **Print Plot 1** or **Print Plot 2**.



See Figure 29: Print plot information. The figure below shows an example of printing a selected plot and the print screen generated after this command. The selected information will be sent to the default printer on your system for printing.

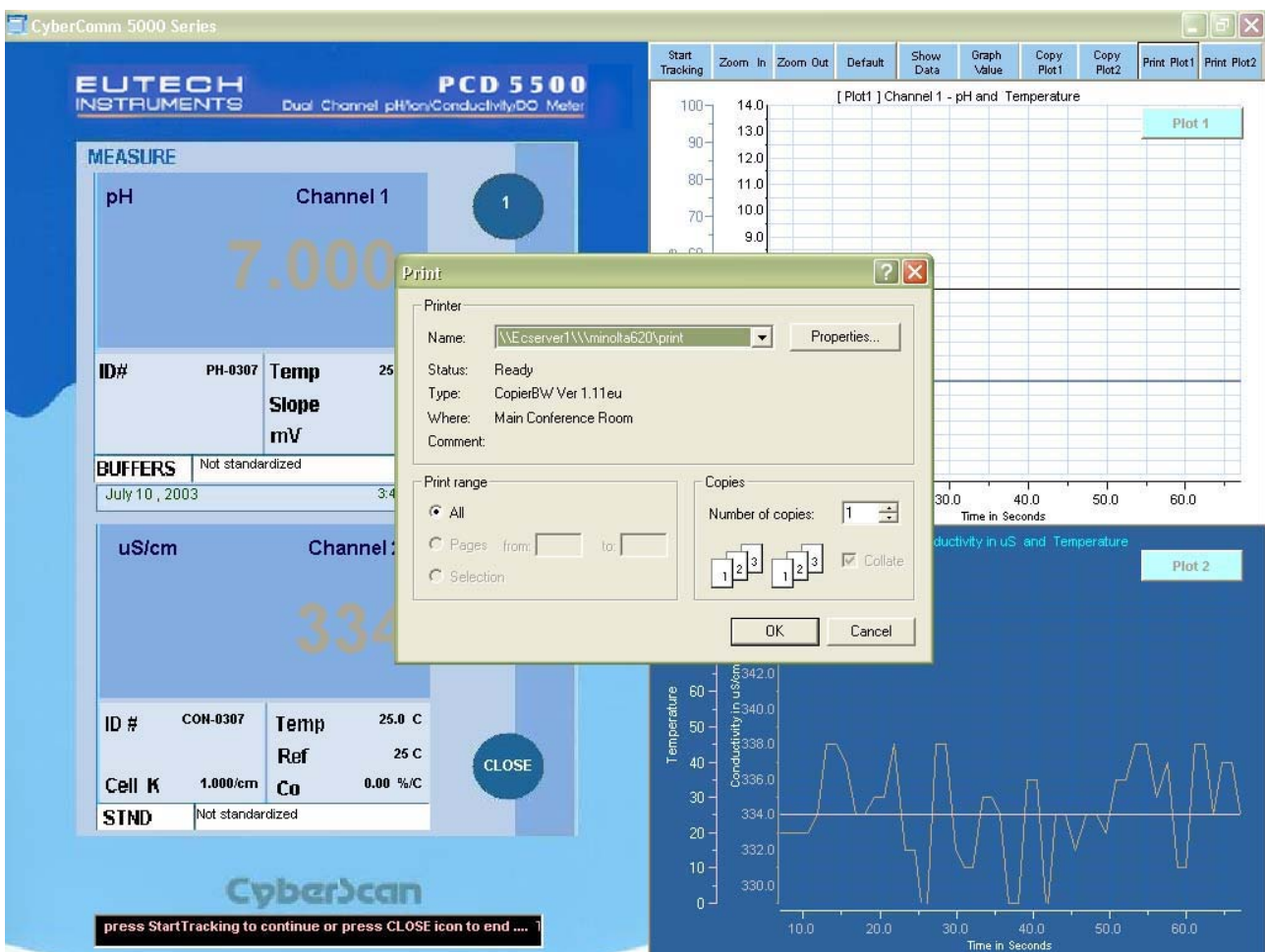


Figure 29: Print plot information

Note:

Only one plot can be printed at a time.

8 METER CONNECTED (DUAL CHANNEL)

8.1 Channel Configuration (For Dual Channel meters only)

See Figure 30: Measurement mode: Dual Channel. Two display screens for respective parameters can be viewed when dual channel selection is made on the meter. Select from the CyberComm 5000 screen for Single OR Dual channel display.

- Click **1** to display Channel 1 only.
(Plot 1 shows Channel 1 parameter readings and Plot 2 shows temperature readings)
- Click **2** to display Channel 2 only.
(Plot 1 shows Channel 2 parameter readings and Plot 2 shows temperature readings)
- Click **Dual** to display both channels (Dual button appears only in Mode Selection screen, page 14).
(Plot 1 shows Channel 1 parameter and temperature readings and Plot 2 shows Channel 2 parameter readings and temperature readings)

8.2 Functions from Menu Bar

The current readings and data plots will be displayed whilst measurement is conducted.

Select the functions to be executed from the menu bar same for the single channel mode of this program.

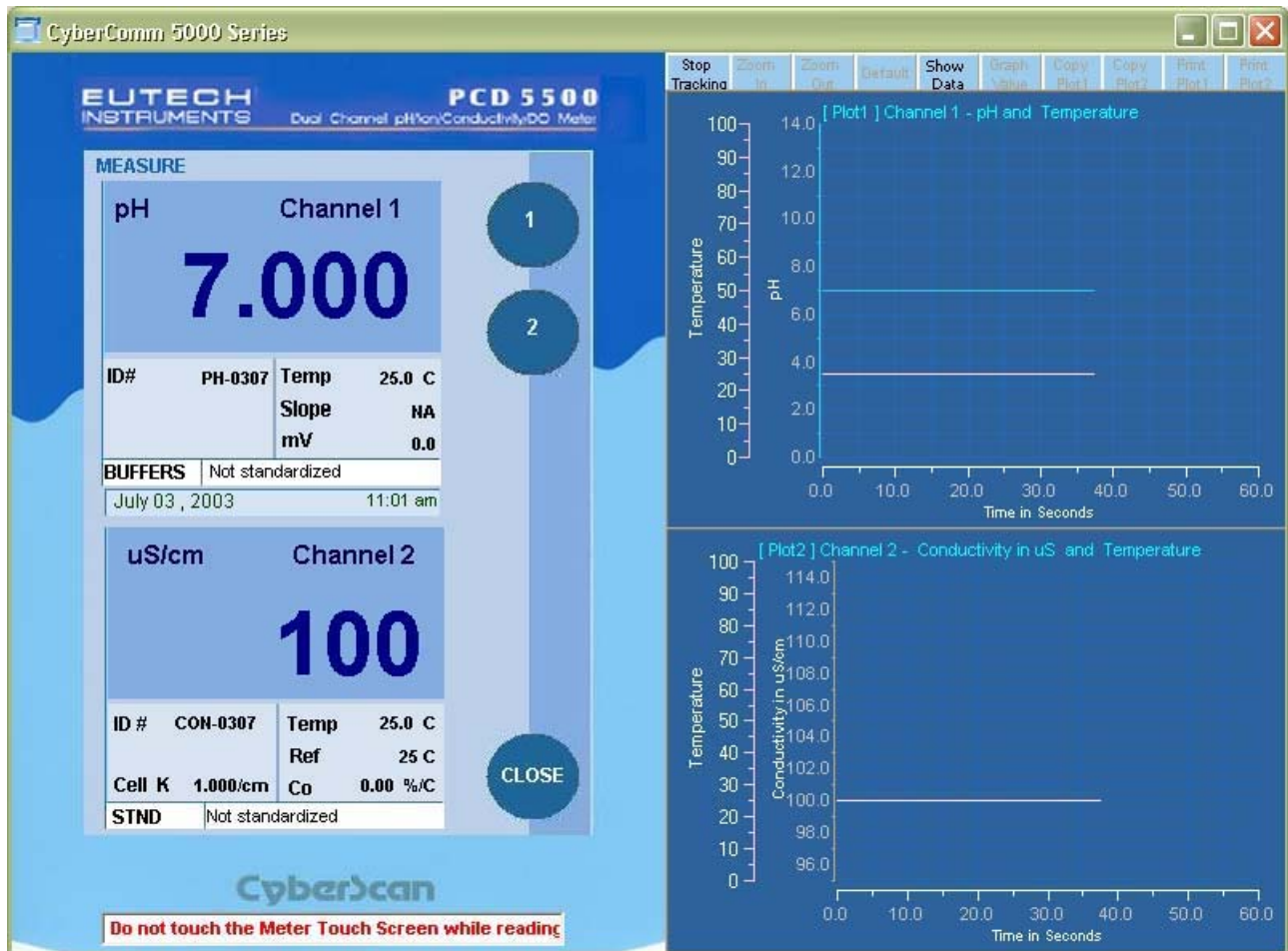


Figure 30: Measurement mode: Dual Channel

8.3 Data Results Recording

See Figure 31: Data Results- Dual Channel. When **Show Data** menu button is active, the display shows the values recording from the measurement along with other information (time, temperature, slope etc) in a tabular format.

Data is captured approximately every 1 second upon start of measurement by default.

NOTE: Never touch the meter when the DAS is in operation.

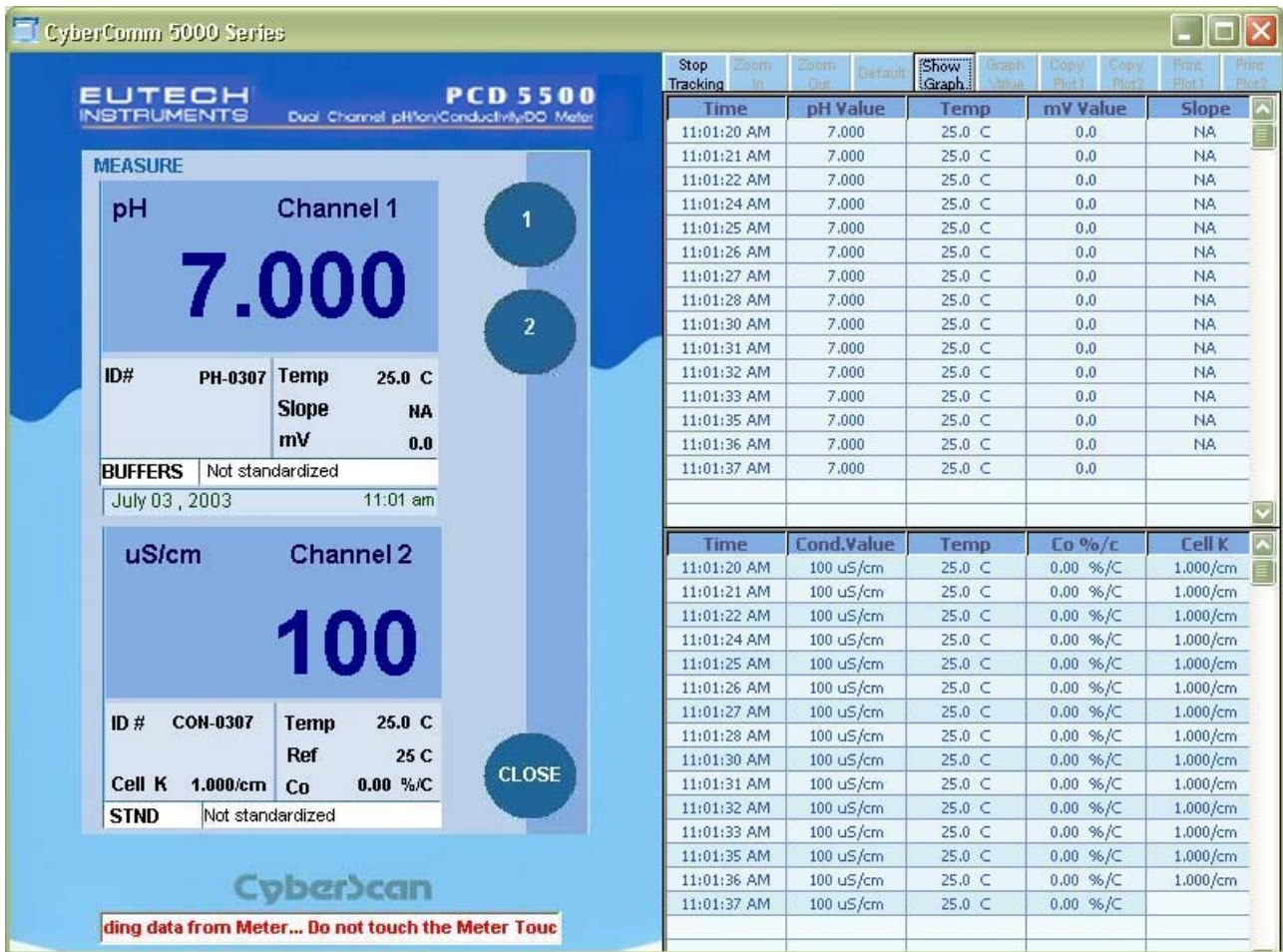


Figure 31: Data Results- Dual Channel

8.4 Copy & Print Plot

See Section 7: COPY & PRINT PLOTS, Page 26.

Select from the menu bar the function to be carried out. Select to **Copy/ Print Plot 1 or 2**.

The DAS is capable of transferring the copied information to compatible applications.

Note:

Only one plot can be copied/ printed at a time.

9 MEASUREMENT MODE OVERVIEW

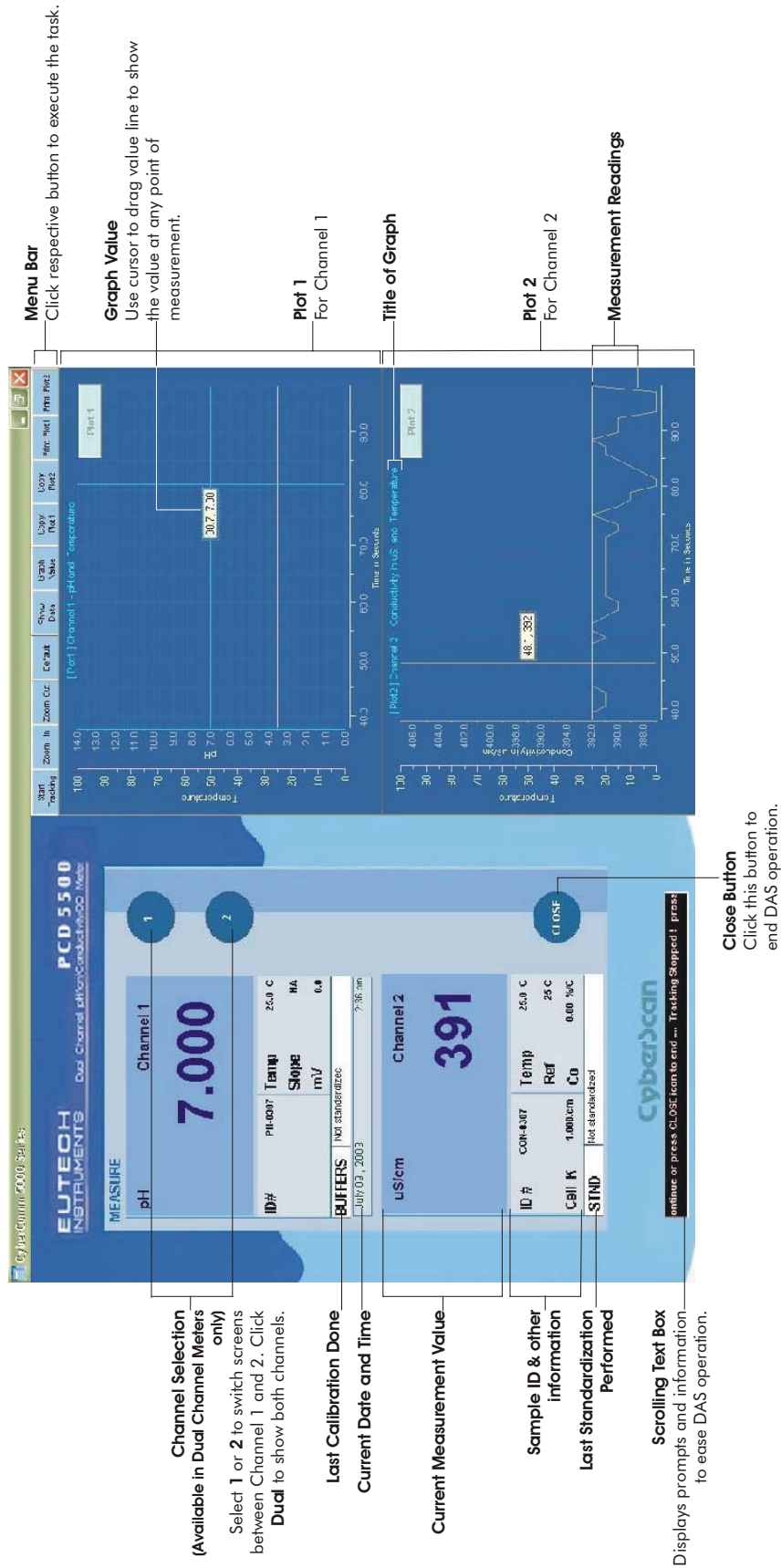


Figure 32: Measurement mode Overview

10 RETRIEVE SAVED DATA

10.1 Display data in Notepad program

- a) Open up the Notepad program.
- b) Go to File menu
- c) Select Open
- d) Select Program Files folder from the hard disk drive
- e) Select CyberComm 5000 folder
- f) Select CyberComm 5000
- g) Select the ".dat" file which you have saved your data readings.

See Figure 12: Data File Information

- h) Double click on the selected ".dat" file
- i) Data saved will be shown as per Figure 33: Data Results Report in Notepad .txt below.

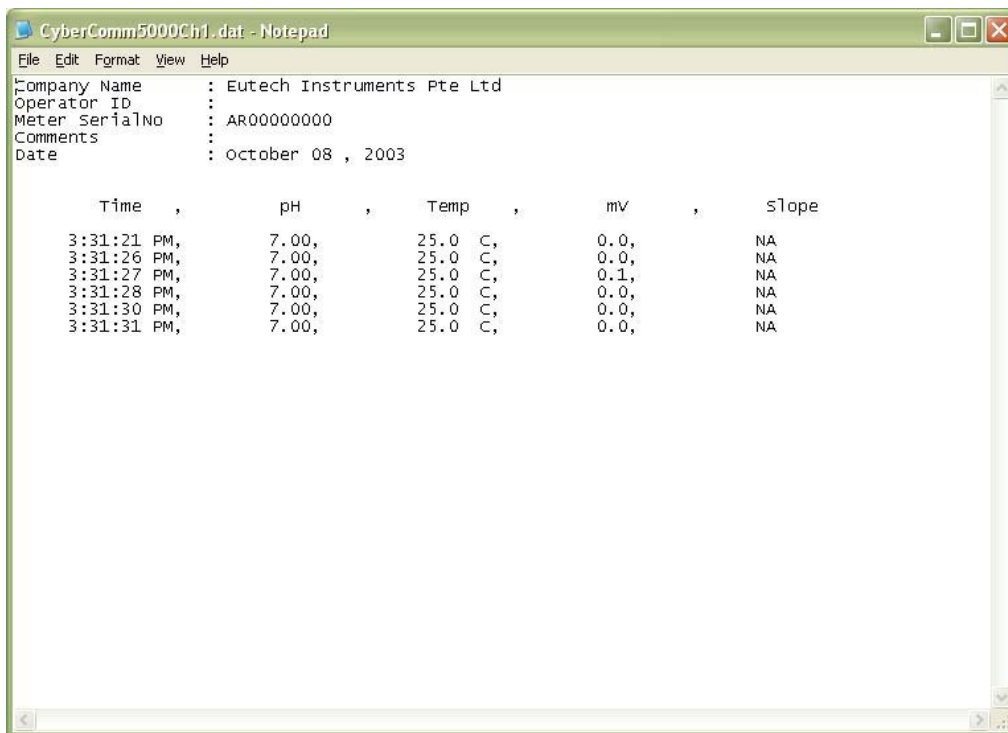


Figure 33: Data Results Report in Notepad .txt

10.2 Import Data Readings into Microsoft Excel®

You are able to view the Data Readings in a Microsoft Excel® spreadsheet.

10.2.1 Steps to import data readings from a Microsoft Excel ® worksheet:

In Microsoft Excel,

- a) Go to File menu
- b) Select Open
- c) Select Program Files folder from the hard disk drive
- d) Select CyberComm 5000 folder
- e) Select CyberComm 5000
- f) Select the ".dat" file which you have saved your data readings
- g) Double click on the selected ".dat" file

NOTE: The 'Files of Type' should be selected at 'All Files (*.*)'.

See Figure 34.

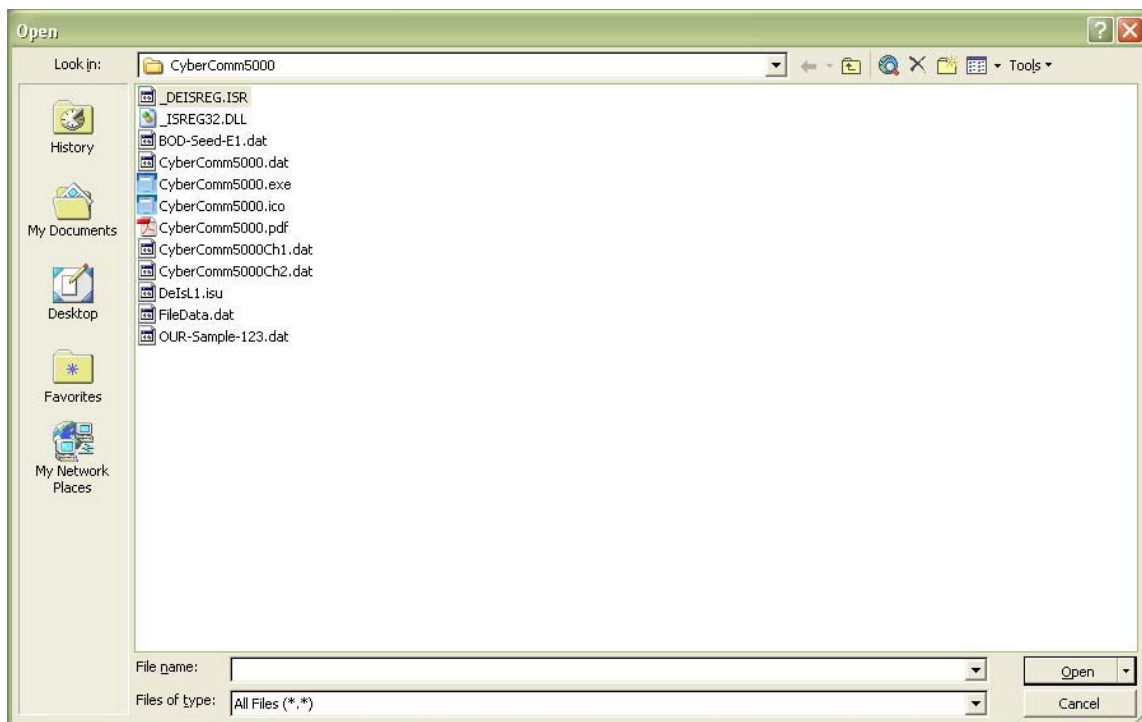


Figure 34: Excel- File Open

10.2.2 Text Import Wizard- Step 1 of 3

Once you open a “.dat” file from the CyberComm 5000 folder, a screen will appear. See Figure 35.

Fields

Delimited/ Fixed width

Default: 'Delimited'

Select between delimited and fixed width for the preferred output layout of the file.

Start import at row

Default = '1'

Select the row of data to start importing into the Microsoft Excel[®] worksheet

File Origin:

Default: 'Windows (ANSI)'

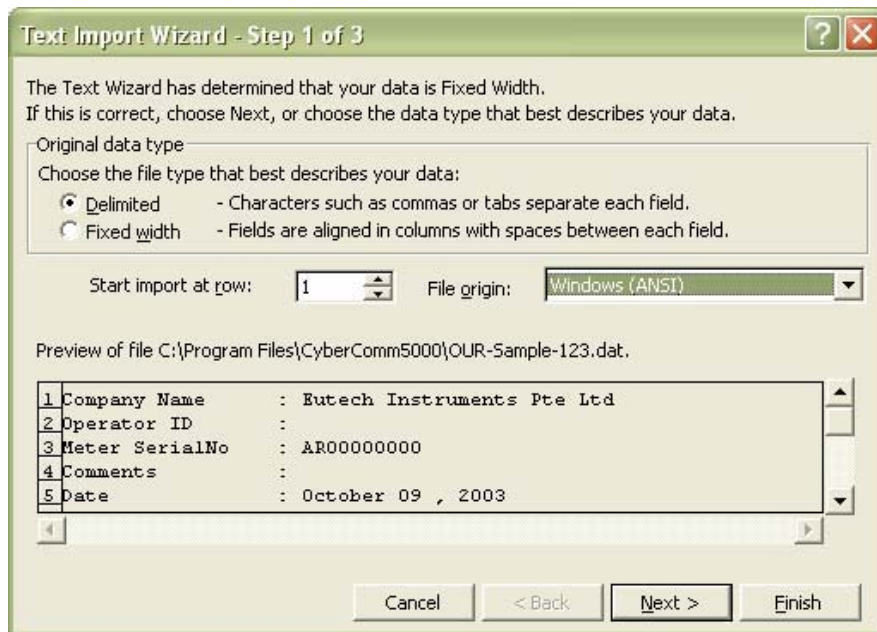


Figure 35: Step 1 of 3

10.2.3 Text Import Wizard- Step 2 of 3

See Figure 36.

Fields

Delimiters

Default: 'Tab'

Select '**Comma**'

Treat consecutive delimiters as one

Default: 'Unchecked'

Text qualifier

Default: '*'

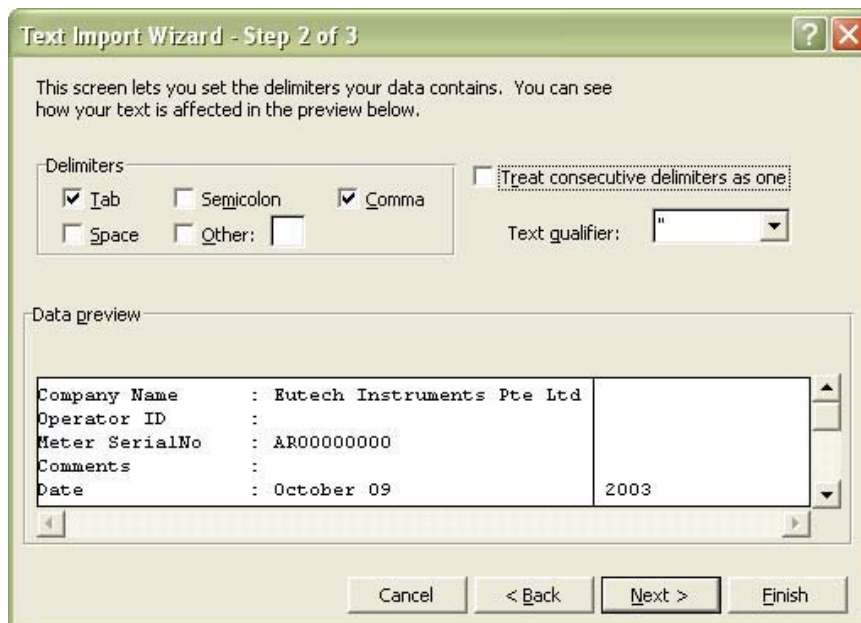


Figure 36: Step 2 of 3

10.2.4 Text Import Wizard- Step 3 of 3

See Figure 37.

Fields

Column data format

Default: 'General'

Advanced Text Import Wizard

See Figure 38.

Fields

Decimal Separator

Default: ','

Thousands Separator

Default: ','

Click **OK** to confirm and exit.

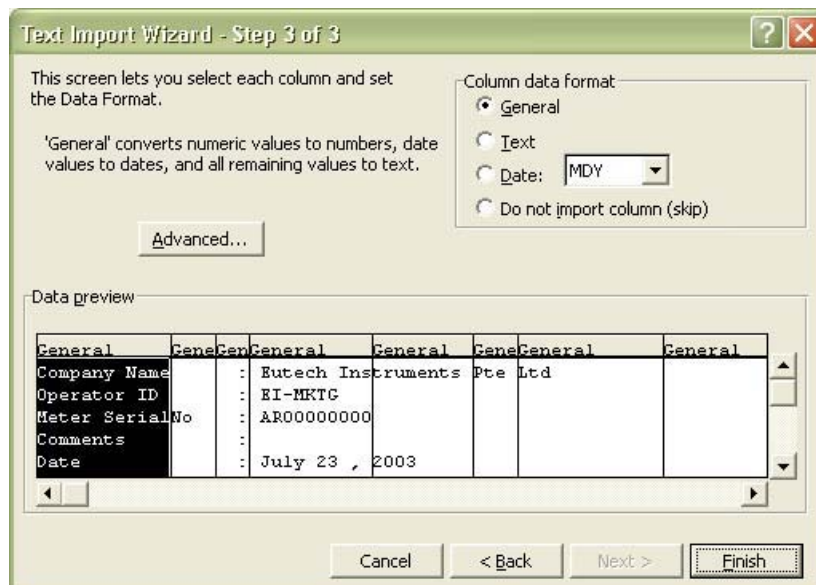


Figure 37: Step 3 of 3

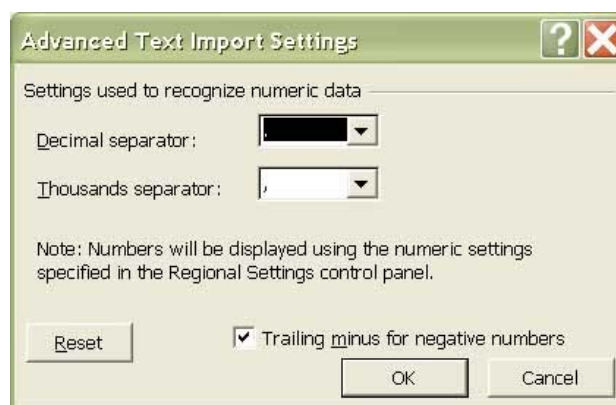


Figure 38: Advanced Text Import Settings

Click **Finish** to end the Text Import Wizard.

Figure below shows CyberComm data presented on a Microsoft Excel[®] worksheet. See Figure 39.

The screenshot shows a Microsoft Excel window titled "Microsoft Excel - CyberComm5000Ch1.dat". The spreadsheet contains the following data:

Company Name : Eutech Instruments Pte Ltd					
1	Company Name : Eutech Instruments Pte Ltd				
2	Operator ID :				
3	Meter SerialNo : AR00000000				
4	Comments :				
5	Date : October 08 2003				
6					
7					
8	Time	pH	Temp	mV	Slope
9					
10	3:31:21 PM	7	25.0 C	0	NA
11	3:31:26 PM	7	25.0 C	0	NA
12	3:31:27 PM	7	25.0 C	0.1	NA
13	3:31:28 PM	7	25.0 C	0	NA
14	3:31:30 PM	7	25.0 C	0	NA
15	3:31:31 PM	7	25.0 C	0	NA
16					
17					
18					
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34					
35					

Figure 39: Excel Worksheet with imported “.dat” data

11 ERROR MESSAGES AND PROMPTS

11.1 Communication Error

This error message appears when

- a) An incompatible meter is connected
- b) RS232 Cable is not connected
- c) Mismatch in the communication settings
- d) Meter not in measurement mode.

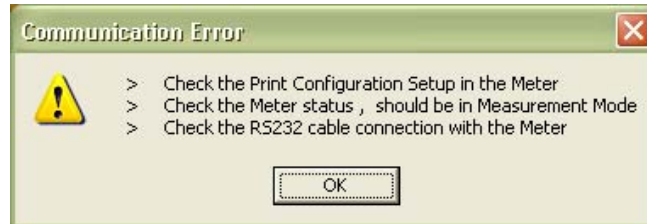


Figure 40: Communication Error

11.2 Print Configuration Settings Error

Meter's print configuration's serial output must be set at DATA. DATA is set as default for the CyberComm 5000.

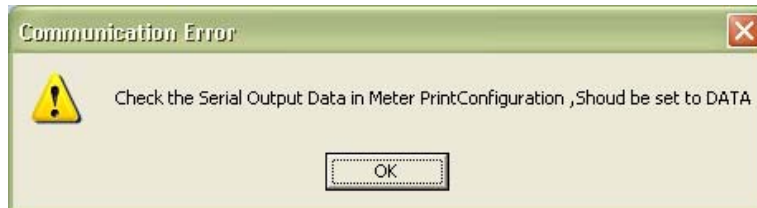


Figure 41: Print Configuration Error

11.3 No Model Detected

This error message appears when an incompatible instrument is connected to the computer.



Figure 42: No model detected

11.4 Save Settings

Screen prompts to save the current settings or not.

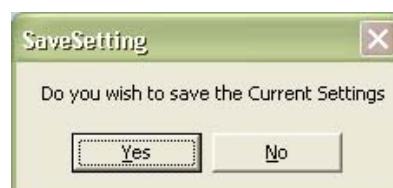


Figure 43: Save Settings

12 PRINT READINGS

12.1 Printing using a serial printer

Connect the CyberScan Series 5000 meter to the serial printer via RS232C cable (refer to the list of accessories). The configuration of the RS232C port is as shown below.

Pin Number	Description
1	-
2	Transmit Data
3	Receive Data
4	DSR (Data Send Ready)
5	GND (Ground)
6	-
7	-
8	RTS (Request to Send)
9	-

12.2 Setting Up the Printer

If the printer has a 25-pin connector, a 25-pin to 9-pin converter will have to be used. Use the following configuration:

Pin of Meter	Pin Number of Printer
2 (TXD)	3 (RXD)
4 (DSR)	20 (DTR)
5 (GND)	7 (GND)

12.3 Connecting the Cable to the Computer

- a) If the computer has a 9-pin connector, insert the cable (EC-CA01M09F09) provided into the socket of the computer, taking note of the gender of the two connectors.
- b) If the computer has a 25-pin connector, use a 9-pin to 25-pin, male/ female converter with 9 pins and 25 holes for connection. This converter can be obtained from any computer store.

For more information on Eutech Instruments products, contact your nearest distributor or visit our website listed below:

<p>Eutech Instruments Pte Ltd. Blk 55, Ayer Rajah Crescent, #04-16/24 Singapore 139949 Tel: (65) 6778 6876 Fax: (65) 6773 0836 E-mail: marketing@eutechinst.com Web-site: http://www.eutechinst.com</p>	<p>Distributed by:</p>
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