DATA ACQUISITION SOFTWARE

Powerful and easy to use computer data capture/data logging program works with Traceable® Instruments with computer output. Records interval readings from 1 to 10,000 seconds; displays minimum/maximum readings; and utilizes an alarm mode that permits the user to be notified visually, audibly, and by email when an alarm is triggered. Data is stored to a file that can be printed in any report or spreadsheet format. Networking server/client capability allows the captured data to be monitored on a remote workstation and/or by email. It is designed to work with Windows® 98/Me/NT/2000/XP/Vista.

INTRODUCTION

This software is a powerful tool for Microsoft Windows® users. It provides the functions of data capture and data logging. The data files captured may be used (imported) with Microsoft Word®, Corel WordPerfect®, Microsoft Excel®, scientific programs, statistical software programs, and other similar software.

FEATURES

• Captured data is stored and displayed instantaneously with measurement units
• Alarm mode allows the user to be notified visually, audibly, and by email when an alarm is triggered
• Displays the minimum and maximum data readings
• Networking server/client capability allows the captured data to be monitored on a remote workstation
• Captured data can be monitored periodically by email
• Easy setup: Auto-detect for COM port configuration
• Captured data is stored to a file and can be printed in a report format
• Programmable start time
• Customizable data capture options such as maximum records saved and records saved interval time
• Demo mode simulates data capture without meter
• Output file is an easy to read and use .csv file

SYSTEM REQUIREMENTS

Windows 98/Me/NT/2000/XP/Vista
IBM 486, Pentium or above
Serial or USB port

INSTALL PROGRAM

1. Insert CD into CD-ROM drive.
2. Autorun CD will run the installation program.
3. Locate product picture and click the button below labeled with the product number to begin installation.
4. Installation program will install all necessary files and place the program icon in the Start->All Programs ->Data Capture folder.

QUICK DEMO

To run the demo program no other operation is necessary. Skip to Demo later in these instructions to run the demo program.

COMMUNICATION SET UP

1. To run the program, click on START button, point to the all programs arrow, point to the Control Company Data Capture folder, and point to and click Data Capture.
2. Click on "Browse" in the toolbar followed by Browse Configuration Options. Click Change, then click the Default Settings button. Make sure the Disable Auto-Detect checkbox is not selected. Click OK, click Close.

HARDWARE SET UP

1. Connect the meter to the computer using a serial cable. If there is not a serial port on the computer use a serial-to-USB converter cable. If an AC adapter was supplied with the serial cable accessory use the adapter to power the cable. It is also recommended to power the meter with an AC adapter accessory.
2. Now power on the meter.

DATA CAPTURE

1. Click on "Capture" in the toolbar. The window will take a moment depending on the speed of your computer to open while detecting the meter. Once the window opens, make certain the ellipse shaped 'Data' Symbol is green indicating that meter output data is being received.
2. (optional) Enter record interval sample rate.
3. (optional) Enter Start Time to begin Data Capture in 24 hour format. If a start time is entered then data will not be captured until the start time is reached. If no start time is entered then data capture begins immediately when the Data Capture button is ON.
4. (optional) Enter the number of records to be stored. When the number of records indicated has been captured the program will stop capturing data. If no value is entered, an infinite number of records will be captured.
5. (optional) Enter your maximum alarm trip point. If current reading is greater than the trip point then the alarm will sound.
6. (optional) Enter your minimum alarm trip point. If current reading is less than the trip point then the alarm will sound.
7. (optional) To enable alarm, click Alarm Enable ON.
8. (optional) To turn off an alarm which is sounding, click Alarm Clear.
9. (optional) To clear all minimum and maximum readings, click on Clear Min/Max. To clear the Min/Max for only one measurement field, click the Clear button next to that field.
10. Click Capture Data Start. (Click Stop when finished).
11. Always click on Exit when closing the Data Capture screen.

DELETE DATA

From the Browse Data Capture File screen, click Delete Records. The capture file keeps all records until deleted. Delete Records will not delete records exported to a saved file. It is a backup file which instantly captures and writes data to a disk. In case of computer failure, incorrectly exiting a program, or power outage, data will not be lost. After you have exported your data to a file and are certain you have your data in that file, then click on Delete Records prior to your next test.

VIEW DATA

To view captured data, click on "Browse" in the toolbar followed by Browse Data Capture File.

REPORTS

From the main program screen, click on "Reports" in the toolbar followed by Data Capture Report to view or print a data capture report.

DATA

The captured data is stored in the default directory in a .TPS (topspeed) database file labeled "CAPTURE.TPS".

DEMO

1. Click on "Demo" in the toolbar.
2. Perform the functions of 2 through 11 in the Data Capture instruction section. The data output on the screen is random data generated by the program.
3. When closing the Demo Program, always click on Exit. It is recommended that the random demo data captured be deleted. See Delete Data instruction section.

TROUBLESHOOTING

1. A more extensive help file can be accessed inside the software by clicking "Help" on the toolbar inside the main program.
2. Make certain the meter is connected to the computer and turned on before opening the data capture screen.
3. Make certain there are fresh batteries in the meter.
4. If the ellipse-shaped Data Symbol is GREEN then you are receiving data. If it is YELLOW then you are not receiving data. If you are not receiving data ensure all proper connections are made. If this fails restart the program and/or the computer.
5. If your meter is connected to your computer, yet "Cannot Detect Device" message appears then close the capture window, ensure proper connections are made, and open the capture window again.
6. If you wish to run two instances of the program simultaneously, install the program to two separate directories. This will ensure that the data capture files do not overwrite each other.
7. If the program window does not fit on your monitor you may need a higher screen resolution. The lowest resolution recommended is 1152x864 pixels.

COMPLETE DATA ACQUISITION SYSTEM WITH SERIAL/USB CABLES AND SOFTWARE

Supplied from Control Company in a single package are two cable connections and software on a CD to connect and capture all data from your instrument. Included are a serial converter cable for those users with a serial computer connection, a serial to USB cable for those users with a USB connection, and Windows software on a CD. System requirements are Windows 98/Me/NT/2000/XP/Vista/7 & 10 and a PC such as IBM 486, Pentium, or above. Also available are 50 foot extension cables. These extension cables may be plugged together to over 150 feet in order to place the instrument 150 feet from the computer. Depending on your specific environment you may be able to use additional extension cables to extend the length to 300 feet or more.

Order this complete Data Acquisition System including serial cable/USB cable/Software:

For Product Catalog No.	Order Cat. No.
1870 Traceable® Digital Barometer Module	1871
3165/3166 Traceable® Pressure/Vacuum Gauge	4136
3252 Traceable® Dual-Display Light Meter	4136
3253 Traceable® Ultraviolet Light Meter	4136
3460 Traceable® Manometer/Vacuum Gauge	8045
4000 Traceable® Digital Thermometer	4235
4007 Traceable® Memory Wide-Range Thermometer	4237
4080/4085 Traceable® Hygrometer/Thermometer	4099
4087 Traceable® Hygrometer/Thermometer	4237
4132 Traceable® Platinum Thermometer	4136
4137 Traceable® Double Thermometer	4136
4169 Traceable® Dual-Display Conductivity Meter	4136
4185/4385 Traceable® Hygrometer/Thermometer	8045
4189 Traceable® Humidity/Thermometer	4136
4310 Traceable® Moisture Meter	4136
4315 Traceable® Infrared Digital Thermometer	4136
4320 Traceable® Dissolved Oxygen Meter	4136
4330 Traceable® Hot Wire Anemometer	4136
4331 Traceable® Anemometer/Thermometer	4237
4360 Traceable® Conductivity Meter	8045

Optional Accessory
Cat. No. 7791 -- 50 foot extension cable
To order please contact

TRACEABLE® PRODUCTS

12554 Old Galveston Rd. Suite B230
Webster, Texas 77598 USA
Ph. 281 482-1714 • Fax 281 482-9448
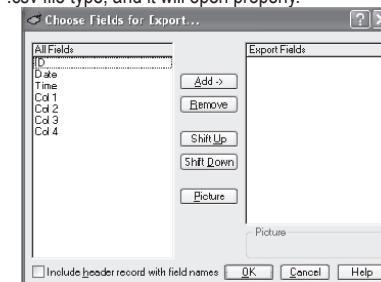E-mail support@traceable.com • www.traceable.com

DETAILED INSTRUCTIONS

FILE –
Export Capture File: Allows you to save captured data to a file. (See Figure)
• Highlight fields to export then press the Add -> button. (multiple fields can be highlighted using the Ctrl key)
• Order the fields by pressing the Shift Up or Shift Down buttons.
• When finished selecting the fields, press the OK button. A "Save As" box will now ask where the data should be stored.
If you plan to open it with Microsoft Excel save the file as a *.csv file type, and it will open properly.
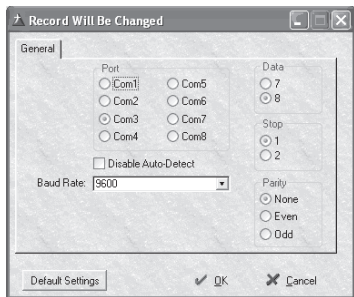

EDIT – Not Used

BROWSE –
Browse Data Capture File
• Allows you to look at the data saved by the capture program.
• Press the Delete Records button to delete all records from this file.
• To search select tabbed field (ID, Date, time) type entry into the search field and press the Tab key.
Browse Configuration Options
• Pressing the Change button allows you to select the COM port, Parity, Baud Rate, Data Bits and Stop Bits.
• While in change mode, press the Default Settings button to set serial input options to the recommended parameters for the device.
• The COM port will be detected automatically when the data capture begins. If you wish to set this parameter manually, check the Disable Auto-Detect checkbox and set your COM port.
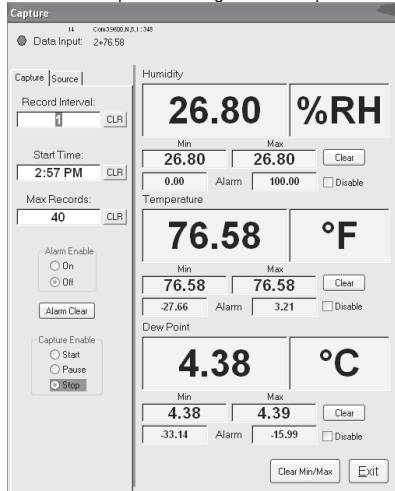
Record Will Be Changed

General

Port
- Com1
- Com2
- Com3
- Com4
- Com5
- Com6
- Com7
- Com8

Disable Auto-Detect

Baud Rate: 9600

Data
- 7
- 8

Stop
- 1
- 2

Parity
- None
- Even
- Odd

Default Settings   ✓ OK   ✗ Cancel

Browse Symbol Table - Not Used
Browse Model Configuration - Not Used
Browse Model Detail - Not Used

MODEL SELECTION – Not Used

CAPTURE –
This is the main user interface (See Figure)

After pressing Capture, the window will not open instantly. This is because the program is currently searching for the correct COM port. If a message box instructs you to set your device to a specific setting do so then press OK.

Capture

Data Input: 2+76.58

Capture | Source

Record Interval: 1   CLR

Start Time: 2:57 PM   CLR

Max Records: 40   CLR

Alarm Enable
- On
- Off

Alarm Clear

Capture Enable
- Start
- Pause
- Stop

Humidity
26.80   %RH
Min 26.80   Max 26.80   Clear
0.00   Alarm 100.00   Disable

Temperature
76.58   °F
Min 76.58   Max 76.58   Clear
-27.66   Alarm 3.21   Disable

Dew Point
4.38   °C
Min 4.38   Max 4.39   Clear
-33.14   Alarm -15.99   Disable

Clear Min/Max   Exit

*NOTE: After editing any field, press the tab key to save changes and move to the next field.

Data Input
- Displays the raw data being output by the device.

Clear Min/Max button
- Press this button to reset all the minimum and maximum values to the current reading.

Individual Clear buttons
- Press one of these to reset the minimum and maximum values for the adjacent fields only.

Alarm
- Enter values in these fields for the minimum and maximum alarm set points. When the alarm system is enabled, if the input value is outside the range defined by the alarm set points, the current reading will flash red, and a bell will sound every minute until the Alarm Clear button is pressed.

Record Interval
- This is the number of seconds between each captured reading.

- The minimum record interval is 1 second.

Start Time
- Enter the time you wish for the program to begin capturing data.
- If the time entered has already passed for the present day it will begin at that time tomorrow.
- If blank this function is disabled.

Max Records
- This is the maximum number of records captured while capturing data.
- Example- if you wish to take a reading every ten minutes for three hours you would set Record interval to 600 (60 seconds/min * 10 min = 600 seconds) and you would set Max Records to 30 (10 records/hour * 3 hours = 30 records)
- If Max Records is set to zero, records will be taken until the program is manually stopped.

Alarm Enable
- This must be set to ON if you wish to use the alarm.
- If set to OFF the alarm will not activate.

Alarm Clear button
- Press to clear an active alarm state. The bell will stop sounding and the display will stop flashing.
- If the alarm has been activated and the button has not been pressed the current reading will continue to flash and the bell will continue to sound every minute until the Alarm Clear button is pressed even if the data input is within range.

Individual Disable buttons
- If you wish to set alarms for some but not all the data fields, check the disable checkboxes for the individual alarms you wish to disable.

Capture Enable
- Start: The program will begin capturing data instantly unless a start time has been set that has not been reached.
- Pause: Press pause if you wish to temporarily stop taking readings. Max records will not be affected by pressing this button.
- Stop: Press if you wish to stop saving captured data. Will automatically be selected when Max Records is met. Resets the number of Max Records, so if you wish to take another set of data with the same criteria you simply select start again.

SOURCE –
Data Logger
- If you wish to take the logged data off of your meter, first ensure that capture enable is set to Stop and Start Time is cleared.
- Prepare your unit to send data by turning on the transfer mode.
- Click the Data Logger Yes button.
- Set Capture enable to Start.
- Press the button on your meter which begins the data transfer.
- Capture Enable will change to Stop when transfer is complete.

Networking
- Server mode outputs incoming data for other instances of the program running on a LAN to receive. In order to use this feature the data field labeled "My Network ID:" in the Networking window must be filled out. Therefore, if multiple data capture programs are running

on a single LAN, this will allow the client to differentiate between them.
- Client mode allows the program to receive data from another program running on the LAN. In order to use this feature the data field labeled "Network Server ID:" in the Networking window must be filled out. This is where you enter the name given to the server (i.e. "My Network ID:" for the server) from which you wish to receive data.
- None should be selected if networking is not used.

Exit
- Closes the Program and saves changes.

DEMO –
Simulates the data capture program described above without an actual device input. The demo mode will generate random but lifelike data.

NETWORKING –
See Firewall Configuration documentation below
The email functionality allows an email to be sent to a given address updating the recipient with data capture events or statistics.
- Required entry fields are from address, to address, and server address.
- Check the Enable Email Alarm Support checkbox to receive an email when an alarm becomes active.
- The Update Period field can be set if the user wishes to be emailed periodically the current data readings being captured by the program. The unit of time entered is minutes.
- Network Server ID is required if this program will be receiving data from another program on the LAN.
- My Network ID is required if this program will be outputting data on a LAN for other instances of the program to receive.

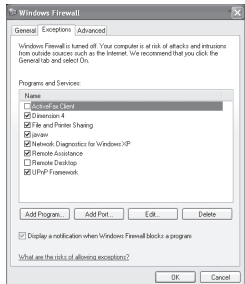## WINDOW – Not Used

REPORTS –
Data Capture report
Prints out the data stored in the capture file in a report format.

FIREWALL CONFIGURATION
If Windows Firewall is enabled on your PC, the firewall must be configured to allow the program to output data to the LAN. Follow the steps below to do this.
1. Open the Control Panel window inside Windows.
2. Double click the icon labeled Windows Firewall to open the firewall configuration utility.
3. Click the Exceptions tab located at the top of the window.
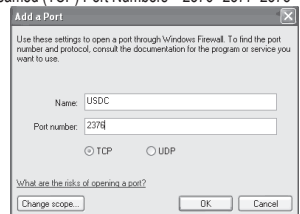4. Click the button labeled Add Port…

Windows Firewall

5. Inside the entry field labeled "Name:" insert the name of the program (ex. USDC). Insert the correct port

number depending upon the number of instances of the program you are running. Select the option labeled TCP.

Instance	1	2	3	4	5
Default Streamed (TCP) Port Numbers	2376	2377	2378	2379	2380

Add a Port

Use these settings to open a port through Windows Firewall. To find the port number and protocol, consult the documentation for the program or service you want to use.

Name: USDC

Port number: 2376

- TCP
- UDP

What are the risks of opening a port?

Change scope...   OK   Cancel

6. Click OK to save the information and exit the program.

THESE INSTRUCTIONS ARE ALSO AVAILABLE IN LARGER TYPE, "PDF" FORMAT-- ONCE THE SOFTWARE HAS BEEN INSTALLED, OPEN THE PROGRAM AND SIMPLY CLICK HELP.

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