



RST INSTRUMENTS LTD.

Single and Multi Channel
Datalogger
Instruction Manual
PC Platform

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RST Single and Multi Channel Datalogger

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1 OVERVIEW

The RST Single Channel and Multi Channel Dataloggers were intended to be low cost, simple to use, battery powered data loggers, designed for reliable, unattended monitoring of a mix of vibrating wire sensors and thermistors. They are deployable in harsh environments and as compact as possible. The user-friendly software allows easy downloading of the data and maintenance in the field. Even users with very little experience with Geotechnical Instruments will be able to connect, download data and change settings with a matter of a few inputs.

2 QUICK-START INSTRUCTIONS

The following is a brief outline with references to other parts of this manual to get you up and running quickly with the RST Dataloggers:

2.1 SOFTWARE INSTALLATION

1. Insert the supplied CD-ROM into your drive. The disk contains an auto-run feature. Click on the install software button.
2. Follow the on-screen instructions to install the software. The default directory is: **C:\Program Files\RST Instruments\Multichannel Logger**
3. Ensure that the driver installation is finished successfully.

2.2 SINGLE CHANNEL DATALOGGER SETUP

1. Remove the cover of the datalogger by the four Phillips screws.
2. Insert the stripped ends of the cable for the VW Transducer through the cable gland and attach them to the terminal strip. Where:

Terminal ID	Wire Colour
C1	Red
C2	Black
T1	Green
T2	White
SH	Bare (shield)

3. Insert two standard 'AA' Alkaline batteries into the holder.
4. Using the supplied COM cable, connect the datalogger to your computer's serial port. If you do not have a serial port, place a USB to serial adapter in line with the COM cable. These adapters are available from most electronics stores or from RST Instruments Ltd. Refer to section 6.5 for USB to serial port adapter configuration help.
Click DT2011 logger image to change to Single Channel logger mode, then set the correct COM port.

2.3 MULTICHANNEL DATALOGGER SETUP

1. Remove the cover of the datalogger by the four Phillips screws.
2. Insert the stripped ends of the cable for the VW Transducer or thermistor sensor through the cable gland and attach them to the terminal strip as shown below.

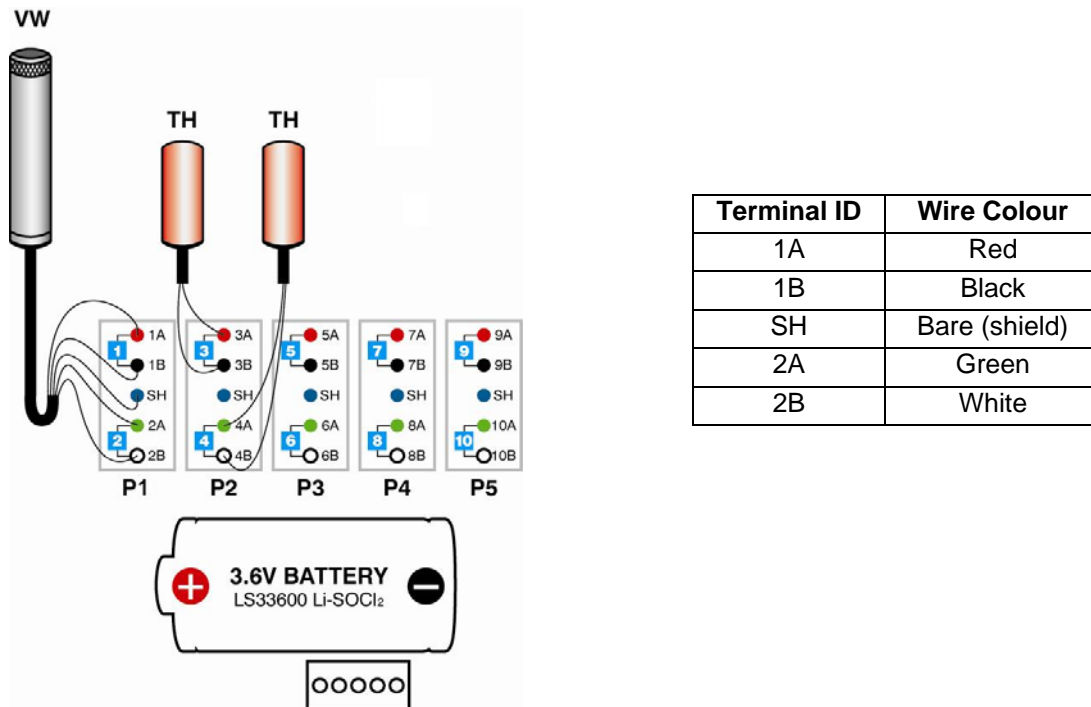


Figure 1 – Sensor connections

- Using the supplied USB cable, connect the datalogger to your computer's USB port. Follow the steps in Section 7 to install USB Controller drivers. Click DT2055 logger image to change to Multi Channel logger mode.

2.4 DATALOGGER CONFIGURATION

- Launch the software. Once connected, the port and status indicators turn green and the *Status* screen should display logger information. See Section 6 for connection troubleshooting.
- Navigate to the *Sensors* tab and setup all attached sensors parameters. Once the desired parameters are set, press the *Upload to Logger* button to apply the changes and start logging.
- If you wish to record the data in specific Engineering Units, enable the *Eng Units* and enter the appropriate parameters and press the *Upload to Logger* button to update the logger.
- Go to Logging tab and check that logging parameters are correct and change them if necessary. If changes were made, Press the *Apply Settings* button to apply settings and restart logging.
- If desired, the sensor current reading can be monitored in real time by selecting the *Monitor* tab.
- Under the *Status* tab, check to make sure the parameters are correct and that the logger is either *logging* or there is a *log pending*.
- Exit the software and disconnect the communication cable.
- The datalogger should now be taking readings. Return when desired to download the data. Make the habit of checking the battery remaining life every time you connect. The battery state is an approximate value based on recent battery use.

2.5 DOWNLOADING DATA

1. Connect the communication cable to your computer and the datalogger and launch the software. If the connection is successful, the port and status indicators turn green and the *Status* screen should display logger information.
2. Press the *Collect Data* button to download the data. A data file (*.csv) will automatically be created in the data directory. The default data directory is:
My Documents\Multichannel
3. Before downloading, the program will prompt you whether you would like to erase the existing data on the logger or keep appending to existing records. Alternatively, if you wish to erase the old data and continue logging with the same parameters, select the *Logging* tab and press *Apply Settings*.
4. If you wish to keep the old data on the logger and continue logging, exit the program and disconnect the communication cable.
5. If you wish to change any logging parameters, do so under the *Logging* tab and press *Apply Settings* to save the changes.
6. Disconnect the communication cable when finished.

2.6 HELP SYSTEM

Extensive help system can be activated anytime by pressing F1 or help icon. Answers to common problems and troubleshooting tips can be found by browsing help topics or searching using keywords.

3 LOGGER MENU

Once connected to the datalogger, the software should automatically establish communication link and display connected status. If this does not occur, verify the port number and communication cable or refer to Section 6.1 for more help.

The Multichannel Logger user interface contains six tabs: *Status*, *Monitor*, *Data View*, *Options*, *Logging* and *Sensors*. Each tab option is explained in detail below. Until successful logger connection, all tabs are inaccessible except Status, Data View and Options. A Help button is available in the bottom right corner, which launches the appropriate help files when pressed.

3.1 STATUS

The status tab contains five main components: *Logger*, *Sampling*, *Battery*, *Board* and *Memory*.

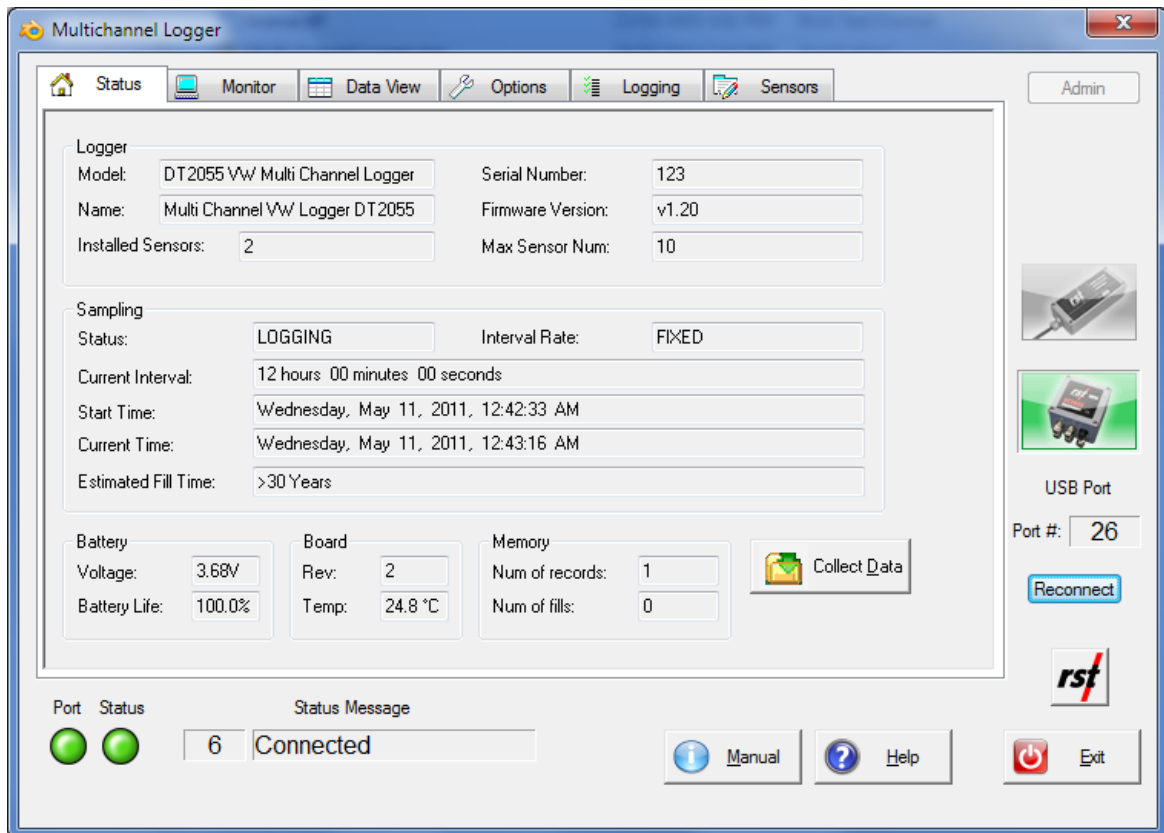


Figure 2 – Status Tab

Logger

Provides information about the currently connected datalogger. This includes the model, name, serial number, and firmware version. Ensure that the serial number matches what is expected (in this example it is 123). If it does not, check the status indicators at the bottom of the screen to ensure a connection with the logger has been established.

Sampling

Shows the status of the logger. This includes whether or not it is logging, the log interval, and various time parameters.

Battery

Displays the battery voltage and the estimated battery life. To ensure uninterrupted operation, replace batteries when estimated battery life is getting low.

Refer to Section 5.1 for DT2055 battery replacement instructions. Multichannel logger uses special long life lithium battery, contact RST for replacement part.

DT2011 uses two AA alkaline batteries. See Section 5.2 for Single Channel logger battery information.

Board (DT2055 Multichannel Logger only)

Board revision level is helpful for diagnostic purposes. Actual board temperature is shown.

Memory (DT2055 Multichannel Logger only)

Shows the current logger memory usage.

Collect Data

If the datalogger has already been configured to collect data at a specified interval, the *Collect Data* button can be pressed. The program will download the data (a progress bar will be displayed) and automatically write it to a *.csv file. Please see section 4 for the *.csv file format.

Note

When pressing the *Collect Data* button, the program will give a choice to keep or erase the data currently contained in the datalogger. If the datalogger memory is not erased, the next time the data is collected (and no parameters have been changed) it will download the current readings and all of the previous data to a *.csv file.
The current memory can also be erased by pressing the **Upload to Logger** under the *Sensors* menu. The program will prompt you to confirm the erasing of data from its memory.

3.2 MONITOR

Selecting the monitor tab sets the datalogger into monitor mode. By default, the screen reports in B-units (10^{-3}) or the thermistor temperature in degrees Celsius or Fahrenheit.

If successfully connected to the datalogger, the sensor reading and temperature reading is updated approximately once per two seconds. Green indicator flashes each time a sensor data is updated. Clicking the check boxes changes the display to Engineering Units, or thermistor resistance. For Fahrenheit temperature units, check the appropriate box in Options tab.

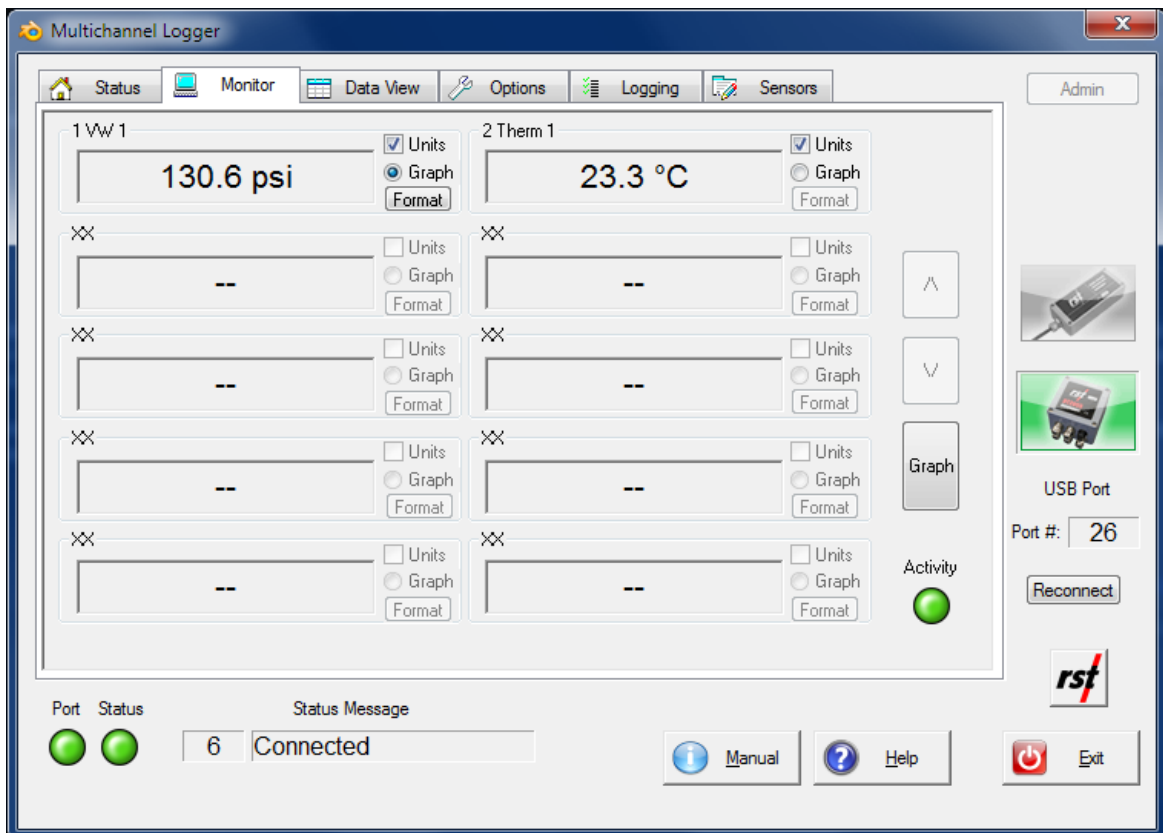


Figure 3 – Monitor Tab

Note

Engineering Units are only available when sensor calibration data and conversion method is set in Sensors page. Please see section 3.6 **Error! Reference source not found.** for the instructions on entering calibration data.

Until communication is established with the datalogger, the program will display "----" in Sensor Reading fields.

When Sensor Reading is outside of the valid range, "RANGE_ERR" will be displayed.

Graphical Monitor

The Graphical Monitor button invokes the datalogger graphical monitor. The graphical monitor displays the recent monitor readings in a Sensor Reading vs. Time graph. If successfully connected, the graphical monitor is updated approximately once every two seconds. The real time sensor reading is displayed below the graph window. Two modes of Y-axis adjustments are provided: *Range* and *Min-Max*.

Range mode: pre-set default range is applied, uncheck Auto and type in desired range if desired.

Min-Max mode: when *Auto* checkbox is selected, minimum and maximum Sensor Reading values are adjusted automatically to keep the whole graph visible. Uncheck the *Auto* checkbox to enter required values manually.

The time range (x-axis) can be adjusted in the range between 1 minute and 2 hours).

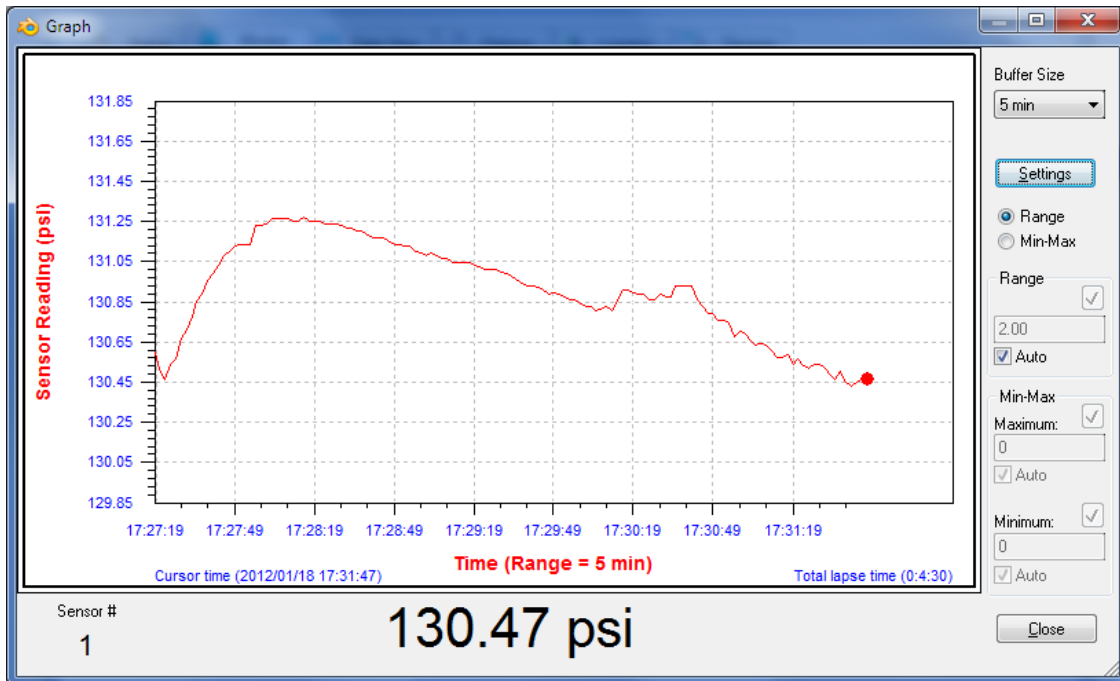


Figure 4 – Graphical Monitor

The *Settings* button launches the Graphical Monitor Options dialog, which allows the user to manipulate the graph.

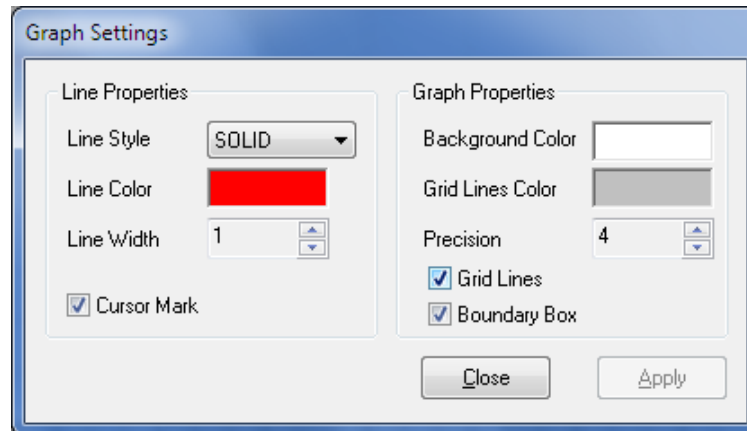


Figure 5 – Graphical Monitor Options

3.3 DATA VIEW

The Data View tab allows quick preview of logger data files.

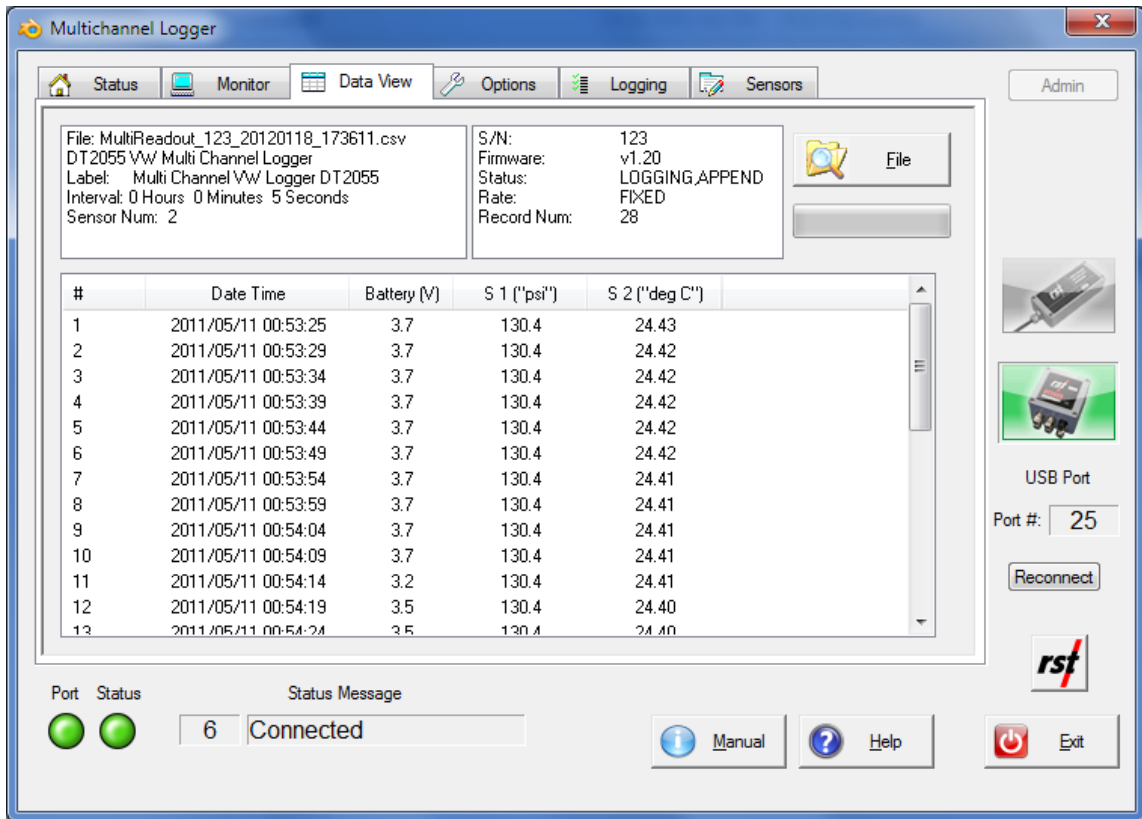


Figure 6 – Data View Tab

Note

Data View displays major datalogger settings and all saved data records. Use text file viewer or spreadsheet program (ex. MS Excel™) to see entire file.

3.4 OPTIONS

The Options tab enables the user to change logger settings and access advanced features.

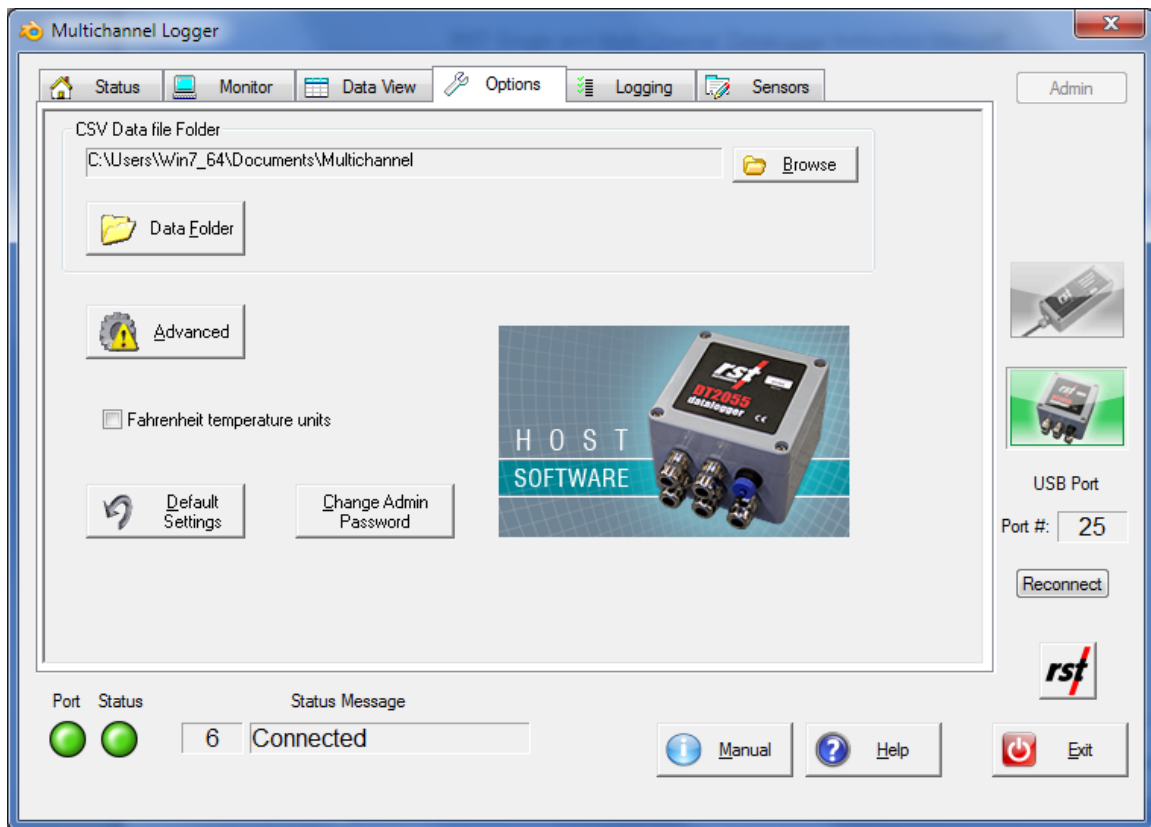


Figure 7 – Options Tab

CSV Data File Folder

The location of *.csv file data folder can be changed using *Data File Folder* dialog box. Press *Browse...* to change or create new folder. By default, data files are saved to:
My Documents\Multichannel

Advanced Options

The Multichannel Host software includes special features for advanced troubleshooting and data retrieval. They are to be used with assistance of RST Instruments technical staff in case of corrupted data.

Other Options

Fahrenheit temperature units setting causes all temperatures displayed and saved in Fahrenheit temperature scale.

Change Admin Password

The option is given to protect Logging and Sensor settings with user defined password.

Note

Please memorize or store password in safe place. If Admin password is forgotten, call RST Support.

3.5 LOGGING

The Logging tab contains four main components: *Interval*, *Logger Options*, *Clock Options* and *Logger Label*.

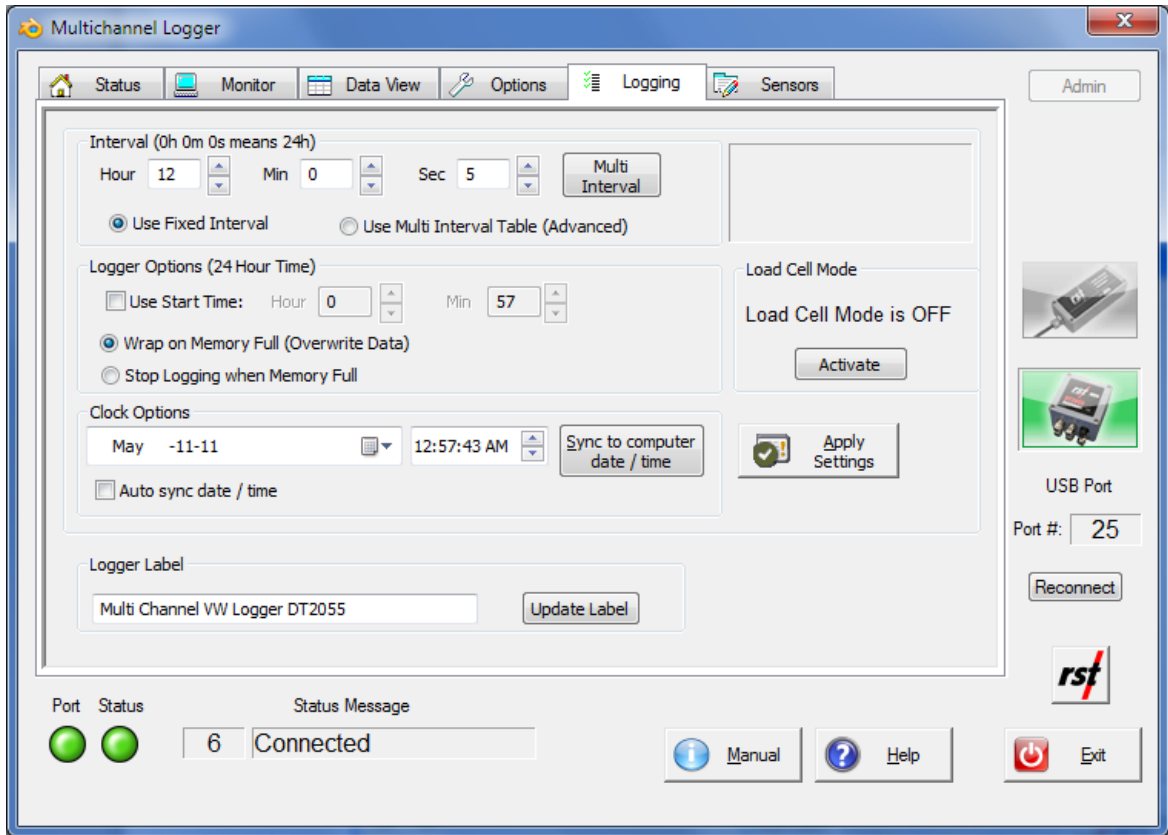


Figure 8 – Logging Tab

Interval

This section is used to set the logging interval. *Fixed Interval* and *Multi Interval* options are available. The fixed logging interval can be invoked by choosing the “Use Fixed Interval” radio button, and set within the main setup tab. Arrow buttons allow the user to scroll up or down preset values.

To setup the logger with multiple intervals, select the *Use Multi Interval Table (Advanced)* radio button. Clicking the “Multi Interval” button launches the Multi Interval Table dialog, where up to 12 custom, multiple intervals can be applied.

The screenshot shows a dialog box titled "Multi Interval" with a close button (X) in the top right corner. Inside the dialog, there is a table with the following columns: "Multi Interval Table", "Hour", "Min", "Sec", "Iterations", and "Interval Fill Time". The table contains 10 rows for intervals, with the first four rows having data and the last six rows being empty. Below the table, there are "Totals" fields for "Iterations" (120) and "Interval Fill Time" (151469d 04h 00m 50s). At the bottom of the dialog, there are three buttons: "Exit & Save", "Cancel", and "Update Totals".

Multi Interval Table	Hour	Min	Sec	Iterations	Interval Fill Time
Interval #1:	12	0	5	10	5d 00h 00m 50s
Interval #2:	6	0	0	30	7d 12h 00m 00s
Interval #3:	0	30	0	80	1d 16h 00m 00s
Interval #4:	12	0	0	0	151455d 00h 00m 00s
Interval #5:	0	0	0	0	
Interval #6:	0	0	0	0	
Interval #7:	0	0	0	0	
Interval #8:	0	0	0	0	
Interval #9:	0	0	0	0	
Interval	0	0	0	0	
Interval	0	0	0	0	
Interval	0	0	0	0	
Totals:				120	151469d 04h 00m 50s

Figure 9 – Multi Interval Table

The hour, minute, second and number of iterations per interval must be specified.

Note

Each interval MUST have an iteration except the last iteration which must be set to zero. This tells the program that the logger will continue at the last iteration rate.

The memory capacity depends on logger hardware. Multichannel logger data recording capability ranges from up to 303,030 records with 2 sensors connected and 106,470 records in 10 sensor configuration. Single Channel Loggers can hold up to a maximum of 32,000 iterations for all intervals. The dialog features an Interval Fill Time field, which allows the user to see the exact time, relative to the start time of the interval, the interval iterations will finish. To update both the *Interval Fill Time* and *Total Iterations* field, click the "Update Totals" button. To save changes, click the "Exit & Save" button.

Logger Options

Use Start Time: A check box can be selected to enable a custom start time. The hour and minute can be entered in 24-hour format.

Note

If a custom start time is entered and this time has already past, the logger will not start until 24 hours has passed. For example: If the current time is 13:01 and the start time is set to 13:00, the datalogger will not start logging data until 13:00 *the next day*.

If a custom start time is applied, i.e. for some time in the future, the *Status* will read *Log Pending* until that interval is reached.

Wrap on Memory Full (Overwrite Data): When the datalogger memory becomes full, it will overwrite itself.

Stop Logging when Memory Full: Datalogger stops collecting data when it reaches its memory storage limit.

Load Cell Mode

The load Cell mode can be activated to display average sensor values in Monitor Tab. This setting is useful when all connected sensors are a part of a load cell. Data file download will have average values columns when downloaded in Load Cell mode.

Clock Options

Allows the user to set the date and time of the datalogger. Pressing the *Sync to Computer Date / Time* and clicking *Apply* synchronizes the datalogger clock to that of the PC it is currently connected to. Checking the *Auto Sync Date / Time* checkbox will update datalogger internal clock each time *Apply* button is pressed.

Logger Label

Custom label can be entered if desired.

Apply Settings Button

After any changes have been made on the datalogger *Logging* screen, pressing the *Apply Setting* button saves these changes and downloads them to the datalogger's memory.

3.6 SENSORS

Often the user may wish to report the readings directly in engineering units, rather than B-units ($f^2 \times 10^{-3}$). Data required for the conversion to engineering units is always found on the calibration sheets for the transducer.

Each transducer is shipped from the factory with a calibration sheet. If you have not received a calibration sheet, or the sheet has been lost, please contact RST Instruments and a copy will be faxed or e-mailed to you.

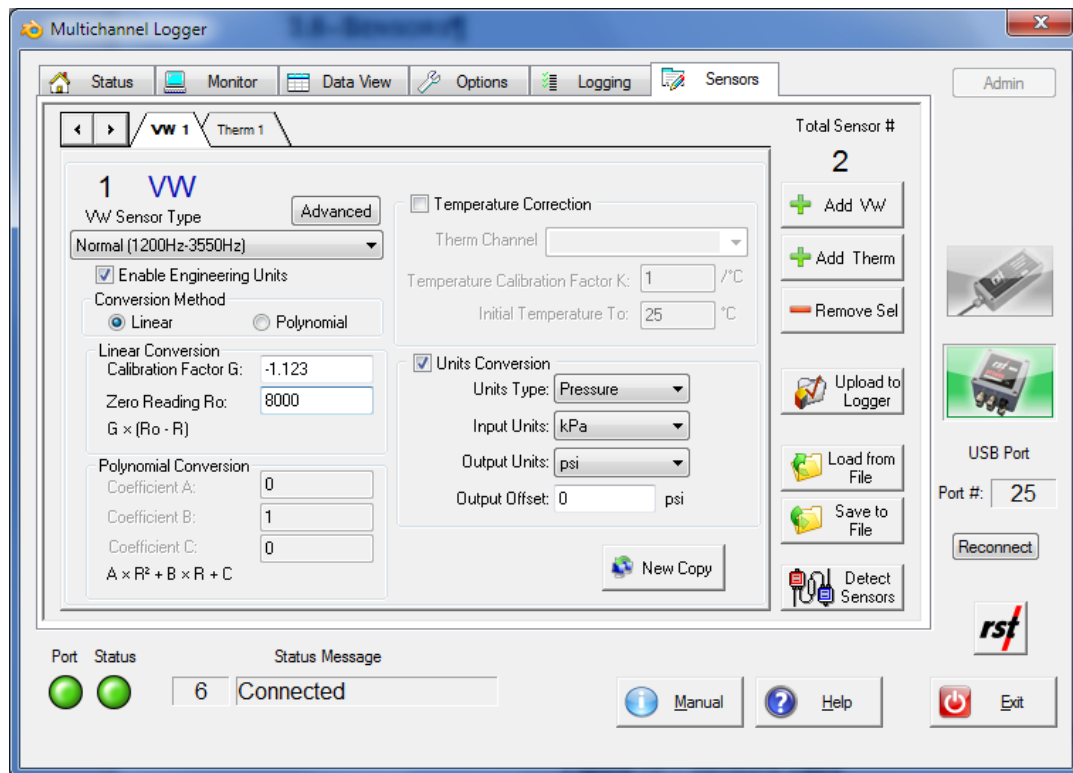


Figure 10 – Sensors Tab

VW Sensor Type

A drop down menu allows the user to select from a list of preset sweep frequency settings. The software also allows a custom, user defined sweep frequency for use with non-standard vibrating wire sensors. To select this option, choose the “Custom (Advanced)” from the drop down menu, then click the “Advanced” button. Edit the required fields if necessary, and click *Edit Sweep* to determine the remaining parameters.

Figure 11 – Custom Vibrating Wire Settings

Half Cycle Count	Decrement	Sweep Time (ms)
<input type="radio"/> 1	5	113
<input type="radio"/> 1	4	141
<input type="radio"/> 2	10	113
<input checked="" type="radio"/> 2	9	126
<input type="radio"/> 3	14	122
<input type="radio"/> 3	13	131
<input type="radio"/> 4	19	120
<input type="radio"/> 4	18	127

Figure 12 – Decrement and Sweep Time options

Enter the desired Sweep Time and click *Recalc*. The program will calculate Decrement and Sweep Time and give option to choose optimal parameters. Click OK button on both dialogs to write settings to the logger memory.

Conversion Method

The user is given an option to apply either a *Linear* or *Polynomial* Conversion. If *linear conversion* is selected, input the provided Calibration Factor and Zero Reading into the appropriate boxes.

If *polynomial conversion* is selected, input the provided coefficients (A, B & C) into the appropriate boxes.

In each case, equations used for calculations are shown for a reference.

Temperature Correction

When the Enable Temperature Correction box is checked, the software will apply a temperature correction to the data. This requires the user to enter in the temperature correction factor and an initial temperature which is found on the calibration sheet for that particular instrument. Then select thermistor sensor used to read temperature.

If the calibration sheet is missing, please contact RST Instruments and a copy of the calibration sheet can be faxed or e-mailed to you.

Units Conversion

Units Type: Choose pressure or distance using the drop-down menu.

Input Units: These are the units of the calibration constants you inputted into either the linear conversion or polynomial conversion methods. In general, the calibration constants reported on the calibration sheets are either in kPa/B unit or psi/B unit. In the case of strain gauges, this could be mm/B unit.

Output Units: Select the appropriate output units from the drop-down list. The conversion will be done automatically resulting in desired units displayed in Monitor tab and recorded in downloaded file data.

Output Offset: This is a user defined offset value. Under certain circumstances, the user may wish to enter in the elevation of the pressure transducer. In this way the reported pressure will be correlated to a reference elevation (i.e. above sea level).

Add VW (DT2055 Multichannel Logger only)

To add another vibrating wire sensor, click Add VW button. The screen will change to VW mode.

Add Therm (DT2055 Multichannel Logger only)

To add thermistor sensor, click Add Therm button. The screen will show controls for setting up thermal sensor.

Thermal Sensor Type

A drop down menu allows the user to select the type of thermistor. The following thermistor types can be selected:

- 3K NTC (default)
- 2252 NTC
- 2K RTD
- 5K NTC
- 10K NTC

New Copy

When adding subsequent sensors with identical parameters, click New Copy.

Remove Selected

Used to remove currently displayed sensor from logger configuration.

Upload to logger

As a reminder, whenever **ANY** changes are made under the Sensors tab, the Upload to Logger button must be pressed in order to update the logger with the appropriate information.

Save to File (DT2055 Multi Channel Logger only)

Current sensor settings can be saved to a file for later retrieval.

Load from File (DT2055 Multi Channel Logger only)

Click this button to load previously saved sensor settings.

Detect Sensors (DT2055 Multi Channel Logger only)

Once sensor configuration is saved and sensors connected, click on *Detect Sensors* to detect and verify current setup. Each connection is tested and results displayed.

The following parameters are shown:

- Sensor label
- Pre-configured (Expected) sensor type
- Detected sensor type
- Measured sensor resistance in Ohms

When detected sensor parameters appear correct, background color turns green, otherwise background color turns red to indicate error.

The sample screen is shown on Figure 13.

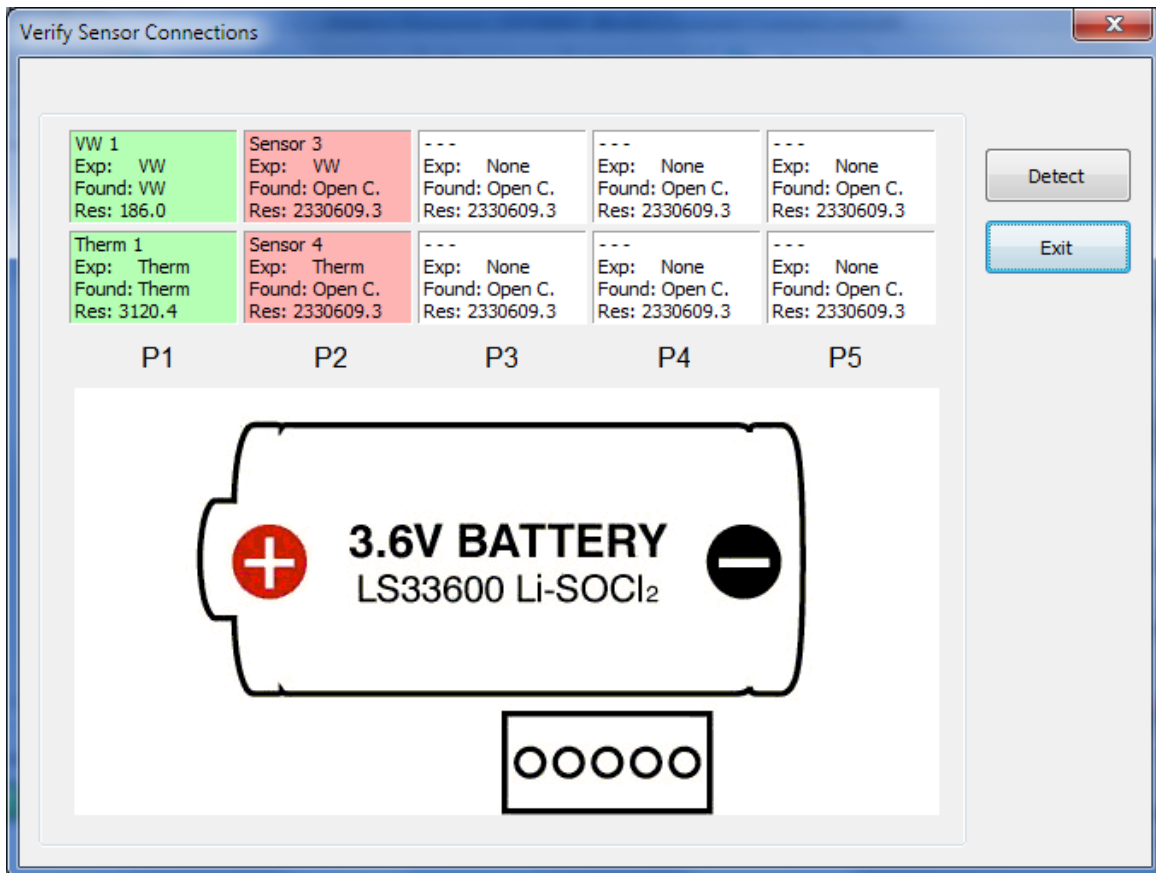


Figure 13 – Verify Sensor Connections

4 DATA FILES (*.CSV)

Whenever the *Collect Data* button is pressed under the *Status* tab, the software will collect all the current data stored in the memory of the datalogger. A progress bar will be displayed showing the status of this collection.

The software will automatically write the data to a *.csv file in the data directory. The default data directory is **My Documents\Multichannel**. Data directory can be changed using Data File Folder dialog box. The *.csv file has the following format:

serialnumber_yymmdd_hhmmss.csv

This file can then be opened directly with Microsoft Excel™ or other spreadsheet programs. A new file will be created each time the data is collected. It is the user's responsibility to copy data into a single spreadsheet if desired.

The following is how the data appears in Excel:

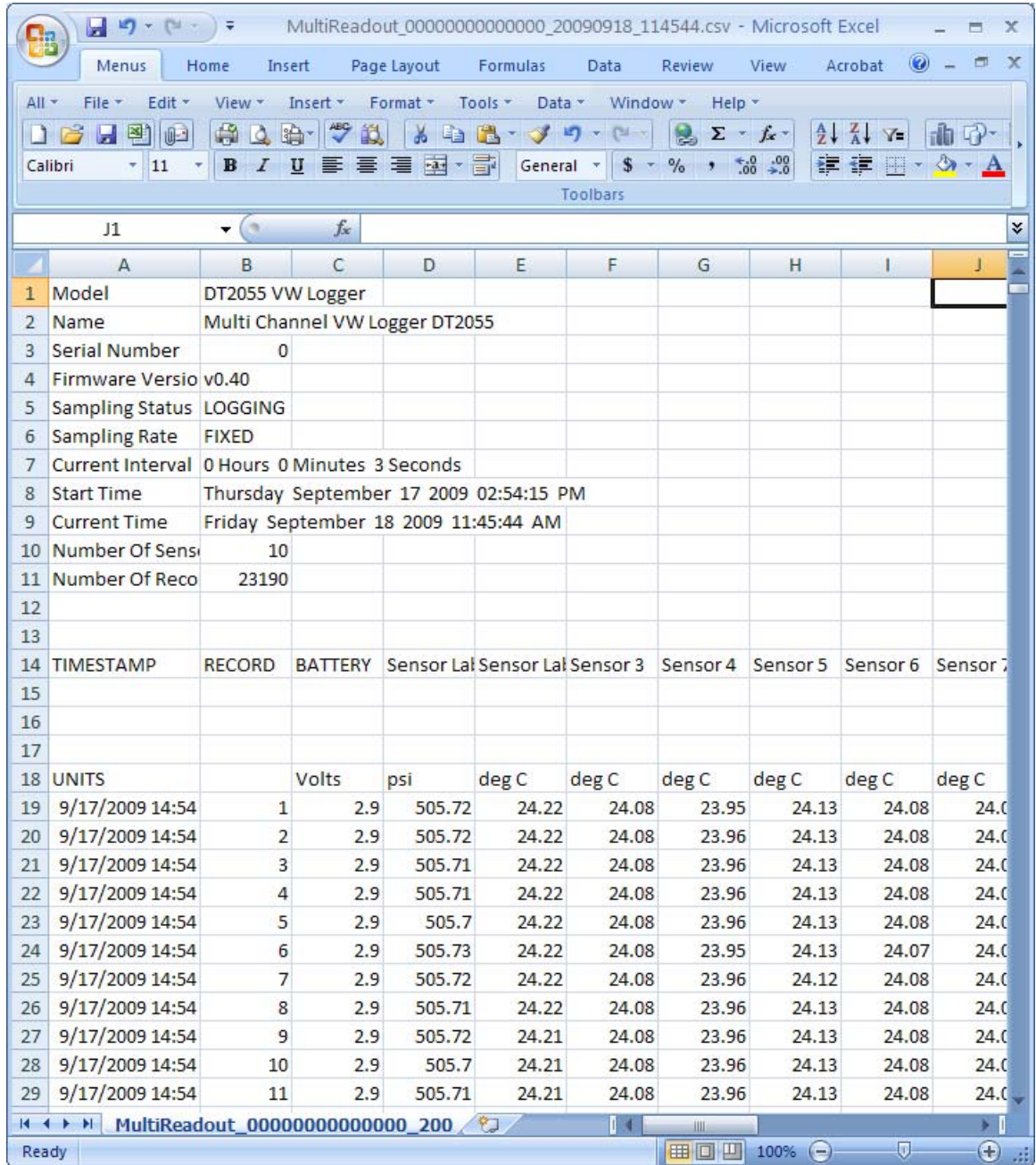


Figure 14 – Sample Data File

Note

When sensor reading is outside of the valid range, the “99999” value will be recorded as the Eng Units and B Units data.

5 CHANGING THE BATTERIES

Very Important

Upon replacement of the batteries, it is important to connect to the datalogger and re-apply the datalogger logging settings. This re-initializes the datalogger and ensures that the time settings are correct. Failure to do this could result in improper time stamps after the batteries are replaced.

5.1 MULTICHANNEL LOGGER

The DT2055 Multichannel Datalogger uses special 3.6V LS33600 lithium battery. Contact RST for a replacement battery. The following steps outline the procedure to change the battery:

1. Connect to the datalogger via the USB cable and download the data.
2. Disconnect from the computer and remove the top cover (4 Phillips screws).
3. Remove the battery from the carrier and replace with fresh one.
4. Replace the lid.
5. Connect to the PC again and navigate to the *Options* screen. Click on *Advanced* button and then on *Initialize Battery*.
6. Switch to the *Logging* screen. Verify that the settings are correct and press the *Apply Settings* button. You must press *Apply Settings* to reset the datalogger regardless if any parameters are changed or not.

5.2 SINGLE CHANNEL LOGGER

The single channel VW Datalogger uses standard 'AA' alkaline batteries which are readily available. The following steps outline the procedure to change the batteries:

1. Connect to the datalogger via the COM or USB cable and download the data.
2. Disconnect from the computer and remove the top cover (4 Phillips screws).
3. Remove the batteries from the carrier and replace with fresh ones. If the unit is being used in a cold environment, RST also offers Lithium-Ion AA cells.
4. Replace the lid.
5. Connect to the PC again and navigate to the *Logging* screen. Verify that the settings are correct and press the *Apply Settings* button. You must press *Apply Settings* to reset the datalogger regardless if any parameters are changed or not.

6 TROUBLESHOOTING

6.1 CONNECTION PROBLEMS

Upon launching, Multichannel Logger, software will try to connect to the logger using current communication settings. Once connected, the port and status indicators turn green and the *Status* screen should display logger information.

The connection status is displayed on status bar. If the connection fails (status indicators are red or yellow, or status screen shows no status data), take note of the message and number displayed, then find the corresponding description in the Table 1: Status Messages.

1. Port not open: The communication port is being used by some other application.
Solution: Close other windows applications that might be using serial port assigned to Multichannel Logger. Select the correct logger type using logger mode buttons.
2. Connecting to the logger message continuously displayed.
Solution: Verify that the communication cable is connected and connections are tight. Replace DT2011 Single Channel logger batteries with fresh set.
3. State Errors, Reading Errors, Memory Read Errors:
Single Channel Loggers - verify battery voltage displayed on Status screen. Replace battery if voltage falls below 2V. Check cable for damage. Replace serial communication cable if in doubt.
Multichannel Loggers: - verify remaining battery life shown on Status Screen. Replace battery when low percentage displayed. Check cable for damage. Replace USB communication cable if in doubt.

6.2 SOFTWARE STABILITY

The Multichannel Logger real time readout relies on continuous data transmission over serial communication port. This transmission may be occasionally interrupted by other computer activity resulting with program freezing or displaying erroneous data. If this happens, Multichannel Logger needs to be closed down and restarted. Check battery state regularly, drained battery might cause data transmission errors. Always close software when changing loggers or reconnecting serial communication cable.

6.3 DATA COLLECTION HELP

In case of accidental data loss, the Memory Dump feature can be used to save datalogger memory contents. RST Instruments personnel can recover some or all customer data from dump files, providing data is not corrupted and it was not overwritten. Only raw data in B units can be recovered from dump files. Select Memory Dump in Advanced Options to write entire memory contents into a disk file in data folder.

Note

The Memory Dump feature is included for emergency memory content retrieval. Under any circumstances, memory dump files should not be used for data collecting.

6.4 STATUS MESSAGES

The following table lists the status bar messages with descriptions.

#	Status Message	Description
1	Communication port open	Communication port is open
2	Unable to open communication port	Some other application is using this port
3	Connecting to the logger	Multichannel Logger is trying to connect to the logger
4	Connection not established	Multichannel Logger was unable to connect to the logger
5	Connection established to the logger	Multichannel Logger was able to connect to the logger
6	Reading logger settings	All logger settings are copied to the Multichannel Logger for display
7	Error during settings read	Error occurred during settings read
8	Idle	Idle time between status or data reads
9	New logger detected	Logger exchanged with another logger, Multichannel Logger reset
10	Logger settings successfully read	All logger settings were successfully transferred to Multichannel Logger
11	Error reading logger settings	Error occurred during reading logger settings
12	Connection Error	Connection attempts timed out
13	Reading logger memory	Logger memory contents is being copied to the Multichannel Logger
14	Writing logger settings	All displayed settings are being transferred to the logger
15	Error during settings write	Error during settings write

Table 1: Status Messages

6.5 USB TO SERIAL PORT ADAPTER FOR DT2011 SINGLE CHANNEL LOGGER

If the host computer doesn't have serial port, the USB to serial adapter can be used to connect to single channel datalogger.

Note

Most USB to serial adapters need drivers to be installed. Consult your adapter manual for detailed instructions.

Microsoft Windows system assigns serial communication port to the USB to serial port adapter. Since the port number must be set manually in Multichannel port settings dialog, follow the steps below to find out the port number.

The following instructions are typical for Microsoft Windows XP. The actual steps might slightly differ depending on version of MS Windows installed.

- Click on Start and open Control Panel.
- Choose System (switch to Classic View if System is not visible)
- In the Hardware tab, click on Device Manager.
- Expand the Ports (COM & LPT) branch
- Take note of the COM port number assigned to the USB adapter.
- On Multichannel main dialog, click on *Port* button. Select port number obtained in previous step.

For example Control Panel view, see the screenshot below.

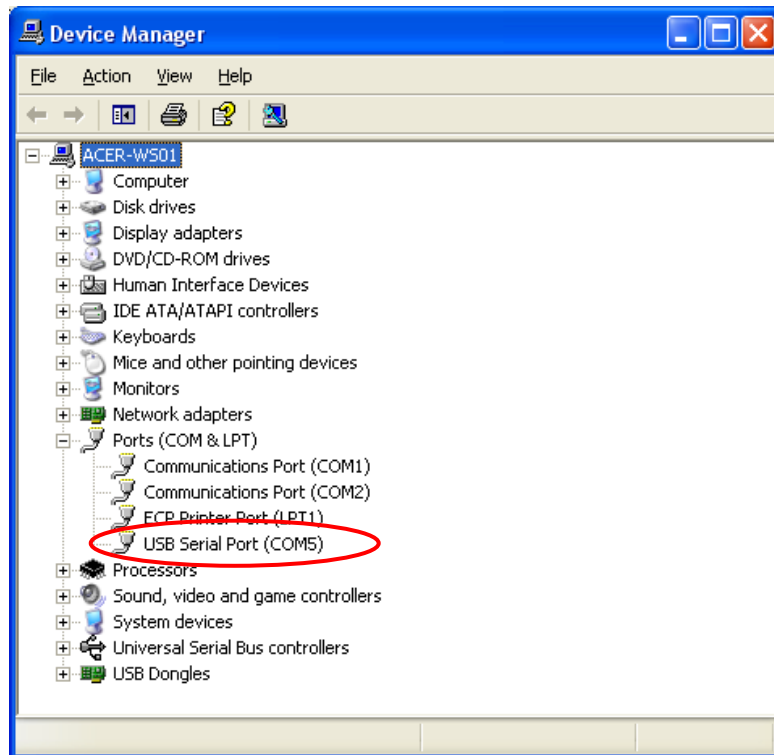


Figure 15 – USB to Serial Port Adapter entry in Control Panel

In the above example, port #5 was assigned to USB Serial Port.

7 RST DT2055 USB DRIVER SET INSTALLATION

The Multichannel software requires a set of drivers installed on the host computer in order to communicate over USB communication port. All steps must be completed for USB communication to work correctly.

The following outlines a procedure for installing the DT2055 Controller Driver Set on Microsoft™ Windows XP, Microsoft™ Windows Vista and Microsoft™ Windows 7 platforms. The actual screenshots may differ but the steps will be very similar.

7.1 MICROSOFT™ WINDOWS XP INSTALLATION PROCEDURE

After successful Multichannel Host Software installation, click on *Install USB Drivers* in *Tools* section of *Multichannel Logger* program group. *Multichannel Logger* group should reside under *RST Instruments* start menu by default. USB driver setup starts showing following dialog:

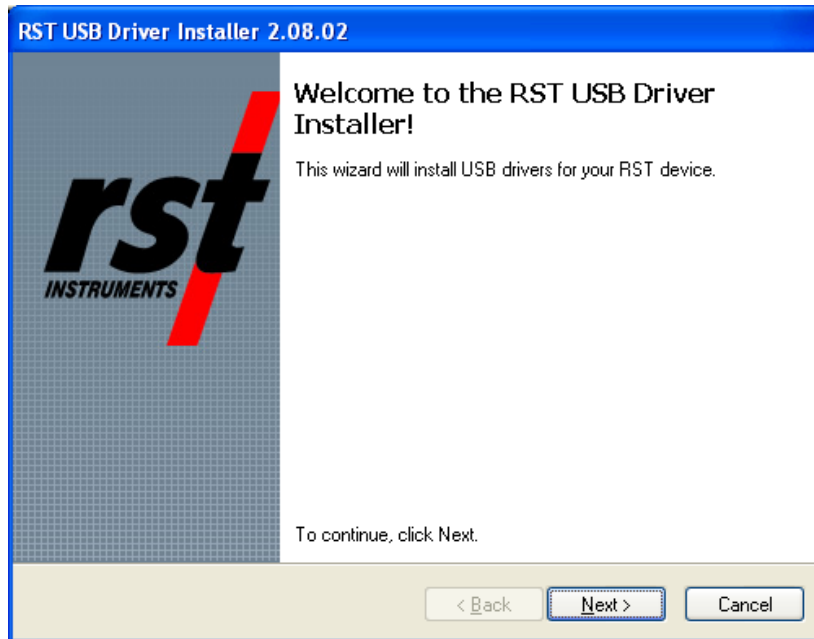


Figure 16 – New Hardware Wizard for Device

click **Next** to proceed with the USB driver installation.

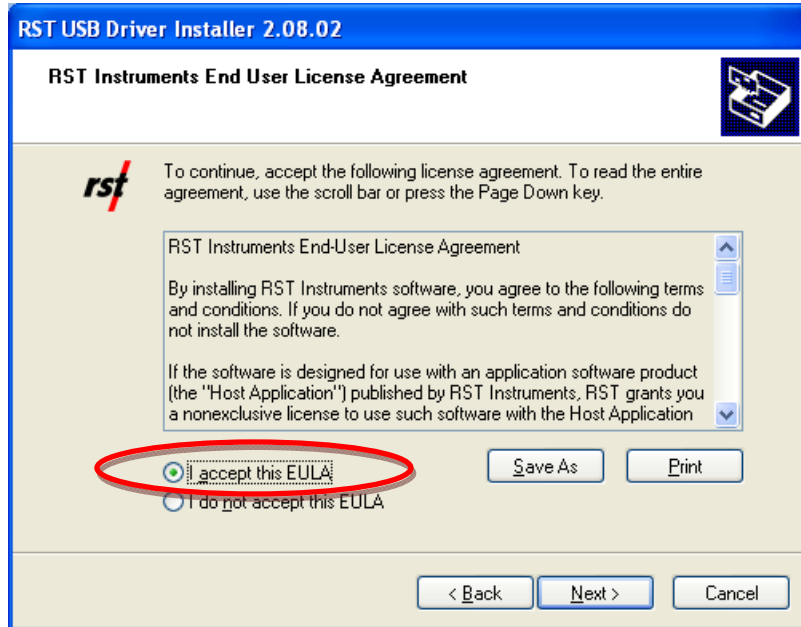


Figure 17 – New Hardware Wizard for Device – accept EULA

Select your acceptance of RST Instruments End User License Agreement, click **Next**.

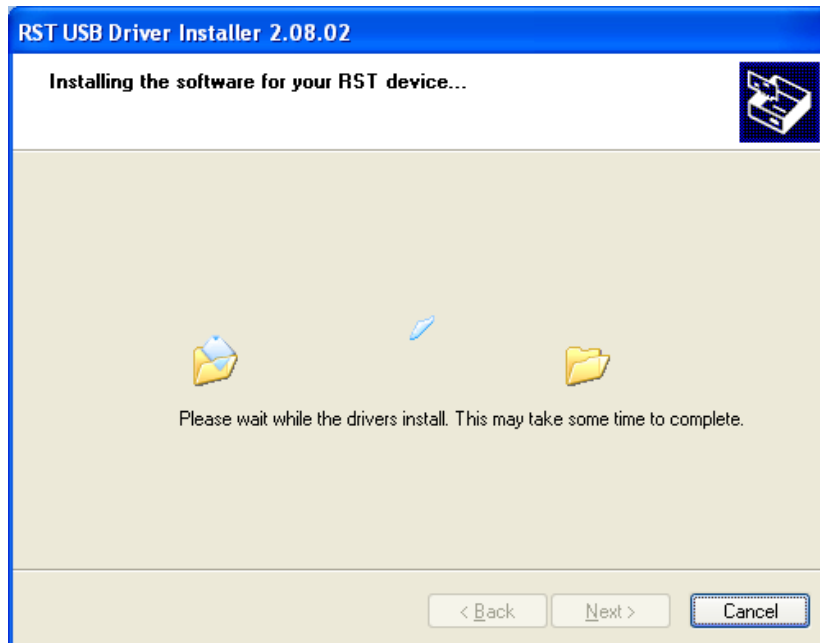


Figure 18 – New Hardware Wizard for Device – file transfer

Windows should then display a message indicating that the installation was successful (Figure 19).

Click **Finish** to complete the installation.



Figure 19 – New Hardware Wizard for Device – install complete

After successful installation of USB to UART device drivers, the DT2055 Multichannel Datalogger should be connected to the host computer. The MS Windows system should detect the new device and display the yellow message balloon in the lower right hand corner stating that all device drivers are installed and ready to use.



Figure 20 – New Hardware Wizard for Controller – install complete

Open the Device Manager (located in "Control Panel\System") then select the "Hardware" tab and click "Device Manger") and expand "Ports" branch. The device appears as a "RST DT2055 Multichannel Logger" (Figure 21).

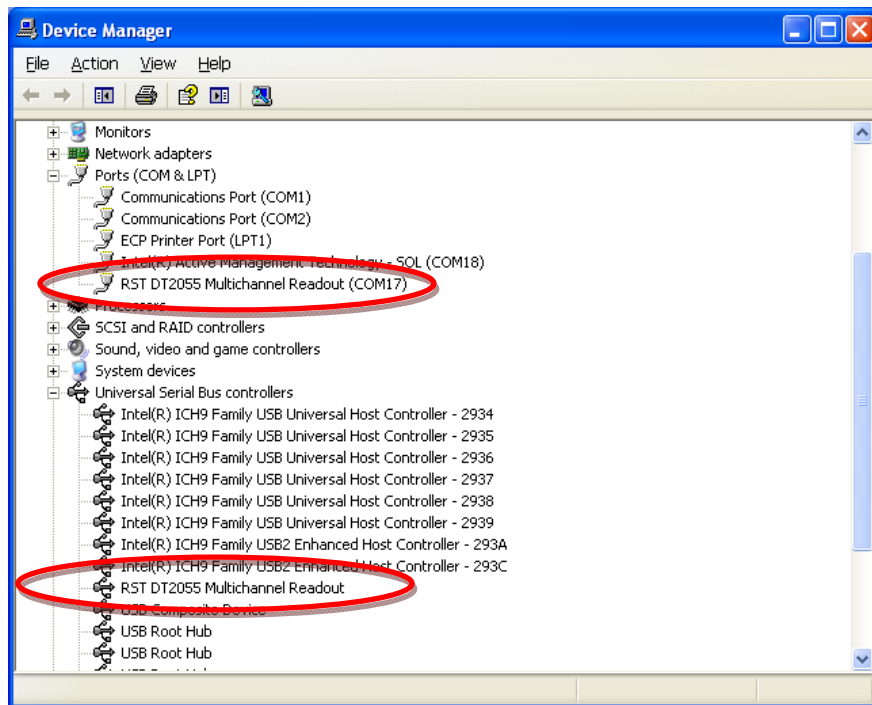


Figure 21 – Windows XP Device Manager

If the driver was installed correctly, the RST DT2055 Multichannel Readout port will appear as in Figure 21 above. If the driver has not been installed correctly, yellow exclamation mark will appear next to the device. Once the above has been verified, note the COM number which has been assigned to the USB serial port. This will vary from computer to computer, in this example it is COM17.

Close the device manager and launch the Multichannel Host Software. The Multichannel Host Software should now connect to the DT2055 Readout. Confirmation can be made by looking at the status bar (Figure 2).

7.2 MICROSOFT™ WINDOWS VISTA AND WINDOWS7 INSTALLATION PROCEDURE

After successful Multichannel Host Software installation, click on *Install USB Drivers* in *Tools* section of *Multichannel Logger* program group. *Multichannel Logger* group should reside under *RST Instruments* start menu by default. USB driver setup starts showing following dialog:



Figure 22 – New Hardware Wizard for Device

click **Next** to proceed with the USB driver installation.

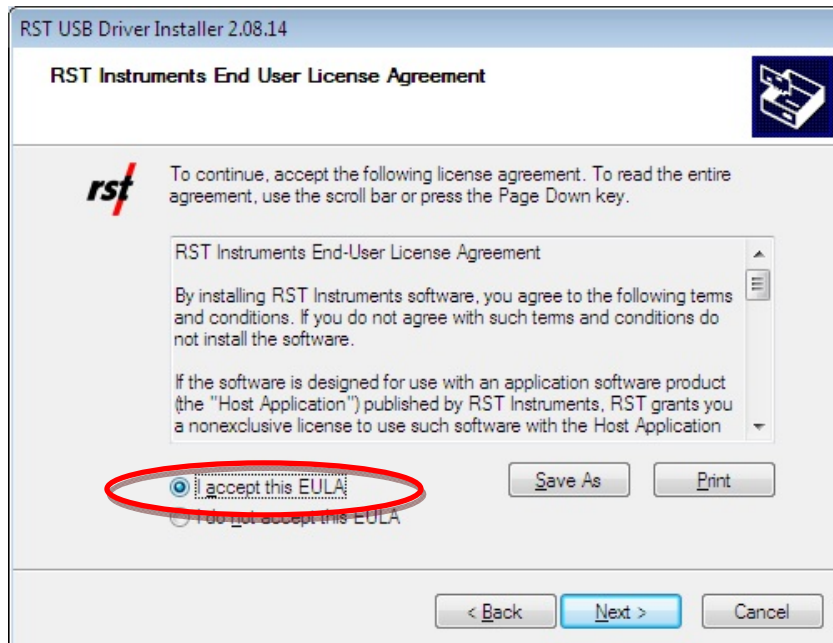


Figure 23 – New Hardware Wizard for Device – choose install

Select your acceptance of RST Instruments End User License Agreement, click **Next**.



Figure 24 – New Hardware Wizard for Device – install complete

After successful installation of USB to UART device drivers, the DT2055 Multichannel Datalogger should be connected to the host computer. The MS Windows system should detect the new device and display the yellow message balloon in the lower right hand corner stating that all device drivers are installed and ready to use.

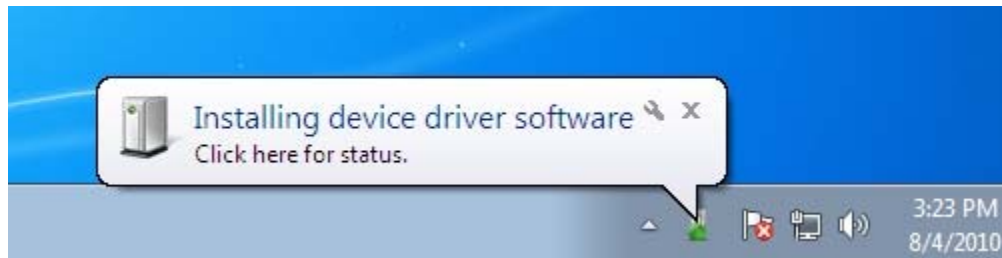


Figure 25 – New Hardware Wizard for Controller – install complete

Open the Device Manager (located in "Control Panel\System", click "Device Manger") and expand "Ports" branch. The device appears as a "RST DT2055 Multichannel Logger" (Figure 26).

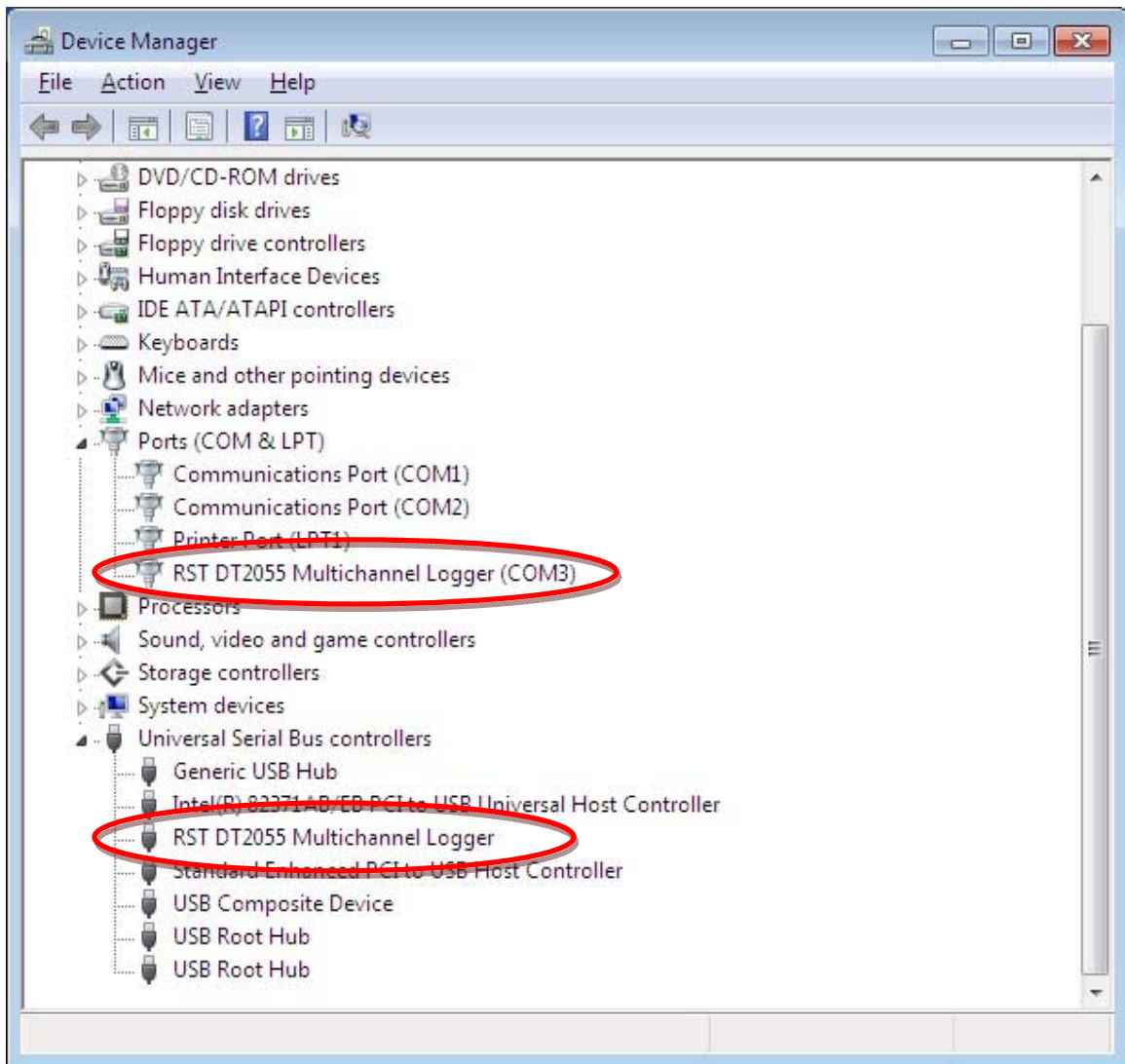


Figure 26 – Windows Vista and Windows 7 Device Manager

If the driver was installed correctly, the RST DT2055 Multichannel Readout port will appear as in Figure 26 above. If the driver has not been installed correctly, yellow exclamation mark will appear next to the device. Once the above has been verified, note the COM number which has been assigned to the USB serial port. This will vary from computer to computer, in this example it is COM3.

Close the device manager and launch the Multichannel Host Software. The Multichannel Host Software should now connect to the DT2055 Readout. Confirmation can be made by looking at the status bar (Figure 2).

8 CONTACT US

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