



DT Pro Quick Start Guide: MPRF Systems



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Introduction

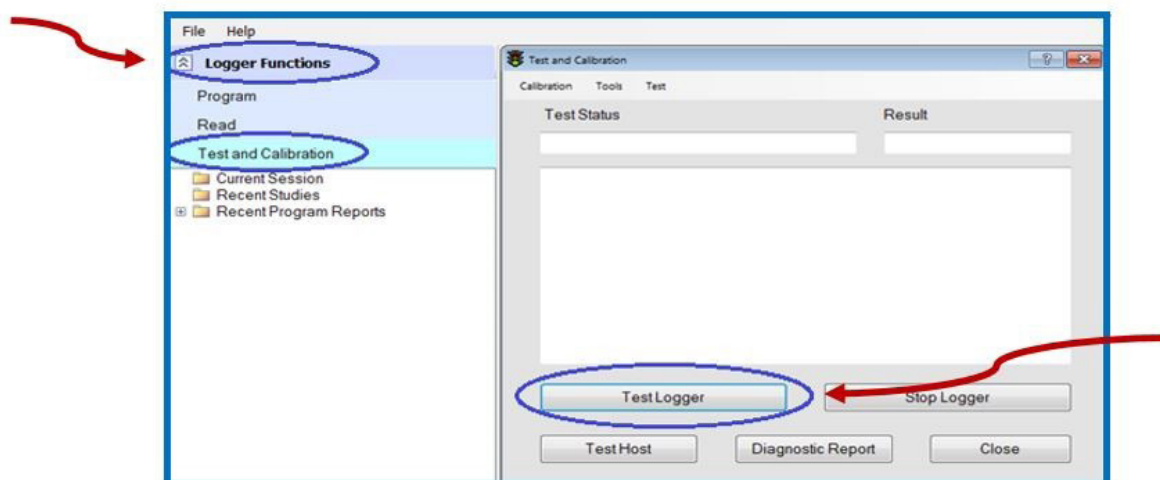
This is a basic user guide. For more thorough detail, press the F1 key in any screen of DT Pro to access the applicable detailed Help Topic!

Before you begin, power up your PC and ensure that the DataTrace reader Interface is connected via USB. Start the DataTrace Pro Software. If you need assistance downloading the software, please visit our website: <http://DataTrace.MesaLabs.com/DataTrace-Pro-Software/>

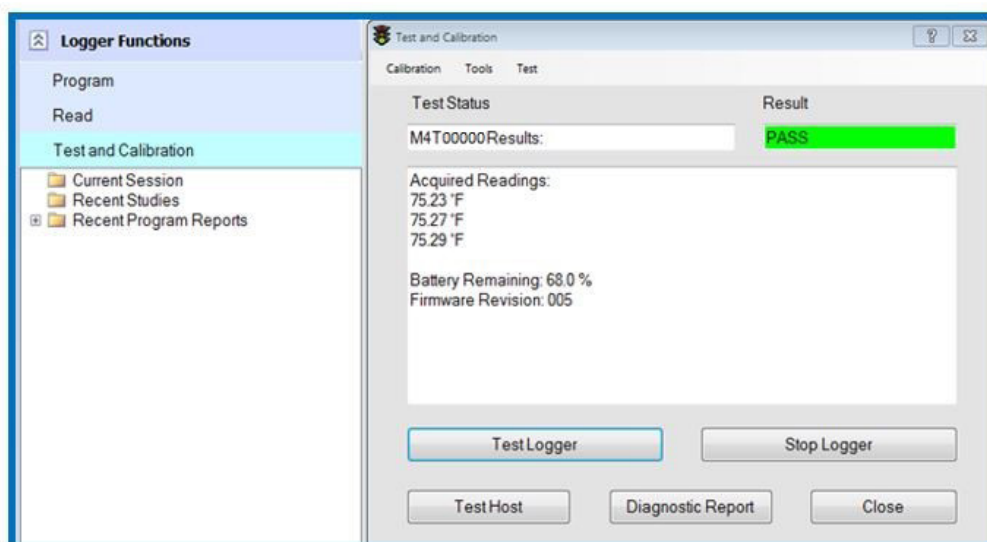
System Test

This feature is used to check the general functionality of the reader interface and loggers (it is not vital for everyday programming or reading).

- Expand Logger Functions and select Test and Calibration.
- Place logger in the interface.
- Click the "Test Logger" button.



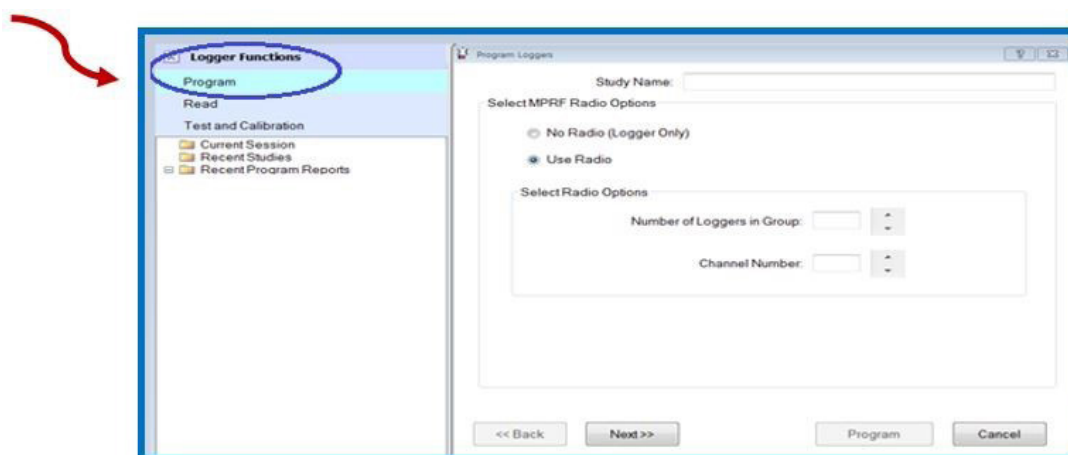
- The software will perform a short test of logger functionality.
- Test results will be displayed within 10 seconds.
- If successful, logged data will be shown. Battery status and firmware revision level will also be displayed.
- Check that test results are consistent with environmental conditions.



NOTE: The Test function will not affect Programming or Reading. However, if you have unread data currently residing in a logger's memory, the Test function will override and erase it. Please Read the logger first if unread data is present (read instructions are on Page 8 of this guide).

Programming Loggers

Expand the Logger Functions bar. Select Program to start the Program Wizard.



Program Wizard Screen One

- Place logger in interface reader.
- Define a Study Name. This will allow for easy future retrieval and viewing of your data. (FYI: If no Study Name is defined, a study will automatically be created and it will be named according to the date and time the study was performed.)
- Select Use Radio to enable real-time RF data transmission when MPRF data loggers are used. (Note: If you have ONLY MPIII data loggers OR if you have MPRF data loggers and you would rather not use RF data collection, select No Radio (Logger Only)).
- Define Number of Loggers in Group: How many loggers will you be using in this study?
- Channel Number should be the default channel and will not typically require adjustment. To receive radio data, both the transmitter and receiver must be on the same radio channel.
- Select Next.

The screenshot shows the 'Program Loggers' window. At the top, the 'Study Name' is 'Quick Start Test'. Below this, under 'Select MPRF Radio Options', the 'Use Radio' radio button is selected. Under 'Select Radio Options', the 'Number of Loggers in Group' is set to 4 and the 'Channel Number' is set to 7. Red arrows highlight these fields. The bottom of the window contains buttons for '<< Back', 'Next >>', 'Program', and 'Cancel'.

Program Wizard Screen Two

- Enter Data Logging Parameters Start Time.
 - This is the date and time you intend for data logging to begin.
 - No "End Time" exists. The loggers will stop logging data when they are Read or when the memory is full (see next section).
 - When setting the Start Time be sure to allow enough lead time for programming all sensors before the scheduled time is to start.
- Define Interval: How often would you like the logger to collect data? (For MPRF systems, 5 second intervals or longer will have the best results. Intervals shorter than two seconds produce more data than the system is able to effectively transmit over radio.)
- Run ID: This feature allows you to put your loggers in numerical order according to when they were programmed. This field is optional but may be useful for some testing protocols. For example, loggers with Run IDs DT-01 and DT-02 are in Retort Basket 1, DT-03 and DT-04 are in Retort Basket 2, and so on.
- The Memory Full Time Estimator is a convenience calculator only and does not affect the programming in any way.
- Select Next.

Program Loggers

Study Name: Quick Start Test

Enter Data Logging Parameters

Start Time: 01-Sep-2017 12:00 AM

Interval: 5 Seconds

Run ID (OPTIONAL)

☐ Enable Run ID Auto-Numbering

☐ Use Logger's Existing Run ID

Memory Full Time Estimator (Calculator Only)

Logger Type: MPRF Temp

01-Sep-2017 11:06:40 AM

<< Back Next >> Program Cancel

Program Wizard Screen Three

- In most applications, this screen will not require any adjustment. Press the F1 key for in-depth detail.
- Select your desired MPRF Stop Option.
 - Stop Logging when Full: Recommended setting. Logger will log data points up to capacity and then stop logging.
 - Use Data Compression: When selected, allows logger to log twice as many data points by compressing data. Compressed data will be limited to two decimal places of resolution.
 - Never Stop: Newly collected data removes and replaces the oldest data in the logger's memory once full data capacity is reached.
- Select your RF Data Transmission Rate. Within limits, this allows adjustment of how often logged data is transmitted via radio.
 - The data transmission rate will usually be the same as the logging interval, but may be less when the interval is short or the number of loggers is large. For example, it is not usually necessary to transmit data collected every 2 seconds. In that instance, battery life and real-time data reliability will be improved by setting the data transmission interval to 10 seconds (5 data points per transmission) or 20 seconds (10 data points per transmission).
 - DT Pro automatically determines a minimum allowed transmission interval using the default standard data packing. High Density Data Packing will allow a reduced transmission interval, but there will be a decrease in RF communication reliability.
- Select Next.

The screenshot shows the 'Program Loggers' window with the following settings:

- Study Name: Quick Start Test
- Select MPRF Stop Option:
 - ☒ Stop logging when memory is full.
 - ☐ Never Stop (operate as ENV Monitor)
- ☐ Use Data Compression (Optional)
- RF Data Transmission Rate:
 - Interval: 5 Seconds
- ☐ Use High Density Data Packing (Optional)

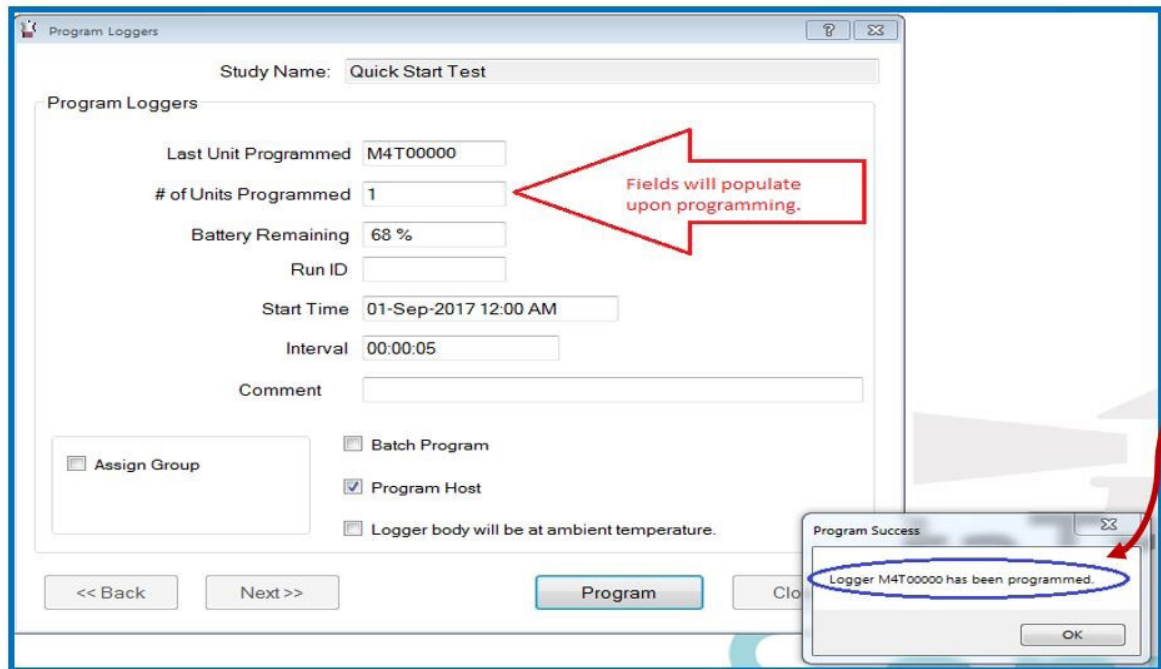
At the bottom, there are buttons for '<< Back', 'Next >>', 'Program', and 'Cancel'. A red arrow points from the right side of the window to the 'Next >>' button.

Program Wizard Screen Four, Part 1

- In most applications, this screen will not require any adjustment. Press the F1 key for in-depth detail.
- Several fields will be populated automatically upon logger programming and do not require user input. All other fields are optional.
- Optional Fields:
 - The Comment field may be defined if desired. This comment will be associated with the programmed logger and be visible in the program and other reports as well as in the Data Table after the logger is read. This identifier can be associated with location ("Top Left Corner," for instance, or "Can Three") or other desired details.
 - Batch Program. Select to program multiple loggers quickly without the need to press the "Program" button after each logger. Select "Stop" when done.
 - Program Host. Select for first time system use. This function sets the RF communication channel of an MPRF logger interface to the same channel as the loggers being programmed.
 - Logger body at ambient temperature – used in applications where the probes of the data loggers WILL be in the processing chamber but the body of the data loggers WILL NOT be inside the processing chamber (i.e. the bodies will not be heated).
 - Increment Start Time button may appear and can be used to increment the start time by the pre-selected interval, assuring that logged data can be aligned in grid format for reports.

Program Wizard Screen Four, Part 2

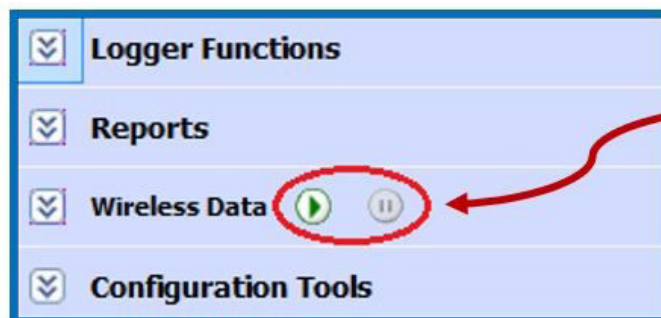
- Click the Program button.
- A popup message will indicate successful programming.
- Select Close when all loggers are programmed.



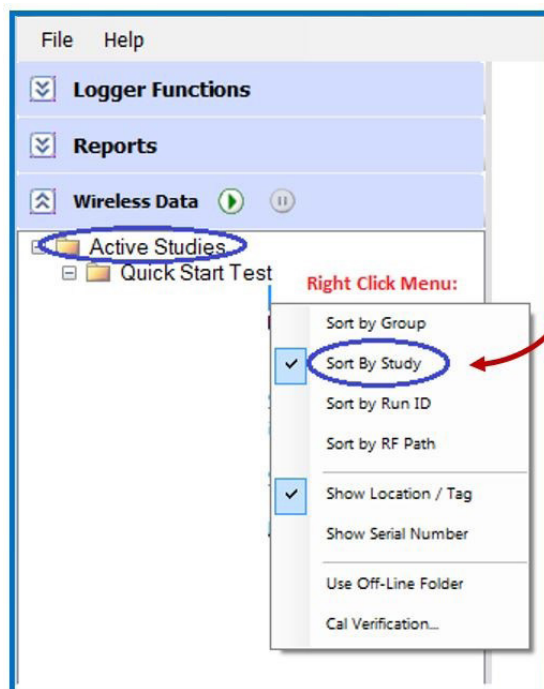
Receiving RF (Radio Frequency) Data

Two buttons on the Wireless Data bar control radio reception.

- (PLAY button) - Start RF Reception
- (PAUSE button) - Stop RF Reception
- If Auto-Start RF was previously specified in the System Setup preferences, RF reception will activate automatically.

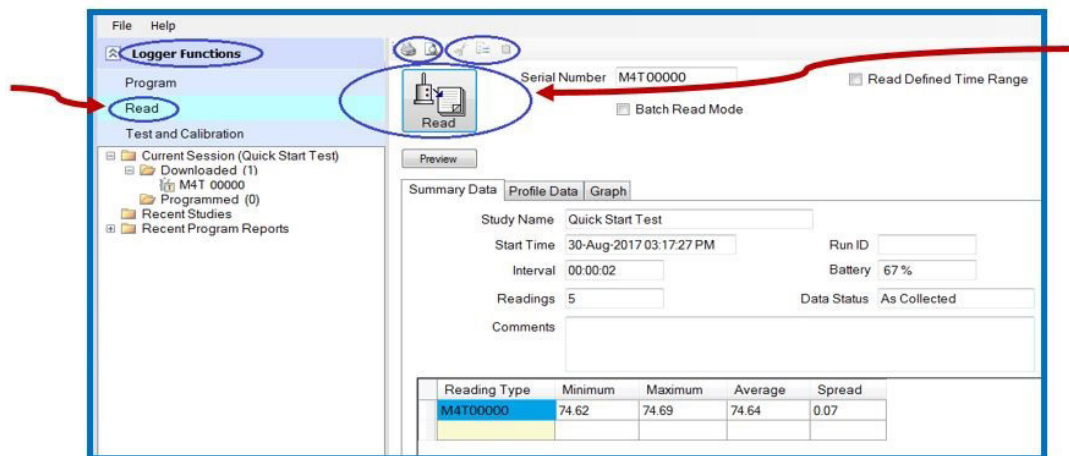


Real time data may be viewed under the Wireless Data bar. Views may be specified in the right-click menu. "Sort By Study" is the most commonly used setting and will allow easy viewing of your current study.



Reading Loggers

Expand Logger Functions and select Read to start the data download process.



PRESS THE F1 KEY IN DT PRO FOR MORE DETAILED INFORMATION.

Standard Read

- Place the logger in the interface.
- Click the Read button.
- When download is complete, view the logger data.
- Place the next logger in the interface and click Read.

Batch Read Mode

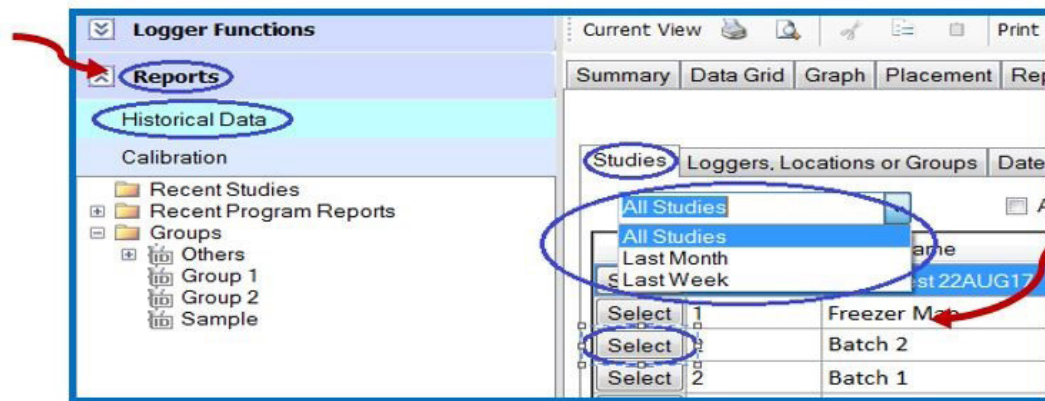
- Place a logger in the interface.
- Click the Read button.
- When download is complete, remove the logger from the interface.
- Place next logger in the interface; it will be detected and downloaded automatically.
- When all loggers have been read, click Stop.
- Note: If different types of loggers are to be read, read one type first, then Stop the batch read process, change the logger type, and restart the Read process.

Read Views and Detail

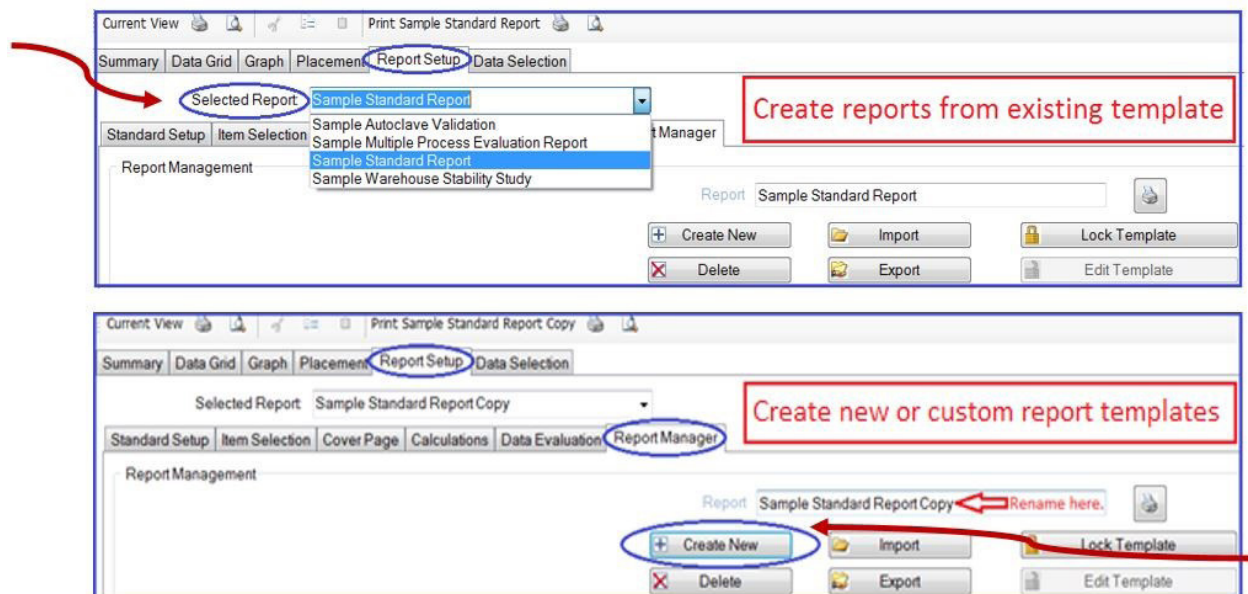
- Summary View: Shows programming details and data statistics.
- Profile Data: A grid showing time-stamped data values.
- Graph: Graphical display of the data with zooming and axis scale control. Right click on graph to expose menu.
- Data from any of the views can be Viewed or Printed by using the top menu bar icons. Copy-and-paste is also available for exporting to another application.
- Calculations such as Lethality or MKT will appear in the summary view if so defined in the System Setup.
- The Current Session browser view will show which loggers have been read, and which have not.
- If a Comment was entered when the logger was programmed, it will be displayed in the summary view. The comment may be edited, or a new one added if desired. Comments can also be entered or edited in the summary view of a report.
- When all loggers have been read, a report for the entire batch or study can be instantly accessed by selecting Current Session or Recent Studies in the browser view. Right click to expand selection menu.

Creating Reports

- After the loggers have been Read, the collected data will be stored and viewed in the Reports bar under Historical Data.
- You may need to change the dropdown menu from "Last Month" to "All Studies."
- Select desired Study.
- After the desired Study has been selected, the data can be viewed or analyzed in four different ways: Summary, Data Grid, Graph, and Placement. Each may be individually printed.
- Data from any of the views can be Viewed or Printed by using the top menu bar icons.
- Copy-and-paste is also available for exporting to another application.



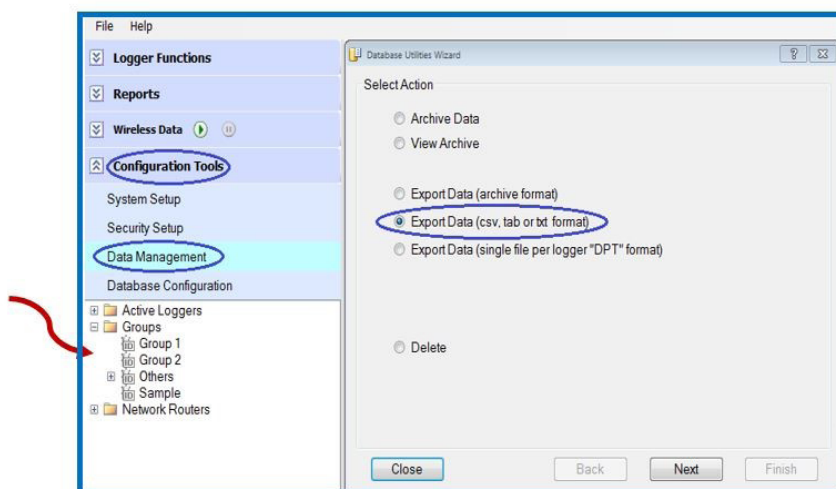
- To create a report in a pre-existing template:
 - Select Report Setup tab.
 - Change dropdown menu to "Sample Standard Report" OR desired template.
- To create a custom report, start with the Report Manager tab.
 - Create New and change the report name as desired.
 - Next, navigate the remaining subtabs of and implement desired changes.



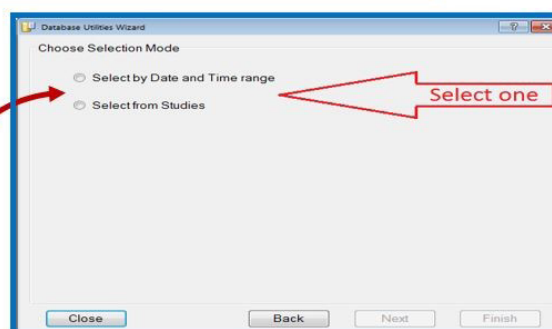
Exporting Data

DT Pro itself is a powerful reporting engine, but it is also possible to export data to other programs if desired. Below are instructions to export to Excel.

- Expand the Configuration Tools bar and select Data Management to open the Database Utilities Wizard.
- Select Export Data (tab, csv or txt format), and press Next.



Choose either:
Select by Date and Time range
or **Select from Studies**
as the source of the data to be
exported, and press Next.



[Subsequent screen views will vary based on last step's selection.]

- Choose the data to be exported.
 - If Select by Date and Time range was selected, enter the date and time range to be used, and press the Finish button.
 - If Select from Studies was selected, press the Finish button of the desired study.
- Choose the location to save the file.
 - Save the file as *.tab.
 - Update the file name as needed.
- Press the Close button to exit the export