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DataTrace for Windows Version Enhancements

This document describes recent enhancements, modifications, and corrections to the DataTrace for Windows (DTW) software program and/or the OPERATOR'S MANUAL. While these are the more significant modifications to the program, other changes to existing capabilities have also been made to make the program easier to use and/or avoid confusion. In addition, several suggestions and cautions are offered for your convenience. After reading this file, please make note of the changes in the manual as required.

DTW Version 4.05 Enhancements

1. The Mesa web site address appears on the Control Panel screen as a hot link.
2. DTW and the USB Driver installation operation have been checked for compatibility under Microsoft VISTA in both 32 bit and 64 bit environments.
3. For all printing situations in DTW, a PDF file is now generated which is saved into a DATATRACE REPORTS folder under MY DOCUMENTS on the user's computer. The name of the PDF data report is based on the report name plus the date that the report was generated. Hard copy printing of the report is from the PDF file.

In earlier versions when a data report was generated, there were multiple reports that required the user to print individually and it was not possible to save the report for future reference. The new PDF based report generates a single report that is printed through the PDF file and the printer drivers on your computer, eliminating various printer and paper choices for the user.

4. The Default Paper Size (Reports) option under Setup has been removed as a result of the PDF printing process.
5. Several intermittent communication bugs were identified and fixed.
6. Communication bugs in Batch Programming and Batch Read were identified and fixed to correct for intermittent communications problems.
7. A modification was made to the algorithm for Battery Remaining on the Program Tracer screen for Humidity and Pressure Tracers to make the battery remaining estimate more conservative.

8. Following Field Calibration, the Factory Calibration could be restored by clicking the Restore Factory Calibration button on the first screen of the Calibration Utility, but did not remove the Field Calibration Date from the Tracer's memory. The Field Calibration Date now matches the last Factory Calibration Date since this is the relevant calibration after a restore.
9. In the Archive/Restore Profiles function the Destination File Name text box now has an entry at all times, including on the first entry into the Archive screen following installation. The destination default points to DATATRACE\DATA and use the current File names of ARCHIVE_YYYY_MM_DD.* (*.DAT, *.DA~, and *.FPT).
10. In order to minimize problems when transferring Archive files, the three files (ARCHIVE_YYYY_MM_DD.DAT, ARCHIVE_YYYY_MM_DD.DA~, and ARCHIVE_YYYY_MM_DD.FPT) are combined into a single Zip file, making transporting the file easier.
11. In Export, dBase III.DBF and DataTrace DOS-Based Format options have been removed.
12. In the Export Profiles function the Destination File Name text box now has an entry at all times, including on the first entry into the Export screen following installation. The destination default points to DATATRACE\DATA and adds the date to the Export Filename: EXPORT_YYYY_MM_DD.CSV.
13. A bug was fixed on the graph report summary sheet where only the Fo value for the first Tracer was displayed and then the program replicated that Fo value on the summary for all other profiles on the print out. While the correct Fo value had been calculated, it was incorrectly displayed on this single report. The correct Fo value appeared correctly on the graph plot and all other printed reports.
14. A bug was fixed where in certain graph editing situations the phase captions disappeared from the graph following modification.
15. The Graph Style option Deviation From Nominal under Graph and Data Reports|Graph Options|Style is eliminated.
16. The X Axis Ordinal Value option from under Graph and Data Reports|Graph Options|Plot Lines is eliminated.
17. The Autoscale X-Axis was removed from the Graph Options|Plot Lines screen. It was seldom used, and prone to be misapplied.

18. The Audit Trail report now allows the user to select various report options and/or sorts:
 - > Select a date range to be printed and/or saved as a file.
 - > Allow the User to be selected to print and/or saved as a file.
19. A "hint" on the screen on how to open the "Help" file with F1 was added.
20. A bug was fixed when passwords were enabled when changing a user's status from 'inactive' to 'active' and running a user list report, the user whose status was manipulated appears multiple times in the user list.
21. The user is now able to define the order Tracers appear in a report. These options include being able to define the order based on the sequence of serial numbers, Run IDs, etc. The ordering is selectable in the Data Set tab by clicking on the column heading to choose ascending or descending order.

DTW Version 4.04 Enhancements

1. Addition of an automatic procedure to install a USB PC Interface as part of the DTW installation procedure. The USB interface provides significantly improved communication over the standard RS-232-C connection.
2. Limited Operating Systems are supported. These include Windows 2000 and Windows XP. DTW may work with older Windows Operating Systems, but they are not supported.
3. All customer, diagnostic, and profile data files are centralized under the DATA folder.
4. An automatic header repair function was added to eliminate problems with corrupted MPIII Tracer headers. This repair function eliminates the need to return Tracers for service when a corruption occurs.
5. Inclusion of the MPIII Multi-channel Temperature Tracer was added to the list of DTW compatible Tracers.
6. Communication error messages are revised and enhanced to provide better failure descriptions and suggestions for user corrections.
7. Enhancement of the Batch Programming and Reading routines. These changes increase the functional robustness and improve reliability for these procedures. Also, large numbers of Tracers (100+) can be processed through the Batch procedures.

8. A major revision of the reporting module includes most customer requested enhancements to the tabular and graphical reports. These changes conform to requests regarding regulatory report formats and can include well over 100 profiles.
9. Options were added to provide printed data summary reports without a detail listing of each data point. The summary includes maximum, minimum, and average values, along with spread, maximum and minimum locations and other specific information on the maximums and minimums.
10. The ability to display a company logo was added to all report formats.
11. A new Report Options section allows users to define phases and "Lab Notebook" information for both tabular and graphical reports, including additional designations for Biological Indicators. The phases can be viewed with complete detail or in summary-only format.
12. Parameter range handling was optimized to display all readings collected by a Tracer and are not limited to display of only the calibrated range.
13. Graph Axis modifications and editing procedures were simplified in the Graph module.
14. Additional annotation capabilities are added to the graph options. Vertical markers can be added to a graph to define significant events. Also, when phases are defined, the beginning and end points for each phase are displayed on the graph.
15. A problem was fixed with the Deviation From Average Profile in the Graph module.
16. Obsolete options were removed from the Archive function and compatibility with earlier DTW Archive/Restore functions is ensured.
17. Test Tracer, Battery Changes, and Archive/Restore occurrences were added to the Audit Trail listing.
18. The Export function was optimized for current versions of MS Excel.
19. Access to the Setup module was simplified.
20. Lethalities can now be recalculated over the displayed range when the graph is rescaled.

21. Lethality values are now displayed in standard integers instead of scientific notation.
22. Initial Administrative Login was simplified when higher levels of password security are selected for DTW.

DTW Version 4.02 Enhancements

1. A modification was made to the communication module of DTW to eliminate corruption of the MPIII Tracer header. When corruption occurred no further communication with the Tracer was possible.
2. A change was made to the Graph module to fix the Y-Axis labels being set at odd values and also to eliminate an instability in the display which was observed in certain situations when the Y-Axis auto scale was disabled.

DTW Version 4.01 Enhancements

1. The number of decimals in the profile analysis, summary screen now agrees with the setting in the Setup module (+1 extra place).
2. The Auto Number functions refresh issue on the Programming screen has been corrected.
3. The Battery Remaining indicator on the Program Tracer screen refreshes correctly.
4. A problem in the graph module where the X Axis labels were off by one reading has been corrected.
5. A printer selection issue has been fixed that affected printing of some reports when a non-default printer is requested from Windows.
6. A problem in changing the paper type from the Setup module which resulted in a program error has been fixed.
7. Several Installer problems were fixed:
 - a. A critical graph file was not being updated during some upgrades.
 - b. A Windows error in 2000 and XP was identified where under Complete Security, the program only worked for the users that installed DTW.
 - c. In some circumstances where DTW 3.41 was being updated to DTW 4.00 the installer could overwrite previously stored data.
8. The MP3 data recovery routine was modified to simplify data selection.

9. The graphing FLL has additional error checking for memory allocation failure. Also, the code was re-worked to be a little more paranoid in it's operation. Additionally, the software checks the number profiles to ensure the maximum of 256 is not exceeded.
10. Data Profile printing routine had the limit on number of profiles that could be printed was increased to 55.
11. An error that could be generated if a Tracer Read was performed while a Graph window was open has been fixed.
12. A problem was resolved relating to the selection of profile parameters to be displayed on a graph. Profile parameters are now automatically selected and displayed.

DTW Version 4.00 Enhancements

1. A multi-interface/USB capability has been added.
2. On installation, an option to load DTW onto a network server is now provided.
3. Three new types of MPIII Tracers are implemented in this version of DTW. The new types of Tracers are: MPIII Humidity, MPIII Pressure, and MPIII mA Tracer.

4. The MPIII mA Tracer allows alternative sensors to be connected to an MPIII Tracer base to collect data while maintaining the DataTrace security. The data can then be presented with other DataTrace collected data using DTW to generate consistent reports.
5. On the Test Tracer procedure, when the Tracer is read, the data will now be displayed for user evaluation.
6. An update of many DTW screens (especially in the Setup module) is implemented that eliminates some obsolete functions, combines like functions and generally makes the DTW program more user efficient.
7. The Audit Trail logging function is implemented for all security levels. Filtering of Audit Trail report by date ranges, user name, or description type is now possible for selective reports. However, the Event ID remains intact so the context of events is not lost; it can always be compared to the "Master Audit Trail" stored in DTW, which is never modified. We also now allow archiving and/or printing of the filtered report, but do not allow editing or removal of any data from the Audit Trail log.
8. The Audit Trail report has time added to the date entry and has "page of pages" on the printed report.
9. The Run ID is now placed next to Serial Number on the Setup Report and includes any comments entered during the Tracer (MPIII) programming procedure.
10. Calibration events and Test Tracer/Battery changes are added to Audit Trail logged events.
11. The date and time of password activation has been added to the Users database. This is the date and time that the administrator created the new user, not the first time the new user tried to enter the program, that information is already logged in the Audit Trail.
12. The creation of a new user is added to those events that are logged into the Audit Trail, as well as adding the deactivation of a user.
13. The System Administrator can now print a listing of users from the Users tab. Three print outs are available: The "Active Users List", the "Inactive Users List", and a "Complete Users List" which combines the first two.

14. A new security option screen establishing preferences for the security system was created and is available only to the System Administrator. The options for this function include: A limit for the number of password attempts (3 or 5) before the user is returned to the Desktop. The unsuccessful login attempts are logged to the Audit Trail with appropriate information. An option is added to set an expiration time limit on passwords. After the expiration time limit has passed, the user is required to change their password before next login is successful.
15. A backup function (Backup Users) for the System Administrator of all user information that stores the data in a secure and encrypted file. This file can be stored in any location, but can only be restored with a new Restore Users function under the Users tab. This function provides secure user data that can be employed should a disk or computer failure occur.
16. Batch Read and Batch Program is implemented for both MPIII and SMT Tracers.
17. The Read Tracer function can be activated from the Read button on the Main screen or from the Profile Analysis screen. The Batch Read function can only be implemented from the Profile analysis screen.
18. A more descriptive Profile analysis screen was created allowing the new data to be viewed either in summary, detail or as a graph. These views can be switched from one to the other from the Profile Analysis screen.
19. A major redesign of the Reports module is implemented combining all of the reports and graphics functions in a single location.
20. The Print Report function was moved from Profile Analysis to the Reports tab.
21. A special data report is included that provides multiple profile data in a special format.
22. Under Export, several options were removed. The options removed were seldom used. In addition, the format of the Excel spreadsheet output was changed. It now provides a simpler format for the user eliminating most cut and paste manipulations.
23. Under Archive, the default filename was changed to "Archive mm_dd_yyyy.dat" to prevent inadvertent overwrites of existing archives. The user can change this name to any name desired. If a file with the same name is found, a warning is displayed.

24. Multiple parameters can be displayed on each Y Axis. These are user-defined from a list generated by DTW of all selected parameters, both collected (e.g., temperature, humidity) or calculated (e.g., lethality, dewpoint).
25. A simplified Field Calibration procedure is included that reduces the time and minimizes chances of error.
26. A new error reporting program with the capability to collect the error files, computer settings, relevant settings, and sends them to Mesa automatically is included. If the computer is not currently connected to an e-mail system, the information is stored until connected and then sent after confirmation.