7 Batch Data Logging

About this Section

In this section you will learn how to create batch reports using CableEye's macros. You will learn about Log Files, how to log test results to them and print or export them to PDF.

> Note that we highly recommend you to read section 6 - Automatic Testing before proceeding with this section if you haven't done so or if you need a refresh on how macros work.

Much of the content shown in this section assumes that you know how to create a macro script, print reports and export pdf files, which has been explained previously in Sections 5 and 6 of this manual.

Follow this index to jump quickly to a topic of interest:

7.1 Documenting Batch Tests

Batch Data logging lets you create detailed records and test documentation when testing a batch of identical cables. You may produce a cable-by-cable record to certify that every unit has been tested, summarize the test results, and measure the performance of the operator. These functions take place from within Macros in response to special Macro instructions. You may either store the test results which can be printed later, or directly print the test results as cables are tested.

The results are always saved in a *Log File*, which stores information as ASCII text, which you may later import into spreadsheets, database programs, or word processors if desired. Below you will see an example of a Log File, automatically formatted by CableEye and ready to print or Export to PDF.

7.2 Data Logging Instructions

Twelve special Macro instructions control various aspects of data logging. You will probably never need to use all eight at the same time, but they do offer flexibility for different situations. As in section 6, we will present several examples using these logging macro instructions, with a detailed explanation of their functionality. Note that all of the examples we discuss are found in your CableEye software copy; you may load and execute any of these just like the other Macros examples.

Below are the Macro instructions that control data logging.

7.3 Data Logging Examples

LOG-EXAMPLE 1: LOGGING DATA

```
1    LOAD. . . MY CABLE
2    OPEN LOG FILE
3    LOG HEADER
4    WAIT FOR PB
5    TEST  CABLE
6    COMPARE TEST  TO  MATCH
7    LOG  TEST  RESULT
8    IF MATCH THEN . . .
9       BEEP
10   IF NOMATCH THEN . . .
11      BEEP BEEP
12      PRINT DIFFERENCE LIST
13   IF COUNT = 10
14      LOG SUMMARY
15      PRINT LOG FILE
16      CLOSE LOG FILE
17      STOP
18   REPEAT 4
```

New instructions used in this example:

OPEN LOG FILE - CableEye will ask you for the name of the Log File that you want to use. At this point you can create a new file or use an existing one. If you enter a unique name, a new file will be created and the macro will resume execution. If you choose an existing name, a new window appears with two options; Append or Overwrite. Choose Append to add another page to the Log File and keep the previous logs. Choose Overwrite to remove all previous logs in that log file and start form the top.

LOG HEADER - Adds header information to the active Log File. This information contains a list of the connectors in the cable that you are testing, and the left and right side header text that can be edited from the Preferences | Print Options menu.

LOG TEST RESULT - Adds a test entry to the active Log File. As shown in the sample report in the previous page, the entry lines can be Passes, Fails or both if required.

LOG SUMMARY - This instruction adds the summary section to the report, Again, refer to the sample in the previous page to see what information the summary includes.

PRINT LOG FILE - This instruction prints the log file report using the printer defined in Printer and Reports, under the Preferences menu. Note that you don't necessarily have to print the report during macro execution. At any moment, outside of macro execution, you can click the LOG button located at the left side of the screen and select any of the previously created reports.

CLOSE LOG FILE - This instruction closes the active log file, allowing you to open a different one.

Explanation of Log-Example 1: (1) We load our custom cable, and (2) the macro asks for the Log File to open. (3) Adds the header to the report and (4) waits for the PB to be pressed. Once the button is pressed (5,6) the cable is tested and compared (7) and the result is added to the report. (8,9) If the cables match, it beeps, and (10,11,12) if they don't match, it beep beeps and prints the difference list. (13) When the count reaches 10, (14) the summary is added to the log file report, (15,16) the report is printed and closed, and (17) the macro stops, otherwise (18) it will repeat the cycle until 10 pieces are tested.

When finished, the macro would have created a Log File containing the result of 10 different tests. It would also have printed the report and close it for the next batch.

LOG-EXAMPLE 2: LOGGING ONLY GOOD CABLES

```
1    LOAD. . . MY CABLE
2    APPEND TO LOG FILE
3    LOG HEADER
4    WAIT FOR PB
5    TEST  CABLE
6    COMPARE TEST  TO  MATCH
7    IF MATCH THEN . . .
8       LOG  TEST  RESULT
9       BEEP
10   IF NOMATCH THEN . . .
11      SKIP CABLE COUNT
12      BEEP BEEP
13   IF COUNT = 50
14      LOG SUMMARY
15      EXPORT LOG TO PDF...<COUNT
16      CLOSE LOG FILE
17   REPEAT 4
```

New instructions used in this example:
APPEND LOG FILE - This instruction works similar to Open Log File, the only difference is that the file must already exist to append to it. You can't create a new log file with this instruction nor overwrite an existing one. This instruction always adds a new page to the report, where it starts adding the new entries.

EXPORT LOG TO PDF... - This instruction works exactly as all previously explained Export to PDF instructions. A predefined name must be assigned when you insert this instruction, which can include variables and free form text to automatically generate a unique name for every pdf file created.

Explanation of Log-Example 2: There may be times when you prefer only to log "good" cables, particularly when the log report will be given to your customer. You may, for example, have a large uncounted bin of cables and need to make up a batch of 50 good cables for a customer. In this case, defective cables are diverted and passed to a rework station, or discarded. Of course, eliminating the log of defective cables makes it impossible to measure batch accuracy or judge operator efficiency.

(1) Your custom cable is loaded in step one, then (2) the Log File that you choose is opened and (3) the header is added to the file. (4) The program waits for you to press the PB and when pressed, (5,6) it tests the cable and compares it to the loaded one. (7) If the cables match, (8,9) it adds the pass result to the log file and beeps, however, (10) if the cables don't match, (11,12) is skips the cable count and beeps twice. (13) Once 50 cables are tested, (14) it will add the summary to the log file, (15) export the report to a PDF file and (16) close the log file. (17) Finally if less than 50 cables have been tested, it will repeat step 4.

LOG-EXAMPLE 3: ADDING CUSTOM COLUMNS TO YOUR LOG FILE REPORT

This example explains how to add custom columns to your log file report. These columns can contain important information, like the serial number of the cable or other critical data to identify each test.

Usually this data would be entered by the operator using the WAIT FOR SCAN... macro instruction, which is what this example uses. The data can be easily entered using a bar code scanner or typed in manually using the keyboard.

The first step is to define your custom columns for the report. To do this, go to the **Preferences** menu, and select **Batch Reporting**. A new window will open, with a checkbox in the lower part named Log Data, as shown on the right.

First, **enable** the **Log Data** box, and then in the **Data Name** column, **enter the names of the variables** that you want to use. You can add one or two custom columns. In the **Report Column Title**, enter the name that you want to display as the title of the column.

In this example, we will add the *Serial Number* and *Lot Number* of the cables in the report, stored in the *SERIAL* and *LOTCODE* variables respectively. The name of the columns will be *Serial* and *Lot*.

When done, **click the OK button**, located in the lower part of the panel to accept your changes.

At this point we are ready for the macro example.
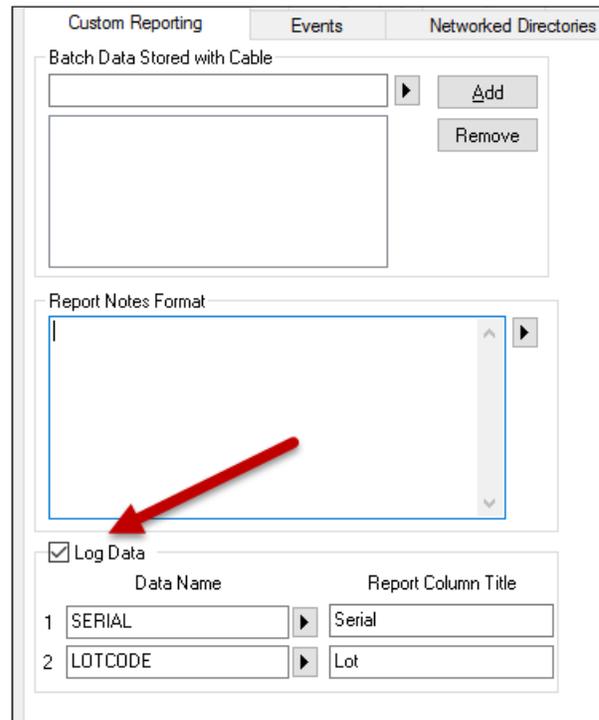
1	LOAD. . . MY CABLE
2	USE LOG FILE . . . <CABLENAME>
3	LOG HEADER
4	WAIT FOR SCAN . . . Enter_Batch
5	STOP
6	TEST CABLE
7	COMPARE TEST TO MATCH
8	IF MATCH THEN . . .
9	LOG TEST RESULT
10	BEEP
11	IF NOMATCH THEN . . .
12	BEEP BEEP
13	PRINT DIFFERENCE LIST
14	IF COUNT = 10
15	LOG SUMMARY
16	PRINT LOG FILE
17	CLOSE LOG FILE
18	STOP
19	REPEAT 4

New instructions used in this example:
USE LOG FILE - This instruction opens a log file, very similar to OPEN LOG FILE, but the big difference is that the name of the log file is predefined before the macro executes, so the name of the file is generated automatically.

This works like the EXPORT TO PDF instructions, where a variable or free text can be assigned to auto-generate the name.

When you insert the USE LOG FILE instruction, you can choose whether to append to the log file if it already exists or to create a new file with a version number, as shown in the image in the right.
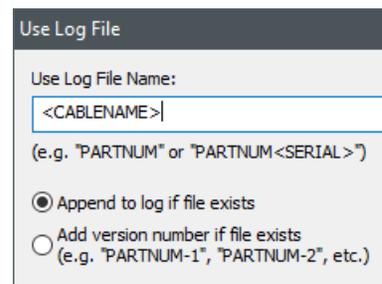
Explanation of Log-Example 3: In this example, we will use the WAIT FOR SCAN... instruction to acquire the data from the operator for the 2 custom columns, Serial and Lot.

(1) Your custom cable is loaded, in this example "MY CABLE", and (2) a log file is opened and automatically named "MY CABLE". Note that the variable <CABLENAME> was replaced by the name of the currently loaded cable, which is "MY CABLE". (3) The header is added to the log file.

(4) WAIT FOR SCAN is triggered and a new window appears, asking the operator to scan the data requested. Note that at this point the operator will enter the serial number and lot number that we are going to use in our Log File Report. In this example the serial number is 120, and the next one would be 121, and so on. If the middle button is pressed, (5) the program stops.

(6) The cable is then tested, (7) and compared. (8) If the cables match, (9,10) the result is added to the report, and the system beeps once, but (11) if the cables don't match, (12,13) the system beeps twice and the difference list is printed.

(14) If the count reaches 10, (15,16,17,18) the summary block is added to the report, the report is printed, the log is closed and the program stopped, otherwise, (19) the program is repeated until 10 pieces are tested.

At the end of the execution, you will get the result shown below, which includes our 2 new custom columns, with the data scanned by the operator:

Other Instructions not explained in examples:

CLEAR ERROR COUNT - This will clear the error count in the Log File, not in the macro execution counter.

LOG FAIL RESULT - This instructions logs the word "FAIL" to the report at any moment during the execution, independently of the test result. This instruction will also automatically skip the counter. Use this instruction instead of LOG TEST RESULT and SKIP CABLE COUNT, but only after an IF NOMATCH THEN... instruction.

OPEN/RESUME LOG FILE - Queries the operator for the name of a new log file and opens it. If the file exists, the operator can opt to append it or pick another file. In either case, the file is not overwritten.

7.4 Notes and Comments about Data Logging

1 – All of your log files are stored in the "Logs" folder within your CableEye folder. You may drag files out of this folder if you do not want them to appear in the list of log files when you open or print a log file.

2 – If you pause a Macro by clicking "Pause", the current statement number, count variable, and log state are preserved. At this time, you may perform manual tasks, such as viewing a wiring diagram or checking an individual cable, and restart the Macro with "Resume". The Macro resumes with the statement that immediately follows the one that was executing when you clicked "Pause".

Should you wish to end the log after pausing, you should click "Close Log" in the Macro menu and then "Stop". This will insert a log summary and close the file if a Log File was open.

3 – If you load a new Macro during the suspension of an existing Macro, any existing Log files are closed, and the count variable is reset.

4 – If you exit the program before a paused Macro is resumed, any existing Log files are closed.

5 – You may archive many Log files in your directory, if desired. To print an individual Log, click the "Print Log" button. A window then appears asking you to select from a list of log files in your "Logs" folder.

6 – During Macro execution, you see the following message against a red background, with the total number of test cycles and errors shown:

If a log file is open, this will be so indicated, as above. The Test Count and Errors will always appear during Macro execution, even if you are not using data logging.

7 – When you log test data intended for export to another program, you would typically log only the test result unless the destination software package allocated the first three lines for a header and the last line for the summary. You may always edit the log file with a word processor before importing it into the destination software.