

## ZUMI Log File

The ZUMI tester generates log files for each measurement.

Two forms of log file are available, the first is a test process summary called the INFO log, the second is the measured data log file called the DATA log.

Log files are stored to the SD card and/or transmitter over the serial interface.

## Log File Settings

### Settings via Menu Tree



### Settings Via Serial Command

SDCard Logging, [0 or 1]

Serial Logging, [0 or 1]

Full Data Logging, [0 or 1]

Log CFFT Data, [0 or 1]

Log Data Binary, [0 or 1]

NOTE: Sending the command with no argument retrieves the current setting

### Log To SD Card

At completion or termination of a test stores the INFO log to the SD card (and DATA log is Log Full Data is active).

When inactive neither INFO log nor DATA log is stored to the SD card.

## Log To Serial

At completion or termination of a test transmit the INFO log over the serial connection (and DATA log if Log Full Data is active).

When inactive neither INFO nor DATA log is transmitted.

## Log Full Data

when active the DATA log is stored on the SD card and/or transmitted over the serial connection when the test is completed or terminated.

## Log CFFT Data

When active the DATA log includes complex number representation of the DATA in addition to the normal magnitude and phase representation

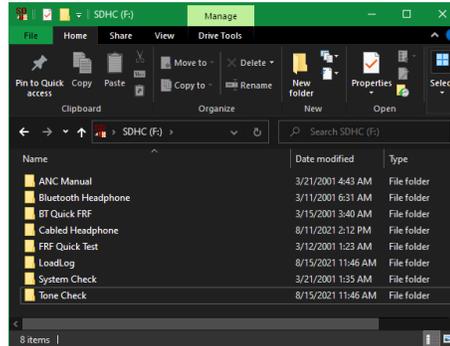
## Data Log Format

Specifies the DATA log format as either ascii text or Matlab V4 binary format. The binary format has the advantage of a greatly reduced file size but is not directly human readable. The ASCII format conversely offers the convenience of, for example, copy paste into a spreadsheet.

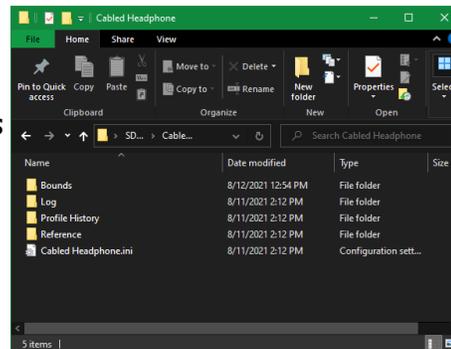
## SD Card Directory Structure

When an SD card is inserted into the tester it is automatically checked for the existence of the require directory structure, if the sctructure does not exist it is created.

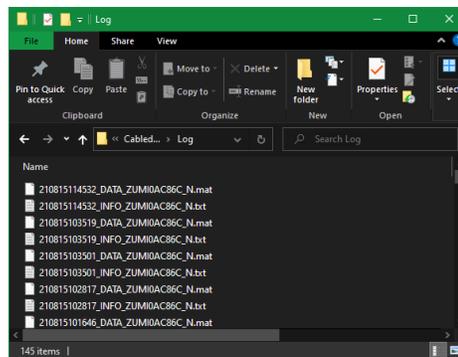
Each test profile has a folder on the root of the SD with the profile name;



Each profile folder has sub directories for Bounds, Log, Profile History and Reference. The profile folder also contains the profile configuration file \*.ini;



The log files, both INFO log and DATA log are stored in the Log folder. Each log file is given a file name with structure : [date-time]\_[DATA or INFO]\_[Machine ID]\_[Pass fail result].[mat or txt]



## INFO Log

```

010325023414_INFO_ZUMI0AC882_P.txt - Notepad
File Edit Format View Help
[START]
Start_Datetime = 010325023414
Test Counts = 10 , 1141670416
[PPRFL]
Bluetooth = Set state,A2DP
Bluetooth = AVRCP Volume,100
Action = Bluetooth,done
Acquisition = PPRFL, RMS 2.015566/0.227114
Averages = 0, done
[PPRFR]
Acquisition = PPRFR, RMS 2.123237/0.227153
Averages = 0, done
Calculation = Ch Bal, Passive ChBalance, Mean -0.100964
Pass Fail = Spectrum Level, PPRFL, PASSED, 101.704773
Pass Fail = Spectrum Level, PPRFR, PASSED, 100.773727
Pass Fail = Ch Bal, Passive ChBalance, PASSED, 0.754625
[AFRF]
Prompt = Switch On ANC,4s
Bluetooth = Set state,A2DP
Bluetooth = AVRCP Volume,100
Action = Bluetooth,done
Action = Prompt,canceled
Acquisition = AFRFL, RMS 1.990577/0.227171
Acquisition = AFRFR, RMS 2.070031/0.227159
Averages = 0, done
Calculation = Ch Bal, Active ChBalance, Mean -0.379367
Calculation = Offset, OffsetL, Offset dB -100.393433
Calculation = Offset, OffsetR, Offset dB -100.975090
Pass Fail = Polarity, AFRFR, PASSED, 5.045080
Pass Fail = Spectrum Level, AFRFL, PASSED, 100.684631
Pass Fail = Spectrum Level, AFRFR, PASSED, 100.967819
Pass Fail = Ch Bal, Active ChBalance, PASSED, -0.532836
[FINISH]
Elapsed_time_s = 8
overall_result = PASSED
BT MAC = 20:11:12:18:41:85
BT RSSI = -8
BT COD = 0x240404

```

The INFO log is formatted as an ASCII text ini file format. That is it is arranged in sections with key / value pairs.

The first section is always START and the last section is always FINISH. All other section names are the test items name specified in the test profile configuration file.

START section contains two lines.

The 'Start\_Datetime' in the format 'YYMMDDhhmmss'

The 'Test Counts' with two arguments, the first is the session count being number of test since the last boot or profile change, the second argument is the total test count being the number of tests since the total test counter was reset or the device factory reset.

FINISH section always contains the lines

Elapsed\_time\_s with the argument being the elapsed time in second of test execution. The resolution of this time counter is minimum 1 second.

overall\_result reports the pass fail judgment and can take the value PASSED, FAILED or NA.

If the test involved connection with a Bluetooth device the FINISH section will also contain; BT MAC, BT RSSI, BT COD, BT NAME of the connected device.

## INFO Log Entry List

The following table shows all possible INFO log file entries

*[ds]* means the actually log line has the dataset name in this position

*[f]* refers to a floating point number

*[i]* refers to an integer number

[Start]
Start_Datetime = [YYMMDDhhmmss]
Test Counts = [Session count] , [Total count]
[Test Item]
Bluetooth = AVRCP Capabilities, no response
Bluetooth = AVRCP Volume , not available
Bluetooth = AVRCP Volume , [i]
Bluetooth = Set state , [NONE   A2DP   HFP   SPP   CLOSE   LOOPBACK   IDLE]
Bluetooth = [AT+XAPL string]
Bluetooth = Battery Level, [i];
BT MAC = [MAC];
BT RSSI = [RSSI];
BT COD = [COD];
BT Name = [Name];
BTErrror = L2CAP Connection Failure
BTErrror = SDC_CONNECTION_FAILED
Acquisition = [ds] , RMS [Numerator rms]/[Denominator rms]
Averages = [Avgs count], done

Calculation = ANR , [ds], Peak [f] , Area [f], On RMS [f] , OSUpper [f], OSLower [f], ZXUpper [f], ZXLower [f]
Calculation = CH Bal , [ds] , Mean [f]
Calculation = FF Ideal Filter , [ds]
Calculation = Complex Divide , [ds]
Calculation = CHSeparation , [ds] , Min [f] , Max [f]
Calculation = Impedance , [ds] , ZNOM [f] , PeakFreq [f] , ZPeak [f], QTS [f]
Calculation = Offset , [ds] , Offset dB [f]
Calculation = Scale , [ds] , Scale dB [f]
Calculation = CHAssignment , [ds] , Difference [f], Src1 Mean [f], Src2 mean [f]
Calculation = Ref Difference , [ds] , Min [f] , Max [f]
Pass Fail = Bounds , [ds] , [Result] {, UPPER , [f] Hz , LOWER , [f] Hz}
Pass Fail = THD , [ds] , [Result] , [THD value]
Pass Fail = CH Bal , [ds] , [Result] , [Ch Bal value]
Pass Fail = Polarity , [ds] , [Result] , [Phase value]
Pass Fail = Spectrum Level , [ds] , [Result] , [Level value]
Pass Fail = CHAssignment , [ds] , [Result] , [Difference value]
Pass Fail = BT Name , [Result] , [BT Name]
bounds = [Dataset Group name] , reset
Repeat = [Repeat count], User Canceled
Action = [Action name] ,done
Action = [Action name] , canceled
Action = [Action name] , Failed
Prompt = [prompt message] , [elapsed time]
LoopToFail = start, [elapsed time]
LoopToFail = stop,fail detected,[elapsed time]
LoopUntilUser = start,[elapsed time]

LoopUntilPass = start,[elapsed time]
LoopToPass = stop,No active passfail,[elapsed time]
LoopToPass = stop,Pass detected,[elapsed time]
LoopUntilUser = Canceled,[elapsed time]
LoopToPass = Canceled,[elapsed time]
LoopToFail = Canceled,[elapsed time]
LoopUntilAutoSet = Canceled,[elapsed time]
AutoLevelAdjust = start,[elapsed time]
AutoLevelAdjust = stop,Invalid data type for auto set level,[elapsed time]
AutoLevelAdjust = stop,No active datasets,[elapsed time]
AutoLevelAdjust = stop, Level set [Level value]dB, Time [elapsed time]
User Stopped Test = true
[Finish]
Elapsed_time_s = [elapsed time value]
overall_result = [Result]

## DATA Log

```

File Edit Format View Help
# group: Passive Response
# num_of_datasets: 2

# name: PFRFL
# units: Hz      dB SPL/FS      deg
# type: matrix
# rows: 256
# columns: 3
10.000 114.241      1328.112
10.303 113.930      1336.465
10.614 113.661      1343.701
10.935 113.439      1349.688
11.266 113.267      1354.317
11.607 113.148      1357.504
11.958 113.086      1359.190
12.320 113.080      1359.346
12.693 113.131      1357.968
13.077 113.238      1355.080
13.473 113.400      1350.737
13.880 113.613      1345.017
14.300 113.873      1338.023
14.733 114.175      1329.885
15.179 114.515      1320.750
15.638 114.885      1310.783
16.111 115.280      1300.168
16.598 115.692      1289.098
17.101 116.113      1277.774
17.618 116.536      1266.403
18.151 116.952      1255.191
18.700 117.356      1244.344
19.266 117.738      1234.058
19.849 118.093      1224.522
20.450 118.413      1215.908
21.068 118.693      1208.375
21.706 118.928      1202.060
22.363 119.113      1197.076
23.039 119.246      1193.516
23.736 119.323      1191.444
24.454 119.344      1190.850
25.194 119.342      1188.868
25.957 119.339      1183.913
26.742 119.334      1176.250
27.551 119.327      1166.284
28.385 119.319      1154.545
29.243 119.311      1141.657

# group: Passive Response
# num_of_datasets: 2

# name: PFRFL
# units: Hz      dB SPL/FS      deg
# type: matrix
# rows: 256
# columns: 3
10.000 114.241      1328.112
10.303 113.930      1336.465
...
19412.656      113.512      -27690.979
20000.008      112.510      -26962.180

# name: PFRFR
# units: Hz      dB SPL/FS      deg
# type: matrix
# rows: 256
# columns: 3
10.000 114.418      1328.031
10.303 114.096      1336.451
...
19412.656      114.487      -26507.652
20000.008      112.945      -25808.418

# group: Passive ChBalance
# num_of_datasets: 1

# name: Passive_ChBalance
# units: Hz      dB      deg
# type: matrix
# rows: 256
# columns: 3
10.000 -0.177 0.000
10.303 -0.166 0.000
10.614 -0.156 0.000
...
19412.656      -0.976 0.000
20000.008      -0.435 0.000

# group: Active Response
# num_of_datasets: 2

# name: AFRFL
# units: Hz      dB SPL/FS      deg
# type: matrix
# rows: 256
# columns: 3
10.000 114.029      1328.465
10.303 113.705      1336.917
...
19412.656      113.516      -29034.137
20000.008      112.412      -28361.852

# name: AFRFR
# units: Hz      dB SPL/FS      deg
# type: matrix
# rows: 256
# columns: 3
10.000 114.418      1328.031
10.303 114.096      1336.451
...
19412.656      114.487      -26507.652
20000.008      112.945      -25808.418

```

When the DATA log file is set to ASCII \*.txt mode the data file is generated in the format shown above. This is in fact Octave (MATLAB clone software) ASCII data file format. The single file contains all datasets.

When the DATA log file is set to binary \*.mat mode the data file generated is MATLAB V4 format. These binary data files also contain all datasets from the measurement.