ext_analyzer

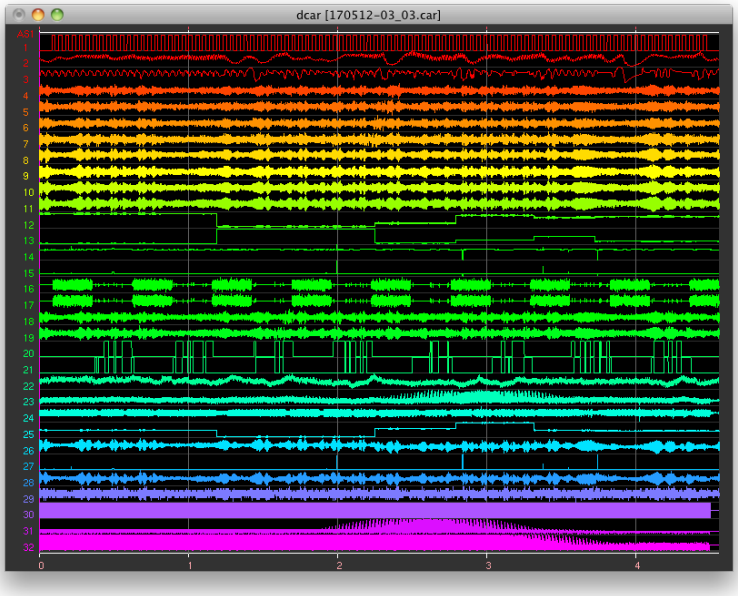
Analyzer for digital signal in car data
If you record both of stimulus timings and subject's responses, you can obtain response delays.

	Data format name	File extension
Input data	car2/car3	car
Output data	standard output	

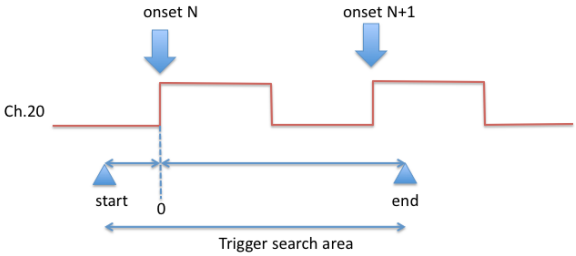
Example

ext_analyzer

> ext_analyzer 170512-03_03.car <RET>



>ext_analyzer 170512-03_03.car <RET>
*** Car3 data ***
Header size: 55
--- acq bit packed data ---
Header size : 55 bytes
TIME : 170512 141656
Description : RKNBSI 96689
DataType : FLOAT
Sample rate : 100 Hz
Termconf : RSE
min,max : -10,10
Number of channel is 32
Number of sample point is 27359
Input the trigger channel number[1~n] (minus value for offset trigger) : 20 // Detect triggers for the 20th channel
Reference = 20th Channel -Onset-
Time window for the analysis (Reference timing = 0)
Start = -1 // Search area starts from -10ms
End = 100 // Search area ends at 1000ms
Trigger CH1ON CH1OFF CH2ON CH2OFF CH3ON CH3OFF CH4ON CH4OFF CH5ON CH5OFF CH6ON CH6OFF CH7ON CH7OFF CH8ON CH8OFF CH9ON CH9OFF CH10ON CH10OFF CH11ON CH11OFF CH12ON CH12OFF CH13ON CH13OFF CH14ON CH14OFF CH15ON CH15OFF CH16ON CH16OFF CH17ON CH17OFF CH18ON CH18OFF CH19ON CH19OFF CH20ON CH20OFF CH21ON CH21OFF CH22ON CH22OFF CH23ON CH23OFF CH24ON CH24OFF CH25ON CH25OFF CH26ON CH26OFF CH27ON CH27OFF CH28ON CH28OFF CH29ON CH29OFF CH30ON CH30OFF CH31ON CH31OFF CH32ON CH32OFF
AllTrg 0 0 3 3 114 115 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 4 4 1 1 0 0 0 0 0 0 0 0 29 29 33 33 0 0 0 0 0 0 0
……



To make a output text file,
>ext_analyzer 170512-03_03.car | tee result.txt <RET>

```
*** Car3 data ***
Header size: 55
--- acq bit packed data ---
Header size : 55 bytes
TIME        : 170512 141656
Description : RKNBSI 96689
DataType    : FLOAT
Sample rate : 100 Hz
Termconf    : RSE
min,max     : -10,10
Number of channel is 32
Number of sample point is 27359
Input the trigger channel number[1~n] (minus value for offset trigger) : Reference = 20th Channel -Onset-
Time window for the analysis (Reference timing = 0)
Start = End = Trigger   CH10N   CH10FF  CH20N   CH20FF  CH30N   CH30FF  CH40N   CH40FF  CH50N   CH50FF  CH60N   CH60FF  CH70N   CH70FF  CH80N   CH80FF  CH90N   CH90FF  CH100N
AllTrg  0   0   3   3   114 115 0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   4   4   1   1   0   0   0   0   0   0   0   0   29  29  33  33
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
2605    *   *   *   *   15  44  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   19
3000    *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   96  88  *
3317    *   *   *   *   61  70  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   1
5501    *   *   *   *   97  98  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
5968    *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
6190    *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
6704    *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   2
8647    *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   56  54  *
9471    *   *   *   *   *   40  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
9811    *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   0
11829   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
12341   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
12535   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
12910   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   1
13165   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   3
15721   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   52  41  *
15826   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   4
16422   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   42  34  0
16596   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
19031   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   2
21422   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
21760   *   *   *   *   41  54  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   1
22006   *   *   *   *   72  81  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   3
22310   *   *   *   *   56  65  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   0
22570   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   34  27  2
22843   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
24739   *   *   *   *   *   22  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
25309   *   *   *   *   58  *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   *
25656   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   *   0   *   *   1
--- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- --- ---
29  0   0   0   0   7   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   0   29  5   5   14  0
Average -   -   -   -   57.1429 59.25  -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   -   0   56
```

29 onset triggers were found for 20

```
>ext_analyzer
##########################################################
#    Analog data (.ext/.alg/.car) processing tool v1.0.5 #
##########################################################
Usage: ext_analyzer FILENAME (threshold)
threshold: -5~5 [default=2.5]
Example:
$> ext_analyzer 031023.ext<RET>
$> ext_analyzer 031023.ext -1<RET>

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by Ken