MATLAB Script for HIOKI MEMORY HiCORDERs

BASIC OVERVIEW

1. The MATLAB script enables the user to read measurement files captured by the MEMORY HiCORDER's MEMORY function into MATLAB (excluding waveform calculations).
2. Supported HIOKI instruments:

- Model 8860,8861 MEMORY HiCORDER(Ver1.03 or later)
- Model 8860-50,8861-50 MEMORY HiCORDER(Ver1.03 or later)
- Model 8835-01 MEMORY HiCORDER(Ver1.03 or later)
- Model 8841,8842 MEMORY HiCORDER(Ver2.31 or later)
- Model 8826 MEMORY HiCORDER(Ver2.30 or later)
- Model MR8847 MEMORY HiCORDER
- Model MR8875 MEMORY HiCORDER
- Model MR8740,MR8741 MEMORY HiCORDER
- Model MR8827 MEMORY HiCORDER
- Model MR6000 MEMORY HiCORDER
- Model MR8740T MEMORY HiCORDER

PC ENVIRONMENT

Microsoft Windows + MATLAB R2019b (please refer to MATLAB operating specifications for further details)

HOW TO INSTALL

1. Extract "mhdriver.zip" onto the computer's hard drive to unpack two files/directories:
   - matlabscript-v301e.pdf (this file)
   - mhdriver.p
2. Copy or move the entire "mhdriver.p" file to the MATLAB [work] folder.

FUNCTION SPECIFICATIONS

Data from the MEMORY HiCORDER is identified in MATLAB as follows:

[cUsage dData] = mhdriver('filename', 'cKind'<,dTop, dLengs>)

Each argument is defined as follows:

Input Argument

@filename
>
> Specifies the file name

@cKind
>
> Specifies the desired data
> - Time axis = time (in the 8860 series, Time Axis 1/Time Axis 2 = time1 / time2)
> - Voltage value = analog
>   > (in the 8860 series, Time Axis 1/Time Axis 2 = analog1 / analog2)
>   > (in the MR6000 recorder data, max/min = analog-max / analog-min)
> - Logic data = logic
>   > (In the 8860 series, Time Axis 1/Time Axis 2 = logic1 / logic2)
>   > (in the MR6000 recorder data, OR/AND = logic-or / logic-and)
> - Pulse data = pulse (Model MR8875 only)
> - Realtime calculation data = calc (Model MR6000 only)
>   > (in the MR6000 recorder data, max/min = calc-max / calc-min)

@dTop
>
> The data grab position can be specified as a point from the head of the data. If omitted, data grab position will be the head of the data (0).

@dLengs
>
> Specify the number of data.   This is available when using @dTop to designate the data grab position.   If this is omitted, all data will be selected.

Output Argument

@cUsage (char array)
>
> Displays the number of analog channels saved in a file as a character string.
> 0 = not saved.
> When the time axis data is retrieved by specifying [time] for @cKind, the trigger time is stored.

@dData (double array, logic = unit8 array)
>
> Stores the specified data as an array
> Unsaved data are compressed

EXAMPLES:

- [cTimeUsage dTime] = mhdriver('data.mem', 'time')
  > The time axis data of the waveform file "data.mem" are stored in the MATLAB array

- [cAnalogUsage dAnalog] = mhdriver('dual.mem', 'analog2')

Analog waveform data for two axes of the 8860 waveform file "dual.mem" are stored in the MATLAB array

- [cPulseUsage dPulse] = mhdriver('pulse.mem', 'pulse')
Pulse waveform data from the MR8875 waveform file "pulse.mem" are stored in the MATLAB array

NOTES:

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