

The terminal for the Windows The software

AJATERM

SDK for the add-in creating

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1. The overview

“あじやた-”(the version after 1.2.0.0) “む” can extend the feature of the software with the add-in.

It creates an add-in in DLL and an export is done from DLL The following function is invoked from “あじやた-む”.

#	The function name	The summon timing	Remarks
1	AjtAddinSetProp	“The property of the add-in” of → of “the setting of an add-in” of “the setting” → The time of the menu selection	
2	AjtAddinOpened	When the communications line is open	
3	AjtAddinClosed	When a communications line is closed	
4	AjtAddinChartData	Immediately before displaying data in the time chart	Changing the data value to display and The display of the concerned data can be stopped.
5	AjtAddin2DPlotData	Immediately before displaying data in the 2-D plot	
6	AjtAddin3DPlotData	Immediately before displaying data in 3D plot	
7	AjtAddinChartOpen AjtAddinChartClose	The case of the opening of the time chart window/When closing	
8	AjtAddinChartClear	The clear notice of the time chart window	
9	AjtAddin2DPlotOpen AjtAddin2DPlotClose	The case of the opening of the plot window of 2 D/When closing	
10	AjtAddin2DPlotClear	The clear notice with the plot window of 2 D	
11	AjtAddin3DPlotOpen AjtAddin3DPlot	The case of the opening of the 3D plot window/When closing	
12	AjtAddin3DPlotClear	The clear notice of the 3D plot window	

※ As for the specification with each function, refer to “あじやた-む the operating manual” (AjrTerm.pdf).

This SDK (the sample program) implements all of the above functions.

Also “AjtAddinSetProp” “AjtAddinChartData” “AjtAddinChartOpen” “AjtAddinChartClose” At the function, it implements the 2nd floor integration filter processing samples of the chart data. The other function becomes the implementing only of a skeleton.

In this book, SDK for the add-in DLL creating of AJATERM is described.

2. The composition of SDK

Because this SDK is provided in compressed file "AjrTermSDK.zip", use for either folder, extracting.
The folder composition behind the extract is as the following.

 AjrTermSDK	—————	The solution file for the DLL build (AjrTermSDK.sln)
 AjrCtlXX	—————	Tool library (AjrCtl32/AjrCtl64) … ※ 1
 AjrTermSDK32	—————	The DLL creating projects for 32 bits (WIN32)
 AjrTermSDK64	—————	The DLL creating projects for 64 bits (WIN64)
 bin	—————	DLL which did a build (AjtAddIn32.dll, AjtAddIn64.dll)
 doc	—————	This book (AjrTermSDK.pdf)
 src	—————	The source program of add-in DLL, the resource file

※ 1 : This SDK creates add-in DLL using the tool library (AjrCtl32/AjrCtl64).

" of the explanation of this toolAjrTermSDK¥AjrCtlXXRefer to ¥doc¥AjrCtl32.pdf".

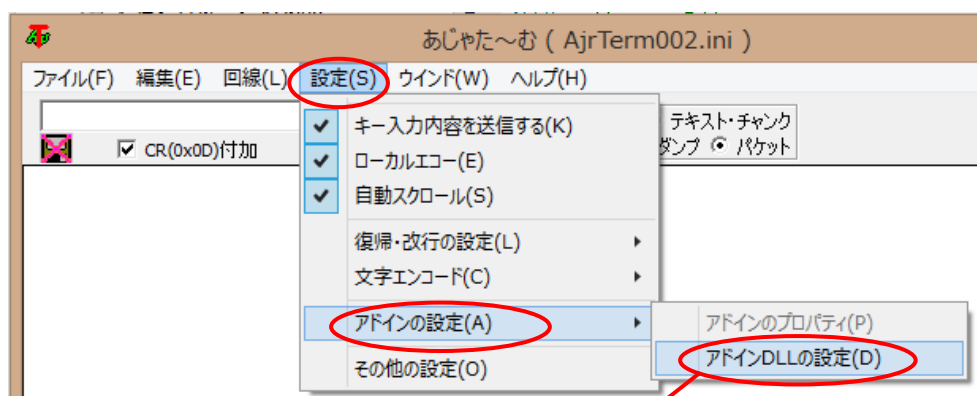
This SDK is provided in the form of the project of "VisualStudio 2010".

When using a version after "VisualStudio 2010", change a project for the concerned version.

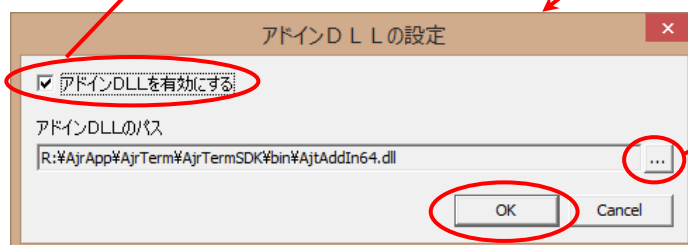
(VisualStudioWell, if starting up "AjrTermSDK.sln", the being of it of change guide's being automatically displayed is done).

3. The add-in application to AJATERM

To apply the add-in DLL which was created in this SDK, it specifies concerned DLL by the menu of "the setting of add-in DLL" of → of "the setting of an add-in" of "the setting" → from AJATERM.



The add-in becomes valid when checking here.



When pushing this button, it is DLL choice dialog. However, it is displayed.

When using "あじやた〜む" for the 32-bit environment, when using "あじやた〜む" for the 64-bit environment in "bin¥AjtAddIn32.dll", set "bin¥AjtAddIn64.dll".

4. The contents of sample add-in DLL

This SDK (the sample program) implements integration filter processing (by the trapezium rule) of the chart data.
The arithmetic expression of the integration filter is as the following.

$$\begin{aligned}
 T &= h \frac{f(a) + f(a+h)}{2} + h \frac{f(a+h) + f(a+2h)}{2} + h \frac{f(a+2h) + f(a+3h)}{2} + \dots \\
 &\quad + h \frac{f(a+(N-1)h) + f(a+Nh)}{2} \\
 &= \frac{h}{2} \sum_{j=0}^{N-1} [f(a+jh) + f(a+(j+1)h)]
 \end{aligned}$$

In other words, it finds the amount with the trapezoid area of N 個 from the chart data of $+1 N$ and it makes this a filter value.

" $f(a)$ " is " f (in the present chart data value. $a+h$) " means the following chart data value.

" h " means and expresses trapezoid height by data occurrence period [second].

" N " is a processed trapezoid number and becomes the number -1 of the occurring data.

" T " means the amount with trapezoid area.(This becomes a filter value).

By computing this integration computation in the multiple resemblance, the 1st floor-the 5th floor integration can be computed.

4.1. The application of the DC offset cancellation and the 2nd floor integration filters

It sets DC offset cancellation and an integration filter by sample add-in DLL by the following dialog with the menu of "the property of the add-in" of → of "the setting of an add-in" of "the setting" → from "あじやた〜む".

○ When pushing the button in the part which is, it puts on a value by the direct entries. After value entry, it presses this button again.

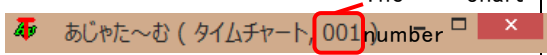
When checking "it makes an add-in valid", the integration filter processing becomes valid.

When checking "it displays a corrugation in front of the offset cancellation, too", a crude corrugation in front of the offset cancellation is displayed.

When removing this check box, the corrugation which is filled with the data for the offset cancellation isn't displayed.

By three group boxes of "chart window A-C", it applies to which chart window and it sets.

To apply DC offset cancellation/an integration filter, by the chart window A-C group box, it sets the following parameter.

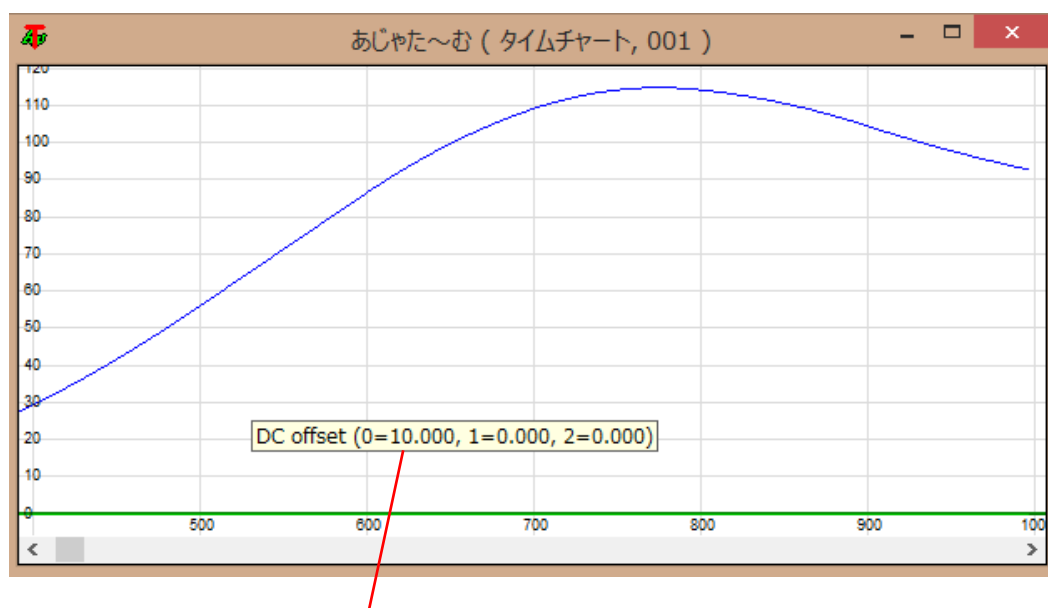
The name	The contents	The specification value	Remarks
The chart The number	The number which is displayed in the title bar of the chart window	1-10	The chart number 
The period [The ms]	"h" of the previously shown arithmetic expression, i.e. the trapezoid height	1-10000	It does the specification of the occurrence period of the data per millisecond. It is changed into the value per second in computation. (ex.) 10 [ms] → 0.01 [sec])
It revises DC offset.	It does DC offset cancellation when checking.	-	-
The number of the first time data (The number of the revision data accumulations)	It specifies the number of the data to compute DC offset.	—	-
It is the number of the revision timing data since the 2nd.	It specifies offset cancellation timing after the data expiration for the DC offset by the number of the data.	-	-
The data number specification	It specifies the number of the data to compute DC offset.	10 - 100000	-
Of 1 screen 分	It makes the number of the data to compute DC offset the number of the data for 1 screen.	-	-
The integration	It specifies the number of times of the	0-5	When specifying 0, it doesn't compute, integrating.

floor number	integration.		When doing the 2nd floor integration, it specifies 2.
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As for the already displayed chart window, all data is cleared (the screen clearance) when setting data by the above dialog and pushing "OK" button.

4.2. The display of the Carib value (the DC offset value)

displayed with the tool chip text when the calculated Carib value (the DC offset value) places a cursor on the time chart window .



When placing a cursor on the window, it displays a calculated Carib value (the DC offset value).

5. The contact

As for contact about this software, deliver the head of the title to the following e-mail address as "Ajara :".

xxxajarakojara@kk. email. ne. jpxxx

[Note] Delete "xxx" of the head and the end.
Because "@" becomes an em, correct to one-byte.