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HSB API Example

Description and Reference

With Microsoft Visual C/C++ 5.0

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The HSB example is an example program that shows how to use the HSB interface of a HERON carrier board. The example assumes you have loaded the DSP program onto the DSP module using Code Composer Studio, and will try to send and receive messages between the Host and the DSP module.

(This example will **not** work with TIM-40 carrier boards such as the HEPC2E, HEPC3, HEPC4 or HECPCI1. It will also **not** work with the HEPC6, a one 'C6x processor board.)

Compiling, Linking and Running the example

Compiling/Linking the Example

To compile/link the example, please create a new project with your Microsoft C/C++ 5.0 compiler ('Win32 Console Application'). After you created a new project, you need to set the path to the Hunt Engineering API include file ("heapi.h") and library ("hendrv.lib"). There is an environment variable "HEAPI_DIR" that points to the directory where you installed the Hunt Engineering API.

Include directory: \$(HEAPI_DIR)

Add library file: \$(HEAPI_DIR)\hendrv.lib

How to create and start a new project (Visual C/C++ 5)

In Microsoft Visual C/C++, create a new workspace

1. File → New
2. A new window has appeared. Select 'Win32 Console Application'.
3. In 'Location', use the browse button to change directory to the 'host_hsb' example directory.
4. In 'Project Name' type 'host_hsb'.
5. Click 'OK'.

Add files and libraries to the project

6. Project → Add to Project → Files
7. In 'Files of Type' select 'C++ Files (.c; .cpp; .cxx; .tli; .h; .tlh; .rc)'.
8. You may have to browse one or two directories up (or down, depending on your view-point). Select 'host_hsb.c'. To select more than 1 file at the same time, keep the CTRL key pressed then click on a filename.
9. Click 'OK'.
10. Project → Add to Project → Files
11. In 'Files of Type' select 'Library Files (.lib)'.
12. Change the window directory to 'c:\heapi' (or the directory where you installed the HUNT ENGINEERING API into)
13. Select 'hendrv.lib'.
14. Click OK.

Include files

15. Project → Settings
16. Select 'C/C++' tab.
17. In 'Category', select 'Preprocessor'.
18. In 'Additional include directories' type '\$(HEAPI_DIR)'. (Or type the directory where you installed the HUNT ENGINEERING API into.)
19. Click 'OK'.

Linker

20. The 'hendrv.dll' library has been linked against the multi-threaded version of the C RTL. This is because it uses threads in some cases to handle asynchronous I/O. Any application using 'hendrv.dll' (i.e. all Win32 API applications!) should also be linked against the multithreaded RTL (either debug or release versions). These can be selected as follows:
21. Project → Settings.
22. Select the 'C/C++' window.
23. From the 'Category' pull down menu select 'Code Generation'.
24. In the 'Use run-time Library' pull down menu select a multi-threaded library.
25. Click 'OK'.

Compile and Link

26. Do a Build → Rebuild All (or a Build → Build host_hsb.exe).

Running the example

Open a DOS box and browse to the host_hsb directory. Change directory to your project's Debug directory (or the Release directory, if you built a release version). Assuming that your executable is called 'host_hsb.exe', and you use a HEPC8 carrier board, type:

```
host_hsb
```

(You should have loaded 'heron_hsb.out' onto the DSP beforehand, for example by using Code Composer Studio). Following the instructions you should see messages being sent between the DSP and the Host.

The code for the out files is in the host_dsp example's 'dsp' sub-directory.

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