

CREATING NEW PROJECTS IN CCSV4 FOR THE TMS320C6713 DSK

Milwaukee School of Engineering Created: 4 August 2010 Last Update: 4 August 2010

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OVERVIEW

In this tutorial you will create the "Loop_stereo_test.out" executable from scratch

- This tutorial covers the following:
 - Creating a new CCS v4 project
 - Assigning the DSK configuration file to the project
 - Configuring the Compiler and Linker settings
 - Adding source and other necessary support files
 - Building the executable and testing it on the DSK

CREATING A NEW PROJECT: 1 OF 2

- Select "File > New > CCS Project"
 Name the project "Loop_stereo_test2"
 Select "Next"
- The Project Type must be "C6000"
 Select "Next"



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CREATING A NEW PROJECT: I OF 2

- The CCS Project Settings must exactly match the settings shown on the right
 - Device Variant: Generic C67xx Device
 - Device Endianness: little
 - Code Generation tools: 6.1.9
 - Target content: Use DSP/BIOS v5.xx

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SETTING THE TARGET CONFIGURATION

We must tell CCS that our hardware platform is the c6713 DSK
 We already created a target configuration file (in part II of this tutorial) so we just need to assign that file to the project

Select "View > Target Configurations"
Under "User Defined" you will find "c6713DSK.ccxml"
Right-click the file and select "Link File to Project >

Loop_stereo_test2"



COMPILER AND LINKER SETTINGS: 1 OF 4

We now must configure the compiler and linker
Return the "View" to the "C/C++ Projects" tab
Select "Project > Properties"
Under (C/C++ Build : Tool Settings : C6000 Compiler : Predefined Symbols)
Add a symbol named CHIP_6713

Properties for Loop_stere	o_test2	
type filter text	C/C++ Build	$(\neg \bullet \circ) \bullet$
 Info Builders C/C++ Build C/C++ Documentatior C/C++ File Types C/C++ Indexer CCS Build CCS Debug 	Active configuration Project Type: C6000 Configuration: Debug Configuration Settings Tool Settings Build Steps Error Parsers Binary Parser Environment Macros	▼ ▼ Manage
Project References Refactoring History	Basic Settings: Pre-define NAME (define, -D) CHIP_6713 Basic Options: Symbolic Debug Options: Language Options: Predefined Symbols: Include Options: Diagnostic Options: Runtime Model Options: Runtime Model Options: Runtime Model Options: Undefine NAME (undefine, -U) 	 ● 월 월 등 ☆ ● 월 종 등 ☆

COMPILER AND LINKER SETTINGS: 2 OF 4

Under (Tool Settings : C6000 Compiler : Include Options)

- Add directory "C:\DSK6713\c6000\bios\include"
- Add directory "C:\DSK6713\c6000\dsk6713\include"

Properties for Loop_stere	o_test2
type filter text	C/C++ Build ⇔ • ↔ •
Info Builders C/C++ Build C/C++ Documentation C/C++ File Types C/C++ Indexer CCS Build CCS Debug	Active configuration Project Type: C6000 Configuration: Debug Configuration Settings Tool Settings Build Stars, Error Parcers, Binany Parcer, Environment, Macros
- Project References	Worksettings Build Settings End Yeaser End Yeaser End Yeaser Basic Settings: Specify a preinclude file (preinclude) Browse Basic Options: Symbolic Debug Options: Add dir to #include search path (include_path, -1) Image: Secting Section S

COMPILER AND LINKER SETTINGS: 3 OF 4

Under (Tool Settings : C6000 Compiler : Runtime Model Options)

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Set "Data access model" to "far"

🖄 Optimizations:

Feedback Options:

Assembler Options:

File Type Specifier

Entry/Exit Hook Options:

🖄 Library Function Assumption

Properties for Loop_stere	o_test2
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···· C/C++ Indexer ···· CCS Build ···· CCS Debug	Configuration Settings Tool Settings Build Settings Build Steps Error Parsers Binary Parser Environment Macros
Project References Refactoring History	 Basic Settings: Compile for power profiling (profile:power) Generate big endian code (big_endian, -me) Speculate loads with unbounded address ranges (speculate_unknown_loads) Symbolic Debug Options: Use const to disambiguate pointers. (use_const_for_alias_analysis, -ox)
	Canguage options: Specify maximum disabled interrupt cycles (interrupt_threshold, -mi) Disable software pipelining (disable_software_pipeline, -mu) Olisable software pipelining (disable_software_pipeline, -mu)
	Include Options: Allow reassociation of PP antimetic (rp_reassoc) Diagnostic Options: Place each function in a separate subsection (gensubsections, -mo)

Const access model (--mem_model:const)

Assume no irregular alias or loop behavior (-

Data access model (--mem_model:data) far

Enable 62xx compatibility (--target_compatibility_6200 --mb)

ad aliases, -mt)

Generate verbose software pipelining information (--debug_software_pipeline, -mw)

COMPILER AND LINKER SETTINGS: 4 OF 4

Under (Tool Settings : C6000 Linker : File Search Path)

- Add file "C:\DSK6713\c6000\bios\lib\csl6713.lib"
- Add file "C:\DSK6713\c6000\dsk6713\lib\dsk6713bsl.lib"

Select "Apply" and then "OK"

Properties for Loop_stere	o_test2 (Filtered)	
type filter text	C/C++ Build	
C/C++ Build CCS Build Settings	Active configuration Project Type: C6000 Configuration: Debug	▼ Manage
	Configuration Settings Tool Settings Build Settings Build Steps Error Parsers Binary Parser Environment Macros	
	Basic Settings: Include library file or command file as input (library, -l) Statistic Settings: Include library file or command file as input (library, -l) Basic Options: "C:\DSK6713\c6000\bios\lib\csl6713.lib" Basic Options: "C:\DSK6713\c6000\dsk6713\lib\dsk6713bsl.lib" Parser Preprocessing Options: "C:\DSK6713\c6000\dsk6713\lib\dsk6713bsl.lib"	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2
		2 2 2 5 2
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COMPILER AND LINKER SETTINGS: 1 OF 2

We now must add the C source file and other supporting files
Select "Project > Add Files to Active Project"

Navigate to the "TestPrograms" directory (e.g., "D:\DSPworkspace\TestPrograms")
Select "Loop stereo test.c" and press "Open

You should now see the source file under the project tree.
Double-clicking the file will open it in the editor window.

COMPILER AND LINKER SETTINGS: 2 OF 2

Repeat the process by adding the following files from the "Support" directory

"C6713dsk.cmd"
 "c6713dskinit.c"

- "C6713dskinit.h"
- "Vectors_intr.asm"
- Your Professor will provide more details on each of the files.

Each file added will appear in the project tree



BUILDING THE PROJECT

Select "Project > Build Active Project"

The project should build without errors (you may see warnings)

If built successfully, the "Loop_stereo_test2.out" file will appear under "Binaries" in the project tree

C/C++ - Loop_stereo_test.c - Code Composer Studio (Licensed : 28 Days Remaining)		
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📋 🡍 👍 C:/Program Files (x86)/Texas Instruments/ccsv4/tools/compiler/c6000/include	25	}
Loop_stereo_test2/Debug	26	
🖶 🕒 C:/Program Files (x86)/Texas Instruments/bios_5_41_02_14/packages/ti/bios/include	276	void main()
C:/Program Files (x86)/Texas Instruments/bios_5_41_02_14/packages/ti/rtdx/include/c6000	28	{

TESTING THE PROJECT

Test the program on the DSK by starting the debugger.

The ".out" file of the active project is automatically downloaded to the DSK when the debugger is started

► CONGRATULATIONS!!!