TEC2 CCM Programming Instructions

Using H-JTAG Software and H-JTAG Download Probe



BETTIS

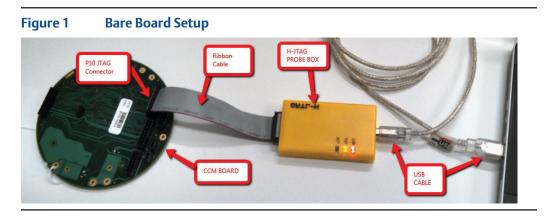
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Section 1: TEC2 CCM Programming Instructions

1.1 Using H-JTAG Software and H-JTAG Download Probe

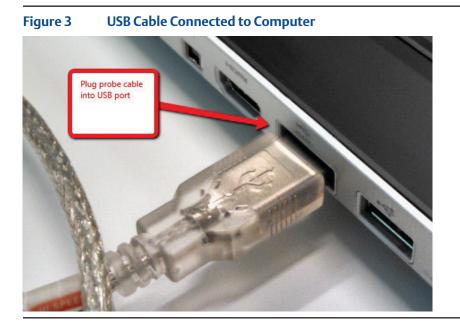


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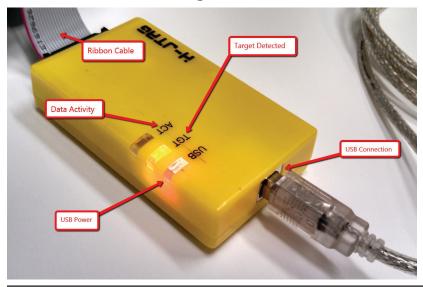
NOTE:

Hjtag Probe has been modified. Software is available at http://www.hjtag.com/en/index.asp.

1. Connect the H-JTAG probe box and USB cable to the computer.



- 2. Connect the H-JTAG probe box to the USB cable.
- Figure 4USB LED should light when USB Cable is connected to PC
and Probe. The TGT LED should light when the Ribbon cable is
connected between Board and H-JTAG Probe. ACT LED should light
when data is being transferred.

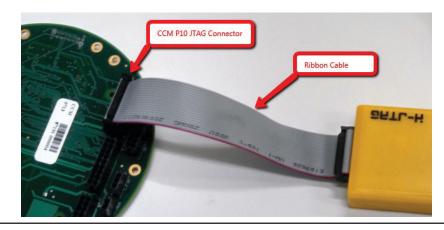


3. Connect the ribbon cable to the P10 JTAG connector on the CCM board.

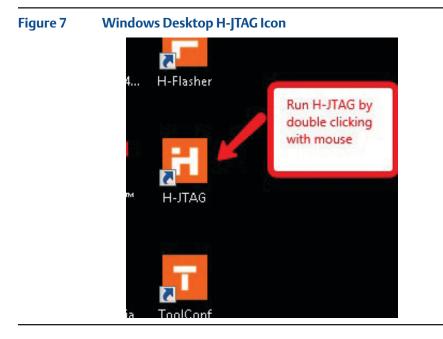




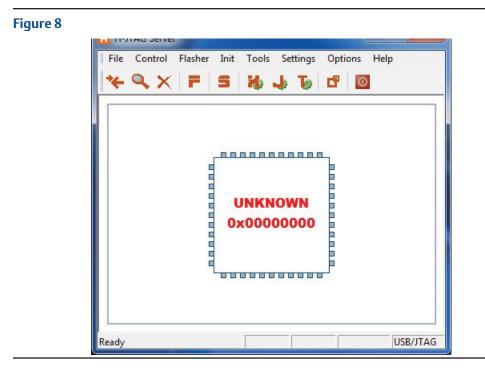
Figure 6 Ribbon Cable on CCM Bare Board Setup – JTAG Ribbon on CCM P10 Connector



4. On computer, run the H-JTAG software by doubling clicking the H-JTAG Icon.



5. H-JTAG Server should start running.



6. Click on the magnifying glass icon.

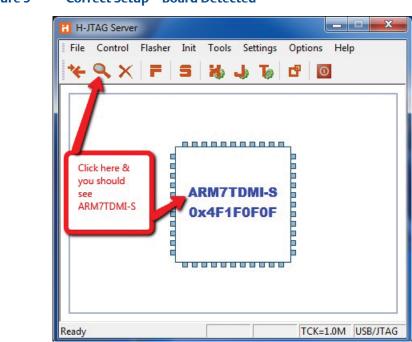
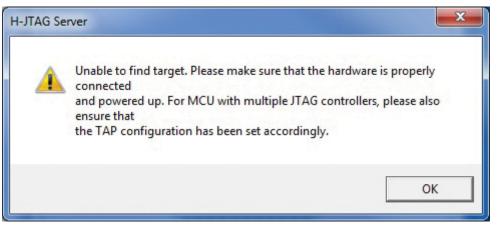


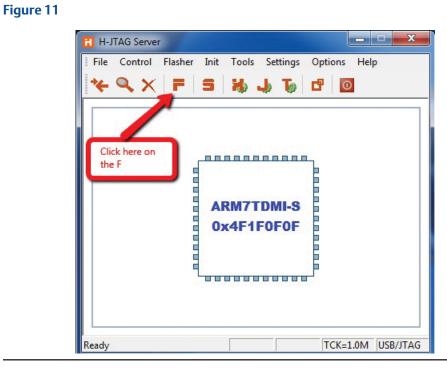
Figure 9 Correct Setup – Board Detected

7. If you do not see the ARM7TDMI-S, ensure that the TGT LED and USB LED are both lit on the H-JTAG Probe. See Figure 4 and check connections. See Appendix to supply power from probe, otherwise external power must be supplied.

Figure 10 Incorrect Setup – Board NOT Detected



8. Click on the F.



9. H-Flasher window will come up.

-	
H-Flasher	
New Load Save Save As Options Exit About	
Program Wizard >> Flash Selection	
Image: Flash Selection Configuration Init Scripts Programming Pay Options General On-Chip Flash Production H-Flasher Help H-Flasher Help H-Flasher Help H-Flash Selection H-Flasher Help H-Flasher Help <th>Vendor: ADI PartNo: Type: Sector: Size: ID: Width:</th>	Vendor: ADI PartNo: Type: Sector: Size: ID: Width:

10. For Step 1 Flash Selection, pick NXP.

H-Flasher		
lew Load Save Save As	Options Exit About	
Program Wizard	>> Flash Selection	
 Flash Selection Configuration Init Scripts Programming Pgm Options General On-Chip Flash Nand Flash Production H-Flasher Help 	AMD AMIC AMIC AMIC AT91SAM AT91SAM3 ATMEL SES ESI ESI ESI ESI ESI FUJITSU FUJITSU-FM3 HYNIX INTEL LUMINARY MACRONIX MICRON NXP UPC1101LV UPC1101LV UPC1102	 Vendor: ADI PartNo: Type: Sector: Size: ID: Width: For Flash Selection, click on NXP

11. Pick NXP LPC2368.

ew Load Save Save As	Options Exit About	
Program Wizard	>> Flash Selection - LPC2368	
 Flash Selection Configuration Init Scripts Programming Pgm Options General On-Chip Flash Nand Flash Production 		Vendor:NXPPartNo:LPC2368Type:ON-CHIP FLASHSector:28Size:504 KBID:0x1600F925Width:8-BIT
H-Flasher Help	LPC2366-IRC LPC2367 LPC2367-IRC LPC2368-IRC LPC2377-IRC LPC2377-IRC LPC2378-IRC LPC2378-IRC	Select NXP LPC2368

12. Click on Step 2 Configuration, enter 19.6606.

gure 15			
H-Flasher			
New Load Save Save As Program Wizard 1 Flash Selection	Options Exit About	2368 🛻 💼	
Configuration Init Scripts Programming	Flash Width x Chip: Flash Start Address:	08-Bit x 1-Chip 0x0	- -
Fgm OptionsGeneral	RAM Start Address:	0x40000000	
On-Chip Flash Nand Flash Production	Ext XTAL (MHz):	19.6606	ENTER
₽ H-Flasher Help	INIT TCK: PGM TCK:		19.6606
		,	

13. Click On Step 3, this screen should be blank. Delete anything entered here.

F H-Flasher New Load Save Save As	Options	Exit /	About			
Program Wizard	>> Init	Scripts	- LPC236	8		
 Flash Selection Configuration Init Scripts Programming Pgm Options General On State Function 	ldx	Cmd	Width	Address	Value	⊥
 On-Chip Flash Nand Flash Production H-Flasher Help 			Leave b	olank		*

14. Click On Step 4. Then click on Check button.

w Load Save SaveA	s Options I	Exit About		
Program Wizard	>> Progr	amming - LPC2368	Click On	
Flash Selection	Flash:	Unchecked	Check	Reset
Configuration Init Scripts	Target:	Unchecked		Check
Programming	Security:	Step 4		UnProtect
Pgm Options General	Type:	Intel Hex Format	•	Program
On-Chip Flash	Dst Addr:		Ψ.	Verify
Nand FlashProduction	Src File:	C:\Series500\CCM\Deb	ug\Exe\ccm_F 💌	
H-Flasher Help	From:	Entire Chip	•	Erase
	To:	Entire Chip	•	Blank
	Address:		E	Read
	Size:			

15. You should see LPC2368 and ARM7TDMI-S for flash and target. If you do not see this information, it means that the probe cannot see the target board and all connections should be checked. See Figure 4 above. The H-JTAG probe supplies the power to the device being programmed. See the Appendix for instructions on how to supply power from the probe. If the probe does not supply the power to the board, the board must be powered externally for the download operation to work.

Figure 18	Fig	jure	18
-----------	-----	------	----

H-Flasher		_ _ ×
New Load Save Save As	Options Exit About	
Program Wizard	>> Programming - PC2368	
1 Flash Selection	Flash: LPC2368 0x1600F925	Reset
2 Configuration	Target: ARM7TDMI-S LITTLE-ENDIAN 🛑	Check
3 Init Scripts Programming	Security:	UnProtect
5 Pgm Options▶ General	Type: Intel Hex Format	Program
On-Chip Flash	Dst Addr:	Verify
 Nand Flash Production 	Src File: C:\Series500\CCM\Debug\Exe\ccm_F	
P H-Flasher Help	From: Entire Chip	Erase
	To: Entire Chip	Blank
	Address:	C Read
	Size:	

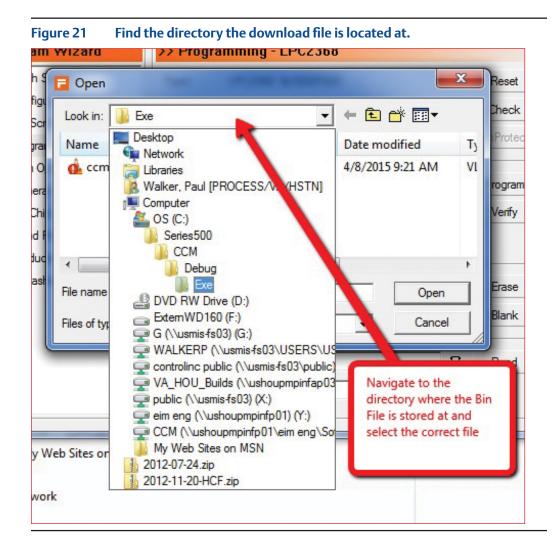
16. Click on small arrow for "Type:". Then select Plain Binary Format in drop down list.

w Load Save Save,	As Options	Exit About		
Program Wizard	>> Progr	amming - LPC2368		
Flash Selection	- Flash:	LPC2368 0x1600F925		Reset
Configuration Init Scripts	Target:	ARM7TDMI-S LITTLE-ENDIAN		Check
Programming	Security:			UnProtect
 Pgm Options General On-Chip Flash Nand Flash 	Type: Dst Addr: Src File:	Plain Binary Format Auto Flash Download Intel Hex Format Plain Binary Format ::\Series500\CCCM\Debug\Exe\ccm_F	• • •	Program Verify
Production H-Flasher Help	fom:	Entire Chip	•	Erase
	To:	Entire Chip	•	Blank
Select Plain Binary Format	Address: Size:			Read

17. Click on the three small dots.

ew Load Save Save≯	ls Options E	Exit About	
Program Wizard	>> Progra	amming - LPC2368	
1 Flash Selection	Flash:	LPC2368 0x1600F925	Reset
Configuration	Target:	ARM7TDMI-S LITTLE-ENDIAN	Check
 Init Scripts Programming 	Security:		UnProtect
F gm OptionsGeneral	Туре:	Plain Binary Format] Program
On-Chip Flash	Dst Addr:	Flash Base Address	Verify
 Nand Flash Production 	Src File:	C:\Series500\CCM\Debug\Exe\ccm_F	
H-Flasher Help	From:	r anp -	Erase
Click on the 3 dots	To:	Entire Chip	Blank
	Address:		O Read
	Size:		-

18. A new window will come up. Go to the directory and select which file to download to the board.



19. Select the file to download.

Look in:	Exe	- + (1 💣 📰		
Name	*	Date	modified	Туре	Size
d ccm_FL	ASH.bin	4/8/2	2015 9:21 AM	VLC media file (.bi	504 KB
	•				
					、
					1
File name:	ccm_FLASH.bin				Open

Figure 22Click on the file and then click on the Open button.
You should use the BIN type file.

20. Click on Program button.

Figure 23 Hit Program Button

H-Flasher			۲.
New Load Save Save A:	Options Exit About		
Program Wizard	>> Programming - LPC2368	3	
1 Flash Selection	Flash: LPC2368 0x1600F925	5 Reset	
2 Configuration	Target: ARM7TDMI-S LITTLE	E-ENDIAN Check	
 Init Scripts Programming 	Security:	UnProtect	
Fgm OptionsGeneral	Type: Plain Binary Format	Program	
On-Chip Flash	Dst Addr: Flash Base Address	▼ Verify	
 Nand Flash Production 	Src File: C:\Series500\CCM\De	e ^t en£xe∖ccm_F ▼	
P H-Flasher Help	From: F Chip	▼ Erase	
Click on Program	Entire Chip	▼ Blank	
	Address:	C Read	
	Size:		

21. A small window will pop up and give you down load status.

Figure 2	24		_
H-Flash	er e		
	Programming and Verifying		
	00:01:50 15% 47 KB/s	Size = 444.9 KB	
		Stop	

22. Read the screen and verify that it Programmed and Verified Successfully, then Click on the Close Button.

H-Fla	sher				
	Programmed and Verified x1 suc	Programmed and Verified x1 successfully.			
	00:09:50 100% 47 KB/s	Size = 444.9 KB			
	- T -	Close			

- 23. Remove the Ribbon cable from the board being programmed. (See Figure 1 and Figure 2).
- 24. Remove the ribbon cable from the P10 of the CCM board.
- 25. Congratulations, the board is now programmed and is ready for use.

Programming More Boards:

To program more board(s), keep everything the same as above, and then repeat these four instructions bellow:

- 26. Connect the JTAG ribbon cable to the new board to be programmed (See Figures 5 and 6).
- 27. Click on the Check button. (See Figure 18).
- 28. Click on the Program button. (See Figure 23).
- 29. Read H-Flasher status window. (See Figure 25).

Appendix

NOTE:

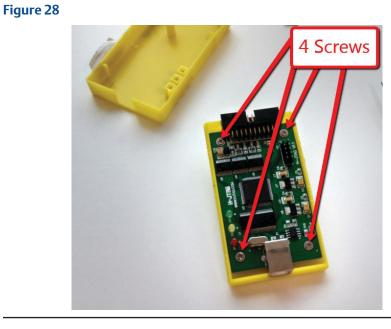
The H-JTAG probe used in these directions was modified from the original manufacturers design to provide 5V on JTAG pin 19 to power the target device. This is how to modify the H-JTAG probe. The JTAG specification allows for supplying power to the target on pin 19.

Figure 26	5 JTAG Pin Out		Dut		
VTref	1	•	•	2	NC
nTRST	3	•	•	4	GND
TDI	5	•		6	GND
TMS	7	•		8	GND
тск	9	•		10	GND
RTCK	11	•	•	12	GND
TDO	13	•		14	GND*
RESET	15	•	•	16	G N D * 20 PIN JTAG INTERFACE DESCRIPTION:
DBGRQ	17	•		18	CND
5V-Supply	19			20	GND + HTTPS://WWW.SEGGER.COM/INTERFACE-DESCRIPTION.HTML

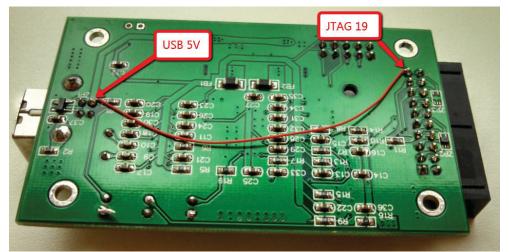
1. Remove hidden screw under label.



2. Remove four Screws on board.

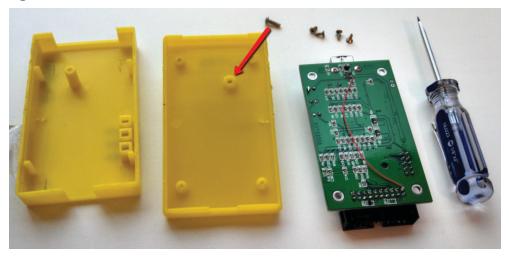


3. Remove board and connect 5V from USB connector to JTAG Pin 19.

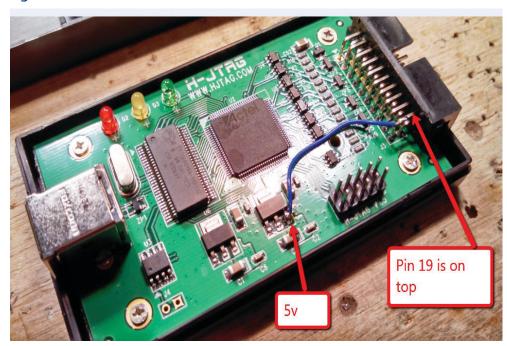


4. Exploded view of disassembled probe for reference. Big screw holds case together. Reverse prior directions to reassemble the probe.

Figure 30



5. New Black Style Boxes Modification.



These instructions were written for H-Flasher V3.0:



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