

# Software Design Solutions, Inc.

## FlashBurn v4 Porting Kit Getting Started Version 4.01

This Getting Started document explains how to use FlashBurn v4 to program a Blink example onto a target board.

### Product Versions

The FlashBurn v4 product runs in two modes:

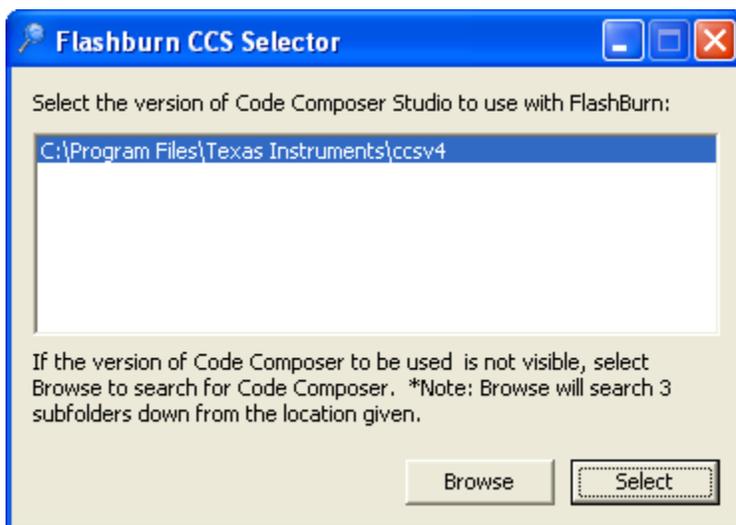
- In the unlicensed DSK-only mode, FlashBurn v4 can only program flash on the Texas Instruments DSK and EVM boards for which support is listed in the Examples-DSK\ directory. The Examples-DSK directory contains pre-built FBTC flash programming applications and source code for the Blink example programs.
- In the licensed Porting Kit mode, FlashBurn v4 can be used on custom hardware. The flash programming FBTC programs in the Examples-PK\ directory can be used as a starting point and modified as needed using Code Composer Studio. The Porting Kit version of FlashBurn v4 can load modified FBTC programs.

The DSK-only mode is a free product from Software Design Solutions, Inc. The license key to enable Porting Kit mode can be purchased at <http://www.softwaredesignsolutions.com/flashburn4.aspx>.

### Selecting the Code Composer Studio for FlashBurn4

FlashBurn4 needs to be configured to use a specific Code Composer Studio installed on your computer. This is normally done when installing FlashBurn. The selection may be changed later with the CCS Selector application.

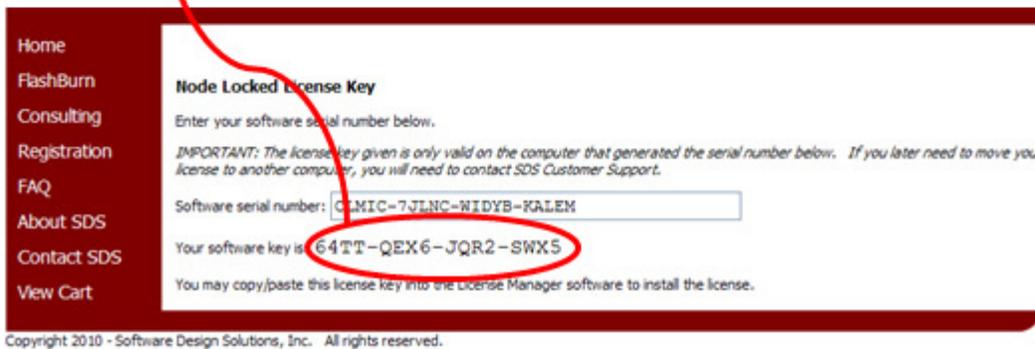
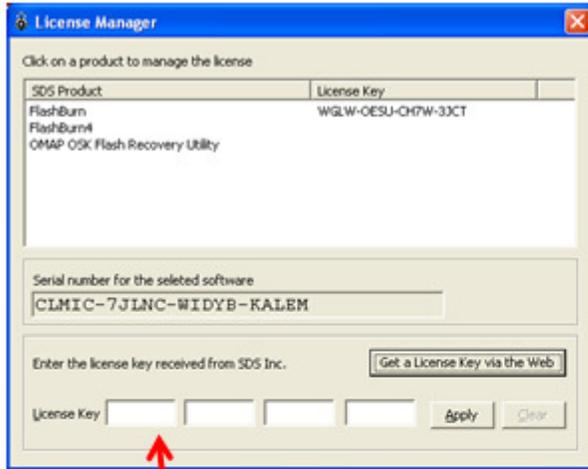
Launch CCS Selector. The application will display all the versions of Code Composer found on the computer. Choose the CCS to use and press "Select". A specific installation of Code Composer Studio may be selected by choosing "Browse".



## Licensing FlashBurn v4 Porting Kit version

The PK (Porting Kit) version of FlashBurn is enabled with a license key from Software Design Solutions. Steps for licensing FlashBurn are as follows:

Launch the SDS License Manager from the Windows Start menu. Select FlashBurn4 then click on “Get a License Key via the Web”. Sign into the website with the same account used to purchase the license key.

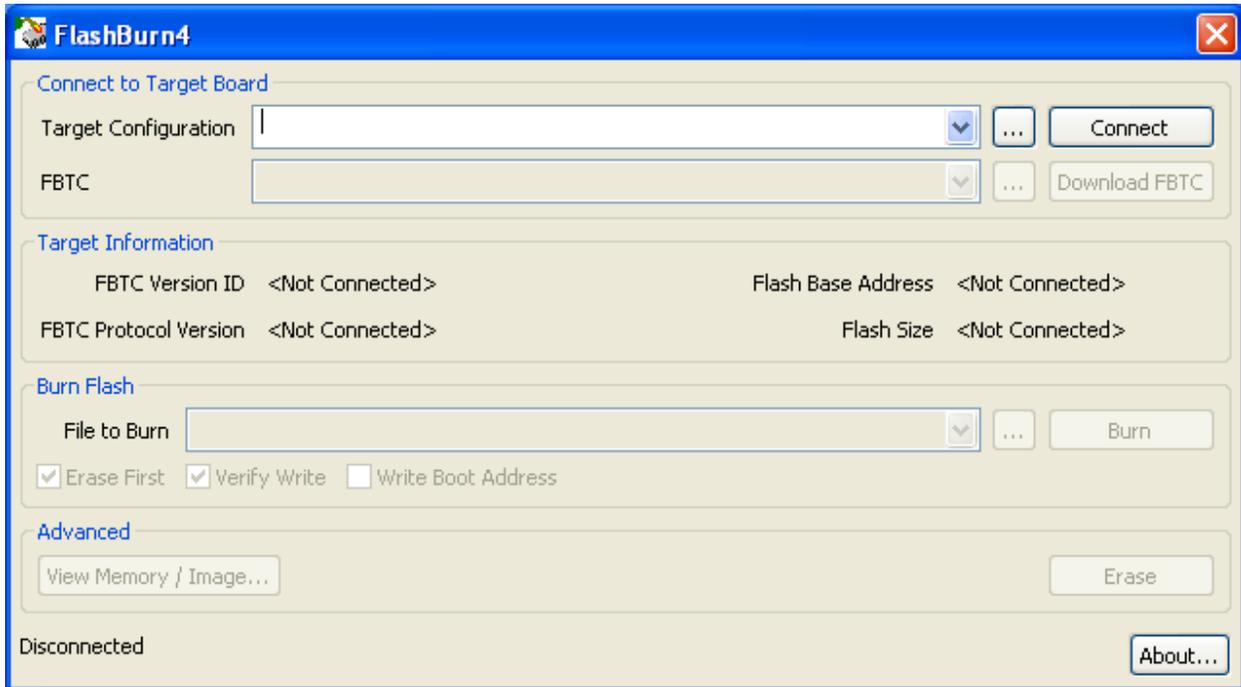


A page will display the license key for the specific serial number given. Enter or Copy/Paste the displayed license key into the License Key field and click Apply. The license manager will report that the license has been recorded. FlashBurn v4 Porting Kit version is now licensed.

## Using FlashBurn v4 to Program Flash

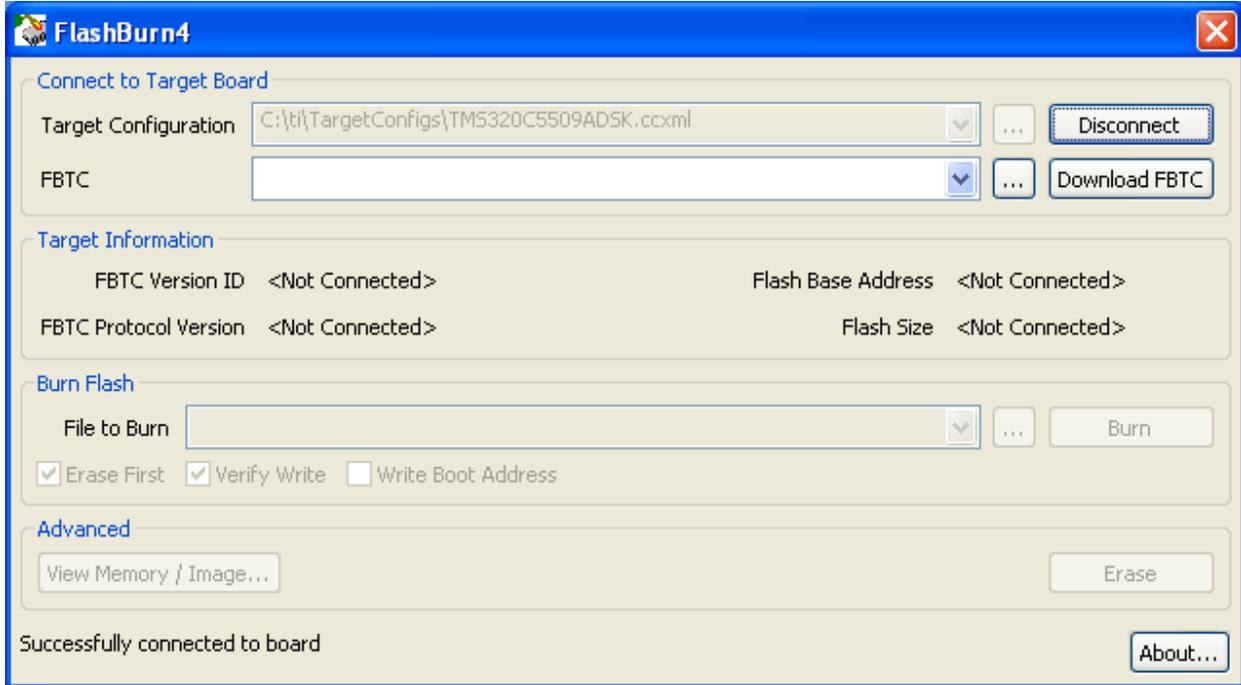
The following steps show how to program the flash on the TMS32VC5509 DSK board. The example Blink program provided with FlashBurn will be programmed into flash. Flashing the other targets is a similar process. Each target directory contains readme.txt files describing any unique steps for programming the flash and booting the board.

- 1) Configure Code Composer Studio to communicate with the DSK5509A board. Remember the location of the .ccxml file used for configuring Code Composer Studio. It will be needed in Step 4.
- 2) Connect the DSK to the PC and power on the target board.
- 3) Start FlashBurn



- 4) Choose the .ccxml file used by Code Composer to communicate with the board.
- 5) Click "Connect"

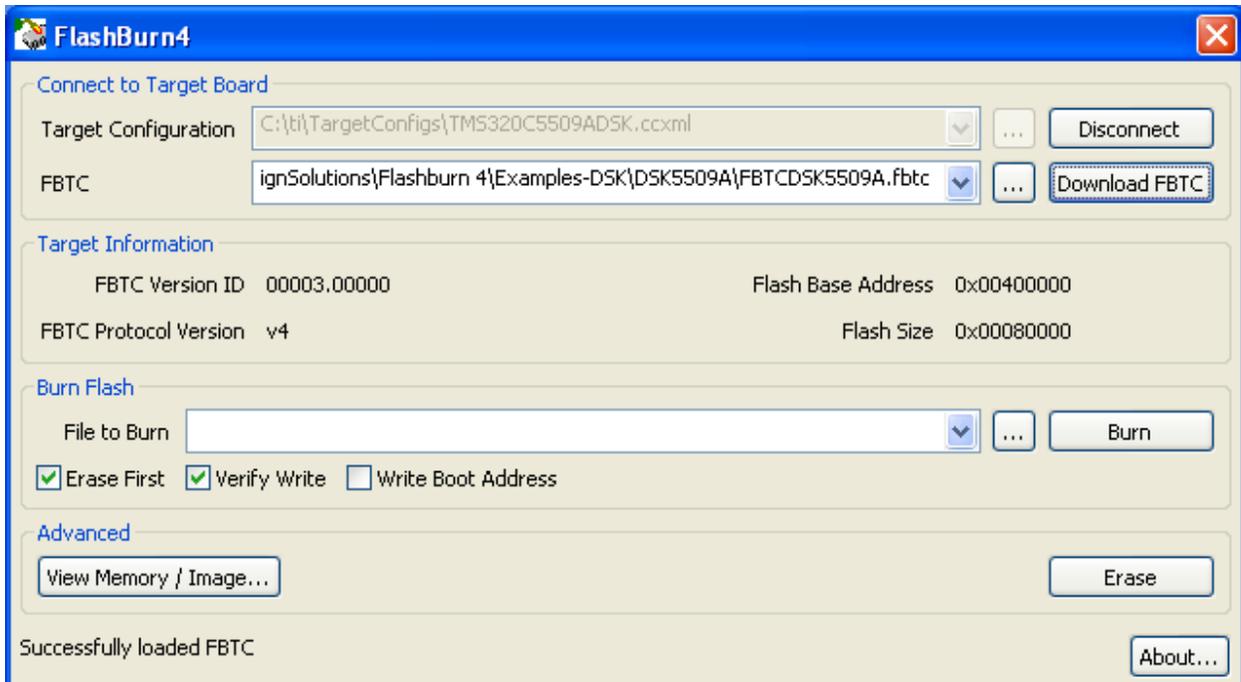
- 6) If successful, the status bar will say “Successfully connected to board” and now the Download FBTC will be available.



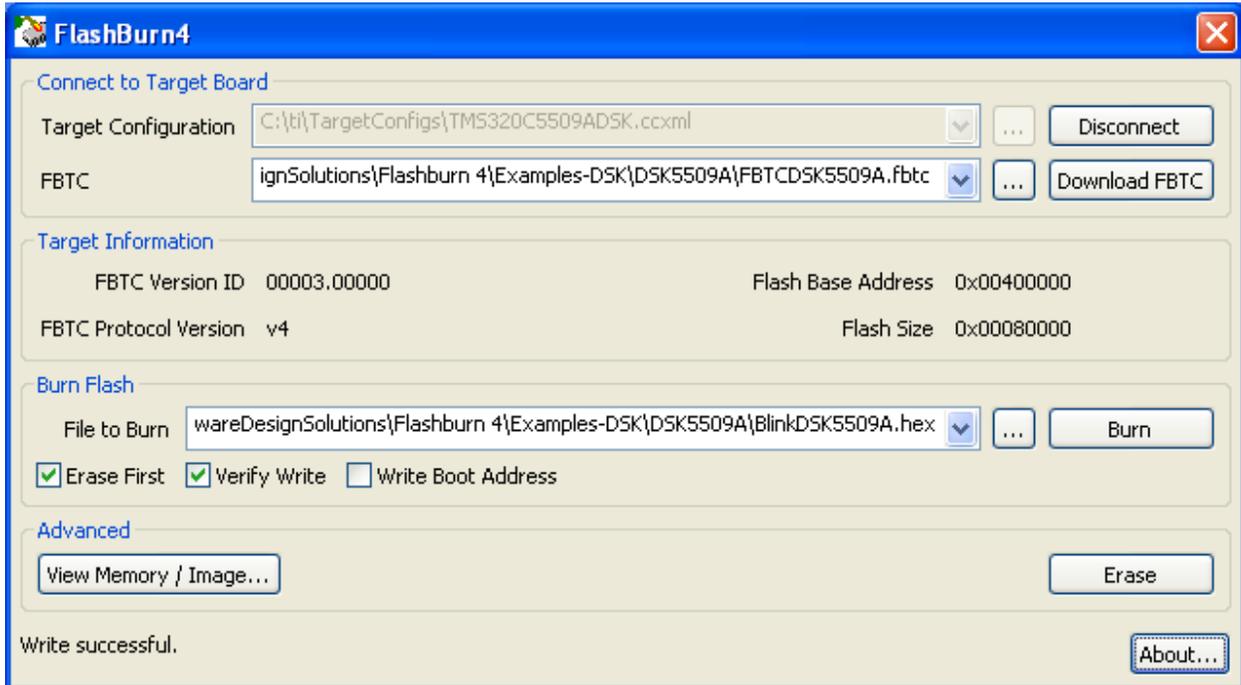
- 7) Choose the .fbtc file you will use that contains the target specific know-how to burn the flash. For this example, choose the FBTCDSK5509A.fbtc file located in the DSK5509A directory: C:\Program Files\Software Design Solutions\Flashburn 4\examples-DSK\DSK5509A\FBTCDSK5509A.fbtc

- 8) Click “Download FBTC”

- 9) If successful, the status bar will say “Successfully loaded FBTC” and now the rest of the FlashBurn GUI will be active. FlashBurn is now ready to manipulate the flash on the board.



- 10) Choose the .hex file you will burn to the target board. For this example, choose BlinkDSK5509A.hex file located in the DSK5509A directory: C:\Program Files\Software Design Solutions\Flashburn 4\examples-DSK\DSK5509A\BlinkDSK5509A.hex
- 11) Be sure Erase First, Verify Write, and Write Boot Address are checked.
- 12) Click “Burn” to erase and burn the flash with the program.
- 13) If everything is successful then the status bar will say “Write successful.”

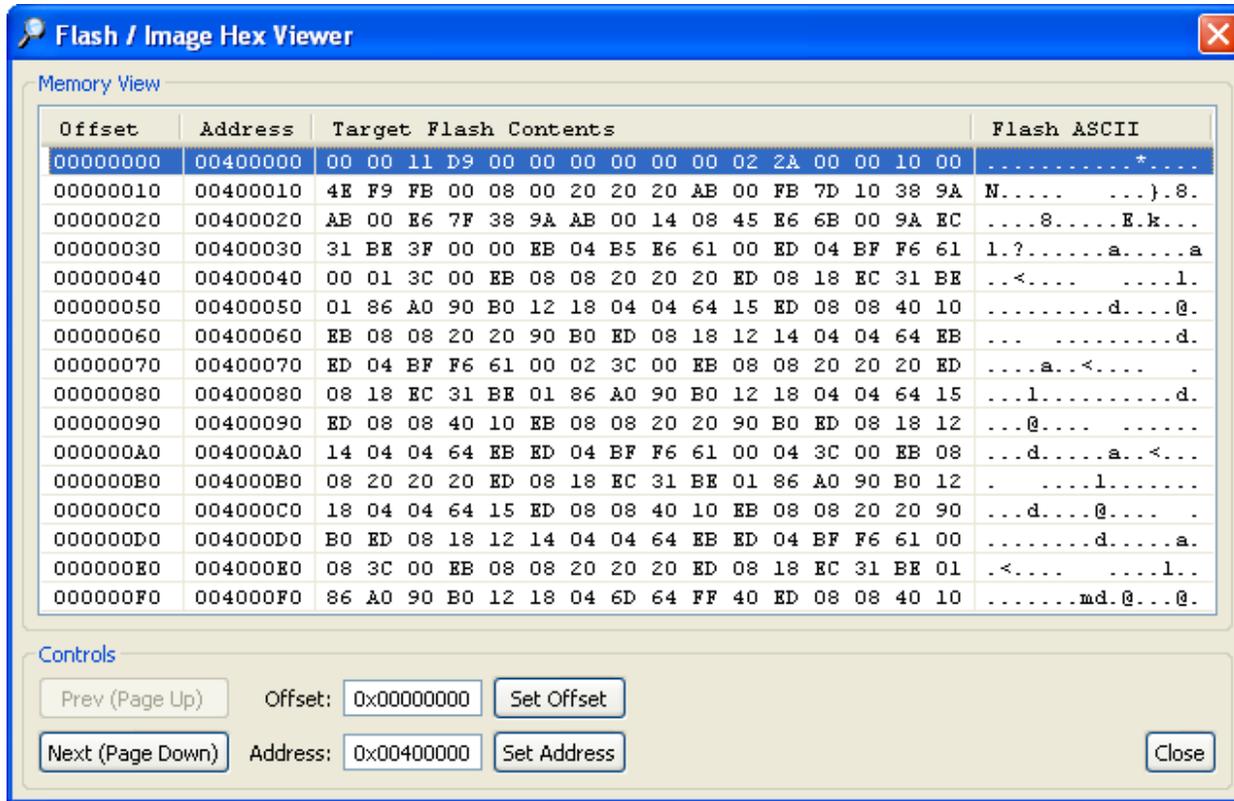


- 14) To test the application on the hardware, click “Disconnect” to release the connection from the PC to the target board. Power cycle the DSK. The LEDs should blink in sequence.

## Viewing Memory

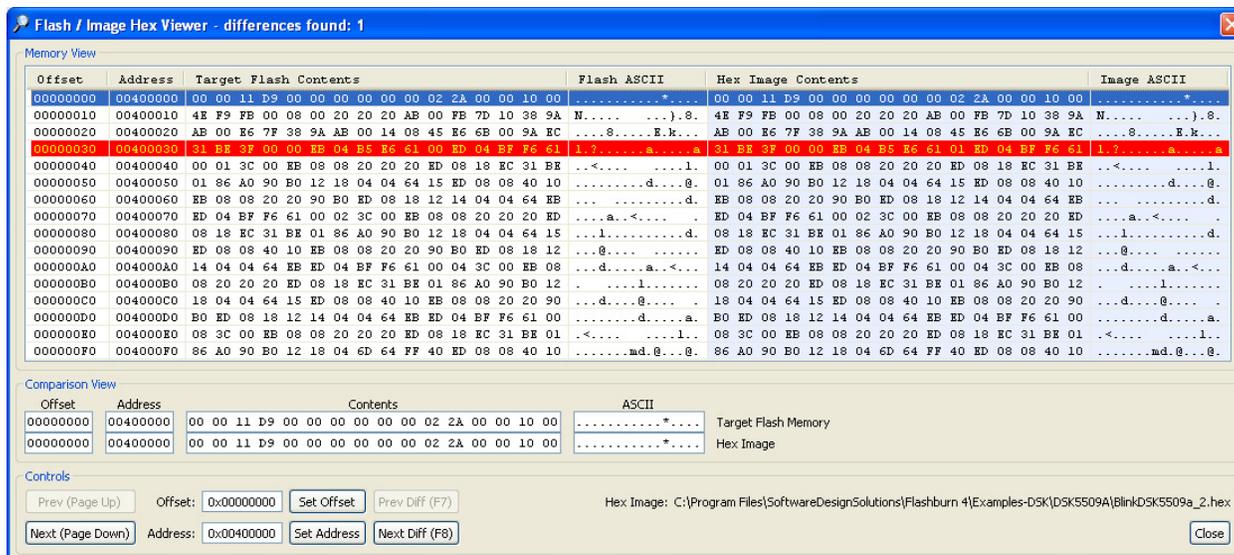
FlashBurn can display flash memory on the target and compare flash memory with a given .hex image file.

If no .hex file is provided in the 'Burn Flash' section, the View Memory / Image button displays a view of flash memory starting at the beginning of flash.



The contents of flash memory is displayed in hex and ASCII. Navigation is done with Page Up/Down or by choosing a new offset or flash address.

If a .hex file is provided in the 'Burn Flash' section, the View Memory/Image button displays a comparison view of flash memory compared with the given .hex file image. Differences are outlined in red.



The selected line is displayed in the Comparison View. The navigation controls now also include Prev Diff and Next Diff buttons.

Flash / Image Hex Viewer - differences found: 1

Memory View

Offset	Address	Target Flash Contents	Flash ASCII	Hex Image Contents	Image ASCII
00000000	00400000	00 00 11 D9 00 00 00 00 00 02 2A 00 00 10 00	.....*....	00 00 11 D9 00 00 00 00 00 02 2A 00 00 10 00	.....*....
00000010	00400010	4E F9 FB 00 08 00 20 20 20 AB 00 FB 7D 10 38 9A	N.....).8.	4E F9 FB 00 08 00 20 20 20 AB 00 FB 7D 10 38 9A	N.....).8.
00000020	00400020	AB 00 E6 7F 38 9A AB 00 14 08 45 E6 6B 00 9A EC	...S.....E.k...	AB 00 E6 7F 38 9A AB 00 14 08 45 E6 6B 00 9A EC	...S.....E.k...
00000030	00400030	31 BE 3F 00 00 EB 04 B5 E6 61 00 ED 04 BF F6 61	1.?......a.....a	31 BE 3F 00 00 EB 04 B5 E6 61 01 ED 04 BF F6 61	1.?......a.....a
00000040	00400040	00 01 3C 00 EB 08 08 20 20 20 ED 08 18 EC 31 BE	..<.....l.	00 01 3C 00 EB 08 08 20 20 20 ED 08 18 EC 31 BE	..<.....l.
00000050	00400050	01 86 A0 90 B0 12 18 04 04 64 15 ED 08 08 40 10	.....d....@.	01 86 A0 90 B0 12 18 04 04 64 15 ED 08 08 40 10	.....d....@.
00000060	00400060	EB 08 08 20 20 90 B0 ED 08 18 12 14 04 04 64 EB	.....d.....d.	EB 08 08 20 20 90 B0 ED 08 18 12 14 04 04 64 EB	.....d.....d.
00000070	00400070	ED 04 BF F6 61 00 02 3C 00 EB 08 08 20 20 20 ED	....a.<.....	ED 04 BF F6 61 00 02 3C 00 EB 08 08 20 20 20 ED	....a.<.....
00000080	00400080	08 18 EC 31 BE 01 86 A0 90 B0 12 18 04 04 64 15	...l.....d.	08 18 EC 31 BE 01 86 A0 90 B0 12 18 04 04 64 15	...l.....d.
00000090	00400090	ED 08 08 40 10 EB 08 08 20 20 90 B0 ED 08 18 12	...@.....	ED 08 08 40 10 EB 08 08 20 20 90 B0 ED 08 18 12	...@.....
000000A0	004000A0	14 04 04 64 EB ED 04 BF F6 61 00 04 3C 00 EB 08	...d.....a.<...	14 04 04 64 EB ED 04 BF F6 61 00 04 3C 00 EB 08	...d.....a.<...
000000B0	004000B0	08 20 20 20 ED 08 18 EC 31 BE 01 86 A0 90 B0 12	.....l.....	08 20 20 20 ED 08 18 EC 31 BE 01 86 A0 90 B0 12	.....l.....
000000C0	004000C0	18 04 04 64 15 ED 08 08 40 10 EB 08 08 20 20 90	...d....@.....	18 04 04 64 15 ED 08 08 40 10 EB 08 08 20 20 90	...d....@.....
000000D0	004000D0	B0 ED 08 18 12 14 04 04 64 EB ED 04 BF F6 61 00	.....d.....a.	B0 ED 08 18 12 14 04 04 64 EB ED 04 BF F6 61 00	.....d.....a.
000000E0	004000E0	08 3C 00 EB 08 08 20 20 20 ED 08 18 EC 31 BE 01	<.....l.....	08 3C 00 EB 08 08 20 20 20 ED 08 18 EC 31 BE 01	<.....l.....
000000F0	004000F0	86 A0 90 B0 12 18 04 6D 64 FF 40 ED 08 08 40 10	.....md.@...@.	86 A0 90 B0 12 18 04 6D 64 FF 40 ED 08 08 40 10	.....md.@...@.

Comparison View

Offset	Address	Contents	ASCII	
00000030	00400030	31 BE 3F 00 00 EB 04 B5 E6 61 00 ED 04 BF F6 61	1.?......a.....a	Target Flash Memory
00000030	00400030	31 BE 3F 00 00 EB 04 B5 E6 61 01 ED 04 BF F6 61	1.?......a.....a	Hex Image

Controls

Prev (Page Up)    Offset: 0x00000000    Set Offset    Prev Diff (F7)    Hex Image: C:\Program Files\SoftwareDesignSolutions\Fishburn 4\Examples-Disk\Disk5509A\BlinkDisk5509a\_2.hex

Next (Page Down)    Address: 0x00400000    Set Address    Next Diff (F8)    Close