

Blackfin®/SHARC® USB Extender Board (EI2) BSP ReleaseNotes v1.1.0

These release notes subsume the release notes for previous updates. Release notes for previous updates can be found at the end of this document.

New Features and Examples

Release 1.1.0 supports the recent release of the uC/USB Device Class Vendor 1.1.0 software product.

No new features or examples are otherwise included in this release.

Software Requirements and Product Dependencies

- To build the example projects included in the Blackfin-SHARC_USB_Extender_Board_(EI2)-Rel1.1.0, CrossCore Embedded Studio version 1.1.0 or later is required.
- This BSP has prebuilt libraries built from
 - uC/USB Device Core for for CrossCore® Embedded Studio 1.1.0
 - uC/USB Device Class Vendor 1.1.0

Test Configurations

The products and versions used to test the BSP are

1. CrossCore Embedded Studio version 1.1.0.
2. Blackfin®/SHARC® USB Extender Board (EI2) 0.1

Documentation

This release contains no new documentation.

Software Issues Addressed in this Release

The following software anomalies have been addressed in this release:

- Hardware reset is required for the examples to run again once the dxr run is terminated in the CCES Debug window

Known Issues

There are no known issues as of this release.

Installation Logging

The installer does not create a log file by default. If you encounter installation issues, you can generate an installation log file by running the installer from the command prompt.

Change to the directory containing downloaded installer executable and run the following from the command prompt:

```
ADI_Blackfin-SHARC_USB_Extender_Board_(EI2)-Rel1.1.0.exe /v"/l*v c:\temp\installer.log"
```

Blackfin®/SHARC® USB Extender Board (EI2) BSP v1.0.0 Release Notes

Thank you for installing the Blackfin®/SHARC® USB Extender Board (EI2) BSP. The BSP provides software and documentation in support of the Blackfin®/SHARC® USB Extender Board (EI2) daughter board. This daughter board is used in conjunction with [ADSP-BF518 EZ-KIT® Lite](#), [ADS P-21469 EZ-KIT® Lite](#), [ADSP21479 EZ-KIT® Lite](#), [ADSP21489 EZ-KIT® Lite](#).

The Blackfin®/SHARC® USB Extender Board (EI2) is designed for use with CrossCore® Embedded Studio (CCES) for Analog Devices

Processors software development tools. The CCES development environment aids advanced application code development and debug, such as:

- Create, compile, assemble, and link application programs written in C++, C, and assembly
- Load, run, step, halt, and set breakpoints in application programs
- Read and write data and program memory
- Read and write core and peripheral registers
- Plot memory

For more details on CCES, please visit www.analog.com/cces. For more on the Blackfin®/SHARC® USB Extender Board (EI2), please visit <http://www.analog.com/EX2-USB>

The Blackfin®/SHARC® USB Extender Board (EI2) BSP provides comprehensive software support for the Blackfin®/SHARC® USB Extender Board (EI2) daughter board. It includes drive for NET2272 USB Controller.

The BSP also provides USB Vendor Class based examples which demonstrate the data transfer over Bulk endpoints.

The CCES Help environment provides complete hardware and software documentation.

License Checking

There are no license requirements for the Blackfin®/SHARC® USB Extender Board (EI2) BSP.

Installation Logging

The installer does not create a log file by default. If you encounter installation issues, you can generate an installation log file by running the installer from the command prompt.

Change to the directory containing downloaded installer executable and run the following from the command prompt:

```
Blackfin/SHARC_USB_Extender-Board_(EI2)-Rel1.0.0.exe /v"/!*"v c:\temp\installer.log"
```

Support and Assistance

There are several options for contacting support:

- Submit your questions online at:
 - <http://www.analog.com/support>
- E-mail your Processor and DSP software and development tools questions from within CrossCore Embedded Studio:
- Go to "Help->E-mail Support...". This will create a new e-mail addressed to processor.tools.support@analog.com, and will automatically attach your CrossCore Embedded Studio version information (ProductInfo.html).
- E-mail your Processors and DSP applications and processor questions to:
 - processor.support@analog.com OR
 - processor.china@analog.com (Greater China support)
- Post your questions in the Processors and DSP online technical support community in Engineer Zone at:
 - <http://ez.analog.com/community/dsp>

Software Requirements

To build the example projects included in the Blackfin®/SHARC® USB Extender Board (EI2) BSP, CrossCore Embedded Studio version 1.0.3 is required.

Hardware Requirements and Setup

The hardware requirements to run the examples provided in Blackfin®/SHARC® USB Extender Board (EI2) BSP are as follows:

- 21469 EZ-KIT Lite (Board rev 0.2 and up, Bom Rev 2.1 and up and Si Rev 0.2 and up)
- 21479 EZ-KIT Lite (Board rev 0.1 and up, Bom Rev 1.5 and up and Si Rev 0.2 and up)
- 21489 EZ-KIT Lite (Board rev 0.1 and up, Bom Rev 1.8 and up and Si Rev 0.2 and up)
- BF518 EZ-KIT Lite (Board rev 1.0 and up, Bom Rev 2.5 and up and Si Rev 0.2 and up)
- Blackfin®/SHARC® USB Extender Board (EI2) (ADZS-BF518-USB-EZEXT) (Board rev 0.1 and up, Bom Rev 1.1 and up and Si Rev 0.1 and up)
- Windows XP, Vista or 7 operating system (32 or 64 bit)
- PC with available USB port

For EZ-KIT Lite switch and jumper settings required to run the USB application, please refer to the readmes in the demo examples provided in Blackfin®/SHARC® USB Extender Board (EI2) BSP.

Use SADA2 debug agent. SADA debug agent is no longer supported now.

Test Configurations

The products and versions used to test the BSP are

1. CrossCore Embedded Studio version 1.0.3.
2. Blackfin®/SHARC® USB Extender Board (EI2) 0.1

Adding a Driver to a Project

When adding "Net2272 USB Device Controller Driver" addin, the IDE will add the sources for the driver to the CCES Project folders, starting at "system". There will be a folder specific to the driver(s) or service(s) you have added under this folder.

Creating a project which includes a Blackfin®/SHARC® USB Extender Board (EI2) Drivers

In order to create a project you should follow the instructions provided in the CrossCore Embedded Studio help. As part of the project creation, the page "Add-in selection" contains a list of all the available add-ins for the project that you are creating based on the installed products and the project's chosen processor and type. You can see the drivers in support of the Blackfin®/SHARC® USB Extender Board (EI2) under the "Device Drivers and System Services" category. Within this category you will see NET2272 USB Device Driver for Blackfin®/SHARC® (1.0.0)"

The Blackfin®/SHARC® USB Extender Board (EI2) Drivers add-in generates a call to `adi_initComponents()`. For more information on `adi_initComponents()`, please refer to the CCES help section:

CrossCore Embedded Studio 1.0.3 > Graphical Development Environment > System Configuration

Adding a driver to an existing project

Every CrossCore Embedded Studio project contains a System Configuration file called `system.svc` which is located in the root of the project. The file is the IDE's interface for managing the various pre-written software components used in the "system" implemented by a project. Double-clicking any `system.svc` file in a navigation view opens that file in the System Configuration Utility which allows you to see the add-ins that you currently have in your project. Click on "Add..." and select the "Blackfin/SHARC USB Extender Board (EI2) Drivers" add-in which is under the "Device Drivers and System Services". For adding USB driver select "NET2272 USB Device Driver for Blackfin (1.0.0)" or "NET2272 USB Device Driver for Sharc (1.0.0)" depending on the processor family.

Notes:

- If the IDE detects that `adi_initComponents()` is not yet present in `main()`, it prompts you to add it and offers to insert it for you.

Configuration

There are no Blackfin/SHARC USB Extender Board (EI2) Driver configuration options available in the IDE.

Interrupts

CrossCore Embedded Studio provides a coherent interrupt management mechanism which allows for the same interface to be used in RTOS and non-RTOS applications. This means that interrupt service routines in all applications must be written in C and use the `adi_int` interface. Any thread-safety requirements or interactions with tasks are handled by the `adi_int` interface. For more information on the `adi_int` API, in CrossCore Embedded Studio go to Help > Search and enter `adi_int`.

Examples of the usage of this interrupt management mechanism are the System Services and Device Drivers provided with Crosscore Embedded Studio. By using the `adi_int` interface, the same services and drivers can be used in all applications regardless of whether an operating system is used.

Sketches and Examples

Sketches

None

Examples

The Blackfin®/SHARC® USB Extender Board (EI2) BSP provides the following examples.

1. USB Vendor bulk example for ADSP-BF518, ADSP-21469, ADSP-21479 and ADSP-21489.
2. `hostapp_blackfin.exe` is to be used with ADSP-BF518 examples and `hostapp_sharc.exe` is to be used with ADSP-21469, ADSP-21479 and ADSP-21489 examples.
Errors may not be seen while using `hostapp` application interchangeably between Blackfin and Sharc but it is not recommended to be used that way.

Location

In order to locate the Blackfin®/SHARC® USB Extender Board (EI2) examples you should use the CrossCore Embedded Studio Example Browser:

- Open CrossCore Embedded Studio's Example Browser which can be found in CrossCore Embedded Studio under Help. Select in the Product section "Blackfin/SHARC USB Extender Board (EI2)" for a full list of examples.

Documentation

API documentation for the drivers included in the Blackfin®/SHARC® USB Extender Board (EI2) BSP can be found in CCES Help.

General information on the driver model can be found in CCES help under

CrossCore® Embedded Studio 1.0.3 > System Runtime Documentation > System Services and Device Drivers

MISRA-C Support

MISRA C is a software development standard for the C programming language developed by the Motor Industry Software Reliability Association (MISRA). Its aims are to facilitate code safety, portability, and reliability in the context of embedded systems, specifically those systems programmed in ANSI C. The compiler detects violations of the MISRA rules at compile-time, link-time, and run-time.

System Services and Device Driver Thread Safety

All system services and device drivers (SSLDD) use mutexes and semaphores to ensure thread-safety. If an RTOS is present then the SSLDD will use the RTOS mutexes and semaphores. If an RTOS is not present then the SSLDD will use a non-RTOS implementation of mutexes and semaphores (spin locks).

Known issues with the Blackfin®/SHARC® USB Extender Board (EI2) BSP

- Hardware reset is required for the examples to run again once the dxe run is terminated in the CCES Debug window.