Analog Devices, Inc.
Hex-to-Binary LIN Data Generator

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Contents

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Purpose

The *'Binary LIN Data Generator'* application converts Intel Hex Format (.hex) files into a binary data format that is interpreted by the ADuC703X Flash/EE Programming via LIN CANoe configuration discussed in [1].

This document provides the user with a brief tutorial on how to use the Binary LIN Data Generator (BLDGenee) application.

This is a draft document and is subject to change.

Overview

The ADuC703x Series of MicroConverters™ from Analog Devices Inc. support the programming of the device's integrated Flash/EE via LIN [2, 3]. This feature is targeted towards automotive applications where the ADuC703x can be integrated into a *LIN network cluster* as a *LIN slave node*, thereby enabling the device to be programmed as required without the need to physically dismount the electronic control unit (ECU) that houses the ADuC703x device.

This document describes an application that enables the user to convert an Intel Hex Format file into a binary format file which is more suitable for ADuC703x Series Flash Programming via LIN. The user selects the input file, which must be in Intel Hex format (i.e. it must have a '.hex' file extension). The user also specifies the target directory and output file name, which is automatically given a '.blf' (standing for Binary LIN File) file extension.

Note: The recommended target directory for the '.blf' output file is the same directory as that of the CANoe configuration file (.cfg) defining the respective ADuC703x Series LIN downloader application.

Procedure

This section explains the steps taken when using the BLDGenee application to convert an Intel Hex file (.hex) into a binary LIN file (.blf).

1. Installing the BLDGenee application

In order to install the BLDGenee application simple copy the executable file (.exe) named "BLDGenee.exe" to the required location on the hard drive.
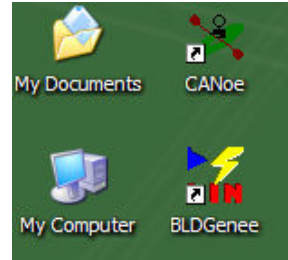
Create a shortcut to the application on your desktop.

2. Starting the application

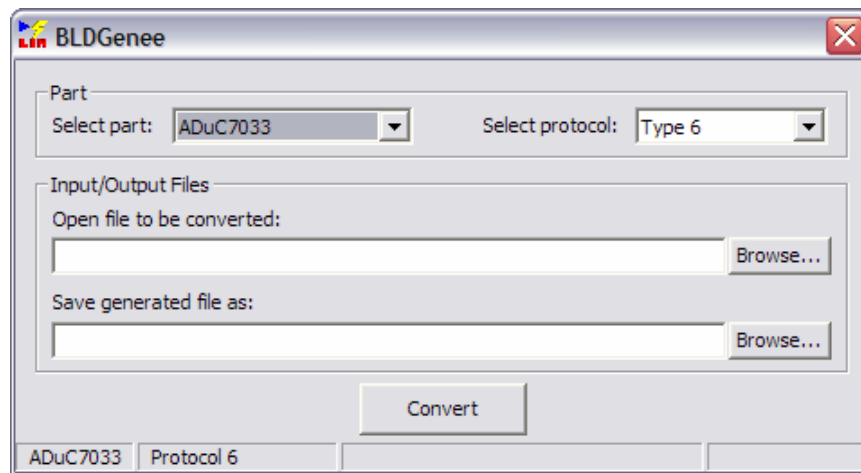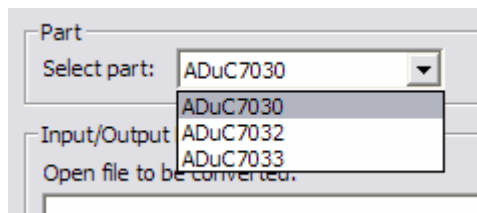Double click on the *'BLDGenee'* icon. The following window should appear:

Figure 1 Screenshot of the BLDGenee application

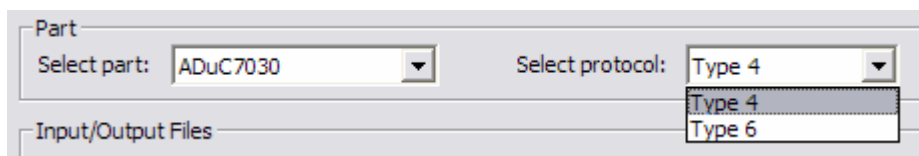If prompted by the following popup window, click *'Run'.*

3. Selecting the device derivative

The user must select the appropriate part from the '*Select part:*' drop-down list.

4. Selecting the protocol type

The user must select the appropriate LIN download protocol from the 'Select Protocol:' drop-down list.

5. Specifying the file for conversion

To open the Intel Hex file that is to be programmed to flash, click the '*Browse…*' button next to the 'Open file to be converted:' edit box.

or

Type the full path name of the file (with a '.hex' extension) to be converted into the 'Open file to be converted:' edit box.
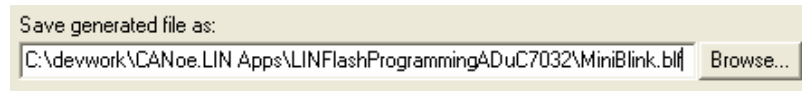
6. Specifying the directory of the generated file

To save the resulting binary LIN file that is to be programmed to flash, click the *'Browse…'* button next to the 'Save generated file as:' edit box.

> or

Type the full path name of the file (with a '.blf' extension) to be converted into the 'Save generated file as:' edit box.

Save generated file as:

`C:\devwork\CANoe.LIN Apps\LINFlashProgrammingADuC7032\MiniBlink.blf`   Browse...

Note: Due to limitations on directory locations from where CANoe can access files that are to be programmed to flash, it is necessary to save the generated file to one of the following locations:

  i.   The same directory as that of the CANoe LIN downloader application LIN database '.ldf' file

  ii. The same directory as that of the CANoe LIN downloader application configuration '.cfg' file

7. Converting the file

When the required input and output files have been specified, click the *'Convert'* button.

The user will be notified as to whether the 'Conversion Succeeded' or 'Conversion Failed'.

enerated file as:

vwork\CANoe.LIN Downloaders\Hella\CANoeLINDownl

Convert

0   Conversion Succeeded
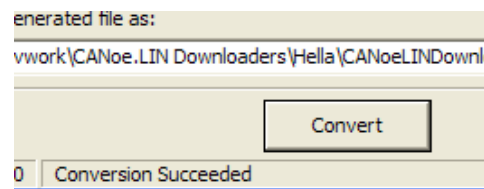
In the case of a failure notice, the most likely cause is the specification of an incorrect file name or directory path.

References

[1] Analog Devices Inc., 'ADuC7033 Flash/EE Programming via LIN – LIN Downloading with CANoe.LIN', Version 1.1, February 2007

[2] Analog Devices Inc., 'Protocol 4 for Programming Flash/EE Programming via LIN, Rev. 0.15', August 2006

[3] Analog Devices Inc., 'Type 6 Flash/EE Programming via LIN Protocol, Rev. 1.0', June 2007