AND9621/D

AX Development Systems - Troubleshooting Guide



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APPLICATION NOTE

Scope

This document helps users understand and correct common issues with the AX development systems. The information is presented in a Frequently Asked Questions (FAQ) format.

Related Development Kits

- AXDBG−2−GEVK
- DVK−BASE−2−GEVK
  - ADD5043−169−2−GEVK
  - ADD5043−433−2−GEVK
  - ADD5043−868−2−GEVK
  - ADD5051−868−2−GEVK
- F143−MINI−2−GEVK
  - F143−MINI−A−MOD−GEVB
  - F143−MINI−B−MOD−GEVB
- DVK−AXM0F243−868−1−GEVK
  - DVK−AXM0F243−868−1−SMA−GEVB
  - DVK−AXM0F243−868−1−ANT−GEVB
- DVK−AXM0F243−915−1−GEVK
  - DVK−AXM0F243−915−1−SMA−GEVB
  - DVK−AXM0F243−915−1−ANT−GEVB
- DVK−SFEU−1−GEVK
- DVK−SFEU−API−1−GEVK
- DVK−SFUS−1−GEVK
- DVK−SFUS−API−1−GEVK
- DVK−SFJK−1−GEVK
- DVK−SFJK−API−1−GEVK
- DVK−SFAZ−1−GEVK
- DVK−SFAZ−API−1−GEVK
- DVK−SIP−SFEU−1−GEVK
- DVK−SIP−SFEU−API−1−GEVK

Related Development Tools

AX::CodeBlocks, AX−RadioLab, AXSDB, AXFTDIEEPROG, SDCC

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APPLICATIONS INFORMATION

Q1: When running the AX::CodeBlocks IDE, I get the following pop−up message when I try to debug. What does it mean?

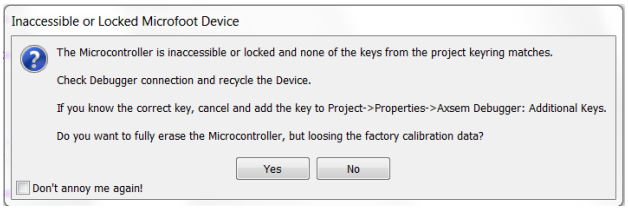


Figure 1.

A1: There are several reasons that this pop−up message can occur.

The most likely cause for this pop−up is the ribbon cable between the AXDBG−2−GEVK board and the development board is not plugged in correctly. The debug link will not work and you will get the message shown above.

The header for the ribbon cable is keyed on AXDBG−2−GEVK, and the ribbon cable should plug into the development board such that the ribbon cable faces away from the development board (as shown below).

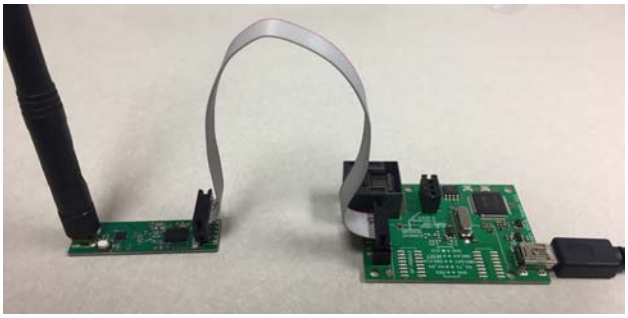


Figure 2.

If the ribbon cable is plugged in correctly and the pop−up message is given, then the microcontroller is locked with a key. The locking is normally done as a security measure to avoid that the software can be read out or modified.

If “Yes” is selected on the pop−up, all the factory calibration and any software stacks will be erased. Normally “No” is the appropriate response.

NOTE: Devices that are sold pre−programmed with software stacks (with AT interface, such as AX−SFUS) are locked at the factory and the key is a secret. If reprogramming is attempted the calibration data and the software stack will be erased and this is non−recoverable and will render the chip inoperable.

If problems remain, please review Q2 for tips on solving debug link and serial communication problems.

Q2: I’m having serial communication problems or can’t get the AX debug link to connect to the development board. What can I do?

A2: First check that the ribbon cable is plugged in correctly as shown in Q1 of this document.

If the cable is plugged in correctly, then there may be a problem with the virtual COM port.

Open the Windows device manager and verify a COM port is shown that corresponds to the AXDBG−2−GEVK board. See the picture below (USB Serial Port – COM8 in this example).

If needed unplug and re−plug the AXDBG−2−GEVK board to verify that a COM port is associated with it. The first time an AXDBG−2−GEVK is plugged in, Windows may need time to find the driver. This normally takes less than 5 minutes.

Once a valid driver is installed and the COM port shows up, there will be two serial converters, A and B, as shown in the picture below.

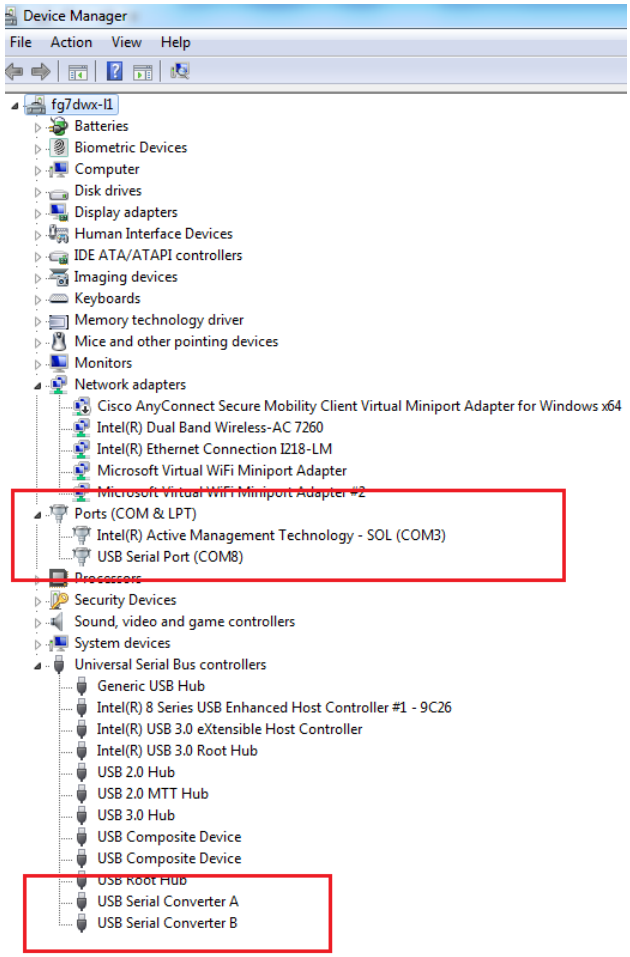


Figure 3.

The AXDBG−2−GEVK uses the USB Serial Converter B. Right click on the B instance, and under the advanced properties, make sure that enable VCP is selected. VCP stands for Virtual COM Port. See the picture below.

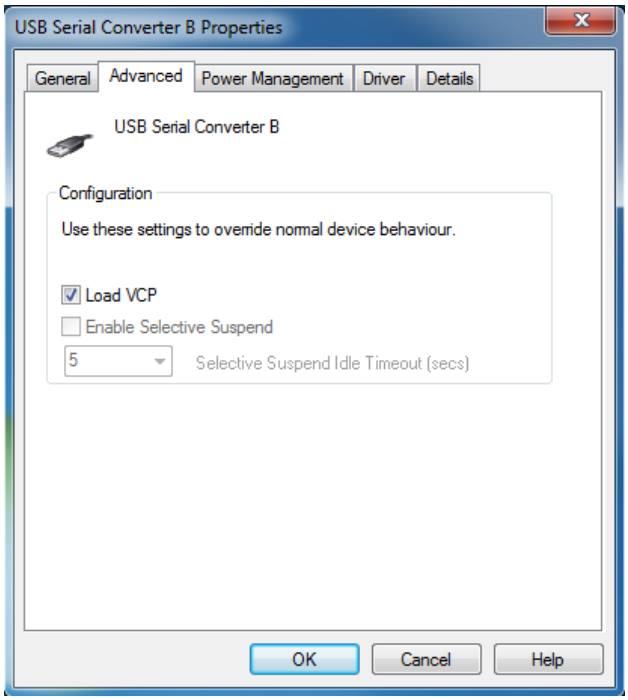


Figure 4.

If the AXDBG−2−GEVK still doesn't connect, than its likely the EEPROM for the FTDI USB to serial chip has not been programmed or has somehow been erased.

Issuing the following command from a CMD window will program the FTDI EEPROM.

```
axftdieeprog.exe -p -f -s 3 -B
```

The "−s 3" part of the command specifies to make the debugger number 3. For more details refer to application note AND9330, production programming.

Now the debugger should work. Verify from the CMD window by issuing:

```
axsdb --listserials
```

The command should return a 3 if the debugger is found.

For more debug interface information, refer to application note AND9370, debug interface software manual.

Q3: I Installed AX::CodeBlocks but the SDCC compiler is not in my path. What should I do?

A3: The easiest solution is to uninstall RadioLAB and the AX::CodeBlocks IDE package from your machine.

Before reinstalling, make sure that the debugger is NOT plugged in and also that the AX::CodeBlocks IDE installer is ran BEFORE the RadioLab installer.

If the installation is done in the right order, the SDCC compiler should be available from CodeBlocks when started for the first time. See the Figure 5.

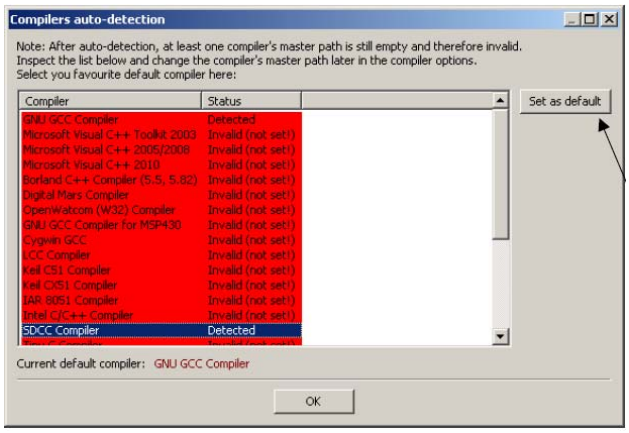


Figure 5.

If you know the SDCC compiler is installed and you get errors related to the compiler path not found, it's also possible to set the compiler path in AX::CodeBlocks by activating the following menu Settings−>Compiler.

Then change the default compiler to SDCC as shown below.

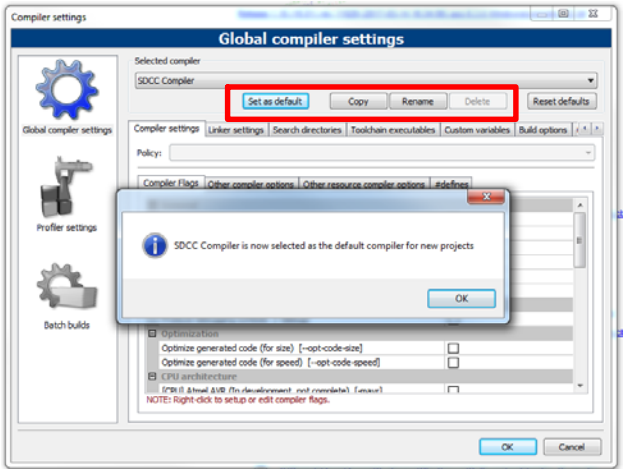


Figure 6.

It may also be useful to verify that the SDCC compiler is in the search path as shown in Figure 7.

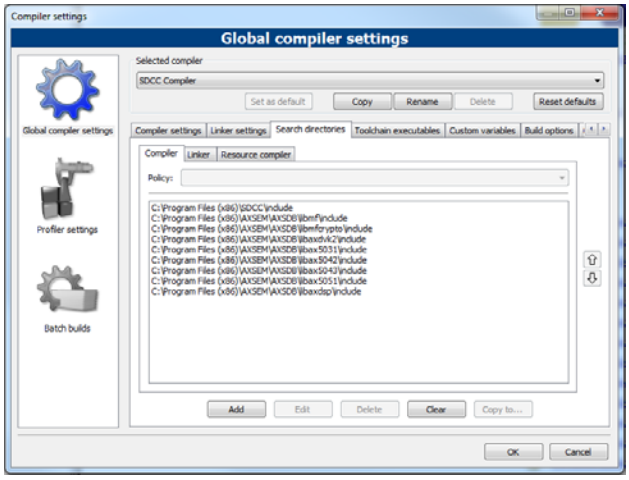


Figure 7.

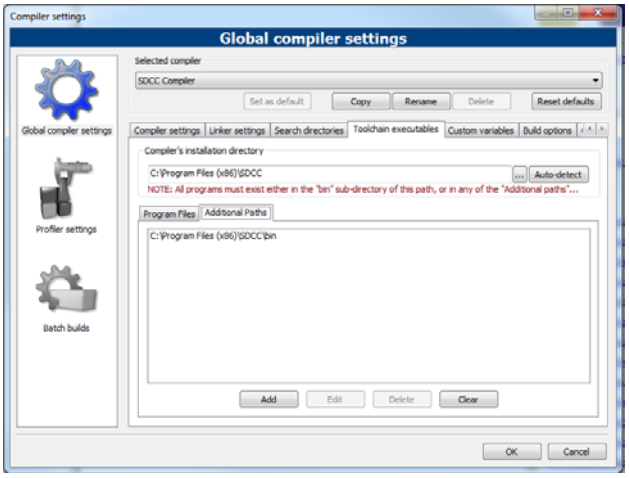


Figure 9.

And as a final check make sure the path to the SDCC executable is defined as shown in Figure 8 and Figure 9.

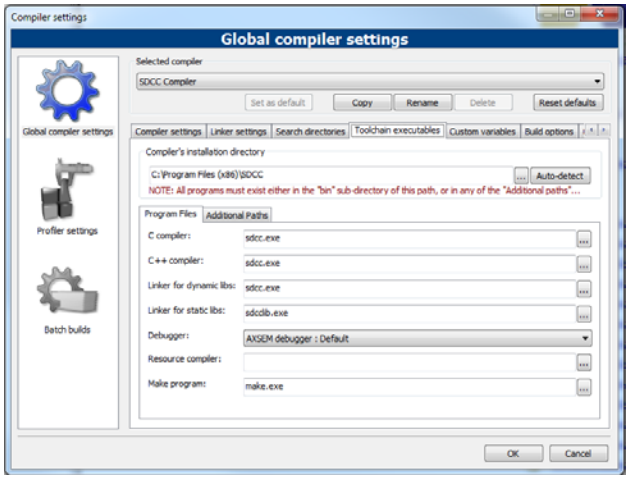


Figure 8.

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