



SoftConsole Frequently Asked Questions

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1. What is SoftConsole?

SoftConsole is a free software development environment that enables the rapid production of C and C++ executables for ARM® Cortex™-M1, Cortex-M3, CoreMP7, and Core8051s. Creating a project inside SoftConsole lets you write software that is immediately compiled into a usable binary. SoftConsole includes a fully integrated debugger that offers easy access to memory contents, registers, and single-instruction execution.

2. Where can I get SoftConsole?

You can download the latest release of SoftConsole from Actel's website at:
<http://www.actel.com/download/software/softconsole/default.aspx>.

3. What are the SoftConsole system requirements?

You can run SoftConsole on the following Microsoft® Windows® operating systems:

- Microsoft Windows Vista® Business (U.S. Version)
- Windows XP Professional with SP3 (U.S. Version, cumulative)
- Note: SoftConsole might run on other XP/Vista variants, but it is not supported on any platforms other than those listed above. SoftConsole is not supported on any non-U.S. version of Windows.

SoftConsole minimum system requirements:

- Pentium 1.0 GHz processor
- NTFS, FAT32 file system
- 400 MB free disk space
- 128 MB RAM
- 1024 x 768 resolution monitor

4. How do I install SoftConsole?

- Download SoftConsole from the Actel website:
<http://www.actel.com/download/software/softconsole/files.aspx>
- Double-click the SoftConsole_vX_X_setup.exe file. This opens the installation wizard. Click **Next**.
- Read through the license agreement, check the I accept the agreement radio button, and click **Next**.
- If the default installation folder is acceptable, click **Next**. If you want to install SoftConsole in a different folder, browse to it and click **Next**.
- By default, all recommended SoftConsole components are selected for installation. If you do not want to install a component, clear the selection for it. Click **Next**. This opens the Core8051s and SDCC Tools page. The Core8051s and SDCC tools page is for information purposes only. When you have finished reading it, click **Next**.
- By default, SoftConsole creates a Start Menu folder named Actel SoftConsole vX.X. You can either accept the default name or use your own name. If you want to rename the SoftConsole Start Menu folder, type in the new name or browse to a folder that you would like to use. Click **Next**.

- To have the installation program create a desktop or Quick Launch icon, select the appropriate check box. If no additional icons are desired, clear the check box for both items. Click **Next**.
- Click **Install** to complete the installation. During the installation, an information page appears. Review the information and click **Next** to proceed.
- Click **Finish** to complete the installation.

5. Do I need Administrator privileges to install SoftConsole?

Yes, Administrator privileges are required in order to install SoftConsole. If you are not logged in as an administrator and run the installer with administrator privileges, the installation will use the administrator user's profile (found in the *Documents and Settings* folder for that user).

This creates a desktop shortcut on the administrative user's desktop and not on yours. Similarly, if you allow the installer to run SoftConsole automatically on completion, that instance of the application will also run only for the administrative user's login; certain saved settings and data will only be accessible to the administrative user and not to you.

6. Can I create a workspace within an existing workspace or a project within an existing project folder?

No, do not create a workspace within an existing workspace. Eclipse/CDT does not protect against the creation of a workspace inside a workspace or project folder and the recursive creation of very deeply nested folder structures that may result when importing files in such a context.

7. Does SoftConsole v2.3 and v3.1 support C++ projects?

No, SoftConsole versions 2.3 and 3.1 do not support C++ projects.

8. Does SoftConsole work with FlashPro Lite?

No. Only FlashPro3, FlashPro4, and the LC Programmer stick are supported with the SoftConsole tool for debugging. Note: some Actel boards include the Flashpro3 circuitry in the board design.

9. Does the soft console compiler support thumb mode?

Yes. You can add the option `-mthumb` under the Properties > C/C++ Build for your project. Insert it after the Command for both GCC C Compiler and GCC C Linker. After Apply or OK, your project is rebuilt using the '-mthumb' flag to make it compile your code for the thumb target and link in the thumb versions of crt0 and libraries, such as libc.

10. How do I program the flash memory for my development board using SoftConsole? Is there a sample program?

Linker scripts are provided for Cortex-M1 applications to program either the internal NVM or external flash memories. Currently only Intel 28F640 flash devices in a 2x16 configuration are supported. The SoftConsole User's Guide provides detailed information on this feature.

11. Can I use SoftConsole to write to external memory for CoreMP7?

No, SoftConsole cannot be used to write to external memory for CoreMP7.

During debugging, SoftConsole communicates with the target processor through the hardware target board's FlashPro3 JTAG header, via the FlashPro3 programmer/debugger. To enable debugging through the FlashPro3 header, you must appropriately configure certain aspects of your design:

For CoreMP7 debugging, the CoreMP7Bridge **Debug** configurable option must be set to **RealView** or **FlashPro3**. Your design must have RAM in the code memory space as only debugging from RAM is supported.

- You also need to connect the UJTAG interface of CoreMP7Bridge to the top level of your design. Promote the UJTAG interface to the top level of your SmartDesign (or CoreConsole project), and route this interface to the top-level module of the overall design when the SmartDesign (or CoreConsole) subsystem is instantiated as a component in a higher level module.
- There is no need to apply pin assignments to the UJTAG signals as Actel's Designer tool automatically recognizes that the JTAG pins of the device are used for these signals.

12. How can I obtain the *.h and *.c and HAL (Hardware Abstraction layer) files for my SoftConsole project?

You can use the firmware catalog in SoftConsole (v2.3), to create the HAL. Please see the tutorial: http://www.actel.com/documents/CortexM1_Proc_SW_Tutorial_UG.pdf

This procedure is shown early in the tutorial. You make platform.h and other header files to match your hardware. Use the memory map from your Libero IDE project as a guide.

13. Does SoftConsole with Cortex-M1 support the C-runtime library?

Yes, it supports the C-runtime library. For any functions that you want to add, you can always add a compiler switch. For instance, the standard C library is automatically included when using the linker scripts that we provide with SoftConsole. SoftConsole uses GNU GCC. Using linker scripts other than those supplied by Actel is not supported.

14. Is there any document that explains how to build a software project using SoftConsole so that it can run from Nonvolatile Memory (NVM)?

Yes; please refer to the following tutorial:

http://www.actel.com/documents/CortexM1_Proc_SW_Tutorial_UG.pdf

15. Does SoftConsole allow you to debug via RealView ICE debug Hardware?

No; SoftConsole only allows you to debug with the FlashPro3.

In general, the ARM processors we offer (Cortex-M1 or CoreMP7) allow debug via one of the two options below:

- FlashPro3 and SoftConsole <http://www.actel.com/products/software/softconsole/default.aspx>
- RealView ICE and RealView Software (debugger + development suite) <http://www.arm.com/products/DevTools/index.html>

So, in order to use the RealView ICE debug hardware, you would need to switch to the RealView Software tools instead of SoftConsole.

16. Where can I find more information on how to use SoftConsole?

The SoftConsole User Guide contains detailed information on using SoftConsole:
http://www.actel.com/documents/SoftConsole_UG.pdf

17. Does SoftConsole work on Windows x64 system?

No, SoftConsole does not run on windows x64 systems

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Actel Corporation

2061 Stierlin Court
Mountain View, CA
94043-4655 USA
Phone 650.318.4200
Fax 650.318.4600

Actel Europe Ltd.

River Court, Meadows Business Park
Station Approach, Blackwater
Camberley Surrey GU17 9AB
United Kingdom
Phone +44 (0) 1276 609 300
Fax +44 (0) 1276 607 540

Actel Japan

EXOS Ebisu Building 4F
1-24-14 Ebisu Shibuya-ku
Tokyo 150, Japan
Phone +81.03.3445.7671
Fax +81.03.3445.7668
<http://jp.actel.com>

Actel Hong Kong

Room 2107, China Resources Building
26 Harbour Road
Wanchai, Hong Kong
Phone +852 2185 6460
Fax +852 2185 6488
www.actel.com.cn