



Installing the Keil MDK for Holtek Edition

Version 1.0

Application Note

Non-Confidential

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Issue

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Release information

Document history

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1. Introduction

1.1 Conventions

The following subsections describe conventions used in Arm documents.





Glossary



The Arm Glossary is a list of terms used in Arm documentation, together with definitions for those terms. The Arm Glossary does not contain terms that are industry standard unless the Arm meaning differs from the generally accepted meaning.

See the Arm® Glossary for more information: developer.arm.com/glossary.

Typographic conventions

Arm documentation uses typographical conventions to convey specific meaning.

Convention	Use
<i>italic</i>	Citations.
bold	Interface elements, such as menu names. Terms in descriptive lists, where appropriate.
monospace	Text that you can enter at the keyboard, such as commands, file and program names, and source code.
monospace <u>underline</u>	A permitted abbreviation for a command or option. You can enter the underlined text instead of the full command or option name.
<and>	Encloses replaceable terms for assembler syntax where they appear in code or code fragments. For example: <pre>MRC p15, 0, <Rd>, <CRn>, <CRm>, <Opcode_2></pre>
SMALL CAPITALS	Terms that have specific technical meanings as defined in the <i>Arm® Glossary</i> . For example, IMPLEMENTATION DEFINED , IMPLEMENTATION SPECIFIC , UNKNOWN , and UNPREDICTABLE .
 Caution	Recommendations. Not following these recommendations might lead to system failure or damage.
 Warning	Requirements for the system. Not following these requirements might result in system failure or damage.
 Danger	Requirements for the system. Not following these requirements will result in system failure or damage.
 Note	An important piece of information that needs your attention.

Convention	Use
 Tip	A useful tip that might make it easier, better or faster to perform a task.
 Remember	A reminder of something important that relates to the information you are reading.

1.2 Useful resources

This document contains information that is specific to this product. See the following resources for other useful information.

Access to Arm documents depends on their confidentiality:

- Non-Confidential documents are available at developer.arm.com/documentation. Each document link in the following tables goes to the online version of the document.
- Confidential documents are available to licensees only through the product package.



Arm tests its PDFs only in Adobe Acrobat and Acrobat Reader. Arm cannot guarantee the quality of its documents when used with any other PDF reader.

Adobe PDF reader products can be downloaded at <http://www.adobe.com>

1.3 Other information

See the Arm website for other relevant information.

- [Arm® Developer](#).
- [Arm® Documentation](#).
- [Technical Support](#).
- [Arm® Glossary](#).

2. Abstract

Arm provides software developers working with Holtek devices based on the Arm Cortex-M0+ processor with a free-to-use professional tool suite.

The free Keil MDK Holtek Edition for Cortex-M0+ includes the Arm C/C++ Compiler, the Keil RTX5 real-time operating system kernel, and the μ Vision IDE and debugger.

If you wish to program all Holtek's Arm Cortex-M based devices, [purchase the Keil MDK Holtek Edition – Cortex-M0+/M3/M4 online](#).

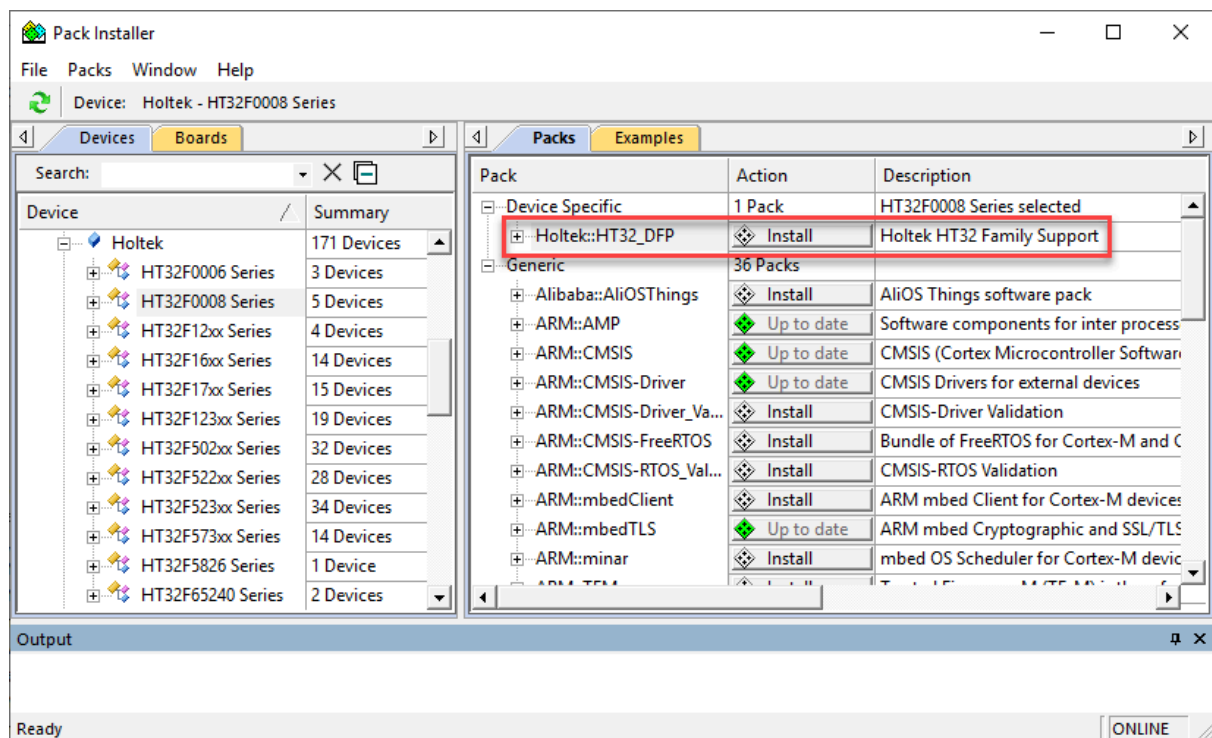
This application note explains how to download, install, and use MDK with Holtek devices.

3. Installation

This chapter explains how to download and install Keil MDK on your local computer.

1. [Download](#) Keil MDK.
2. Run the downloaded MDK5xx.exe installer.
3. Select your installation location (default is c:\keil_v5). If you have existing MDK installations that you want to keep, select a new folder. Once the installation has finished, Pack Installer opens.
4. In Pack Installer, click “Install” to download and install the device family packs supplied by Holtek.

Figure 3-1: Install Holtek CMSIS-Packs



Next, you need to [get a valid license](#) for your product.

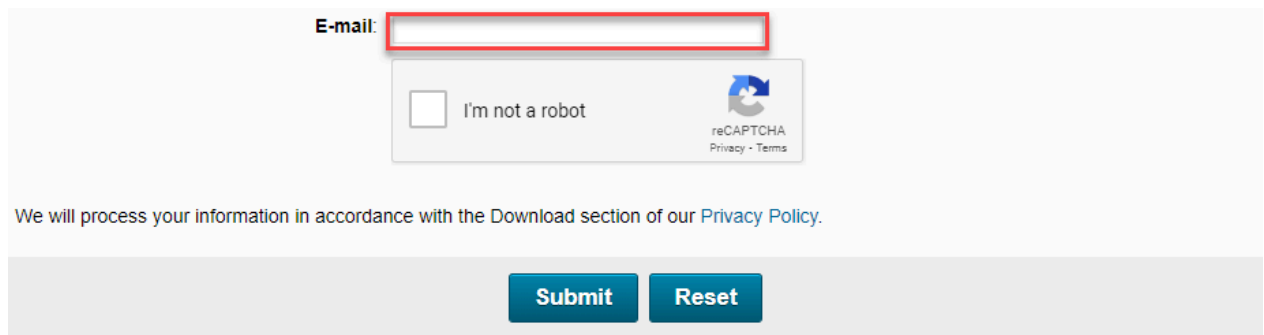
4. License

This chapter explains how to obtain a valid serial number (SN) and how to generate the license file from it.

Serial Number

To activate the Keil MDK for Holtek Edition, go to the [Holtek page](#) and submit your address in the “E-mail” field to receive a valid serial number.

Figure 4-1: Request a serial number



The screenshot shows a web form for requesting a serial number. It features an "E-mail:" label followed by a text input field. Below the input field is a reCAPTCHA widget with the text "I'm not a robot" and a checkbox. To the right of the checkbox is the reCAPTCHA logo and links for "Privacy" and "Terms". Below the reCAPTCHA widget, a line of text states: "We will process your information in accordance with the Download section of our [Privacy Policy](#)." At the bottom of the form are two buttons: "Submit" and "Reset".



With this SN you can cut a one-year term license.

License Generation

- Go to [Arm Developer - Support](#) and select “Licensing - Generate”.
- Log in into your already existing Arm account or create a new one.
- Enter the serial number XXX:

Figure 4-2: Enter serial number to obtain a license file

Home / Support / Software Licensing / Generate

Generate

Overview **Generate** View Merge Rehost Support FAQ

Here you can generate license files from a serial number.

1. Enter your Arm serial number and click "Get License"
2. Enter the host id information (If your license supports this)
3. Confirm your entries are correct
4. Download your license

Please note: You can enter a new (unused) serial number, or a previously registered serial with remaining seats.

You cannot generate a license from a serial number already registered to another account.

Serial Number

Enter serial number

Get License

- In the next dialog, enter your HostID:

Figure 4-3: Enter HostID

Details

Serial Number	LM()
Part	MDKHOL00-LC-30001
Type	Locked_Uncounted
Product	MDK Holtek CM0+ NL 1 YEAR TERM
Seats Available/Total	1/1
Seats Used	0
Start Date	2019-05-10
End Date	2019-05-17
Support Start Date	
Support End Date	

Quantity

1

HostID Type

ETHERNET

Generate

Host Id Rules

- Must be Hexadecimal value
- Ethernet Host Ids must be 12 digits long
- Long Host Ids must be 8 digits long

HostID

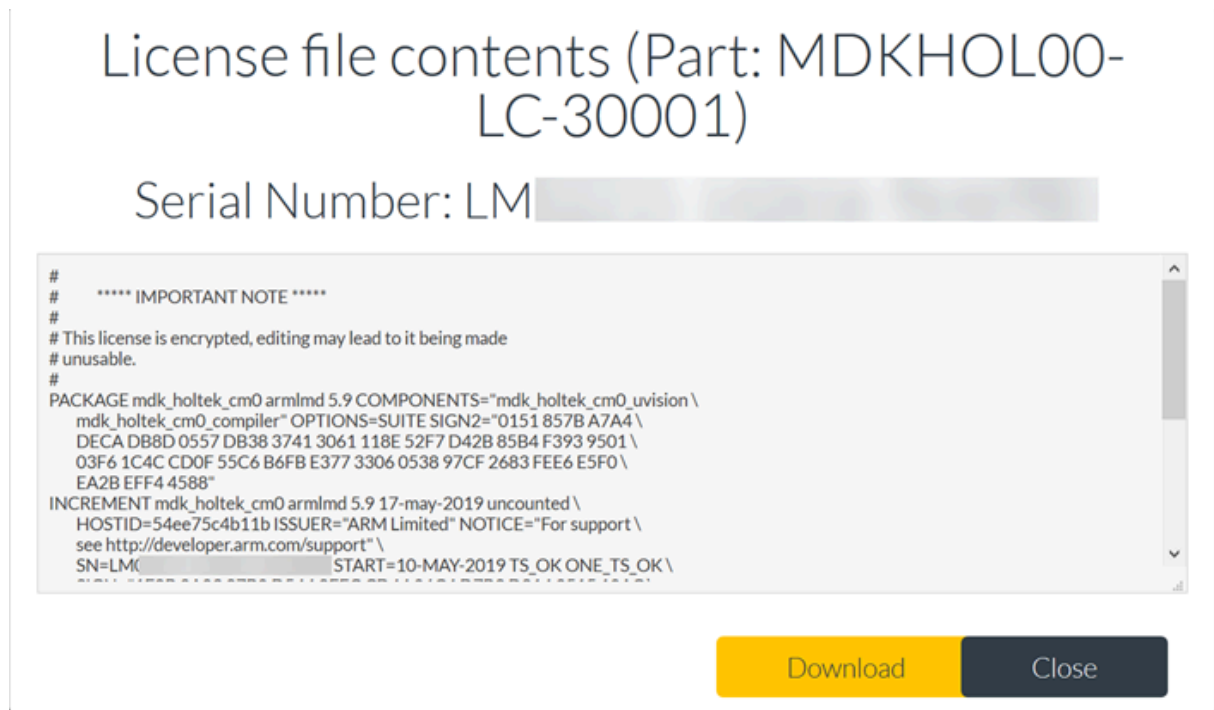
Enter Host Id



Consult the [FAQ](#) to find the HostID of your computer.

- Confirm that the entry is correct.
- Press the Download button to retrieve the license from the server.
- Press Download again to save the generated `license.dat` on your computer:

Figure 4-4: Contents of the license.dat file



- Make a note of the download location and press Close. This concludes the license generation.

Next, [activate](#) your product.

5. Activation

This chapter explains how to activate your product.



Note

If you are using MDK v5.32, you need to exchange the license mapping file. Please download [mdk_holtek_cm0_flex.elmap](#) to your Keil MDK installation directory, for example `c:\Keil_v5\ARM\sw\mappings`. You can safely overwrite the existing one. Restart μ Vision, before you can add the license as described in the following.

- Run μ Vision.
- Open the dialog “File – License Management...”, select the “FlexLM License” tab, and click on “Edit...”:

Figure 5-1: Edit the FlexLM License

License Management

Single-User License | Floating License | Floating License Administrator | **FlexLM License**

Customer Information

Name:

Company:

Email:

Computer ID

CID:

Set as Active Product

Check Out... Check In

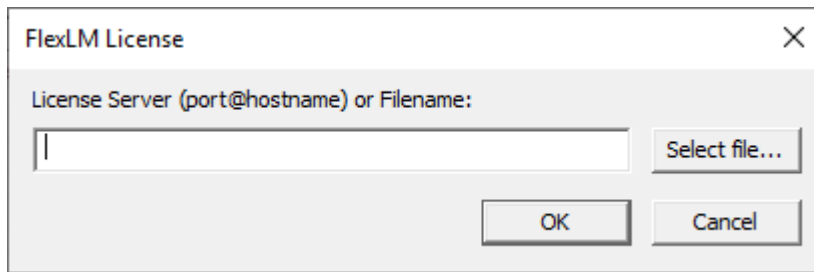
Product	License ID Code (LIC)/Product variant	Support Period

☐ Use FlexLM:

Edit... Used By...

Close Help

- Press the button “Select File...” and point to the file that you have received downloaded in the previous step:

Figure 5-2: Specify the FlexLM License location

- Press “OK”.
- If the license is correct, the support period will be presented and the output shows:

```
*** FLEX Settings Modified Successfully ***
```

- Press “Close” to finish the activation.

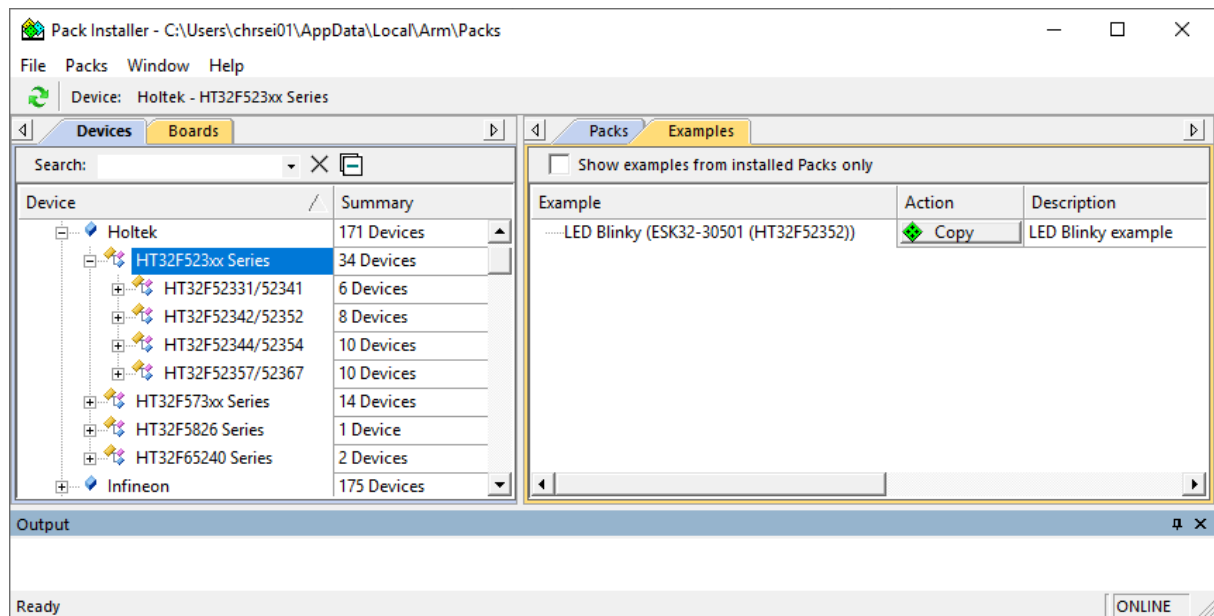
Next, test your set up using an [example project](#).

6. Example Projects

This chapter shows how to use example projects from the Holtek CMSIS-Packs to check the correct set up of the hardware and software.

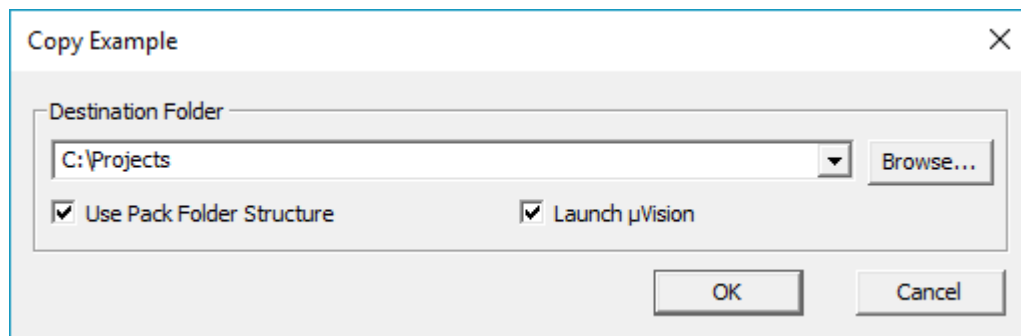
1. Open the Pack Installer from the μ Vision toolbar.
2. Switch to the “Examples” tab. From the list, select the example you want to install. The “Devices” tab allows to filter for specific devices or device series.

Figure 6-1: Find an example project



3. When pressing “Copy”, a dialog box will ask for the desired destination. The example will be directly installed into this folder. Folders that do not exist will be created automatically.

Figure 6-2: Copy an example project



4. Tick “Launch μ Vision” to open the project immediately.

Congratulations! You can now start working on embedded software development for Holtek devices!

Further reading

- If you want to learn more about Keil MDK, download the [Getting Started Guide](#).