

# NGX USB-JTAG with CooCox Colink on Keil (MDK-ARM)



SETUP MANUAL



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## Introduction

The NGX USB-JTAG can be used with Keil Microcontroller Development Kit (MDK-ARM) for debugging on LPC 1768 Header board and baseboard variants as well.

It connects your target hardware (via JTAG) to PC's USB port and allows you to download and test your programs on your target hardware and program the on-chip FLASH memory of many ARM Cortex M3 devices.

## Set-up

The setup involves the hardware connections and the software installation and settings.

## Hardware

- NGX USB-JTAG kit
- Target board
- Type B USB connector wire

Connect the NGX USB-JTAG to the target board and to the PC.

## Software

- Keil Microcontroller Development Kit (MDK-ARM) installed on your PC
- NGX USB-JTAG drivers installed on your PC
- CooCox Colink plugin setup

We will now install the CooCox Colink plugin and make the necessary settings through Keil  $\mu$ Vision IDE for it. Before we continue we assume that you have successfuly installed Keil Microcontroller Development Kit (MDK-ARM) and NGX USB-JTAG drivers.

···· 쑥 Intel(R) ICH8 Family USB2 Enhanced Host Controller - 283A ···· 쑥 USB Composite Device ··· 쑥 USB Mass Stroage Device

- 🥰 USB Serial Converter A - 🕰 USB Serial Converter B

(if the NGX USB-JTAG drivers are installed you should see USB Composite Device and USB serial converter A & B list in Universal Serial Bus Controllers listing in device manager)



## CooCox Colink plugin setup

Download the setup file (CooCox\_Colink\_MDK\_Plugin\_V1.82\_Setup.exe) from the link provided <u>here</u>. Double click on the downloaded file. It will start the installer.

🕞 Setup - CooCox Colink A	ADK Plugin
	Welcome to the CooCox Colink MDK Plugin Setup Wizard This will install CooCox Colink MDK Plugin version 1.82 on your computer. It is recommended that you close all other applications before continuing. Click Next to continue, or Cancel to exit Setup.
	Next > Cancel

Click <u>N</u>ext.

🕼 Setup - CooCox Colink MDK Plugin
Select Destination Location Where should CooCox Colink MDK Plugin be installed?
Setup will install CooCox Colink MDK Plugin into the following folder.
To continue, click Next. If you would like to select a different folder, click Browse.
C:\Keil Browse
At least 1.0 MB of free disk space is required.
< <u>B</u> ack <u>N</u> ext > Cancel

Here the default path is C:\Keil, if you have installed it some where else give that path.



Click <u>N</u>ext.

😼 Setup - CooCox Colink MDK Plugin	×
Ready to Install Setup is now ready to begin installing CooCox Colink MDK Plugin on your computer.	3
Click Install to continue with the installation, or click Back if you want to review or change any settings.	
Destination location: C:\Keil	
< <u>B</u> ack Install Cancel	

#### Click Install.



With this, click on <u>F</u>inish. You have successfuly installed CooCox Colink plugin for Keil Microcontroller Development Kit (MDK-ARM).



Op	en the	μVision	IDE and	go to F	'l <u>a</u> sh>	<b>Configure</b>	Flash	Tools	>Debug	tab.
----	--------	---------	---------	---------	-----------------	------------------	-------	-------	--------	------

Options for Target 'FLASH'	×
Device Target Output Listing User C/C++ Asm	Linker Debug Utilities
C Use <u>S</u> imulator Settings	<ul> <li></li></ul>
✓ Load Application at Startup ✓ Run to main() Initialization File:	Load Altera Blaster Cortex Debugger Luminary Eval Board Initializatig Signum Systems JTAGjet
Restore Debug Session Settings	Cortex-M3 J-LINK ST-Link Debugger ULINK Pro Cortex Debugger CooCox Colink Debugger
Breakpoints     Toolbox     Watchpoints & PA	Breakpoints     Vatchpoints
Memory Display	Memory Display
CPU DLL: Parameter:	Driver DLL: Parameter:
SARMCM3.DLL -MPU	SARMCM3.DLL -MPU
Dialog DLL: Parameter: DARMP1.DLL -pLPC1768	Dialog DLL: Parameter: TARMP1.DLL -pLPC1768
OK Car	ncel Defaults Help

Select the CooCox Colink Debugger in the drop down menu. The click Settings.

Colink Driver Setup 🛛 🛛 🔀
Colink Setup
JTAG Speed: 300K 💌 Hz
Reset Option: SYSRESETREQ -
Cache Options
Cancel

You should have the following settings set-up. Then click OK.



Options for Target 'FLASH'
Device Target Output Listing User C/C++ Asm Linker Debug Utilities
Configure Flash Menu Command
Use Target Driver for Flash Programming
CooCox Colink Debugger 🗨 Settings 🔽 Update Target before Debugging
Init Eile: ULINK Cortex Debugger Luminary Eval Board Edit
Signum Systems JTAbjet Cortex-M3J-LINK C Use Extern ST Link Debugger
Command:
Arguments:
Run Independent
OK Cancel Defaults Help

#### Then go to **Flash** --> **Configure Flash Tools...-->Utilities** tab.

Select the CooCox Colink Debugger in the drop down menu. Then click Settings. Then Click OK.

Flash Download Setup			×
Download Function	C Erase Sectors	C Do r	not Erase
Programming Algorithm			
Description	Device Type	Device Size	Address Range
LPC17xx IAP 512kB Flash	On-chip Flash Memory	512KB	00000000H0007FFFFH
	Add	Remove	
	ОК	Cancel	



Open a project which can be successfully compiled and built. Go to **Debug --> Start/Stop Debug Session** 

: Fl <u>a</u> sh	<u>D</u> ebug	Pe <u>r</u> ipherals	<u>T</u> ools	<u>s</u> vcs	<u>W</u> indow	Help
	🍳 Sta	art/Stop <u>D</u> ebug	) Session		Ctrl+F5	
FLASH	RST Re	eset <u>C</u> PU				
<b>▼</b> ‡	E. Ru	IN			F5	

You will see this if you have a trial evaluation version of Keil Microcontroller Development Kit (MDK-ARM).



Click OK. If everything is working fine you should see some thing like the screen-shot below.



If you do not get this try resetting the target board.



#### Information

#### **Revision History**

version: v1.0 author: Milind Kakati

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