



Converting ST-LINK On-Board Into a J-Link

SEGGER offers a firmware upgrading the ST-LINK on-board on the Nucleo and Discovery Boards.

- Fully compatible with and same features as J-Link OB [[More..](#)]
- Wide range of IDEs are supported
- Virtual COM port (VCOM) support

Contents

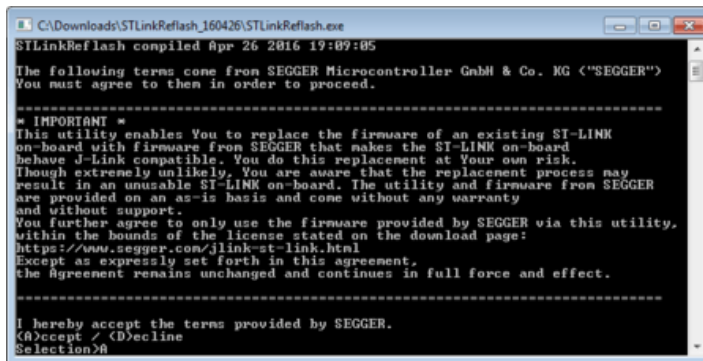


This firmware makes the ST-LINK on-board compatible with J-Link OB, allowing users to take advantage of most [J-Link](#) features like the ultra fast flash download and debugging speed or the free-to-use [GDBServer](#).

Getting Started with ST-LINK On-Board

In order to get started with ST-LINK on-board and upgrade it to a J-Link OB, just a few steps are necessary:

- Make sure that the ST-LINK USB drivers are installed: [Download](#)
- Make sure that the J-Link software package V5.12b or later is installed: [Download](#)
- Download the SEGGER STLinkReflash utility: [Download](#)
- Start the STLinkReflash utility
- Agree to the license terms

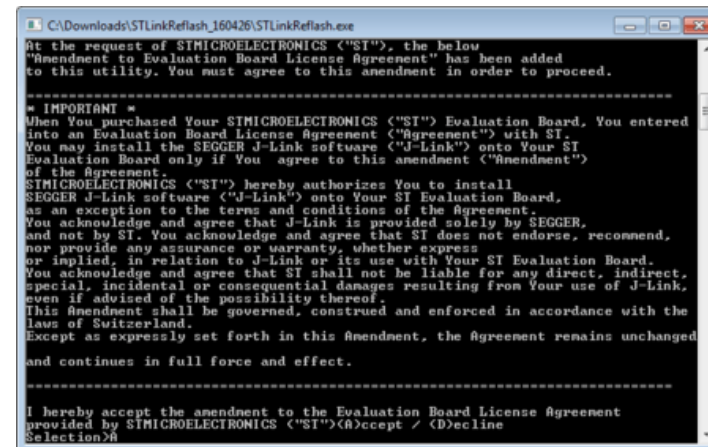


```

C:\Downloads\STLinkReflash_160426\STLinkReflash.exe
STLinkReflash compiled Apr 26 2016 19:09:05
The following terms come from SEGGER Microcontroller GmbH & Co. KG ("SEGGER")
You must agree to them in order to proceed.

=====
* IMPORTANT *
This utility enables You to replace the firmware of an existing ST-LINK
on-board with firmware from SEGGER that makes the ST-LINK on-board
behave J-Link compatible. You do this replacement at Your own risk.
Though extremely unlikely, You are aware that the replacement process may
result in an unusable ST-LINK on-board. The utility and firmware from SEGGER
are provided on an as-is basis and come without any warranty
and without support.
You further agree to only use the firmware provided by SEGGER via this utility,
within the bounds of the license stated on the download page:
https://www.segger.com/jlink-st-link.html
Except as expressly set forth in this agreement,
the Agreement remains unchanged and continues in full force and effect.

=====
I hereby accept the terms provided by SEGGER.
(A)accept / (D)ecline
Selection>#
  
```



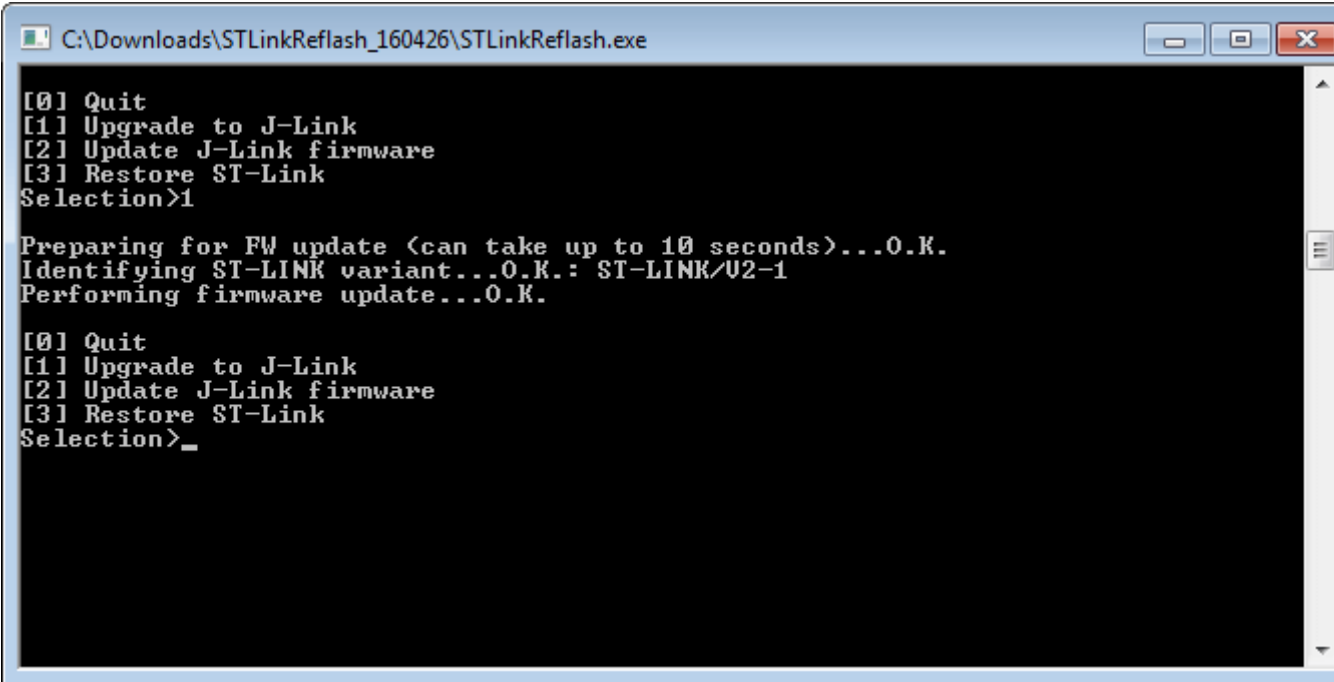
```

C:\Downloads\STLinkReflash_160426\STLinkReflash.exe
At the request of STMICROELECTRONICS ("ST"), the below
"Amendment to Evaluation Board License Agreement" has been added
to this utility. You must agree to this amendment in order to proceed.

=====
* IMPORTANT *
When You purchased Your STMICROELECTRONICS ("ST") Evaluation Board, You entered
into an Evaluation Board License Agreement ("Agreement") with ST.
You may install the SEGGER J-Link software ("J-Link") onto Your ST
Evaluation Board only if You agree to this amendment ("Amendment")
of the Agreement.
STMICROELECTRONICS ("ST") hereby authorizes You to install
SEGGER J-Link software ("J-Link") onto Your ST Evaluation Board,
as an exception to the terms and conditions of the Agreement.
You acknowledge and agree that J-Link is provided solely by SEGGER,
and not by ST. You acknowledge and agree that ST does not endorse, recommend,
nor provide any assurance or warranty, whether express
or implied, in relation to J-Link or its use with Your ST Evaluation Board.
You acknowledge and agree that ST shall not be liable for any direct, indirect,
special, incidental or consequential damages resulting from Your use of J-Link,
even if advised of the possibility thereof.
This Amendment shall be governed, construed and enforced in accordance with the
laws of Switzerland.
Except as expressly set forth in this Amendment, the Agreement remains unchanged
and continues in full force and effect.

=====
I hereby accept the amendment to the Evaluation Board License Agreement
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Selection>#
  
```

- Connect ST-LINK on-board to PC
- Select "Upgrade to J-Link"
- Wait for operation to complete



```
C:\Downloads\STLinkReflash_160426\STLinkReflash.exe

[0] Quit
[1] Upgrade to J-Link
[2] Update J-Link firmware
[3] Restore ST-Link
Selection>1

Preparing for FW update (can take up to 10 seconds)...O.K.
Identifying ST-LINK variant...O.K.: ST-LINK/V2-1
Performing firmware update...O.K.

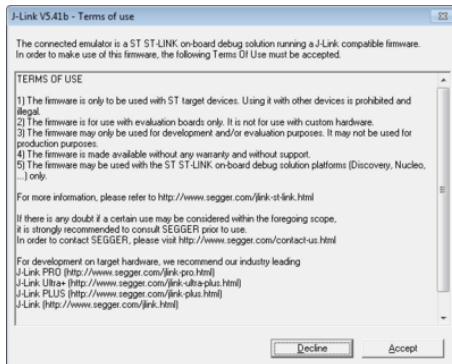
[0] Quit
[1] Upgrade to J-Link
[2] Update J-Link firmware
[3] Restore ST-Link
Selection>_
```

- Quit the STLinkReflash utility

Terms of use

SEGGER created a firmware which runs on the ST-LINK on-board, making it **J-Link** compatible. In order to make use of this firmware, the following Terms Of Use must be accepted:

- The firmware is only to be used with ST target devices. Using it with other devices is prohibited and illegal.
- The firmware is for use with evaluation boards only. It is not for use with custom hardware.



- The firmware may only be used for development and/or evaluation purposes. It may not be used for production purposes.
- The firmware is made available without any warranty and without support.

If there is any doubt if a certain use may be considered within the foregoing scope it is strongly recommended to **consult SEGGER** prior to use.

When starting a debug session, the following license dialog shows up which must be accepted in order to be able to work with ST-LINK on-board:

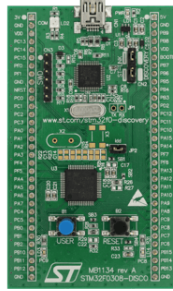
Compatible Evaluation Boards

The following evaluation boards have been tested with the J-Link OB firmware and are known to be working. Other evaluation boards may work as well but are not guaranteed to do so. In case of doubt, please **consult SEGGER**. The pictured evaluation boards are examples only. Other models might vary in layout.

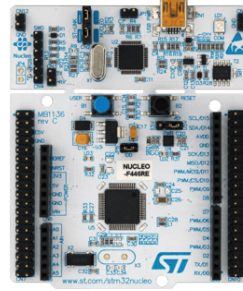
Discovery

NUCLEO

Other



- 32F0308DISCOVERY (STM32F0308-DISCO)
- 32F3348DISCOVERY (STM32F3348-DISCO)
- 32F411EDISCOVERY (STM32F411E-DISCO)
- 32F413HDISCOVERY (STM32F413H-DISCO)
- 32F429IDISCOVERY (STM32F429I-DISC1)
- 32F429IDISCOVERY (STM32F429I-DISCO)
- 32F469IDISCOVERY (STM32F469I-DISCO)
- 32F723EDISCOVERY (STM32F723E-DISCO)
- 32F746GDISCOVERY (STM32F746G-DISCO)
- 32F769IDISCOVERY (STM32F769I-DISCO)



- NUCLEO-F030R8
- NUCLEO-F031K6
- NUCLEO-F042K6
- NUCLEO-F070RB
- NUCLEO-F072RB
- NUCLEO-F091RC
- NUCLEO-F103RB
- NUCLEO-F207ZG
- NUCLEO-F302R8
- NUCLEO-F303K8
- NUCLEO-F303RE
- NUCLEO-F303ZE
- NUCLEO-F334R8
- NUCLEO-F401RE
- NUCLEO-F410RB
- NUCLEO-F411RE
- NUCLEO-F412ZG



- B-L072Z-LRWAN1
- STM32L475 Discovery Kit for IoT Node
- STM32F769I-Eval

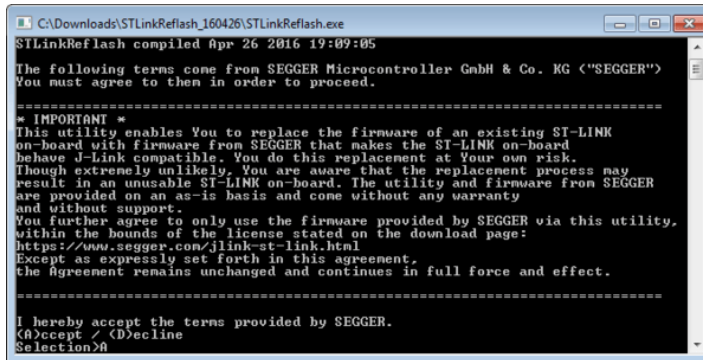
- 32L0538DISCOVERY
(STM32L0538-DISCO)
- 32L100CDISCOVERY
(STM32L100C-DISCO)
- 32L476GDISCOVERY
(STM32L476-DISCO)
- 32L496GDISCOVERY
(STM32L496G-DISCO)
- STM32F0DISCOVERY
- STM32F3DISCOVERY
- STM32F4DISCOVERY
(STM32F407G-DISC1)
- STM32L4R9 Discovery kit
(STM32L4R9I-DISCO)

- NUCLEO-F413ZH
- NUCLEO-F429ZI
- NUCLEO-F446RE
- NUCLEO-F446ZE
- NUCLEO-F722ZE
- NUCLEO-F746ZG
- NUCLEO-F767ZI
- NUCLEO-H743ZI
- NUCLEO-L011K4
- NUCLEO-L031K6
- NUCLEO-L053R8
- NUCLEO-L073RZ
- NUCLEO-L152RE
- NUCLEO-L452RE
- NUCLEO-L496ZG
- NUCLEO-L496ZG-P
- NUCLEO-L4R5ZI
- P-NUCLEO-WB55

Restore ST-Link Firmware

If, for whatever reason, the original ST-LINK firmware shall be restored and the ST-LINK on-board is already running the J-Link firmware, this can be achieved via the STLinkReflash utility:

- Start the STLinkReflash utility
- Agree to the license terms



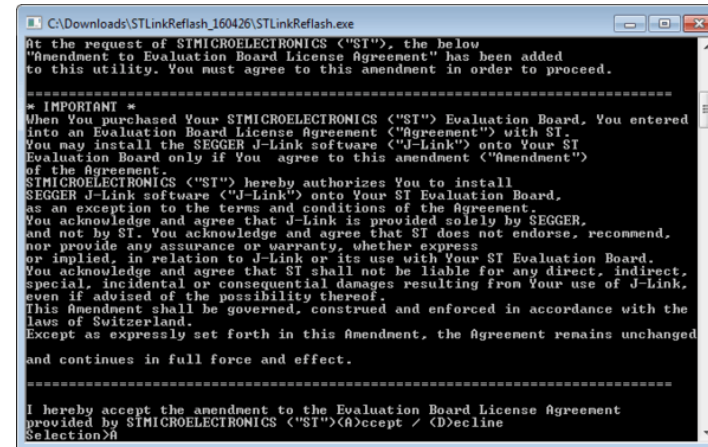
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(A)accept / (D)ecline
Selection>A
  
```

License Terms by SEGGER



```

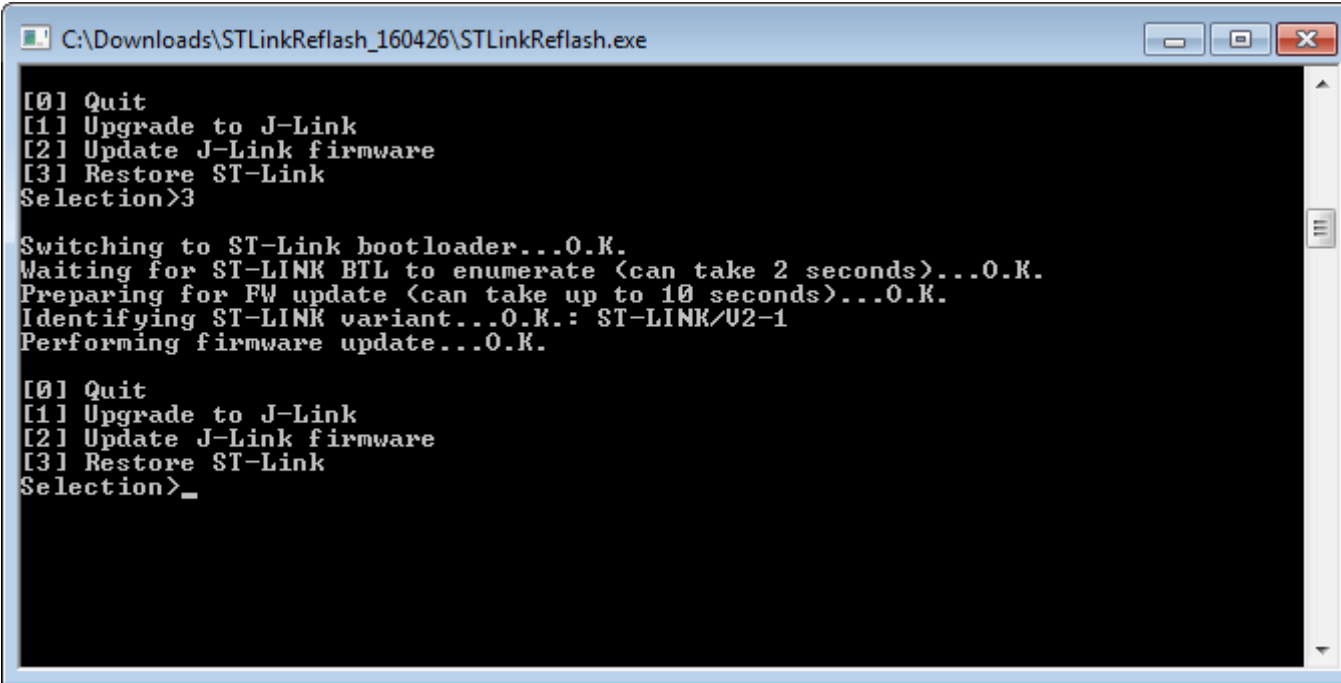
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Selection>A
  
```

Amendment by ST Microelectronics

- Connect ST-LINK on-board to PC
- Select "Restore ST-Link"
- Wait for operation to complete



```
C:\Downloads\STLinkReflash_160426\STLinkReflash.exe

[0] Quit
[1] Upgrade to J-Link
[2] Update J-Link firmware
[3] Restore ST-Link
Selection>3

Switching to ST-Link bootloader...O.K.
Waiting for ST-LINK BTL to enumerate (can take 2 seconds)...O.K.
Preparing for FW update (can take up to 10 seconds)...O.K.
Identifying ST-LINK variant...O.K.: ST-LINK/V2-1
Performing firmware update...O.K.

[0] Quit
[1] Upgrade to J-Link
[2] Update J-Link firmware
[3] Restore ST-Link
Selection>_
```

- Quit the STLinkReflash utility

Firmware Version History and Limitations

Firmware Version History

Format: YY-MM-DD

19-08-13:

- ST-LINK/V2-1: added ST-Links V2.1 with Fw V2.J34.M25 and PID 3752 to the allowed list.

Limitations

The firmware making the ST-LINK on-board **J-Link** compatible has some limitations in contrast to an original, industry leading SEGGER J-Link:

- May be used with ARM based ST devices only

19-08-12:

- ST-LINK/V2: Added support for J-Link nickname feature
(See wiki.segger.com/J-Link:Nickname for more info)
- ST-LINK/V2-1: Added support for J-Link nickname feature
(See wiki.segger.com/J-Link:Nickname for more info)

19-05-08:

- ST-LINK/V2-1: Added VMSS drag & drop flash programming capability to firmware
- ST-LINK/V2-1: VMSS drag & drop did not start the target application automatically after flash programming was finished. Fixed.

17-08-07:

- ST-LINK OB on some Nucleo-L152RE boards was not detected properly and could not be converted to J-Link. Fixed.

17-06-28:

- Under special circumstances, heap was overwritten when using HSS functionality. Fixed.

16-12-21:

- Tx-Idle level for UART, used for virtual COM port, was LOW instead of HIGH which could

- Only debugging on evaluation boards is allowed. Debugging on custom hardware is not supported and not allowed
- No production flash programming support
- Unlimited breakpoints in flash available for evaluation only
- No support is given

By using an original SEGGER **J-Link PRO**, **J-Link ULTRA+** or **J-Link PLUS**, all these limitations will be gone. [Learn more about J-Link.](#)

cause problems when using VCOM. Fixed.

16-10-07:

- 8 MHz MCO was not output on ST-LINK/V2 based boards (e.g. STM32F0DISCOVERY). Fixed.

16-08-04:



- Improved download speed
- When using RTT and invalid contents were read from RAM, firmware could hang. Fixed.

16-05-04:

- Added support for SWO

Resources

16-04-15:

-  User Manual
- Initial version that supports ST-LINK/V2 and ST-LINK/V2-1
-  Downloads

-  Release Notes

-  Update Notification

-  Pricing

-  Support

More Information

Purchase

[Pricing](#)

Technology

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[Real-Time Transfer](#) [Overview of Supported CPUs and Devices](#) [Overview of Supported IDEs](#) [About IAR EWARM](#) [Using Trace with Eclipse](#)

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[Supported NOR Flashes](#)

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[J-Link EDU Mini](#) [J-Link OB](#) [J-Link LITE - Overview](#)



About us



Support



Downloads



Social Media

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Fax: +49-2173-99312-28

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Silicon Valley

Milpitas, CA 95035, USA
us-west@segger.com
Tel.: +1-408-767-4068

ISO 9001
certified



25+ years of
experience

