Install ARDUINO for Mac (26.8.2022)

By Harold Linke and Frank Becker

Download from https://www.arduino.cc/en/software the MAC OS X package.

The package will be downloaded to the downloads folder. You can move it to any folder on the Mac. Preferred Applications folder.

There is no installation necessary. The package can be used directly. You have to specify the location of the ARDUINO package later in the pyMobaledLib application.

	Einstellungen Netzwerk	
Sketchbook-Speicherort:		
/Users/Frank/Documents/Arduin	no Durchsuchen	
Editor-Sprache:	System Default	
Editor-Textgröße:	12	
Oberflächen-Zoomstufe:	Automatisch 100 C% (erfordert Neustart von Arduino)	
Thema:	Standardthema 🔅 (erfordert Neustart von Arduino)	
Ausführliche Ausgabe während: 🗌 Kompilierung 🗌 Hochladen		
Compiler-Warnungen:	Keine ᅌ	
Zeilennummern anzeigen	Code-Faltung aktivieren	
🗹 Code nach dem Hochladen üb	erprüfen 📃 Externen Editor verwenden	
🗹 Beim Start nach Updates such	en 🗹 Speichern beim Überprüfen oder Hochladen	
Use accessibility features		
Zusätzliche Boardverwalter-URLs:		
Mehr Voreinstellungen können dir	rekt in der Datei bearbeitet werden	
/Users/Frank/Library/Arduino15/	preferences.txt	
(nur bearbeiten, wenn Arduino nic	ht läuft)	
	OK Abbruch	

Install Python 3

Download and install python 3 for mac. Use the latest version of the Mac OS 64-bit installer.

Help for the installation can be found here: <u>https://docs.python.org/3/using/mac.html</u>

Python 3.10.6

Release Date: Aug. 2, 2022





Using IDLE or other Tk applications

This package includes its own private version of Tcl/Tk 8.6. It does not use any system-supplied or third-party supplied versions of Tcl/Tk.

Due to new security checks on macOS 10.15 Catalina, when launching IDLE macOS may open a window with a message "Python" would like to access files in your Documents folder. This is normal as IDLE uses your Documents folder as its default when opening and saving files; you can still choose other locations in the Open and Save file dialog windows. Click on the OK button to proceed.

macOS 11 (Big Sur) and Apple Silicon Mac support

For Python 3.10 releases, we provide a new universal2 installer variant that provides universal binaries for both ARM64 and Intel 64 architectures and is also supported on all Macs that support macOS 10.9 or later. Some of the advantages of the new installer variant: native ARM64 code on Apple Silicon Macs should run significantly faster than Rosetta2-emulated code; some operating system functions and options introduced in macOS releases since 10.9 are now exposed when available (primarily in the os module); and the new installer variant includes Tcl/Tk 8.6.11 rather than 8.6.8. On Apple Silicon Macs, it is possible to run Python either with native ARM64 code or under Intel 64 emulation using Rosetta2. This option might be useful for testing or if binary wheels are not yet available with native ARM64 binaries. To easily force Python to run in emulation mode, invoke it from a command line shell with the python3intel64 command instead of just python3.

Other changes

For other changes in this release, see the *What's new* section in the <u>Documentation Set</u> for this release and its *Release Notes* link at <u>https://www.python.org/downloads/</u>.



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AirDrop	💇 IDLE.app				01.08.2022, 23:17		188 KB	Prog
	 Install Certi 	ficates.command			01.08.2022, 23:19		1 KB	Term
Zuletzt benutzt	License.rtf				01.08.2022, 23:19		15 KB	RTF-
C iCloud Drive	Python Doc	umentation.html			Heute, 19:44		99 Byte	Alias
A	🛔 Python Lau	ncher.app			01.08.2022, 23:17		402 KB	Prog
<pre>/~v Programme</pre>	ReadMe.rtf				01.08.2022, 23:19		4 KB	RTF-
Schreibtisch	Update She	Il Profile.command	d		01.08.2022, 23:19		3 KB	Term
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```
• • •
                   Frank — Install Certificates.command — 80×24
Last login: Sun Aug 14 19:45:44 on ttys000
                                                                                 Franks-Air:~ Frank$ /Applications/Python\ 3.10/Install\ Certificates.command ; e
xit;
 -- pip install -- upgrade certifi
Requirement already satisfied: certifi in /Library/Frameworks/Python.framework/V
ersions/3.10/lib/python3.10/site-packages (2022.6.15)
-- removing any existing file or link
-- creating symlink to certifi certificate bundle
-- setting permissions
 -- update complete
logout
Saving session...
... copying shared history...
...saving history...truncating history files...
...completed.
Deleting expired sessions...none found.
[Prozess beendet]
```

Install Module keyboard (optional)

For some special features, we did to install the module keyboard. This is optional and pyMobaledLib will run without this module.

Unfortunately, the standard python installer is not part of the MAC python installation.

Please follow the instructions below:

Install PIP:

Details for this procedure can be found here:

https://phoenixnap.com/kb/install-pip-mac

Install Pip on macOS via get-pip.py

The get-pip.py method installs pip via the command line. The script automatically downloads and installs the pip package for Python.Follow the steps below to install Pip:

1. Press Command + Space Bar and type in *Terminal*. Click the app icon to open a new terminal window.

2. Check your Python version to make sure **Python3** is installed:



3. Download pip by running the following command:

curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py

The <u>curl command</u> allows you to specify a direct download link. Use the -o option to set the name of the downloaded file.

[marko@MacBook-Pro ~ % curl https://bootstrap.pypa.io/get-pip.py -o get-pip.p	у
% Total % Received % Xferd Average Speed Time Time Time Curr	ent
Dload Upload Total Spent Left Spee	d
100 1911k 100 1911k 0 0 2046k 0::: 204	6k
Contract back 00.04	
Frank — -bash — 80×24	
Last login: Sun Aug 14 19:45:45 on ttys004	8
[Franks-Air:~ Frank\$ python3version]	
Python 3.10.6	
[Franks-Air:~ Frank\$ curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py]	
% Total % Received % Xferd Average Speed Time Time Time Current	
Dload Upload Total Spent Left Speed	
100 2500k 100 2500k 0 0 4057k 0::: 4066k	
Franks-Air:~ Frank\$	

4. Install the downloaded package by running:

python3 get-pip.py

```
(marko@MacBook-Pro ~ % python3 get-pip.py
Collecting pip
Using cached pip-21.2.4-py3-none-any.whl (1.6 MB)
Collecting wheel
Downloading wheel-0.37.0-py2.py3-none-any.whl (35 kB)
Installing collected packages: wheel, pip
Attempting uninstall: pip
Found existing installation: pip 21.2.4
Uninstalling pip-21.2.4:
Successfully uninstalled pip-21.2.4
Successfully installed pip-21.2.4
```

```
• • •
                           Frank — -bash — 80×24
                                                                             Last login: Sun Aug 14 19:45:45 on ttys004
Franks-Air:~ Frank$ python3 --version
Python 3.10.6
Franks-Air:~ Frank$ curl https://bootstrap.pypa.io/get-pip.py -o get-pip.py
 % Total % Received % Xferd Average Speed Time Time Time Current
                               Dload Upload
                                              Total
                                                    Spent
                                                              Left Speed
100 2500k 100 2500k
                     0
                            0 4057k
                                         0 --:--:-- 4066k
Franks-Air:~ Frank$ python3 get-pip.py
Collecting pip
 Using cached pip-22.2.2-py3-none-any.whl (2.0 MB)
Collecting wheel
 Downloading wheel-0.37.1-py2.py3-none-any.whl (35 kB)
Installing collected packages: wheel, pip
 Attempting uninstall: pip
   Found existing installation: pip 22.2.2
   Uninstalling pip-22.2.2:
     Successfully uninstalled pip-22.2.2
Successfully installed pip-22.2.2 wheel-0.37.1
Franks-Air:~ Frank$
```

Wait for the installation to finish. Now you have successfully installed pip on your Mac.

Install module keyboard

To install the module keyboard. Open the terminal on Mac and insert the command: "pip install keyboard"

```
[Franks-Air:~ Frank$ pip install keyboard
Requirement already satisfied: keyboard in /Library/Frameworks/Python.framework/
Versions/3.10/lib/python3.10/site-packages (0.13.5)
Requirement already satisfied: pyobjc in /Library/Frameworks/Python.framework/Ve
rsions/3.10/lib/python3.10/site-packages (from keyboard) (8.5)
Requirement already satisfied: pyobjc-framework-Cocoa==8.5 in /Library/Framework
s/Python.framework/Versions/3.10/lib/python3.10/site-packages (from pyobjc->keyb
oard) (8.5)
Requirement already satisfied: pyobjc-framework-CoreMIDI==8.5 in /Library/Framew
orks/Python.framework/Versions/3.10/lib/python3.10/site-packages (from pyobjc->k
eyboard) (8.5)
Requirement already satisfied: pyobjc-framework-CoreMIDI==8.5 in /Library/Framew
orks/Python.framework/Versions/3.10/lib/python3.10/site-packages (from pyobjc->k
eyboard) (8.5)
Requirement already satisfied: pyobjc-framework-InstantMessage==8.5 in /Library/
Frameworks/Python.framework/Versions/3.10/lib/python3.10/site-packages (from pyobjc->k
```

bjc->keyboard) (8.5) Requirement already satisfied: pyobjc-framework-GameCenter==8.5 in /Library/Fram eworks/Python.framework/Versions/3.10/lib/python3.10/site-packages (from pyobjc->keyboard) (8.5) Franks-Air:~ Frank\$

Fix Certification Error in Python for Mac

(already done at the end of Python installation)

Unfortunately, there is a certification issue in Python for Mac. This issue will not allow to access HTTPS websites like Github via Python.

The following steps are taken from this site:

How To Fix Python Error Certificate Verify Failed: Unable To Get Local Issuer Certificate In Mac OS (dev2qa.com)

1. Fix Certificate Verify Failed: Unable To Get Local Issuer Certificate Error Steps.

- Open mac os finder, then click Applications (on Finder window left side) —> Python 3.7 folder (on Finder window right side) to expand it. Your python may have a different version. You can find the Install Certificates.command program in the Python 3.7 folder.
- 2. Double click the **Install Certificates.command** file to run it. It will open another popup terminal window and show below command execution output text.

```
    Last login: Mon Jun 24 15:53:52 on ttys002
    /Applications/Python\ 3.7/Install\ Certificates.command ; exit;
    songs-MacBook-Pro:~ songzhao$ /Applications/Python\ 3.7/Install\ Certificates.command ; exit;
    -- pip install --upgrade certifi
    Requirement already up-to-date: certifi in /Library/Frameworks/Python.framework/Versions/3.7/lib/python3.7/site-packages (2019.6.16)
    -- removing any existing file or link
    -- creating symlink to certifi certificate bundle
    -- setting permissions
    -- update complete
    logout
```



19. Close the popup window when the command runs completely successfully. Now run the python code again, and the **Certificate Verify Failed** Error will disappear.

Install MLL in ARDUINO IDE

Open the ARDUINO IDE go to library management and install the newest version of MobaLedLib. See wiki <u>anleitungen:quickstart [MobaLedLib Wiki]</u>

Ś	Arduino	Datei	Bearbeiten	Sketch	Werkzeuge	Hilfe	
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Tun	٨١١٥	Thoma	Alle		Mohal adl ih		
Тур	Alle	i nema	Alle		MODALEGLID		
- Moba by Har Ardu	MobaLedLib by Hardi (MobaLedLib@gmx.de),Jürgen (MobaLedLib@gmx.at),Dominik (dominik@moba-led-lib.de) Arduino library for driving up to 768 (49152 ESP32) LEDs, signals, sound modules or other						
New in	Actuators via one signal line on a model ranway						
	 Excel user interface to configure the LEDs without programming at all improved by the engagement of Pattern Configurator and Program Generator! On the basis of WS2811 / WS2812 devices (RGB LEDs), many different effects can easily be controlled via one wire: 						
	 Animated lighting effects: animated house, soft blending light signals and crossing lights, traffic lights, flashing vehicle lights, construction site security lights, street lamps, funfair effects, disco, photo flash, Sounds: 1 Eu sound modules could generate: station announcements, railroad noises, animal sounds, Movements With additional hardware servo or stepper motors could be controlled in the same way. 						
	 Easy cabling: For a model railway the simple wiring is very important. A single 4-pin ribbon cable can supply all consumers on the layout. With multiple plug strips, the LEDs can be flexibly arranged. Thanks to many examples, no programming knowledge is necessary. Anyone who can operate a text editor is able to adapt these examples to the individual circumstances. Other features: very low cost, configurable animation sequences, high update rate, reading of 80 and more switches, logical operations, automatic and manual operation (light dependent, timed, CAN bus, random) Hardware: The "extras" directory contains schematics and printed circuit boards for this library. 						
This pr	This project would not have been possible without the fantastic FastLED library. => Thank you Daniel & Mark						
More in	<u>nfo</u>						
					Vers	sion 3.2.0 ᅌ 🛛 Installiere	n
L						S	chließen

000	Dependencies for library MobaLedLib:3.2.0
The libra depende	ary MobaLedLib:3.2.0 needs some other library encies currently not installed:
- FastL - Nmra - ATtin - DIO2 - EWM - Moba - Timer - U8g2	ED Dcc ySerialOut A Tools One
Would y	ou like to install also all the missing dependencies?
Ins	tall all Install 'MobaLedLib' only Abbruch
Choose "Inst	all all"

Install pyMobaLedLib

Open the following github page: <u>https://github.com/haroldlinke/pyMobaLedLib</u>

Bibliothek wird heruntergeladen: FastLED

Abbruch

Click on the green button named "Code". Select "download ZIP". Save the ZIP in any folder you want.

••• <			=	github.com	Ċ
anleitungen:bau	anleitungen:10 köf l	okschuppen - Google Search	106854-unf-106684-warten-g	. pink floyd atom heart mother p	GitHub - haroldlinke/pyMobaLe
Ç	Product ~ Te	am Enterprise Expl	lore – Marketplace Pri	cing \sim	Search
🖵 harolo	llinke / pyMobaL	edLib Public			
<> Code	ⓒ Issues î Pull	requests (>) Actions	🗄 Projects 🕮 Wiki 🤅) Security 🗠 Insights	
	្រំ master 👻	26 branches 🛛 🛇 0 tag	la		Go to file Code -
	😝 haroldlinke Me	erge pull request #62 fror	n haroldlinke/3.2.1.01	➢ Clone	0
	python		3.2.1.01	HTTPS GitHub CLI	
	.gitignore		3.2.1.01	https://github.com/har	roldlinke/pyMobaL
	README.md		Update README.md	Use Git or checkout with SVN	using the web URL.
README.md		G Open with GitHub Desktop			
	Mobal e	dl ih nvPro	naGen for Wi		

Extract the ZIP file.

Open pyMobaLedLib using the python launcher by selecting the file pyMobaLedLib.py ("yourPath\pyMobaLedLib\python\pyMobaLedLib.py")

proggen		
🧃 pyMobaLe	edLib.py	
Bostart D	and and	
	Öffnen	
▶ <u>mil_</u>	Öffnen mit 🕨 🕨	IDLE.app (Standard) (3.10.6)
mlpy		
🔳 Mob	In den Papierkorb legen	Microsoft Excel.app (16.43)
Mob	O 10 1 1	X Microsoft Excel.app (14.7.7)
📄 Mob	Kopie senden	Microsoft Word app (16.43)
Mob	😌 In Dropbox sichern	Microsoft Word and (14.77)
pattern	😌 Nach "Dropbox" verschieben	W MICrosoft Word.app (14.7.7)
▶ proc		🚺 Notizen.app (4.5)
DvM	Informationen	Python Launcher.app
Rest	Umbenennen	Skype.app (8.62)
	"pyMobaLedLib.py" komprimieren	TextEdit ann

After starting pyMobaLedLib will first check if the ARDUINO IDE and the necessary libraries are accessible.

ARDUINO IDE nicht gefunden
Die ARDUINO IDE wurde nicht gefunden. Entweder wurde ARDUINO noch nicht installiert (Windows) oder das ARDUINO- Verzeichnis wurde noch nicht eingegeben (LINUX/Mac)
ОК

As it does not know yet where the ARDUINO IDE can be found, an error message will be shown. Ignore this error and specify later in the tab "ARDUINO Einstellungen" the directory path to the ARDUINO IDE.

	ARDUINO Einstellungen Geänderte Einstellungen übernehmer	1
Hier können Sie die Einstellungen für die ARDUINO IDE vornehmen. Dies wird hauptsächlich	für LINUX benötigt.	
Individuellen Pfad zur ARDUINO IDE verwenden	Pfad zur	ARDUINO IDE auswählen
/App	plications/Arduino.app/Contents/MacOS/	Arduino
Individuellen Pfad zu ARDUINO Resourcen (libraries, examp	oles) verwenden (nur MAC)	Pfad zu ARDUINO Resourcen auswählen
	/Users/Frank/Documents/Arduino	

If some libraries are not installed yet, pyMobaLedLib will issue a message and ask if the libraries should be installed. This installation can take some time. The installation is only possible when you followed the steps for fixing the **certification error in Python**.

After these steps pyMobaLedLib should run on your Mac.

CH340 Driver Installation

Your ARDUINO might use the CH340 Chipset for the USB Interface. If the ARDUINO is not found in the USB interfaces it might be necessary to install the USB-driver for CH340.

```
https://github.com/adrianmihalko/ch340g-ch34g-ch34x-mac-os-x-
driver/raw/master/CH34x_Install_V1.5.pkg
```



ARDUINO Bibilothem update
Folgende ARDUINO Bibliotheken müssen aktualisiert werden: Libraries:" Boards:'ATTinyCore:avr,esp32:esp32:1.0.4,' Othersource:'14,26,' Soll das Update ausgeführt werden? No Yes

Yes

	ARDUINO Monitor
	lugen des Programms und beim Hochladen an
AN OPEN PROJECT WRITTEN, DEBUGGED, AND SUPPORTED BY ARDUINO.CC AND THE ARDUINO COMMUNITY WORLDWIDE	
LEARN MORE ABOUT THE CONTRIBUTORS OF ARDUXNO.CC on arduino.cc/credits	en (2/3). 18.628 kB von 36.684 kB heruntergeladen.\n' en (2/3). 21.564 kB von 36.684 kB heruntergeladen.\n' en (2/3). 24.501 kB von 36.684 kB heruntergeladen.\n' en (2/3). 27.437 kB von 36.684 kB heruntergeladen.\n' en (2/3). 30.376 kB von 36.684 kB heruntergeladen.\n'
	en (2/3). 33.314 kB von 30.084 kB neruntergeladen.\n' en (2/3). 36.249 kB von 36.684 kB heruntergeladen.\n' xc3\xbcberpr\xc3\xbcft\n' en (3/3). \n'
20:22:56 b'Werkzeuge werden herunterge 20:22:56 b'Werkzeuge werden installier 20:22:56 b'Werkzeuge werden installier	Luen (3/3). 0 kB von 280 kB heruntergeladen.\n' Laden (3/3). 23 kB von 280 kB heruntergeladen.\n' Laden (3/3). 46 kB von 280 kB heruntergeladen.\n' Laden (3/3). 70 kB von 280 kB heruntergeladen.\n' Laden (3/3). 122 kB von 280 kB heruntergeladen.\n' Laden (3/3). 122 kB von 280 kB heruntergeladen.\n' Laden (3/3). 145 kB von 280 kB heruntergeladen.\n' Laden (3/3). 145 kB von 280 kB heruntergeladen.\n' Laden (3/3). 145 kB von 280 kB heruntergeladen.\n' Laden (3/3). 194 kB von 280 kB heruntergeladen.\n' Laden (3/3). 219 kB von 280 kB heruntergeladen.\n' Laden (3/3). 219 kB von 280 kB heruntergeladen.\n' Laden (3/3). 244 kB von 280 kB heruntergeladen.\n' Laden (3/3). 267 kB von 280 kB heruntergeladen.\n' Laden (3/3). 27 kB von 280 kB heruntergeladen.\n'

Absturz



Yes

	ARDUINO Monitor
ARDUINO Genuino	ugen des Programms und beim Hochladen an
AN OPEN PROJECT WRITTEN, DEBUGGED, AND SUPPORTED BY ARDUINO.CC AND THE ARDUINO COMMUNITY WORLDWIDE	
LEARN MORE ABOUT THE CONTRIBUTORS	o[3452:27699] Arg 14: '-Xdock:name=Arduino'\n" o[3452:27699] Arg 15: out.name=Arduino'\n" o[3452:27699] Arg 16: '-Dfile.encoding=UTF-8'\n" o[3452:27699] Arg 17: '-Xms128M'\n"
	o[3452:27699] Arg 18: '-Xmx512M'\n" o[3452:27699] Arg 19:
20:26:30 b"2022-08-14 20:26:23.910 Ardu 20:26:30 b"2022-08-14 20:26:23.910 Ardu 20:26:30 b"2022-08-14 20:26:23.910 Ardu 20:26:30 b"2022-08-14 20:26:23.910 Ardu 20:26:30 b'Konfiguration wird geladen 20:26:30 b'Pakete werden initialisiert 20:26:30 b'Pakete werden vorbereitet 20:26:30 b'Pakete werden vorbereitet 20:26:30 b'Pakete wird herunte 20:26:31 b'Plattformenindex wird herunte 20:26:31 b'Plattformenindex wird herunte 20:26:31 b'Plattformenindex wird herunte 20:26:31 b'Plattformenindex wird herunte	<pre>s/Java/lib/splasi.png'\n" o[3452:27699] Arg 20: 'processing.app.Base'\n" 0[3452:27699] Arg 21: 'install-boards'\n" ino[3452:27699] Arg 22: 'esp32:esp32:10.4'\n" ino[3452:27699] Arg 23: 'pref'\n" ino[3452:27699] Arg 24: Lespressif.com/dl/package_esp32_index.json'\n" .\n' .\n' .\n' ergeladen \n' ergeladen \n' ergeladen 10 kB von 24 kB heruntergeladen.\n' ergeladen 10 kB von 24 kB heruntergeladen.\n'</pre>
20:26:31 b'Plattformenindex wird herunt 20:26:31 b'Plattformenindex wird herunt 20:26:31 b'Board-Definitionen werden her	ergeladen 24 kB von 24 kB heruntergeladen.\n' ergeladen \n' runtergeladen. \n'

Absturz

3ter Versuch

ARDUINO Monitor						
Bitte etwas Geduld	rgen der ARDUINO-Tools beim Erzeugen des Programms und beim Hochladen an					
	verden heruntergeladen (2/3). 130 kB von 130 kB heruntergeladen.\n'					
20:29:21 b Werkzeuge 20:29:21 b'Werkzeuge 20:29:21 b'Werkzeuge	<pre>verden heruntergeladen (3/3). 0 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 0 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 308 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 621 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 933 kB von 3.837 kB heruntergeladen.\n'</pre>					
20:29:22 b'Werkzeuge 20:29:22 b'Werkzeuge 20:29:22 b'Werkzeuge 20:29:22 b'Werkzeuge 20:29:22 b'Werkzeuge 20:29:22 b'Werkzeuge	<pre>werden heruntergeladen (3/3). 1.002 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 1.319 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 1.627 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 1.935 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 2.242 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 2.553 kB von 3.837 kB heruntergeladen.\n'</pre>					
20:29:22 b'Werkzeuge 20:29:22 b'Werkzeuge 20:29:22 b'Werkzeuge 20:29:22 b'Werkzeuge 20:29:22 b'Archivinte	werden heruntergeladen (3/3). 2.862 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 3.169 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 3.481 kB von 3.837 kB heruntergeladen.\n' werden heruntergeladen (3/3). 3.792 kB von 3.837 kB heruntergeladen.\n' egrit\xc3\xa4t wird \xc3\xbcberpr\xc3\xbcft\n'					
20:29:22 b'Werkzeuge 20:29:35 b'Werkzeuge 20:29:35 b'Werkzeuge 20:29:35 b'Boards wer 20:29:39 b'Installat	werden installiert (1/3)\n' werden installiert (2/3)\n' werden installiert (3/3)\n' rden installiert\n' ion abgeschlossen!\n'					



		Optionen und spezielle Funktionien				
	LED Arduino	DCC Arduino	Dateien	Update	Bootloader	
	USB Port erkennen	Automati	sch erkennen o Normal (ol o (neue Vers	d Bootload	ler)	
		Für andere H	b (Full memo	pry)		ARDUINO Monitor
	Prog. Installieren	_ Тур	von Arduino	IDE benut:	zen	an des Programms und beim Hochladen an
		Ma	ill an Hardi			Maximum sind 2048 Bytes.\n' er is not responding\n'
	-	20:4 20:4 20:4 20:4 20:4 20:4 20:4	3:59 b'avr 4:04 b'avr 4:04 b'avr 4:09 b'avr 4:09 b'avr 4:14 b'avr	dude: stk5 dude: stk5 dude: stk5 dude: stk5 dude: stk5 dude: stk5	500_getsync() at 500_recv(): prog 500_getsync() at 500_recv(): prog 500_getsync() at 500_getsync() at	<pre>t 1 of 10: not in sync: resp=0x00\n' er is not responding\n' tempt 2 of 10: not in sync: resp=0x00\n' rammer is not responding\n' tempt 4 of 10: not in sync: resp=0x00\n' rammer is not responding\n' rammer is not responding\n' rammer is not responding\n'</pre>
		20:4 20:4 20:4 20:4 20:4 20:4 20:4 20:4	4:19 b'avr 4:19 b'avr 4:24 b'avr 4:24 b'avr 4:29 b'avr 4:29 b'avr 4:29 b'avr 4:34 b'avr	dude: stk5 dude: stk5 dude: stk5 dude: stk5 dude: stk5 dude: stk5 dude: stk5 dude: stk5	<pre>b00_gettyn(): prog b00_gettync() at b00_gettync() at b00_g</pre>	<pre>cramer is not responding\n' tempt 6 of 10: not in sync: resp=0x00\n' rammer is not responding\n' tempt 7 of 10: not in sync: resp=0x00\n' rammer is not responding\n' tempt 8 of 10: not in sync: resp=0x00\n' rammer is not responding\n' tempt 9 of 10: not in sync: resp=0x00\n'</pre>
		20:4	4:39 b'avr 4:39 b'avr 4:39 b'Bei	dude: stk5 dude: stk5 m Hochlade	500_recv(): prog 500_getsync() at an des Sketches	rammer is not responding∖n' tempt 10 of 10: not in sync: resp=0x00∖n' ict ein Febler aufgetretenbr'

Known Issues:

The Automatic ARDUINO detection may not work correctly. You may have to use the checkbox "show unknown devices" in the USB selection dialog.

MLL extensions are not implemented yet.

Installing the software on the DCC-ARDUINO is not tested completely yet and might fail.