

DigiTool Instruments	DBI3-V01
dbi3_v01_r2_00_0_2023_10_05_1.odt	URRA

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Scope

Document contain:

- Description for new application firmware version 2.0 changes and added features
- Documentation for revised Command Line Interface (CLI)
- Description for new bootloader firmware version 2.0
- New installation software package (V20_PACK)
- Windows CDC driver installation software
- A driver and firmware installation procedure instruction

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DBI3-V01 Firmware version 2.0

Added USB Composite Device

Two new USB device classes are added:

USB CDC-ACM (Communication Device Class)

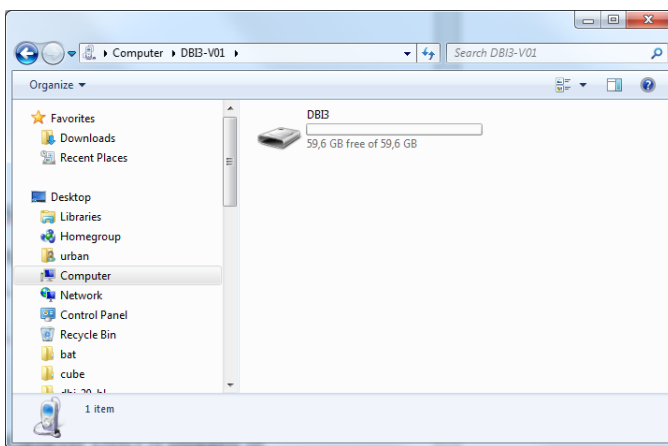
Former FTDI CDC class is no longer used and substituted with SEGGER USB CDC-ACM class.

For Windows platforms, this require a new .inf file installation. An install executable is supplied together with Firmware Update Tool (FUT) 2.0 version.

For Linux and MacOS platforms no driver installation is needed.

USB MTP (Media Transfer Protocol)

The MTP class provide a portable device named "DBI3-V01". Whenever DBI3 is plugged in "DBI3-V01" portable device will show.



Two new directories are used:

DBI3/dbi3/log_files/log, for *dbi3* legacy log-files (.log).

DBI3/dbi3/log_files/kml for *kml* log-files (.kml).

The .kml file is created together with the .log file.

For Windows, Linux and MacOS platforms no driver installation is needed. Both Android and IOS in OTG mode support MTP-protocol as well.

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Adjusted TOPT Code setup function

The x1, x10 and x100 increment/decrement modes is slowed down with a pause at each x10 and x100 increment/decrement.

Standard Pressure Setting Indication

Barometric pressure setting when hPa unit is selected now allow setting to standard sea-level 1013.2 hPa. For inHg unit this is 29.92 inHg. A **std** indication will show just below the barometric unit indication for these settings.

POST (Power On Self Test) info page

A new POST info page is added. POST info page show result from Power On Self Test.

Start page

At instrument turn on, a start page first show. It show firmware version and result of POST.

Support for enhanced pressure module sensor

Firmware version 2.0 support enhanced pressure module sensors. They will have substantially lower noise and drift characteristics. They will be readily available from Q2 2024.

Digital Rate Of Climb Threshold

Changed from 50 fpm / 0.25 mps to 20 fpm / 0.1 mps. Below this threshold, digital reading show "0 fpm" / "0.0 mps". Analog reading has no threshold.

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Command Line Interface FW rev 2.00

Perform warm reboot **rst** - restart system

Show help contents **?** - show help

Set console mode **md mach|con** - set CLI mode, machine or console

Initialize Real Time Clock **ri** - rtc init

Set Real Time Clock **rs yyyy mm dd hh mm ss** - rtc set

Set instruments units **su alt {feet|meter} | roc {fpm|mps} | bar {ihg|hpa} | temp {fahr|cent} | sog {knot|mps|kmh|mph}** - set units

Set instrument alarms **sa alth {off|value} | altl {off|value} | clmb {off|value} | desc {off|value} | topt {off|value}** - set alarm

Set instrument functions **sf aut {off|static|timeout} | frs {off|pon|toff|toffc|lapc} | aof {off|on} | dat {222-0}** - set funcs

Set instrument variometer **sv resp {6.0-1.2} | audio {off|on} | clmbt {value} | desct {value}** - set vario

Set instrument top and ambient temp code **st top {4-1} {off|9999-1} | amb {2-1} {off|9999-1}** - set topt

Get instrument unit settings **gu alt|roc|bar|temp|sog** - get units

Get instrument alarm settings **ga alth|altl|clmb|desc|topt** - get alarm

Get instrument function settings **gf aut|frs|aof|dat** - get funcs

Get variometer settings **gv resp|audio|clmbt|desct** - get vario

Get top and ambient temp code settings **gt top{4-1}|amb{2-1}** - get topt

Set defaults (settings), metric, imperial or urb **sd met|imp|urb** - set defaults

File system commands **fs list|del [filename]|read[filename]** - file system

Print instrument serialnumber **sn** - print serialnumber

Print firmware version **vr** - print firmware version

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DBI3-V01 boot-loader version 2.0

A new USB device class is added:

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V20_Pack

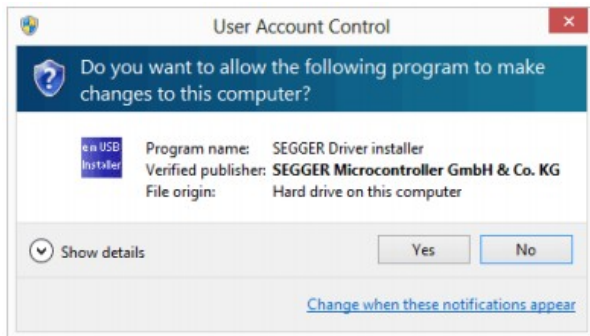
V20_pack include installation and documentation for:

- DBI3 firmware update tool (DBI3-V01 Firmware Update Tool v2.0) 64 and 32 -bit versions
v20_pack/dbi3fut_install/win64/DBI3FUT2.msi
v20_pack/dbi3fut_install/win32/DBI3FUT2_32.msi
- A CDC driver installation executable
v20_pack/usbcdc_install/installdriver.exe
v20_pack/usbcdc_install/dpinst_x64.exe
v20_pack/usbcdc_install/dpinst_x86.exe
v20_pack/usbcdc_install/usbser.inf
- This document
v20_pack/doc/dbi3_v01_r2_00_09_yyyy_mm_dd_n.pdf

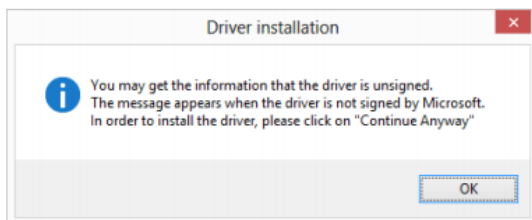
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Windows USB CDC driver installation

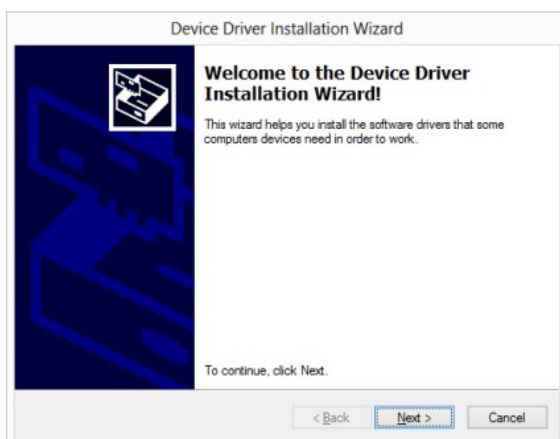
On Windows computer: Run `v20_pack/usbcdc_install/installdriver.exe`



Confirm with Yes.



Confirm with Ok.

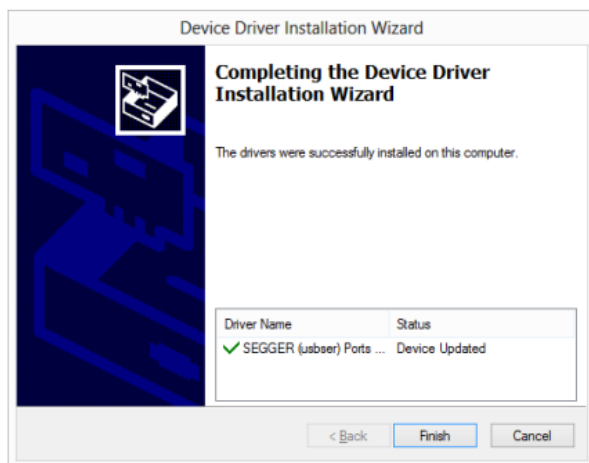


Confirm with Next.

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Confirm with Install.



Finish.

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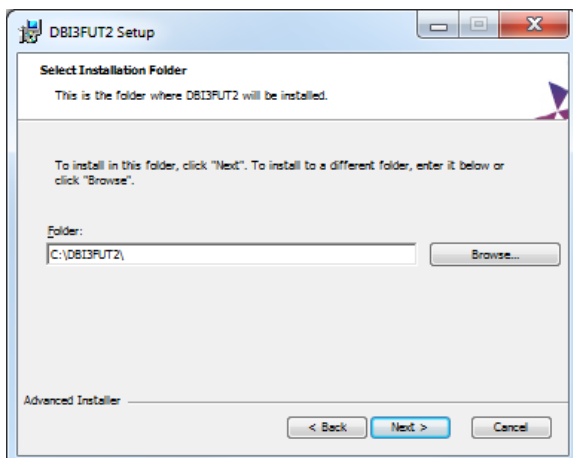
DBI3FUT2 installation

On Windows computer:

- Uninstall any previously installed versions of DBI3FUT
- Run `v20_pack/dbi3fut_install/win64/DBI3FUT2.msi`
alternatively
- Run `v20_pack/dbi3fut_install/win64/DBI3FUT2_32.msi` for 32bit Windows installations.

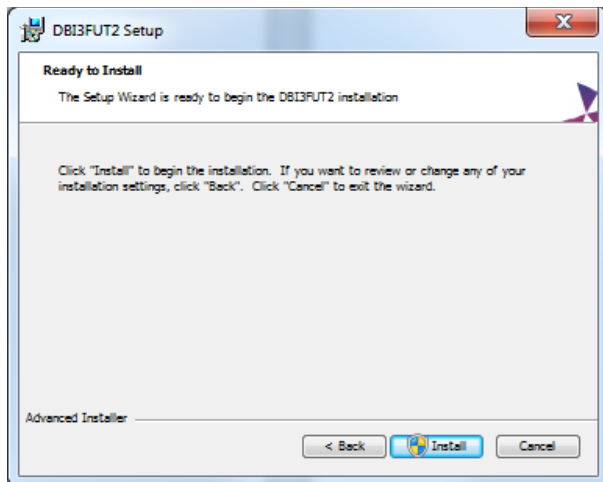


Confirm with Next.

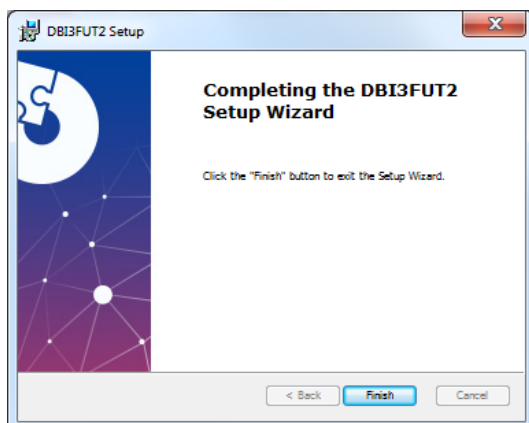


Confirm with Next.

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Confirm with Install.



Finish.

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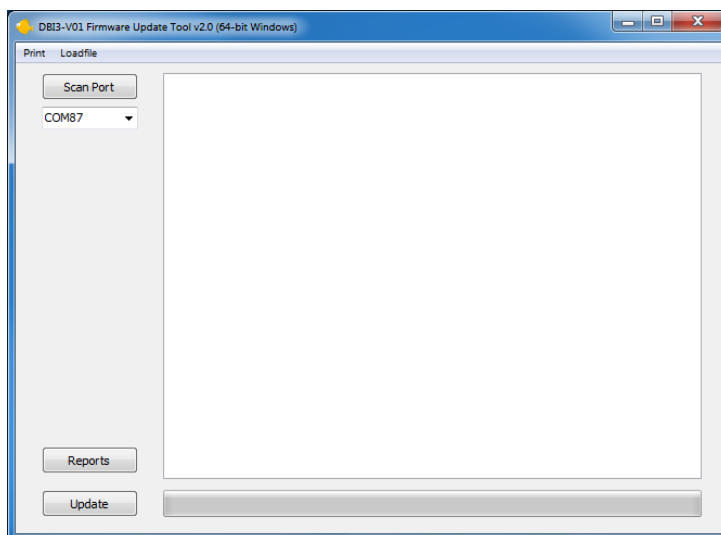
DBI3-V01 firmware update procedure

If not already installed, install:

- Windows USB CDC driver
- DBI3FUT2 installation program

Start update:

- Connect DBI3 to one of computers USB port with one USB micro B cable
- Run DBI3FUT2 program

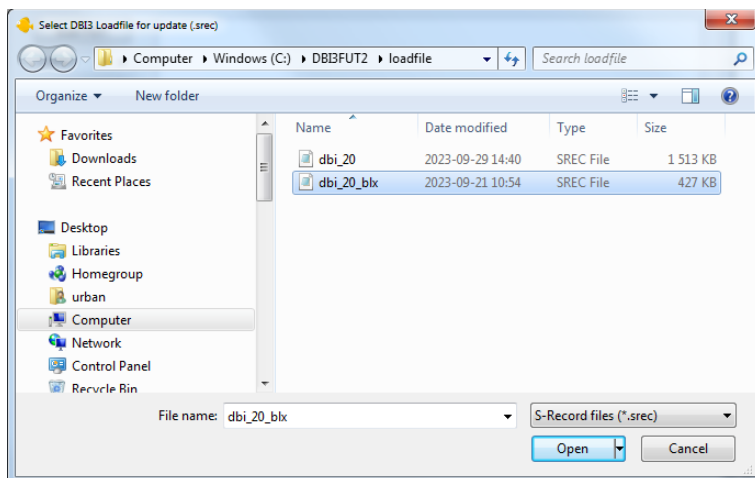


Check proper COM port, press *Scan Port* to re-scan

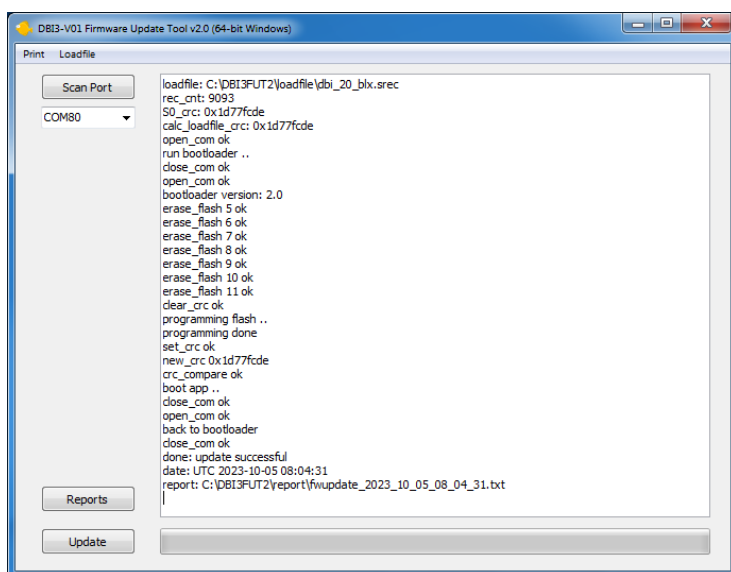
Press *Update*

NOTE: Windows might be slow enumerate new COM port. If update fail, repeat process.

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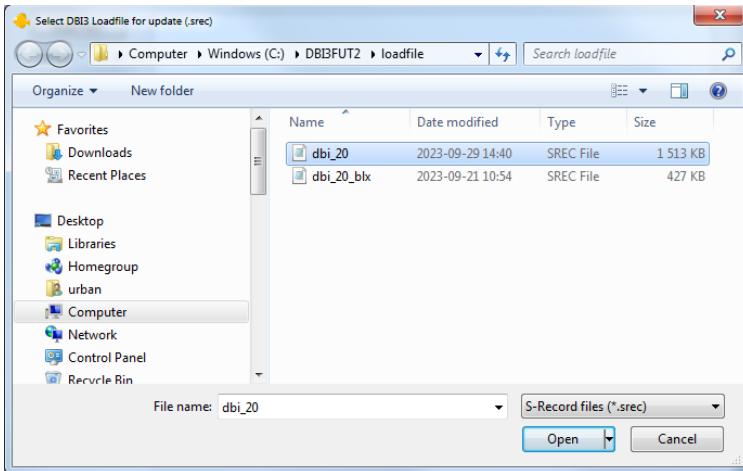
Select *dbi3_20_blx* to update to new boot-loader ver 2.0



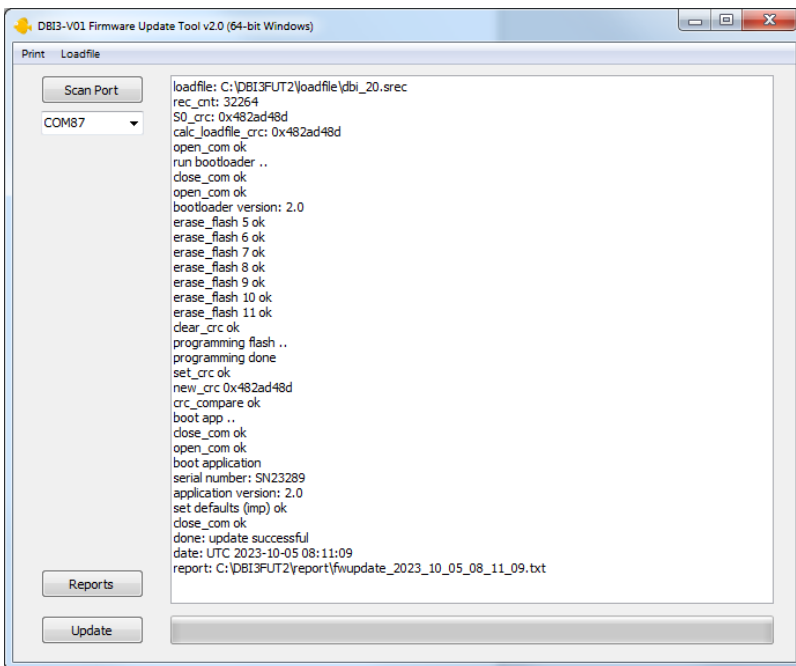
New boot-loader installed and active

Press *Update*

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Select *dbi3_20* to update to new application ver 2.0



Done

NOTE: All settings are now set to defaults. Perform manual setup for desired settings.