

EtherCAN SDK and Firmware

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Release notes for the EtherCAN SDK (Software Development Kit) supporting Windows 7/8/10 (32/64 bit) and Windows 11. Related server versions of these desktop Windows operating systems are also supported. The package contains the *Host Driver* to use the EtherCAN gateway in the *EtherCAN Mode* (see details below) and header files, samples and documentation.

Note: The Host Driver is also compatible with old EtherCAN device. To develop applications based on the NTCAN-API and/or to use the esd CAN diagnosis tools you must also install the [CAN SDK for Windows](#).

Release notes for the firmware of the [EtherCAN/2](#) and [EtherCAN/3-FD](#) are at the end of this document. The firmware binary is distributed separately from the EtherCAN SDK and the update is performed via the devices web interface as described in the respective manual.

Revision History

Listed below are the improvements, changes and fixes between different releases of the SDK and the EtherCAN/2 respectively EtherCAN/3-FD firmware in reverse chronological order.

Changes which are considered to be very important are **highlighted**.

EtherCAN SDK

V4.0.1

Release date: 2025-06-11

- **Host Driver:**
 - Updated ntcaneeth.dll to V2.7.1.0
 - Added support for the ESI field in CMSG, CMSG_T und CMSG_X.
- **Configuration:** Updated CAN Control Panel to V1.7.2
 - Fixed registry key for encrypted communication was created for each interface unconditionally.
 - Fixed regression introduced with previous version that encryption state was no longer saved persistently.

V4.0.0

Release date: 2025-02-05

- **Installation:** Updated *InnoSetup* installer to V6.x so this version of the EtherCAN SDK can no longer be installed on Windows versions before Windows 7. Install a previous version of the SDK if you have to support one of these legacy Windows platforms.
- **Host Driver:**
 - Updated ntcaneeth.dll to V5.1.5
 - Updated calcan.dll to V2.6.13
 - Updated libpsys.dll to V1.8.4
 - Updated ntcaneeth.dll to V2.7.0.0
 - Removed the limitation to support just one physical CAN port on the target.
 - Added support for an optional secure encrypted communication supported by the EtherCAN/3-FD.
 - Support for CMSG_X based CAN FD communication with canReadX() / canWriteX() / canSendX() / canTakeX().
 - Support for canIdRegionAdd() / canIdRegionDelete()
 - Support for NTCAN_IOCTL_GET_INFO, NTCAN_IOCTL_SET_BAUDRATE_X, NTCAN_IOCTL_GET_BAUDRATE_X.
 - Added error code translation layer between target and host.
 - Fixed invalid timestamps bug returned with canReadT().
 - Improved performance and robustness.

- **Configuration:** Updated CAN Control Panel to V1.7.0
 - Support to assign remote physical port of EtherCAN/3-FD to logical network.
 - Support to enable the optional secure encrypted communication.
- Removed no longer supported Windows UPnP integration.

V3.2.1

Release date: 2014-09-15

- **Host Driver:** Updated ncan.dll to V4.8.5

V3.2.0

Release date: 2014-07-28

- **Installation:** Fixed installer error message on Win64 when used within other installer.
- **Host Driver:**
 - Updated libpsys.dll to V1.8.1
 - Updated ncan.dll to V4.8.3

V3.1.9

Release date: 2014-04-07

- **Installation:** Fixed installer not creating registry entries for CAN control panel in some cases.
- **ESDCP:** Updated QESDCP tool to V0.1.8.

V3.1.8

Release date: 2014-01-30

- **WebSockets:** Server sample code updated
- **ESDCP:** Updated QESDCP tool to V0.1.7 and esdcp.dll to V1.6.5
- **Host Driver:** Updated ncan.dll to V4.8.1
- **Documentation:** Updated ELLSI Manual

V3.1.7

Release date: 2013-12-17

- **WebSockets:** Server sample code updated
- **ESDCP:** Updated esdcp.dll to V1.6.4
- **Documentation:** Updated Manuals

V3.1.6

Release date: 2013-04-17

- **WebSockets:** Added server sample code
- **Documentation:** Updated Manuals
- **Host Driver:**
 - Updated ntcn.dll to V4.8.0
 - Updated calcan.dll to V2.6.2

V3.1.5

Release date: 2012-08-29

- **Host Driver:** Updated calcan.dll to V2.6.1

V3.1.4

Release date: 2012-08-28

- **Host Driver:**
 - Updated ntcn.dll to V4.6.3
 - Updated calcan.dll to V2.6.0
 - Updated ntcneth.dll to V2.4.0.2
 - Feature flags updated
 - Added support for some more IOCTLs, e.g. IOCTL_GET_BUS_STATISTIC

V3.1.3

Release date: 2012-07-16

- **Installation:** Updated *InnoSetup* to V5.5.x so this version of the EtherCAN SDK can no longer be installed on Windows 9x/ME and Windows NT. Install a previous version of the SDK if you have to support one of these legacy Windows platforms.
- **Host Driver:**
 - Updated ntcneth.dll to V2.3.0.4
 - Fixed interaction frames' CAN Id being masked
- **Documentation:** Updated Manuals

V3.1.2

Release date: 2012-03-15

- **Host Driver:**
 - Updated ntcn.dll to V4.6.0
 - Updated calcan.dll to V2.5.7
 - Updated ntcneth.dll to V2.3.0.3

- Added support for flags `NTCAN_MODE_NO_INTERACTION` and `NTCAN_MODE_MARK_INTERACTION`

V3.1.1

Release date: 2011-06-14

- **Installation:** Updated *InnoSetup* to V5.4.x
 - Installs 64 bit versions of the *Host Driver* libraries (*calcan.dll*, *libpsys.dll*, *libntcan.dll* and *ntcaneth.dll*) on x64 Windows versions.
- **Host Driver:** Updated *ntcan.dll* to V4.5.0

V3.1.0

Release date: 2010-05-18

- **Documentation:** Updated EtherCAN/2 manual to V1.3.
- **Documentation:** Updated ELLSI manual to V1.5.
- also as .zip
Without *ntcan* driver, e.g. for none-Windows users
- **Host Driver:**
 - Updated *ntcan.dll* to V4.3.1.0
 - Updated *calcan.dll* to V 2.5.3.0
 - Updated *ntcaneth.dll* to V2.1.0.30
 - Improved TX Performance for EtherCAN/2 when using *canWrite()/canSend()* with *cmsg* count greater than 1.
- **ELLSI support:**
 - Refactored example code.
 - Add Wireshark dissectors which support decoding the ELLSI protocol
- **Configuration:** Improved support for UPnP (Windows Vista and later)
 - Individual icon and context menu for EtherCAN/2 as UPnP device in the *Other Devices* dialog of the Windows network browser.
- **Configuration:** Updated CAN Control Panel to V1.5.0
 - Replaced CPL version of CAN Control Panel with Windows Vista/7 UAC aware binary (as executable) which requires elevated rights for configuration.
 - Fixed bug with phantom devices exist after the change of the logical net number.
- **ESDCP:** Updated QESDCP tool to V0.1.6
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V3.0.0

Release date: 2009-09-21

- **Installation:** Changed installer from *InstallShield* to *InnoSetup 5.3.x* with a common version supporting the EtherCAN as well as the EtherCAN/2 hardware.
- **Documentation:** Added EtherCAN/2 manual V1.0 (German)
- **SNMP:** Added MIB file
- **Host Driver:**
 - Updated libpsys.dll to V1.7.3.0
 - Updated ntcn.dll to V4.2.7.0
 - Updated calcan.dll to V2.4.4.0
 - Update ntcneth.dll to V2.1.0.25
 - Fixed bug detecting lost frames (V2.1.0.25)
 - Increase maximum allowed size of Tx/Rx handle queue size from 2047 to 16384 (V2.1.0.24)
 - Increased maximum number of supported interfaces for 20 to 100 (V2.1.0.23)
 - Fixed IDs of CAN events always set to 0 (V2.1.0.22)
 - Fixed *canClose()* even returns on success with *NTCAN_INVALID_HANDLE* (V2.1.0.21)
 - Added dummy support for *canGetOverlappedResult()* and *canGetOverlappedResultT()* (V2.1.0.20)
 - Improved performance of *canOpen()* (V2.1.0.20)
 - Fixed rare *canClose()* cleanup issue (V2.1.0.20)
 - Internal optimizations (V2.1.0.20 - V2.1.0.25)
- **Configuration:** Updated CAN Control Panel applet to V1.4.3
- **ESDCP:** Updated QESDCP tool to V0.1.5
 - Display truncated device name instead of *Unknown* if device name is too long.
 - Support for ESDCP extended options.

V2.2.0

Release date: 2008-05-14

- **Host Driver:**
 - Updated libpsys.dll to V1.7.0.0
 - Updated ntcn.dll to V4.1.1.0
 - Updated calcan32.dll to V2.4.2.0
 - Update ntcneth.dll to V 2.1.0.19
 - Support for the IOCTLs *NTCAN_IOCTL_GET_RX_MSG_COUNT* and *NTCAN_IOCTL_FLUSH_RX_FIFO* (V2.1.19)
 - Calls for unsupported functionality now returns *NTCAN_NOT_IMPLEMENTED* (V2.1.18)

- A call of canIoctl() with an unsupported IOCTL command return NTCAN_INVALID_PARAMETER (V2.1.18)
- Fixed canWrite() returning NTCAN_TX_TIMEOUT, even if all CAN messages are sent (V2.1.17)
- Minor internal changes (V2.1.10 - V2.1.16)

V2.1.0

Release date: 2007-04-16

- **Installation:** Installer as well as shared libraries/executables are now digitally signed.
- **Host Driver:**
 - Updated libpsys.dll to V1.5.0.3
 - Updated ntcandll.dll to V4.1.0.0
 - Updated calcan32.dll to V2.3.2.0
 - Update ntcandll.dll to V2.1.0.9
 - Once again improved reconnect time (V2.1.0.9)
 - Fixed possible endless loop returning in rare situations after connect/reconnect (V2.1.0.8)
 - Overall performance improvement (V2.1.0.6)
 - Implemented canClose() immediately kills active reconnect instead returning after next reconnect timeout (V2.1.0.6)
 - Keep alive mechanism completely revised and improved (V2.1.0.6)
 - NTCAN API calls return NTCAN_WRONG_DEVICE_STATE during reconnect phase (V2.1.0.6)
 - Increased maximum number of handles from 127 to 511 (V2.1.0.6)
 - Fixed opening more than the maximum number of possible CAN handles caused all other handles to be closed (V2.1.0.6)
 - Support for aborting blocked read/write requests via canIoctl() and performing forced close on handle (V2.1.0.5)
 - Fixed bug in validation of queue size parameter in canOpen() (V2.1.0.4)
 - Fixed bug that DLL crashed on unload in case of timeout during reconnect
 - Receiver thread priority changed from Realtime to High (V2.1.0.4)
 - Decreased time for reconnect (V2.1.0.3)
 - Fixed unnecessary reconnects to EtherCAN modules no longer existent after canClose() (V2.1.0.2)
 - Internal maximum number of supported EtherCAN interface increased from 5 to 20 (V2.1.0.2)
 - Fixed possible race condition in DLL unload (V2.1.0.1)
 - Reduced CPU time consumed by keep-alive thread (V2.1.0.0)
 - Improved handling of socket errors (V2.1.0.0)
 - Improved reconnect behavior (V2.1.0.0)
- **ESDCP:** Updated QESDCP tool to V0.1.2
 - Support empty password to configure remote device
- **Configuration:** Updated CAN Control Panel applet to V1.4.1

V2.0.0

Release date: 2005-11-10

- **ESDCP:** Added library which implements the client side of the **Extreme Simple Device Configuration Protocol** (ESDCP) which allows to detect and configure network enabled ESD devices in the LAN without knowledge of their IP configuration supported with a Qt based front end.
- **ELLSI:** Added sample code to use new **EtherCAN Low Level Socket Interface** (ELLSI) protocol which supports CAN I/O with UDP as an alternative to the EtherCAN mode.
- **Host Driver:** Update ntcaneeth.dll to V2.0.0.18
 - Support to configure EtherCAN server timeout
 - Fixed returning error code for canClose() even if successful.

V1.1.0

Release date: 2005-05-03

- **Installation:**
 - Added support for Windows 9x/ME
 - Changed setup to allow minimal install without documentation
- **Host Driver:**
 - Update libpsys.dll to V1.5.0.0
 - Update ntcaneeth.dll to V3.2.0.0
- **Configuration:** Updated CAN Control Panel applet to V1.4.0
 - Added support to use more than 5 remote CAN gateways
 - Added support to configure individual connection/command and keep alive timeout for each remote gateway
 - Added support to choose different port

V1.0.2

Release date: 2004-11-13

- **Host Driver:**
 - Update libpsys.dll to V1.4.0.2
 - Update ntcaneeth.dll to V2.0.0.15
 - Additional configuration parameter stored in registry
 - Fixed bug handling CAN 2.0B frames and events
 - Fixed bug opening/closing handles only possible 256 times

V1.0.1

Release date: 2003-11-13

- **Host Driver:** Update ntcaneeth.dll to V2.0.0.3
 - Fixed bugs handle remote CAN bus errors
 - Added support to get serial number of remote gateway
- **Documentation:** Updated EtherCAN manual to V1.2.

V1.0.0

Release date: 2003-10-09

- **Installation:** Initial *InstallShield* based setup for Windows NT/2K/XP
- **Configuration:** Device configuration based on CAN Control Panel applet to V1.3.1
- **Documentation:** EtherCAN manual updated to V1.1.
- **Host Driver:**
 - ntcane.dll V3.1.0.0
 - ntcaneeth.dll V2.0.0.2
 - libpsys.dll V1.2.0.0
 - calcan32.dll V2.0.0.4

EtherCAN/3-FD Firmware

The Release Notes of the EtherCAN/3-FD are in a dedicated file and are available on the product page <https://esd.eu/produkte/ethercan-3-fd>.

EtherCAN/2 Firmware

Firmware V4.5.0.3

Release date: 2024-09-24

- Linux system modification
Customer specific firmware where the MTU of the network interface is fixed at 1300 bytes.
This firmware is not intended for general use.

Firmware V4.5.0.1

Release date: 2022-05-12

- ELLSI update
The websocket server can now also deliver Mime-Type "image/svg+xml".

Firmware V4.5.0.0

Release date: 2020-08-25

- Exchange of the NAND Flash
Adaptation to the newly used NAND Flashes
Note: This update is NOT backwards compatible for boards with the old NAND flash!
- Minor fix in ELLSI
- The company name, the contact informations and the company URL, which are provided via the web interface, have been updated

Firmware V4.4.0.4

Release date: 2017-03-03

- ELLSI-interaction feature request by customer

Firmware V4.4.0.3

Release date: 2015-12-02

- Flash memory endurance
Yet another bugfix in bootloader

Firmware V4.4.0.2

Release date: 2015-08-18

- Flash memory endurance
Bugfix in Bootloader for corrected ECC handling

Firmware V4.4.0.1

Release date: 2015-05-19

- Flash memory endurance
New Kernel- and Bootloader for improved ECC handling

Firmware V4.3.0.3

Release date: 2014-01-23

- ELLSI Updates
UDP: CAN Tx with new RegisterX flag to maximize throughput. Rx now as fast as possible and frame length checks relaxed, as in former versions
WebSocket: Fixed idle client handling

Firmware V4.3.0.0

Release date: 2013-09-11

- Updated update procedure for future versions

Firmware V4.2.0.16

Release date: 2013-04-22

- WebSocket Server updated
Page "connected clients" now includes WebSocket clients.
Fixed issue with frame loss from server to client.
Updated sample http files. (Using CAN timestamps, displaying relative time between frames, taking time till TXDONE, and many minor changes)
Note: updating Firmware from V4.2.0.15 to V4.2.0.16 will reset WebSocket server's "enabled" and "port" setting.

Firmware V4.2.0.15

Release date: 2013-04-02

- New Feature: WebSocket Server
In this mode the EtherCAN/2 can be used by a web browser!

Firmware V4.2.0.13

Release date: 2012-01-15

- New Feature: CAN TCP Client
In this mode the EtherCAN/2 connects to a TCP server and forwards all CAN frames to it.

Firmware V4.2.0.12

Release date: 2012-08-28

- Minor changes
(For V3.1.4: Feature flags/statistics support)

Firmware V4.2.0.11

Release date: 2012-07-16

- Added CAN Bridge function
Allows to create a CAN to CAN bridge with two EtherCAN/2 modules. Includes ID filtering and mapping etc.
- Remote logging
Settings now saved
Email content cleaned up
- Other Changes
During boot up the four LEDs C, E, R and P are turned on for 0.5 seconds
Local CAN driver updated to V3.9.4
Website updated (Overview shows uptime, some texts changed, pages for CAN bridge added)

Firmware V4.2.0.10

Release date: 2011-01-27

- Internal changes for new hardware rev.
(NAND Timings)

Firmware V4.2.0.9

Release date: 2011-01-18

- Internal changes for new hardware rev.
(Data- to NAND flash)

Firmware V4.2.0.8

Release date: 2010-10-12

- Internal changes for new hardware rev.
(NAND flash access)

Firmware V4.2.0.7

Release date: 2010-05-06

- Added UPnP client
(V3.1.0 or newer recommended)
- Serial number, hardware version and firmware version now also readable by NTCAN-API
(See *canStatus()* and *NTCAN_IOCTL_GET_SERIAL*)

Firmware V4.2.0.6

Release date: 2010-04-15 (internal release)

- Now also showing connected ELLSI clients and their statistics
- Improvements for DHCP
(e.g. Hostname now configurable and NTP-server also taken by DHCP)
- Webpage *Network Configuration* now shows actual active configuration instead of just last saved settings

Firmware V4.2.0.5

Release date: 2010-02-16

- Minor changes for ELLSI

Firmware V4.2.0.3/4.2.0.4

Release date: 2010-02-10

- Fixed esdcp finding the device when auto-ip was set
- Decreased time for dhcp configuration from 5 minutes to 1 minute
(So 2 minutes until auto-ip is set)

Firmware V4.2.0.2

Release date: 2009-11-20

- Added *20k baud mode* to allow baudrates < 50 kBit/s

Firmware V4.2.0.1

Release date: 2009-10-14

- Improved esdcp finding the device when there was no gateway set

Firmware V4.2.0.0

Release date: 2009-10-01

- Initial release