COACH 7
INSTALLATION GUIDE

For version 7.7

CENTRE FOR MICROCOMPUTER APPLICATIONS

https://cma-science.nl

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I. INSTALLATION ON WINDOWS COMPUTERS

1. System requirements

Coach 7 can be installed on a PC computer with the following minimal requirements:
- Windows 7 or higher,
- A processor which can be compared with Pentium 4, 2.4 GHz,
- 300 MB of free disk space,
- 512 MB RAM (1 GB recommended).

2. License information

Your License name and code are unique identifiers that are required in order to successfully run Coach 7. You can find your License Name and License Code in your License document that accompanied this product. You must keep your license identifiers confidential from anyone outside your school or organization.

3. Installation for a single user account

For the installation administrator rights are required.
- Close down any programs that may be running on your computer.
- Double-click the installation MSI file or right-click and choose Install.
- The CMA Coach 7 Windows Installer will start. Follow instructions on the screen.
- After the Coach 7 installation is completed the CMA Coach 7 group will be created in the Windows Start menu, see '5. Starting Coach 7'.

4. Installation for all user accounts (for system administrators)

To install Coach 7 with the same settings for all users on a PC, system administrators can make use of different options. These options should be added during executing the MSI-installation. Use Command Prompt (cmd.exe) and execute (as administrator) the following command:

```
msiexec /i <MSI_file>
```

The possible options, which can be used during such installation, are listed below:

|	
LICENSENAME=<License Name> LICENSECODE=<License Code>	Provides a license name and license code.
LANGUAGECODE=XX	Sets the default language of the Coach user interface. Use the value EN for English, NL for Dutch, DE for German, ES for Spanish etc. By default this language code is set to XX, the first time Coach is started the user interface language needs to be selected.
SCHOOLPROJECTS= <School project folder>	Provides a location of the School Projects folder. In this location Coach files created by different users are stored.

STARTLOCATION=2	Activates the use of the School Projects folder. When set to value 2 then the School Projects folder will be used as the default location.
/quiet	Execute a silent installation.

Coach copies the `CoachLocal.ini` file[1] into the 'My Documents' user folder the first time Coach 7 is started or when this file is missing. In this file the preferred hardware settings are stored. These settings are stored per user.

5. Starting Coach 7

After installation the group **CMA Coach 7** will be created in the Windows Start menu and a Coach 7 icon will be placed on the desktop. The CMA Coach 7 group has the following shortcuts:

Author: This icon starts Coach 7 in Author mode. This mode is protected by the Author key. To enter Author mode, log in with the **default Author key '0000'**. This Author key can be changed for your school via the main menu option **Options > Change Author Key**.
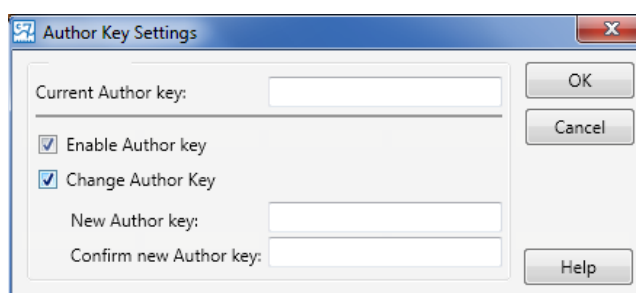
Student: This icon starts Coach and opens Activities/Results in the user level specified in the Activity/Result.

Utilities:

Mount VinciLab: This shortcut starts the program, which mounts VinciLab as network location and creates the access to the VinciLab's user folder 'My Files' in Windows Explorer under Network Location.

Unmount VinciLab: This shortcut starts the program, which removes the access to the VinciLab's user folder 'My Files' in Windows Explorer.

To start Coach 7:

1. Click the Coach 7 icon on the desktop. Coach starts and will open Activities in the user level specified in the Activity.

Or

2. Double-click a Coach Activity file (*.cma7) or a Coach Result file (*.cmr7). Coach directly opens the selected Activity or Result in the user level specified in the Activity.

Or

3. Click on the Start button (Windows Start menu). Select **All Programs** and hence **CMA Coach 7**. Next click on one of icons as described above.

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[1] Starting from Coach version 7.0.1.

Starting Coach the first time

When Coach 7 is started the first time it asks to specify:

1. the preferred language of the Coach user interface - select the language from the list. Notice that the user interface language can also be set in Coach via the main menu option **Options > Switch Language** (present only in Senior student and Author mode).

2. the license information - type in your **License Name** and **License Code** exactly as they appear in your **License** document. Confirm with **OK**. Notice that this is done per user; if another user will start Coach again, he/she will be asked to enter the license information again.
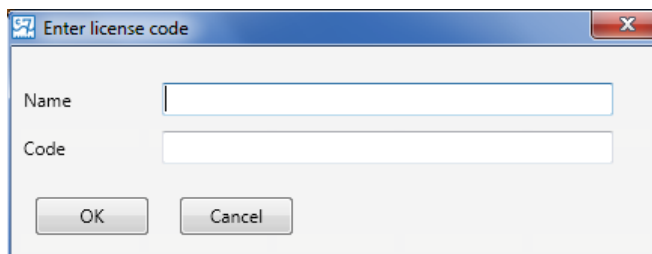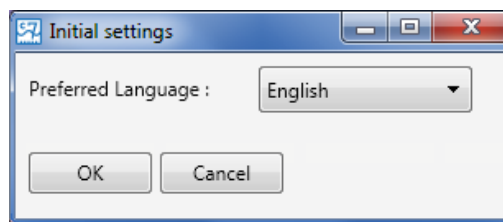
II. INSTALLATIONS ON MAC COMPUTERS

1. System requirements

Coach 7 can be installed on a MAC computer with at least the following requirements:

- OS® X 10.10 Yosemite or newer,
- 300 MB of free disk space,
- 512 MB RAM (1 GB recommended).

2. License information

Your License name and code are unique identifiers that are required in order to successfully run Coach 7. You can find your License Name and License Code in your License document that accompanied this product. You must keep your license identifiers confidential from anyone outside your school or organization.

3. Coach 7 installation for a single user

- Open the Coach 7 DMG installation file.
- Drag the Coach 7 icon to the Applications icon or copy the Coach 7 manually to the place of your choice.
- If necessary, approve Coach 7 App in the 'System Preferences' => 'Security & Privacy' => 'General'.

4. Installation for all user accounts (for system administrators)

To install Coach 7, with the same settings for all users on a Mac first Install Coach 7 app in the same was as for a single user. After that a number of files can be modified and placed in the Coach 7 app package.

Starting from version 7.7 Coach is signed and sandboxed. Folders will resolve to a place within the container folder of the user. I.e. /User/<Username>/Library/Containers/ nl.cma-science.Coach7/Data/Documents/CMA/Coach7

License name **License code**	Start Coach the first time and fill in the license information. Move the `licence.ini` file from the folder /Users/<User name>/Library/Containers/nl.cma-science.Coach7/Data/Documents/CMA/Coach7 to the folder `Contents/MacOS` in the Coach 7 app package. You can also create this text file manually:
	 `[License]`
	 `Name=<License name>`
	 `Code=<License code>`

CMA Projects folder	Location of CMA Projects. Specify by setting the value CMAProjects. If not specified or empty it will resolve to the default location: /Users/<User name>/Pictures/CMA/ Coach7/Full/CMA Coach Projects Downloaded CMA projects will end up here.
School Projects folder	Coach files created by different users are stored in the School Projects folder. The location of this folder is specified in the `Coach.ini` file, which is located in the folder `Contents/MacOS/Coach.ini,` in the Coach 7 app package. Specify the School Project folder by setting the value `Projects` in the `Paths` section. If the setting **User projects location at starting Coach** (main menu option **Coach 7 > Preferences** in Author mode) is set to **School Projects** than the specified directory is used as the default location.

When Coach is started for the first time it copies a number of files into the folder /User/<Username>/Library/Containers/nl.cma-science.Coach7/Data/ Documents/CMA/Coach7. The user settings are made per user and stored outside of the app.

5. Starting Coach 7

To start Coach 7
- Click the Coach 7 App (by default located) in Applications.

Starting Coach the first time

When Coach 7 is started the first time it asks to specify:

1. the preferred language of the Coach user interface - select the language from the list. Notice that the user interface language can also be set in Coach, via the main menu option **Coach 7 > Switch Language** (present only in Senior student and Author mode).
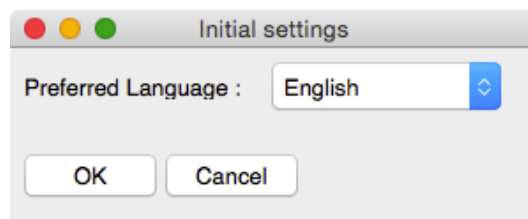
2. the license information - type in your **License Name** and **License Code** exactly as they appear in your **License** document. Confirm with OK. Notice that this is done per user; if another user will start Coach again, he/she will be asked to enter the license information again.
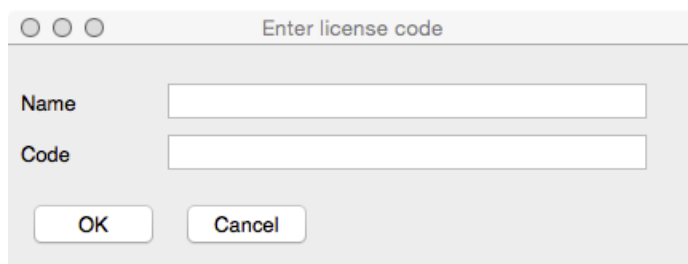
To start Coach 7 in Author mode

- Start Coach 7 App.
- Press the Login button in the Main toolbar.
- Select Author in the user level drop-down list.
- Type in the Author key.
- The default Author key is '0000'. This Author key can be changed for your school via the main menu option **Coach 7 > Change Author Key**.
- Confirm with **OK**. From now on all Activities opened within Coach will open in Author mode.
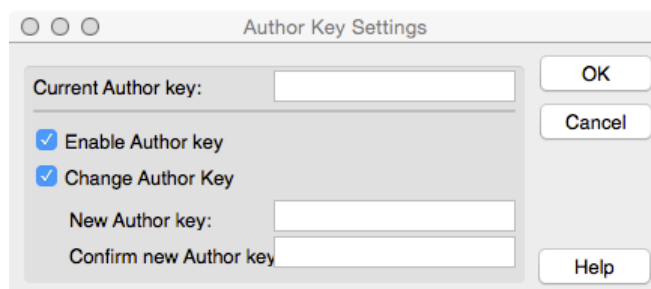
To start Coach 7 in Senior Student mode

- Start Coach 7 App.
- Press the Login button in the Main toolbar.
- Select Senior student in the user level drop-down list.
- Confirm with **OK**. From now on all Activities will be opened in Senior student mode.
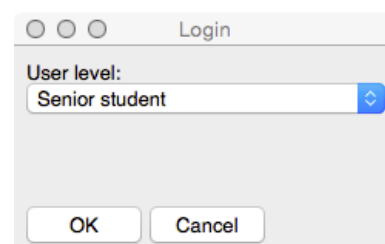
III. ADVANCED SETTINGS FOR SYSTEM ADMINISTRATORS (WINDOWS AND MAC)

Coach.ini file lists paths to files used by Coach 7. This file can be found:

- Windows: in the installation folder of Coach, default `C:\Program Files (86)\CMA\Coach 7`.
- OS X: in the folder `Contents/MacOS` in the Coach 7 app package.

The default locations stored in the Coach.ini file are listed below:

Windows

```
[Paths]
AuthorKey=<CommonAppData>\CMA\Coach7\AuthorKey.ckf
LicenseFile=<CommonAppData>\CMA\Coach7\license.ini
LocalIniFile=<MyDocuments>\Coach 7\CoachLocal.ini
UserCalLib=<CommonAppData>\CMA\Coach7\usercal.dat
ModelFavoritesFile=<MyDocuments>\Coach 7\modelfavorites.ini
CMAProjects=<CommonAppData>\CMA\Coach7\Full\CMA Coach Projects
Projects=
```

OS X

```
[Paths]
AuthorKey=<UserAppData>/CMA/Coach7/AuthorKey.ckf
LocalIniFile=<UserAppData>/CMA/Coach7/CoachLocal.ini
UserCalLib=<UserAppData>/CMA/Coach7/usercal.dat
LicenseFile=<UserAppData>/CMA/Coach7/license.ini
ModelFavoritesFile=<UserAppData>/CMA/Coach7/modelfavorites.ini
CMAProjects=
Projects=
```

Where:

`AuthorKey` - Author key file location (password to login as an Author user)

`LicenseFile` - License file location

`LocalIniFile` - User settings file location

`ModelFavoritesFile` – User favorite models file location

`UserCalLib` – User sensor calibration file location

`CMAProjects` – CMA projects folder location.

`Projects` – School projects folder location.

Each time Coach is started the following files: `Coachlocal.ini, Authorkey.ckf` and `userlib/usercal.dat`, (if they are present in the installation folder), are copied into the specified above locations under the condition that they are not already present there or the installation has a different version number (this can happen only after Coach upgrade).

For most installations it is **not needed** to adapt these paths. This is only required if you want to customize the locations, for example for use on a network.

Additionally, you can specify a number of special paths in Coach.ini:

`<UserAppData>` : user app data folder

`<CommonAppData>` : common app data folder

`<MyDocuments>` : 'My Documents' folder

For signed and sandboxed Mac versions these special paths will resolve to a place within the users Container folder.

IV. QUICK START – DASHBOARD

After starting Coach 7 offers Dashboard with a number of buttons that give quick access to Activities and let you quickly do some tasks.

Get Started

Measurement

with options **Time-based**, **Event-based** and **Manual** – to open an empty Activity (Type: Measurement) offering measurement environment with predefined measurement settings.

Control

with options **Programming with CoachLab II+** and **Programming with WiLab** – to open an empty Activity (type: Measurement with Program) offering control instructions for creating measurement and control programs for the selected interface.

Data Video

with options **Video Analysis**, **Video Capture** – to open an empty Activity (type: Data Video) offering environment for video analysis and video capture.

Data Image

– to open an empty Activity (type: Data Image) offering environment for image analysis.

Spectrometer

with options **Recording Emission Spectrum** and **Recording Absorption Spectrum** – to open an empty Activity (type: Spectrometer) offering environment for recording and analyzing Emission and Absorption spectra respectively.

Modeling

with options **Modeling in Graphical mode** and **Modeling in Text mode** – to open an empty Activity (type: Modeling) offering environment for creating graphical or textual models respectively.

Spreadsheet

– to open an empty Activity (type Spreadsheet) offering environment for working with data.

Quit

Quit Coach 7 - to close Coach 7.

Open

 Activity or Result – to open an Activity (*.cma7) or Result (*.cmr7) file. It opens a folder, in which user Coach files are stored. By default, this is the folder

Windows: `C:\Users\User\Documents\Coach 7`. This default folder can be modified via menu option **Options > Preferences** (the menu option shown only in the Author mode).

OS X: `..\Users\`*User Name*`\Documents\Coach 7`. This default folder can be modified via menu option **Coach 7 > Preferences** (present only in Author mode).
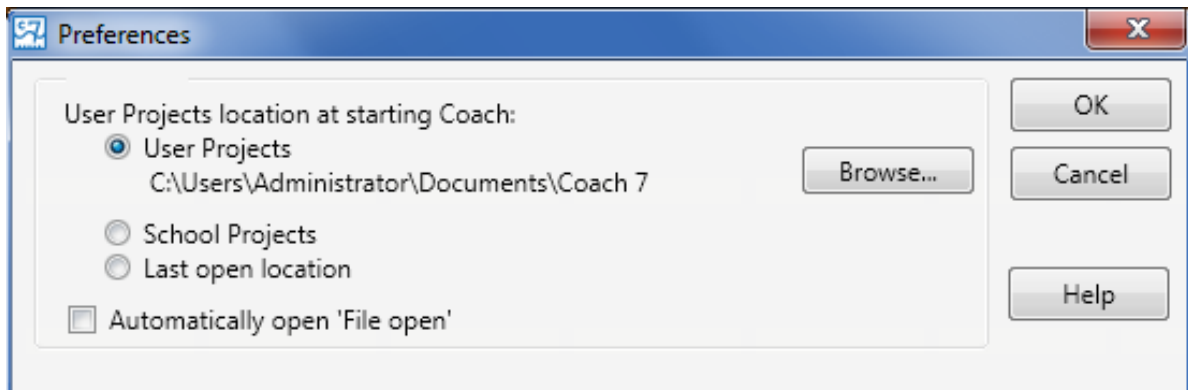
 CMA Tutorials – to open a CMA Tutorial provided in Coach 7. The CMA Coach Tutorials (English and Dutch only) are included in the installation and are stored in the folder:

Windows: C:\Program Files (x86)\CMA\Coach7\Full\Tutorials. This location cannot be modified.

OS X: Coach7.app/Contents/MacOS/Tutorials. This location cannot be modified.

 CMA Projects – to open an Activity or Result from CMA Projects. Starting from Version 7.7 CMA Projects are not delivered in Coach installation anymore and have to be downloaded by using the button **Download CMA Projects**.

 Recent Activity or Result – to open a recently opened Activity or Result.

 Download CMA Projects – to download CMA Projects. The downloaded files are stored in the folder:

Windows: <CommonAppData>\CMA\Coach7\Full\CMA Coach Projects

OS X:/Users/<User name>/Pictures/CMA/Coach7/Full/CMA Coach Projects. This location can be modified through CMAProjects value in Coach.ini.

Author

 Login - to log in as Senior student or Author.

By default Coach opens an Activity/Result in the user level specified in the Activity. When logged in as Senior student or Author, Coach opens an Activity/Result in the Senior student or Author mode respectively.

When logged in as Author the **New Activity** button appears. This button can be used to create a new Activity by the Author.

Tools

Switch Language – to switch a Coach interface language.

 Hardware Settings – to specify some hardware settings e.g. an IP address for wireless communication with VinciLab.

Firmware Update – to check and update the firmware of interfaces.

Support

Note that for all options under Support an Internet access is required.

User's Guide – to open Coach 7 User Guide.

Help with options:
    Coach Help – to start Coach 7 Help.
    About Coach 7 – to display the Coach version and the License information. In the Author mode it is possible to change the current used License Name and Code.
    CMA website – to open the CMA website.

Video Tutorials – to go to the YouTube CMA channel.

Check for Updates – to check if there is a newer version of Coach available.

V. HARDWARE SUPPORT FOR WINDOWS COMPUTERS

1. CLab, €Lab and €Sense

CMA interfaces such as CLAB, €Lab and €Sense are equipped with HID[2] USB for which a standard driver is available in Windows. The driver installation is automatically executed the first time such an interface is connected to the computer and no administrator rights are needed to install these interface drivers under all Windows versions.

In some special cases special driver installations are needed; these cases are described below.

2. CoachLab II⁺

There are two models of the CoachLab II⁺ interface available on the market:

- older models, sold before February 2011, with no sticker or sticker with SAG08XXXXX or SAG09XXXXX, and
- newer models sold after February 2011, with sticker SAG10XXXXX or higher.

The newer model is equipped with HID[2] USB for which a standard driver is available in Windows.[3] There are no administrator rights needed to install the driver under all Windows versions.

For the older model of CoachLab II⁺ a low-level driver has to be installed. For this purpose, separate MSI installations are available, see '4. Installation of low-level drivers'.

If a recent Coach 7 or Coach 6 version was installed on your PC and the old model of CoachLab II⁺ has already been used before, you do not have to install the low-level drivers.

How can I recognize which model of CoachLab II⁺ I have?

When a new CoachLab II⁺ model (sticker SAG10XXXXX or higher) is connected to a computer then it is recognized and displayed as HID Device in the section Human Interface Devices of Windows Device Manager. When an old CoachLab II⁺ model (with no sticker or sticker with SAG08XXXXX or SAG09XXXXX) is connected to a computer then it is recognized and displayed in the section Ports (COM & LPT). To check which model you have:

- Make sure that the CoachLab II⁺ driver is installed on your computer.
- Go to **Control Panel** and start Windows **Device Manager**.
- Connect your CoachLab II⁺ to your computer.
- Check under which section, Human Interface Devices Look or Ports (COM & LPT), CoachLab II⁺ is displayed. If in the section Human Interface Devices then you have a new model of CoachLab II⁺, if in the section Ports (COM & LPT) then you have an old model of CoachLab II⁺.

3. €Motion

Also for €Motion a low-level driver has to be installed. For this purpose, separate MSI installations are available. See '4. Installation of low-level drivers'.

If a recent Coach 7 version was installed on your PC and €Motion has already been used before, you do not have to install the low-level drivers.

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[2] Human Interface Device
[3] This version of CoachLab II+ is recognized as 'CoachLab II++' in Windows.

4. Installation of low-level drivers

The low-level drivers are digitally signed with the CMA license certificate. This certificate must be installed prior to the installation of low-level drivers.

1. Download the public CMA certificate at:
   https://cma-science.nl/support/cmapublic.zip.
2. Install the CMA public certificate:
   - Extract cmapublic.zip on your local pc. For example, to C:\
   - Run a command prompt as administrator - in the Windows search box type cmd
   - Right-click on suggested "Command prompt" and select "Run as Administrator"
   - Go to the folder with the extracted files in the command prompt:
     cd c:\CMAPublic
   - Run the command "install"
   - After running this command you can delete the extracted files.
3. On Windows 7 on 64-bits systems you also need to install Microsoft hotfix KB2921916 (restart your computer after the installation)[4].
4. Download the low-level drivers installation file at:
   https://cma-science.nl/coach-7-installations.
   Choose the correct installation file for your PC. There are three installations for different types of PC processors:
   x86 – for Intel based 32 Bits Processors.
   x64 – for Intel Based 64 Bits Processors (also known as x64, x86_64 and AMD64).
   i64 – for Itanium 64 Bits Processors (also known as IA-64).
   Use x86 for 32-bits OS systems and x64 for 64-bits OS systems, unless you are sure that your PC has a 64-bit Itanium processor.
   The installation checks itself if it has been installed on a PC with "right processor".
5. Install the low-level drivers (administrator rights needed).
6. For a silent installation, you can specify from a command prompt (run as administrator), the following command:
   msiexec / i <MSI file> / quiet
7. Notice that after the low-level drivers have been installed the computer has to be restarted.
8. Connect an interface to your computer; the driver of the connected interface will be automatically installed (no administrator rights needed).

5. Adam Equipment Balance

For Adam Equipment Balance you need to install the low-level driver which is available at the Adam Equipment website under Windows USB Drivers for Adam Equipment Products. (https://www.adamequipment.com/support/software-downloads).

6. MoLab

When MoLab is connected to a Windows 7 (or higher) computer the first time it is detected, and the computer automatically starts installing the device driver software. After this installation is successfully finished (device name Anchor USB EZ-Link Cable

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[4] The KB2921916 hotfix is not installed via Windows Update. This hotfix is an addition to KB3033929, which is installed by Windows Update.

installed) Windows automatically downloads and starts installation of Windows Mobile Device Center needed for communication between MoLab and the computer.

7. VinciLab

In most cases the driver installation is automatically executed the first time VinciLab is connected to the USB port of the computer. After successful installation VinciLab is shown under Network adapters (in Windows Device Manager).
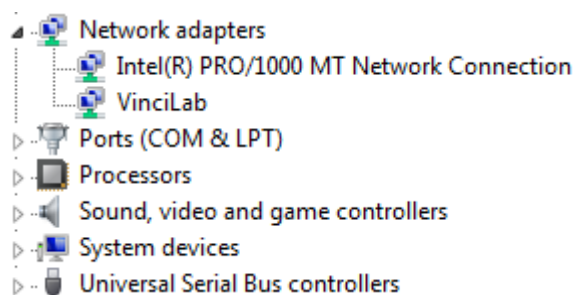
If the driver is not automatically installed or not successfully installed, then the driver has to be installed manually in Windows Device Manager by specifying the location of the USB VinciLab driver setup files.

To install the USB driver manually
- Go to **Control Panel** and start Windows **Device Manager**.
- Right click not correctly installed VinciLab (marked by yellow exclamation sign) and select **Update Driver Software**.
- Select **Browse my computer for driver software**.
- Browse to `Program Files (x86)\CMA\Coach6\Common\EthernetCableDriver` location.
- Click **Next**. The driver software will be installed.
- After successful installation the message **Device driver software installed successfully** will appear.

If you experience problems with communication with VinciLab consult the FAQs on the CMA website or check the on-line document:
https://cma-science.nl/resources/en/interfaces/Problems with VinciLab.pdf.

VI. HARDWARE SUPPORT FOR MAC COMPUTERS

Coach 7 for Mac supports the CMA interfaces: CLAB, €Lab, €Sense and VinciLab without driver installation. The first time such an interface is connected to the MAC computer it will work directly.
For old models of CoachLab II⁺: models sold before February 2011, with no sticker (from before 2008) or sticker with SAG08XXXXX or SAG09XXXXX the special driver is needed. Download, at https://cma-science.nl/coach-7-installations, the low-level drivers for OS X and install it.

The following interfaces **are not supported** in Coach 7 for Mac:
- Old models of CoachLab II with serial connection,
- €Motion,
- €Lab + €Motion,
- MoLab.

5. Adam Equipment Balance

For Adam Equipment Balance you need to install the low-level driver, see:
https://www.ftdichip.com/Drivers/VCP.htm
Direct download link:
https://www.ftdichip.com/Drivers/VCP/MacOSX/FTDIUSBSerialDriver_v2_3.dmg

V. UPDATING AN INTERFACE'S INTERNAL SOFTWARE

1. Updating firmware of CLAB, CoachLab II⁺, WiLab, €Lab, and €Sense

To make use of new features available in Coach it is necessary to keep the firmware of interfaces updated. Firmware update can be performed via the Dashboard button **Firmware Update**.

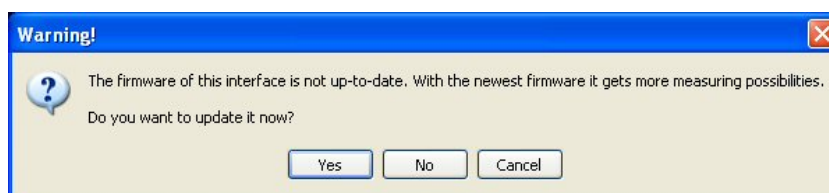*To update firmware via the Firmware Update option*
- Connect an interface you want to update to your computer. The CLAB and CoachLab II⁺ interfaces should be powered during updating.
- Start Coach and click the Dashboard button **Firmware Update**.
- Select your interface from the list.
- Press **Update** to renew the firmware of your interface.
- The program selects the correct version of the firmware file. If desired select the firmware file (*.hex) and accept with **OK**.
- The update process starts. At the end of this process the connected interface will reset itself.
- When the firmware is updated successfully then the message appears: *The firmware has been updated to version #*.
- Click **OK** to accept.

Note: In rare cases the reset of €Lab/€Sense will not work properly, the interface LED remains on and there is no communication between the computer and the interface. In that case you have to restart computer to continue working with €Lab/€Sense.

During working with Coach, the program recognizes automatically when a connected interface needs to be updated and offers direct update.

To update firmware when working with Coach 7
- When Coach recognizes that a connected interface needs to be updated then the message is displayed.

- Click **Yes** to start the **Firmware Update** program directly.
- Next steps are similar to updating with the Firmware Update.

2. Updating MoLab

NOTE: This functionality is available **only for Windows** computers.

To update Coach CE on MoLab **MoLab Update** utility program can be used. The latest update is available at the CMA website https://cma-science.nl under Support > Product Support > MoLab).

3. Updating VinciLab

The operating system and all applications of VinciLab can be updated via the VinciLab Update server available via a Wi-Fi connection. The detailed update procedure is included in the VinciLab package and available at CMA website https://cma-science.nl under Support > Product Support > VinciLab.

Coach: version 7.7
Revision: 13/01/2021