

Quick Start Guide

English

MGCplus SwiftCal



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Contents

1 Introduction	4
1.1 Typographical conventions	5
1.2 Using this manual	6
2 Operating requirements	7
2.1 CANHEAD calibration module	8
2.2 Licensing with the WibuBox	9
3 Installation	10
3.1 Installation of the WibuKey licensing system	13
3.2 Installation of PEAK hard- and software	15
3.3 Configure CAN network	16
4 What can you do with MGCplus SwiftCal?	19
5 How do you work with MGCplus SwiftCal?	21
6 Technical support	24


1 Introduction

This section provides some general information. You should:


- be familiar with your Windows® operating system
- know how to find and open files
- know how to use online help files

1.1 Typographical conventions

To facilitate clear identification and for easier reading we use the following conventions in this quick guide:

 We have flagged important paragraphs with this caution symbol.


 This symbol points to a significant detail or specific characteristic.

 This symbol marks a tip or an interesting feature.

 This symbol means more information is available in the online help.

This marking is used to highlight individual terms in the text. Your **input**, all **push buttons**, **control boxes**, the names of **input fields** etc. are also marked. The **menus**, **commands**, **dialog fields** and **boxes** as well as **tabs** used in the program are likewise marked.

We hope that these markings will allow you to quickly identify the topics or menus referred to and enable you to find your way round the program.

 All trademarks and trade names used in this help refer to either the entities claiming the marks and names or to their products. Hottinger Baldwin Mess-technik and Hottinger Brüel & Kjaer GmbH (HBK) do not lay claim to any other than their own trade names/trademarks.

1.2 Using this manual


If you are not already familiar with MGCplus SwiftCal, you should read section [What can you do with MGCplus SwiftCal? on page 19](#) and section [How do you work with MGCplus SwiftCal? on page 21](#) after the [Installation on page 10](#).


🔍? If you need more detailed information, use the context-sensitive online help in the program.

If you still make no headway with your problem, section [Technical support on page 24](#) shows you how to get help directly from HBM.









💡 Please also note the support offered by the HBM representatives in your country, see [HBM Support and Sales International on page 24](#).

2 Operating requirements

 The WibuBox containing your license for the MGCplus SwiftCal software must be connected to your PC before the program is started. Connecting the WibuBox to another PC in a network is not supported.
See also [Licensing with the WibuBox on page 9](#).

 The software will start in demo-mode if no WibuBox is connected. All features will be supported, but you cannot generate valid Calibration certificates.

In order to operate MGCplus SwiftCal software, you need a PC with the following *minimum requirements*:


-  1 gigahertz processor
-  Windows® 10
-  1 gigabyte main memory (RAM)
-  Graphics card with a resolution of 800 x 600 pixel or higher
-  100 megabytes free space on your hard disk
-  Microsoft or 100% compatible mouse
-  To be able to export data into Excel files, Microsoft Excel 2000 or higher is required
-  For a CANHEAD calibration, the [CANHEAD calibration module on page 8](#) and the PEAK PCAN-USB adapter are required. Both devices are available from HBM.

The following fonts must be available on the PC:

Arial (TT), Courier, MS Sans Serif, Small Fonts, Times New Roman (TT), Tahoma, Verdana and Wingdings. These fonts are usually installed with the Windows operating system.

2.1 CANHEAD calibration module

The CANHEAD calibration module (CalBox) is a modified CANHEAD base module (CB...). The CANHEAD *amplifier* module (CA...), which shall be calibrated has to be inserted into this special base module.

 Please note when inserting/exchanging CANHEAD amplifier modules while the power supply is *on*: the modules have to be inserted into the calibration module in such a way that the left-hand side (see [CANHEAD on page 21](#)) connects to the socket before the right-hand side.

The CANHEAD calibration module allows for connection of a single channel *calibration unit* in full bridge configuration. The calibration is made for all channels in one go as all amplifier inputs are connected in parallel to the calibration unit. Additionally dummy bridge circuits are used for all channels, even if no calibration is made, in order to have the same load on the excitation voltage outputs of all channels.

The bridge type of the base module, which is later used for the amplifier module to be calibrated is of no importance.

2.2 Licensing with the WibuBox

i See also [Installation of the WibuKey licensing system on page 13](#).

Licensing takes place through a WibuKey system with a WibuBox that must be connected to a USB interface on the PC which uses MGCplus SwiftCal. Basically a WibuBox is a slightly longer USB plug which contains hardware with the license key necessary for operating. Connecting the WibuBox to another PC in a network is not supported.

3 Installation

👉 See also <https://www.hbm.com/terms/software> for the software license terms (EULA).

⚠ Administrator rights are required for installing the WibuKey licensing system and the PEAK software installation.

We recommend that you close all open programs before starting the installation.

Installing from ZIP file download

Open the **Properties** context menu and **Unblock** the file after downloading from the HBM website. Then unzip it and open the “Start.exe” file in the resulting folder to get the opening screen.

Installing from CD

Insert the CD into your CD-ROM drive. In standard configuration, Windows automatically opens the CD. If you have deactivated this self-starting Windows function, look for the “Start.exe” file in the main directory of the CD and double-click on its icon to get the opening screen.

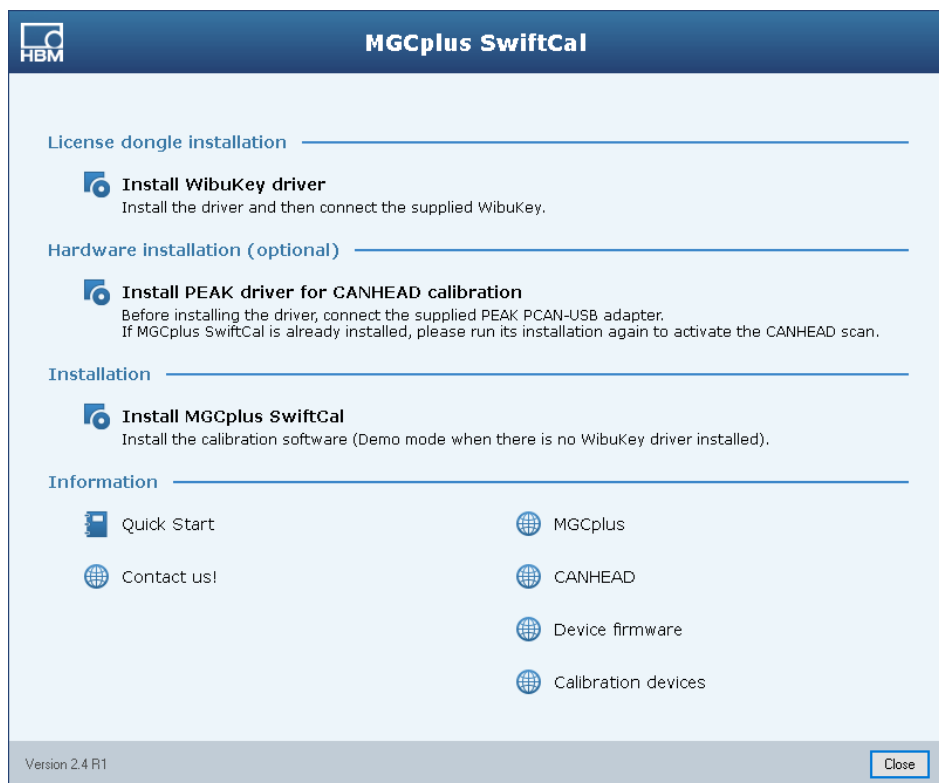


Fig. 3.1: Opening screen

The installation procedure depends on the options you would like to install. The WibuKey licensing system must *first* be installed otherwise you will get a demo version only. For installation see section [Installation of the WibuKey licensing system on page 13](#).

As next step you may install the PEAK hard- and software. This is only required if CANHEAD calibration shall be supported by MGCplus SwiftCal. For installation see section [Installation of PEAK hard- and software on page 15](#) and [Configure CAN network on page 16](#).

Installation of MGCplus SwiftCal

As last step click on **Install MGCplus SwiftCal**. Then click on **Next** and follow the installation instructions.

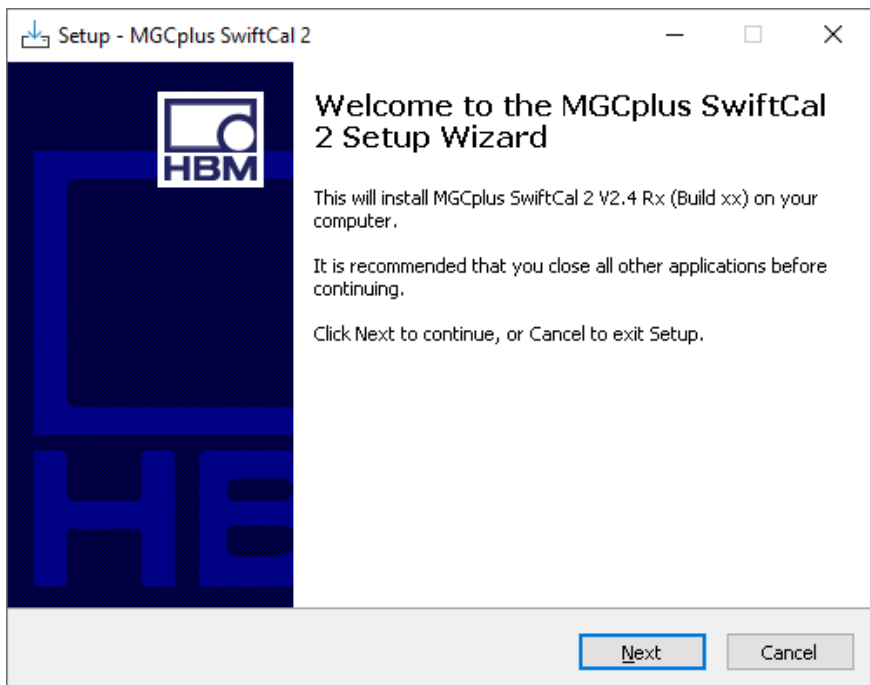


Fig. 3.2: Installing MGCplus SwiftCal 2

Notes

- You must install all program parts (**Full installation**) if you are installing the software the first time or if you are upgrading from MC Calibrator 1.0.
- With the installation of MGCplus SwiftCal, the MS Access Data Components are installed automatically if your version is older than version 2.71.9030.9.

3.1 Installation of the WibuKey licensing system

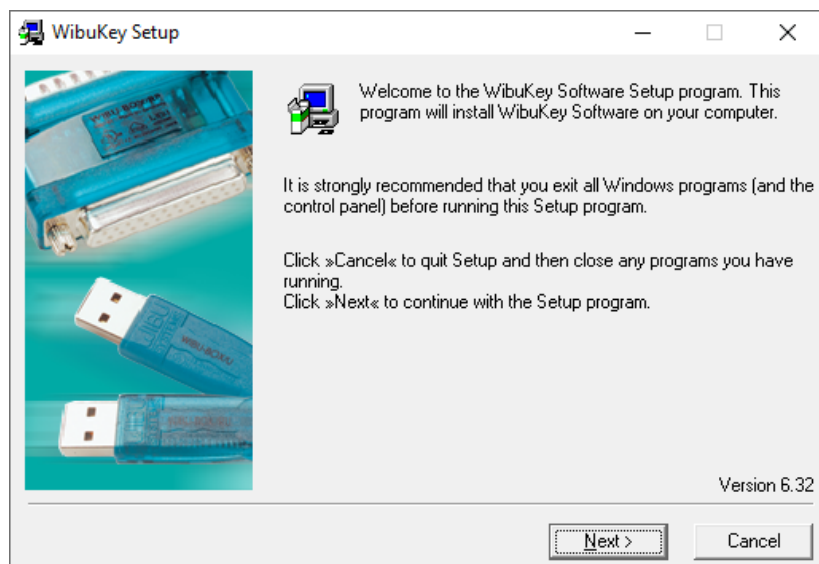


Fig. 3.1: WibuKey installation screen

👉 You do not need to install the WibuKey licensing system again if you are upgrading from a previous MGCplus SwiftCal version and the WibuKey is already installed.

1. Click on **Install WibuKey driver** to open the installation program.
2. Then click on **Next** and follow the installation instructions.
3. Wait for the installation to finish.

After the installation a dialog is displayed indicating the successful installation.

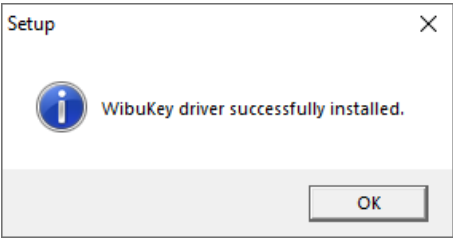


Fig. 3.2: Dialog after a successful installation

3.2 Installation of PEAK hard- and software

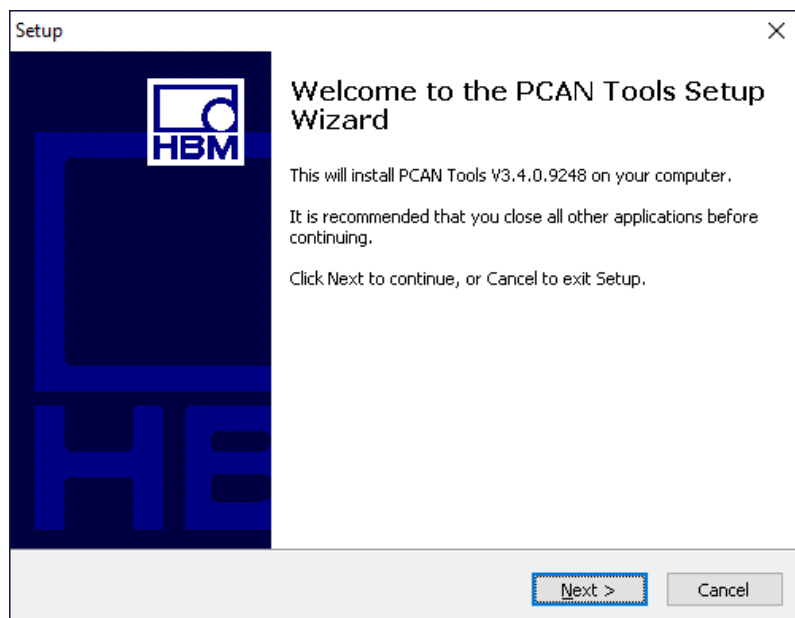



Fig. 3.1: PEAK adapter installation screen

1. Connect the supplied PEAK PCAN-USB adapter.
2. Click on **Install PEAK driver for CANHEAD calibration** to open the installation program.
3. Then click on **Next** and follow the installation instructions.
4. Wait for the installation to finish.
5. Click **Finish** to exit the setup program.

3.3 Configure CAN network

Usually this network is configured during setup of the PEAK adapter. However, you can also use the PEAK network Configuration Wizard or perform a manual setup.

 Administrator rights are required to create or modify settings.

How to start the PEAK network Configuration Wizard

1. Locate the file "Peak Installation Wizard.exe" in "\Setups\drivers\Peak" either in your SwiftCal download or on the SwiftCal CD.
2. Double click this file and follow the installation instructions.

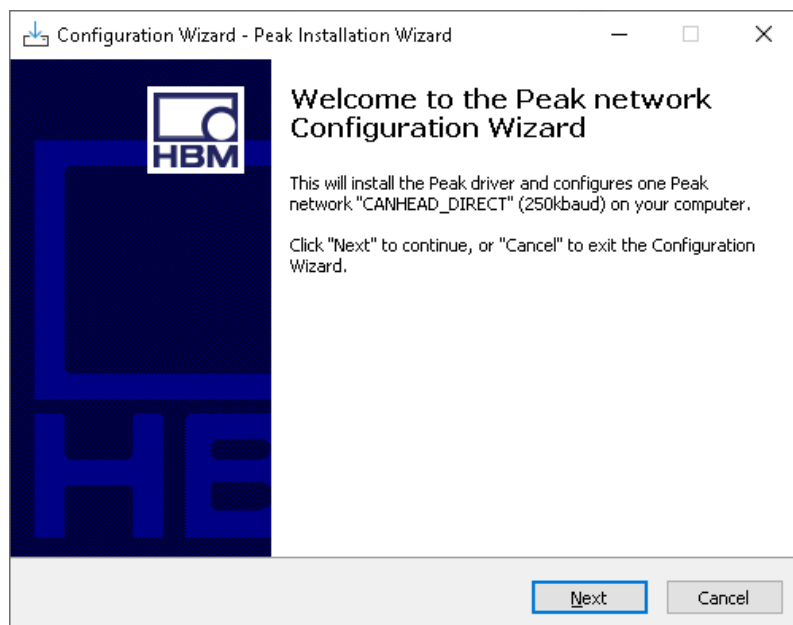


Fig. 3.1: Peak network Configuration Wizard

Procedure for manual setup

- ☞ We recommend you use the Configuration Wizard for the installation which creates all necessary settings. Manual changes may only be required if you need to alter your configuration.
1. To set up a network, start the NetConfig program: type “Netcfg32” in the Windows search box.
 2. Mark the hardware interface used (*not Internal*).
 3. If necessary, create a new network (**New net**) via menu or context menu. Otherwise click on the network to be set up.
 4. Assign a meaningful name, e.g. **CANHEAD_DIRECT**, see Fig. 3.2.
 5. Right-click on the network and select **Properties**, see Fig. 3.3.
 6. Select 250 kBit/s as baud rate to be used.
 7. The (internal) **Baud rate register** will be set automatically, therefore, do not change this entry.
 8. Close the dialog with **OK**.
 9. Close the program and save the settings, the network is then set up.

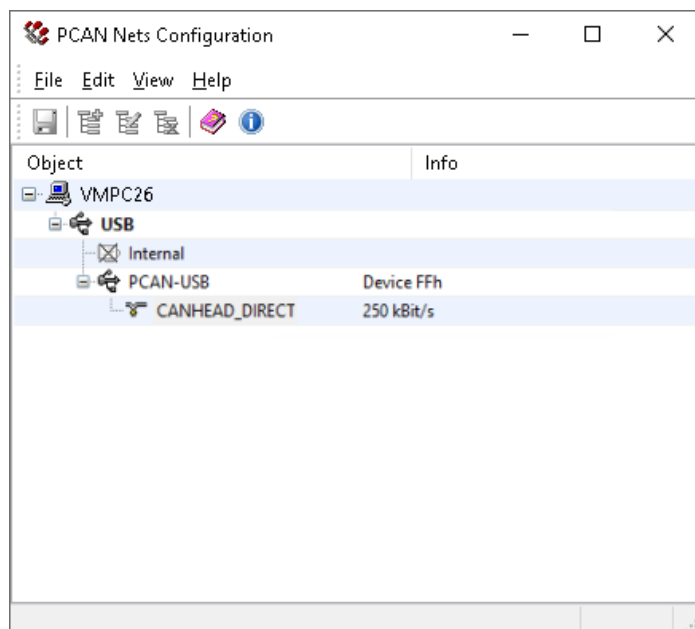


Fig. 3.2: Create a new net.

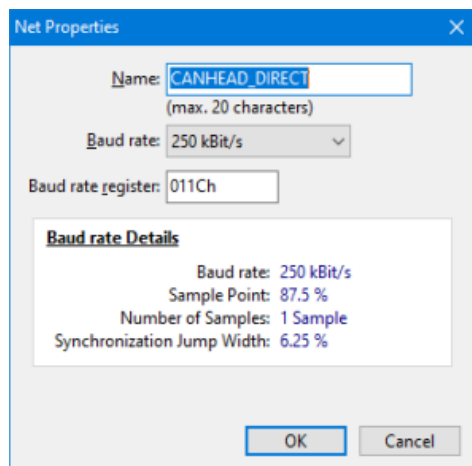


Fig. 3.3: Set baud rate

4 What can you do with MGCplus SwiftCal?

The MGCplus SwiftCal program supports you when calibrating MGCplus signal conditioning devices or CANHEAD amplifier modules. In addition, the calibration units may be controlled from the PC. However, you may also use manually operated calibration units.

- 👉 The program requires the WibuBox connected to your PC for operation, see [Licensing with the WibuBox on page 9](#).

Use in accordance with the regulations

The MGCplus SwiftCal software is to be used exclusively for calibrating the standard amplifier plug-in modules of the MGCplus and for calibrating CANHEAD amplifier modules with a [CANHEAD calibration module on page 8](#). Use for any purpose other than the above shall be deemed to be not in accordance with the regulations.

Please also note the environmental and operating conditions and the legal and safety requirements given in the Operating Manuals of MGCplus, the CANHEAD calibration module and the calibration units, voltage calibration sources and multimeters used.

- 👉 The automatic detection of serial numbers and measuring ranges as well as the assignment of the correct settings through MGCplus SwiftCal is not possible in all cases, in particular with special versions of the MGCplus plug-in modules and connector plates.


Program features

Simply start the program, define some initial settings and start the process. When using non-HBM calibration units, a setup has to be made specifying which commands should be sent in order to perform a calibration. The program checks which amplifier module the calibration unit is connected to and performs the calibration. An audio notification may be issued after each successful step. There is no need to do anything on the PC once an MGCplus plug-in module has been calibrated: just connect the unit to another amplifier module of this type, the program searches


automatically for this amplifier and continues with the calibration process. With CANHEAD, exchange the amplifier module, re-scan the CAN bus and perform the next calibration.

Having calibrated an amplifier module, calibration certificate data is automatically saved to a database. You may create and print out the certificates immediately or at a later point in time. Apart from your address, you may also include a company logo in the Calibration certificates.

5 How do you work with MGCplus SwiftCal?





 Please make sure the WibuBox is connected to your PC *before* starting the program, otherwise the Demo version will start, see [Licensing with the WibuBox on page 9](#).

If you are starting the program for the first time, you must enter the company information which will be printed later on the Calibration certificates.

 Before starting a calibration the first time, you must define which calibration units you have and—for non-HBM devices—you must specify, which commands they need to perform the required calibration steps.

The following summarizes the steps necessary for a standard calibration process:

MGCplus

1. Connect the MGCplus signal conditioning device(s) to the PC using either Ethernet, USB or a serial port.
2. Connect the calibration unit to one of the MGCplus plug-in amplifiers.
3. If supported, also connect the calibration unit to the PC via the interface specified for that unit.
4. If not already running, start the MGCplus SwiftCal program and create a new project (or open an existing one).
5. Click on the Devices entry (left-hand side) and scan for the MGCplus signal conditioning devices connected (**Scan** menu or  or  or ).
6. Click on  to the left of a device to see the existing ML/AP combinations (amplifier module and connection plate combination).
7. Mark the ML/AP combination you wish to calibrate.
8. Please continue with section *Both devices*.

CANHEAD

1. Connect the [CANHEAD calibration module on page 8](#) to the PEAK USB interface.
2. Connect the calibration unit to the CANHEAD calibration module.



3. If supported, also connect the calibration unit to the PC via the interface specified for that unit.
4. If not already running, start the MGCplus SwiftCal program and create a new project (or open an existing one).



Please note when inserting/exchanging CANHEAD *amplifier* modules while the power supply is *on*: the modules have to be inserted into the calibration module in such a way that the left-hand side (see arrow in the following picture) connects to the socket before the right-hand side.

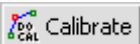



Fig. 5.1: How to insert a CANHEAD amplifier module



5. Insert the CANHEAD amplifier module to be calibrated into the CANHEAD calibration module.
6. Click on the Devices entry (left-hand side) and scan for the CANHEAD calibration modules connected (**Scan ► CANHEAD** or ).
7. Click on  to the left of a CANHEAD calibration module to see the inserted amplifier module.
8. Mark the CANHEAD amplifier module you wish to calibrate.
9. Please continue with section *Both devices*.

Both devices

1. Specify the general calibration procedure settings, e.g. which calibration unit to use.

2. Start the calibration with  and enter calibration certificate number and name of the tester.
3. Check the results.
4. You may go back to step 7 (MGCplus) and select another ML/AP combination to calibrate or proceed to the next step. Go back to step 5 (CANHEAD) if you wish to calibrate another CANHEAD amplifier module.
5. Create and print the certificate(s).

 You may define audio alerts which inform you about the calibration process in the **Preferences** dialog.

 Assign test equipment numbers (or strings) with  if you want to use an additional numbering system, e.g. inventory numbers. These numbers may also be used for search queries.

6 Technical support

If you encounter any problems when working with MGCplus SwiftCal, you can use the following services from HBM:

Email support

 support@hbkworld.com

Telephone support

Telephone support is available on all working days from 09:00 to 5:00 PM (CET):

+49 6151 803-0

Fax support

+49 6151 803-9100

HBM Support and Sales International

 <https://www.hbm.com/worldwide-contacts/>

HBM Test and Measurement

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