



HARP-5

Getting started guide V1.1

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2 Glossary

CAN	Controller Area Network
CD	Compact Disk
DBC	Database CAN
DLL	Dynamic Link Library. It can be used to execute the DLL functions in custom applications.
ECU	Electronic control unit
EOL	End of line
LDF	LIN description file
LIN	Local Interconnect Network
LINWorks	Application software suite to configure the Baby-LIN devices
PC	Personal Computer
SDF	Session Description File
SDHC	SD High Capacity. A type of SD cards that support capacities up to 32 GB.
SO	Shared Object. This is the Linux variant of a Windows-DLL. It can be used to execute the SO functions in custom applications.
USB	Universal Serial Bus
VDC	Voltage Direct Current. This is the unit of DC voltage values.

3 Introduction

This getting started guide will show you how to setup the HARP-5 to communicate with or monitor the LIN- or CAN-Bus. Simply follow the next steps.



Advice

This guide is made for new HARP-5 users. If you already have experience with Baby-LIN products or you are an advanced LIN- or CAN-Bus user then this guide probably is not suited for you.



Advice

This guide assumes you are using a Microsoft Windows operating system. If you use a Linux operating system please contact us to receive software for your distribution: "[Support information](#)"

4 Installation

Before you can start using the HARP-5 you have to install several components of the LINWorks software.

If you have not already downloaded the LINWorks software, please download it now from our customer portal.



Advice

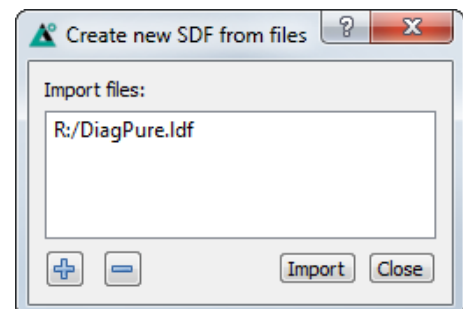
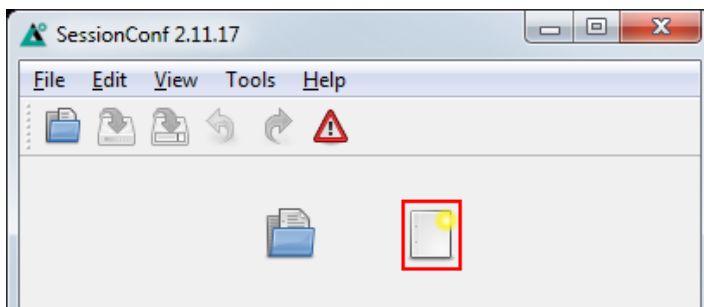
Check out chapter: "[Downloads](#)"

The following components are required for this getting started guide:

- Session Configurator

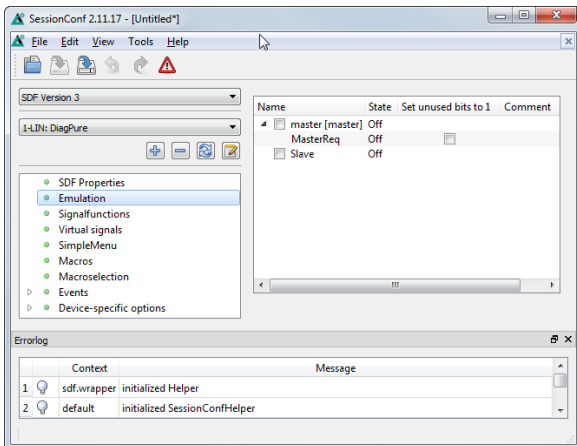
5 Create a SDF

First we have to create a SDF. This file contains all informations required by the HARP-5 to simulate nodes on the LIN- or CAN-Bus or monitor it. Therefor please start the Session Configurator and click on the right icon to create a new SDF file. Add your LDF or DBC and click on import. To import DBC files you additionally have to select the nodes, frames and signals you want to import.

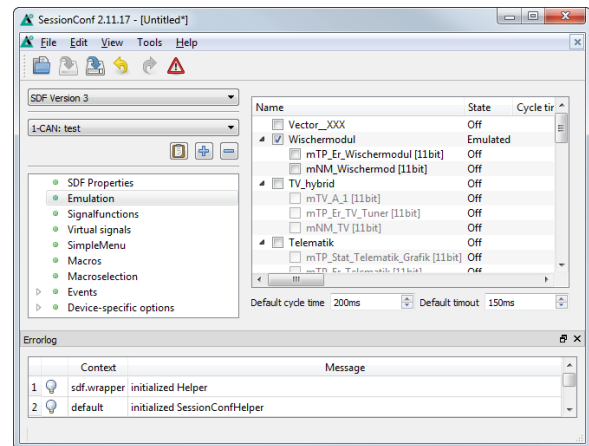


Select Emulation in the navigation menu on the left. Here you can select which nodes you want to be simulated by the HARP-5. If you only want to monitor the LIN- or CAN-Bus, select nothing.

LIN-Bus simulation



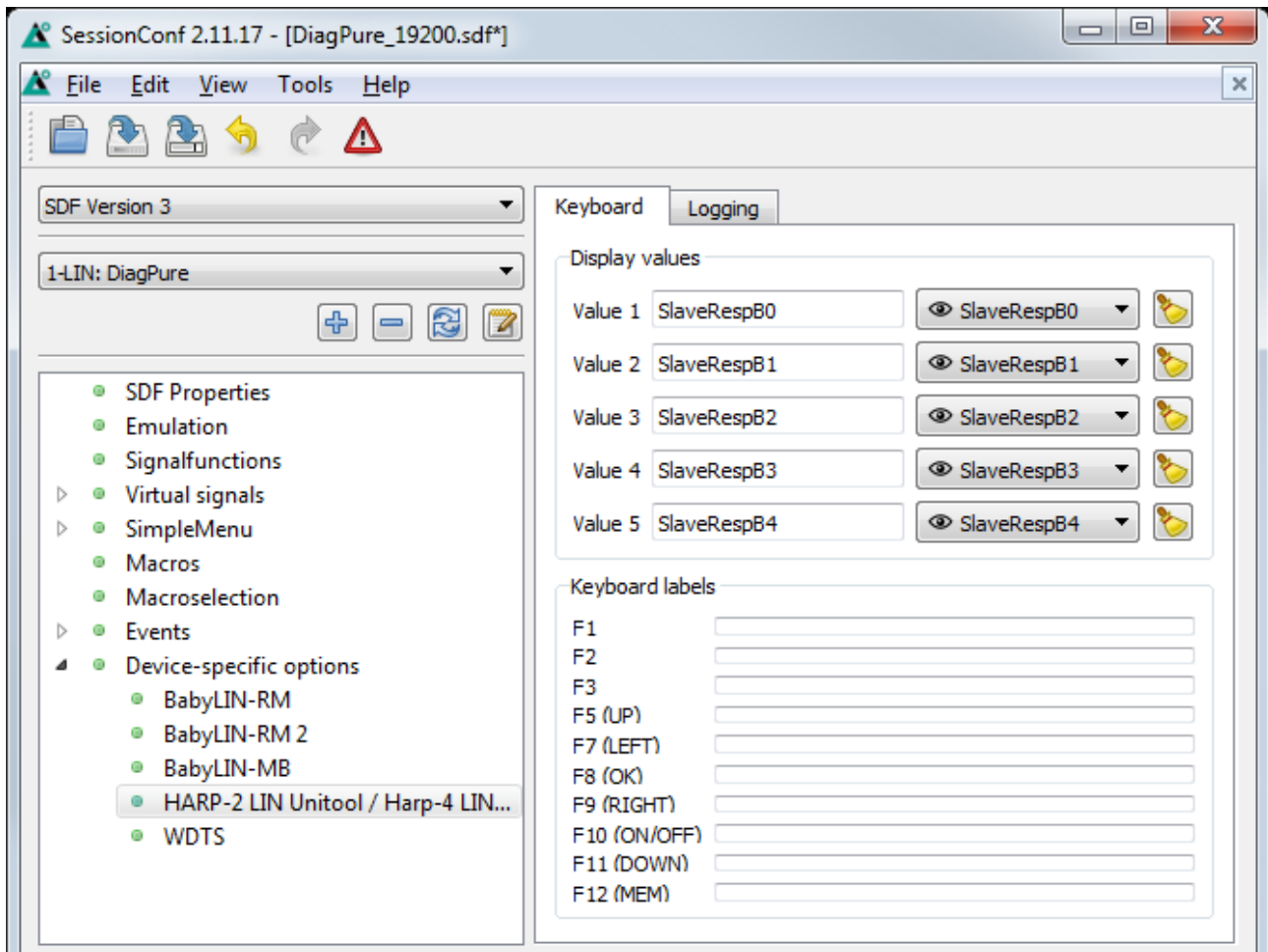
CAN-Bus simulation



Attention

For CAN-Bus simulations you have to select not only the nodes you want to be simulated by the HARP-5, but also the frames that should be transmitted on the bus by the node. If a node is selected, but no frame, you will not see any data on the bus from this node.

Select the HARP entry of the Device-specific options in the navigation menu on the left. Here you can add up to 5 signals you want to watch on the HARP-5 display.



Advice

There are other ways to monitor frames and signals, but this is a good and configurable starting point.

6 Transfer the SDF

To transfer the SDF to the HARP-5 you require a SDHC card reader. Copy your newly created SDF to the root directory of a SDHC card (One SDHC card is delivered with the HARP-5). Remove the SDHC card from your card reader and plug it into the SDHC card slot of the HARP-5.

7 Connections

Please establish the following connections:

- Connect the HARP-5 to your LIN- or CAN-Bus.



Danger

Please keep the LIN-Bus voltage within the following range: 8-26 VDC.
Otherwise the HARP-5 may get damaged.



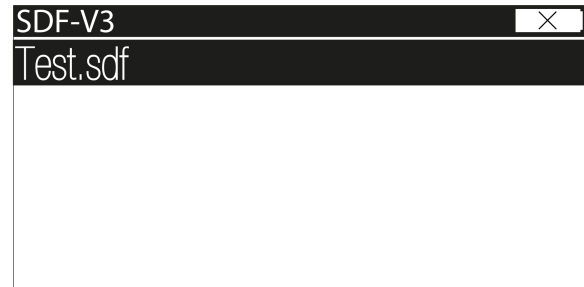
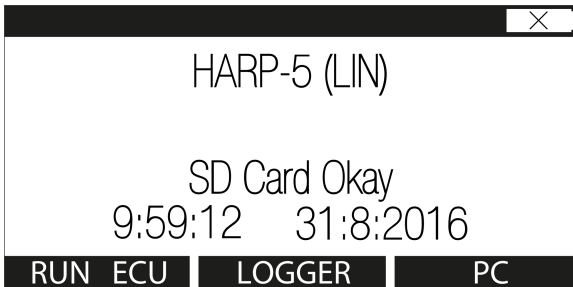
Advice

Make sure all other nodes are connected and running properly.

- If the rechargeable batteries are empty or low you have to connect the provided charging power supply.

8 Start the bus communication

In the main menu click the "F1" key to open the "RUN ECU" menu. There you should see the SDF you created earlier. Select it and press the "OK" key.



Now you can see the variables you added to monitor. To start the simulation/monitoring click the "F1" key to select the "START" option.



Now you will see the changes of these signals in real-time.



Advice

The HARP-5 features a lot more features and possibilities and can be used for a wide selection of applications. Keep on reading this manual to learn more about the HARP-5.

**Advice**

The HARP-5 is not the only LIN- and CAN-Bus device from Lipowsky Industrie-Elektronik GmbH. Check out our other products at <http://www.lipowsky.com/lipo/products/lin-and-can-systems/>

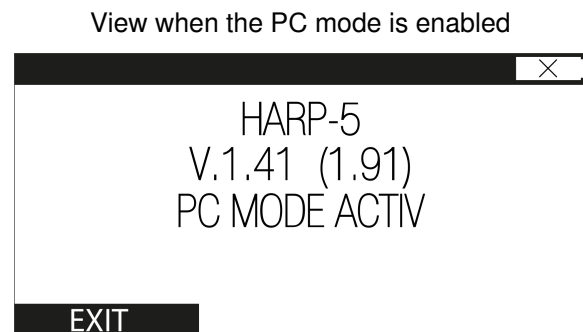
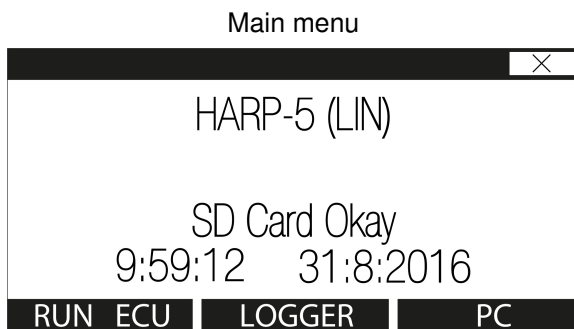
9 PC mode

9.1 PC mode description

The PC mode enables the HARP-5 to communicate with a PC like other products from the Baby-LIN product family. This means you are able to use the Simple Menu and all of its features as well as writing your own applications using the Baby-LIN-DLL. It is also necessary for updating the firmware.

9.2 Enable the PC mode

To enable the PC mode of the HARP-5 make sure it is switched on. If you are not in the main menu press ESC repeatedly until you are in the main menu. Then press "F3" to enter the PC mode.



If the PC mode is currently enabled, simply press the "F1" key to exit the PC mode again.

10 Updates

10.1 Update philosophy

The functionality and features of the HARP-5 are defined by the installed firmware as well as the used versions of the LINWorks and Baby-LIN-DII.

As we are permanently working on product improvements, the software and firmware are updated periodically. These updates make new features available and solve problems, which have been discovered by our internal tests or have been reported by customers with earlier versions.

All the firmware updates are done in a way, that the updated HARP-5 will continue to interwork with an already installed, older LINWorks installation. So updating the Baby-LIN firmware does not mean, that you necessarily have to update your LINWorks installation as well.

Therefor it is highly recommended to always update your HARP-5 to the latest available firmware version.

We also recommend to also update your LINWorks software and Baby-LIN-DII, if new updates get available. Since new versions of the Session Configurator may introduce new features to the SDF format, it is possible that older firmware, Simple Menu or Baby-LIN-DII versions are not compatible. Therefor you should also update them.

If you update your LinWorks it is highly recommended updating the firmware of your HARP-5 to the latest available firmware version as well as distributed the used versions of the Baby-LIN-DII.

So the sole reason to stay with an older LINWorks version should be, that you use a HARP-5 with outdated firmware version, which you can't upgrade for whatever reason.

It is highly recommended updating the Baby-LIN driver to the latest version.

10.2 Downloads

The latest versions of our software, firmware and documents are available in our client portal: portal.lipowsky.de. There you can find downloads like:

- Software, especially the LINWorks suite.
- Device firmware for the HARP-5. The BLProg update tool is included in the archive.
- USB drivers for the HARP-5.
- Manuals and datasheets.
- Application notes and examples how to create custom applications.



Advice

The LINWorks CD archive contains not only the LINWorks software but also the USB driver, manuals, datasheets, application notes and examples. Only the device firmware packages are not included.

Before you can download anything you have to register yourself in our customer portal. Here you also have to select which product you are using. After your account has been activated by us you will receive an email. This can take up to some hours.



Attention

As HARP-5 user please select both "Baby-LIN User" and "HARP user".

After you received the activation email you will be able to login. In the login screen you should also select your preferred language. After the login you will be able to download all relevant files.

The image shows two screenshots of the customer portal. The left screenshot is the registration form, which includes fields for company information (Company, Street, ZIP, City, Phone), contact details (Name, Surname), and a 'Groups' dropdown menu with options like 'Baby-LIN User', 'Distributors', 'HARP user', and 'Posco Users'. The right screenshot is the login form, featuring fields for Username and Password, and a 'Login' button. Both forms include a language selection dropdown set to 'English' and a 'change/ändern' link.

After the registration you will also be automatically notified via email when new versions are available.



Advice

If you have forgotten your password, please send us your Email address, that you used for the registration. Then we can reset your password so you can login again.

10.3 Installation

The LinWorks suite is delivered with a handy setup application. If you already have installed an older version you can simply install the newer versions. The setup application will take care of overwriting the required files. Simply follow these steps:

- Start the "Setup.exe".
- Select the components you want to install.
- Follow the instructions.



Attention

Please stop all running LinWorks applications and disconnect all Baby-LIN devices before starting the setup.



Attention

If you have used version of the Session Configurator and Simple Menu with version V1.x.x, the new version will be installed parallel to the old ones. Therefore you have to use the new shortcuts to start the new versions.

10.4 Check versions

If you want to check the current version of the HARP-5 firmware or a LINWorks component the following table shows you how it is done:

Component	How to check the version
HARP-5 firmware	<p>There are two possibilities:</p> <ul style="list-style-type: none"> • Enter the PC mode on the device. The display will then show the firmware version of the HARP-5. Check "PC mode" for more information. • Start the Simple Menu and connect to the HARP-5. Now the firmware version is visible in the device list.
LINWorks <ul style="list-style-type: none"> • Simple Menu • Session Configurator • LDFEdit 	Select the menu option "Help/About". The info dialog will show the software version.
Baby-LIN-DII	Call <code>BLC_getVersionString()</code> . The version is returned as string.
Baby-LIN-DII .NET Wrapper	Call <code>GetWrapperVersion()</code> . The version is returned as string.



Advice

If you need support please always tell us the firmware and software versions you are using.

11 Support information

In case of any questions you can get technical support by email or phone. We can use TeamViewer to give you direct support and help on your own PC. This way we are able to sort out problems fast and direct. We have sample code and application notes available, which will help you to make your job.

Lipowsky Industrie-Elektronik GmbH realized many successful LIN and CAN related projects and therefore we can draw upon many years of experience in these fields. We also provide turn key solutions for specific applications like EOL (End of Line) testers or programming stations.

Lipowsky Industrie-Elektronik GmbH designs, produces and applies the Baby-LIN products, so you can always expect qualified and fast support.

Contact information			
Website:	www.lipowsky.com	Email:	info@lipowsky.de
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