

- 
- Supplied software:  
Configurator for setting the XpressNet  
address  
PC control panel  
CV editor for easy configuration of  
decoder settings

***Digital***  

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*plus*  
*by Lenz*

# Information USB Interface Software

1<sup>st</sup> edition, 01 05

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## Important advice, please read first!

The USB interface is a component of the *Digital plus by Lenz*® system and was submitted to intensive testing before delivery. Lenz Elektronik GmbH guarantees fault-free operation if you follow the advice below:

The USB interface may be used only with components of the *Digital plus by Lenz*® system. Any use other than the one described in this operating manual is not permitted and all guarantees shall become null and void if the USB interface is used inappropriately.

Only connect your USB interface to devices which are designed for this purpose. This operating manual will inform you which devices are suitable. Even if other devices (including those of other manufacturers) use the same connectors, you must not operate the USB interface with these devices. *The fact that the connectors are similar does not automatically mean that you may use them for operation*, even if you are dealing with devices for controlling model railways.

Do not expose the USB interface to damp or direct sunlight.

If you have any questions which this operating manual does not answer, please contact us:

Postal address: Lenz Elektronik GmbH  
Hüttenbergstraße 29  
D-35398 Gießen

Telephone: ++49 (0) 6403 900 133    The recorded message will  
inform you of times when we  
are available

Fax: ++49 (0) 6403 900 155

E-mail: [info@digital-plus.de](mailto:info@digital-plus.de)

If you experience any problems with the USB interface, just contact us, stating the following information:

- The devices you are using (LZ100, Compact etc.)
- The version numbers of these devices and your USB interface

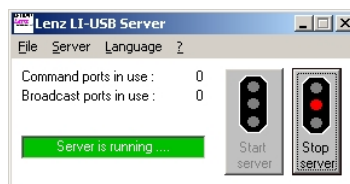


## Application software for the USB interface

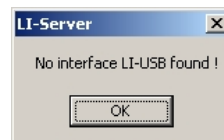
### The programme "LI-USB Server"

The programme "LI-USB Server" provides a TCP/IP server for the other applications. It ensures secure communication between these applications and the USB interface. It is automatically started together with any of the three applications.

If the interface is correctly connected to the USB port of your PC and the *Digital plus by Lenz*® system is active, communication between the interface and the PC is automatically established.



If the interface is not connected or the USB driver is not installed, you will receive an error message.



In this case, check all connections between the PC and the interface and vice versa.

The USB server allows two applications to simultaneously access the interface and therefore the *Digital plus by Lenz*® system. This feature is particularly useful if you want to use the control panel to test decoder settings that you have changed with the CV editor.

### The programme "LI-USB Configuration"

The programme "LI-USB Configuration" serves to check the communication between your PC and the *Digital plus by Lenz*® system as well as to set the interface's XpressNet address.

Start the programme by double-clicking the icon "LI-USB Configuration" on your desktop.



Once the programme has been started (the programme "LI-USB Server" is started automatically at the same time), your PC will try to establish communication with the command station of the *Digital plus by Lenz*® system via the interface.

If the connection is correct, the programme window will display the basic information of the *Digital plus by Lenz*® system and the interface:

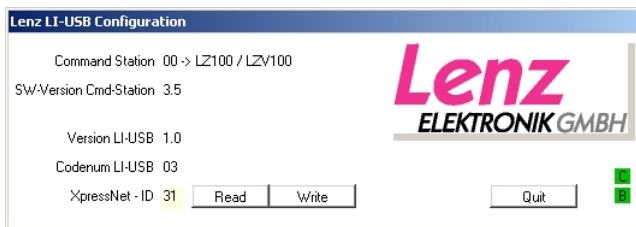


Figure 1: The programme window

(Depending on the command station used and its software version, this information may differ.)

The first line shows the identification number of the command station next to "Zentrale". This number indicates which command station (LZ100, LZV100, SET02 or Compact) is used.

The second line shows the software version of the command station (3.5 in the above example).

The two lines below show the version and the code (service) number of the USB interface.

Below you will find the set XpressNet address. This setting can be changed.

### Setting the XpressNet address of the USB interface

The interface has an XpressNet (XBUS) address, just like any other *Digital plus by Lenz*® input device. This is the address used by the command station to call up the interface. The default address is 31.

If you want to change the interface address, click on the field showing the set address. You can change the value via your keyboard.

Please note that you may only enter values between 1 and 31. Moreover, you may not use an address which is already used by another XpressNet device.

When you have set the new value, click the "Write" button and the new XpressNet address will be entered into the USB interface. Afterwards, the USB interface data will be reread to ensure they are correct.

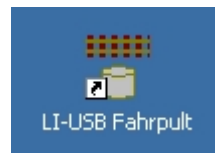
Terminating the programme:

Click the "Quit" button to close the USB interface tool.

## The programme "LI-USB Throttle"

This programme enables you to control locomotives on the *Digital plus by Lenz*® layout via your PC.

Start the programme by double-clicking the icon "LI-USB Fahrpult" on your desktop.



Once the programme has been started (the programme "LI-USB Server" is started automatically at the same time), you will see the programme window. Please refer to the following page for more information.

The screenshot shows the 'LI-USB Throttle' window. At the top, there's a title bar and a menu bar with 'File'. Below the menu bar, a large digital display shows '0003' and the date '12/28'. A grid of 12 function buttons (F1-F12) is visible, with F2 highlighted in yellow. To the right of the buttons is a vertical speed slider. Below the buttons, there's a 'F0 Light' button, the 'Digital plus' logo, and two small green square buttons labeled 'L' and 'R'. At the bottom, there's a large 'STOP' button and two arrow buttons (up and down). Blue arrows point from text boxes on the right to these specific UI elements.

- Click here and enter the desired locomotive address via your keyboard.
- Use these buttons to activate or deactivate functions. Activated functions are highlighted.
- Use the slider for speed control. The running notch and running-notches mode are shown above the slider.
- These buttons determine the direction of travel.
- This button triggers a STOP for all locomotives. Click and the locomotives will move again.

You may open up to two control panels simultaneously if no other LI-USB application is running (the USB server does not count!).

Exit the programme via the menu "File" and "End" or by clicking the cross in the top right corner of the programme window.

## The programme "LI-USB CV Editor"

This programme enables you to program locomotive decoders on the programming track or in operational mode via your PC. While programming on the programming track, it is possible to read out CV values.

"Decoder descriptions" ensure that you do not have to remember which CV is responsible for which feature. These descriptions can be loaded into the CV editor in which case the CVs and their respective features will be displayed.

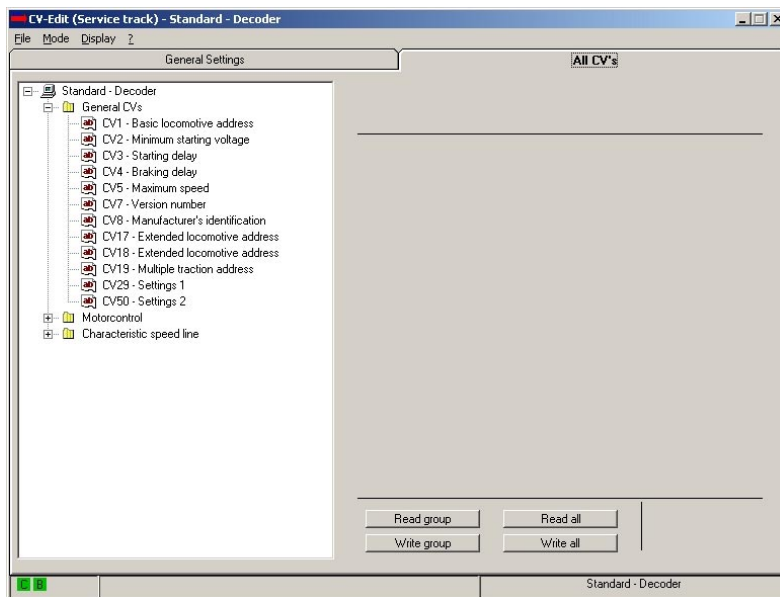
You can also save decoder values. In combination with the decoder descriptions, you can save the CV settings for each decoder used on your PC and reload them into the decoder, if required.

Start the programme by double-clicking the icon  
"LI-USB CV Editor"  
on your desktop.



Once the programme has been started (the programme "LI-USB Server" is started automatically at the same time), the decoder description "Standard decoder" is loaded.





This window is displayed once the programme has been started

## The menu "File"

### *Open decoder description file...*

Here, you can select and open a decoder description file.

By default, decoder description files are stored in the folder where the programme files are installed. Unless you have chosen a different folder during installation, this is "C:\Programme\LI-USB", but you may also choose any other folder.

### *Load decoder values...*

This command enables you to load a value file for a decoder. This file contains the CV values. Load the appropriate decoder description first.

### *Save decoder values...*

This command enables you to save the values which have been read out of the decoder or entered into the CVs of the decoder in a file.

*End*    **Strg+Q**

This command terminates the programme. Alternatively, you can use the key combination "Ctrl+Q" or click the cross in the top right corner of the programme window.

## The menu "Mode"

*Programming on the service track*

*Programming on the Main*

Use these two commands to select the programming mode. It is impossible to read out CV values when programming in operational mode.

*Finish programming mode automatically*

When programming on the programming track, choose this option to exit the programming mode of the command station after each read-out or programming procedure.

*End programming mode now")*

Use this command to exit the programming mode of the command station if the option "Programmiermodus automatisch beenden" ("Exit programming mode automatically ") is deactivated.

## The menu "Display"

*Show CV Values in categories*

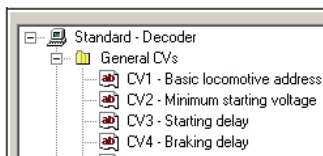
You can view decoder CVs in the programme window either according to categories or according to the order of the CVs. The decoder description defines which CVs are displayed in which category.

*Show bit values conforming to the Lenz standard*

This (default) option displays bits starting with 1. Untick this option to display bits starting with 0.

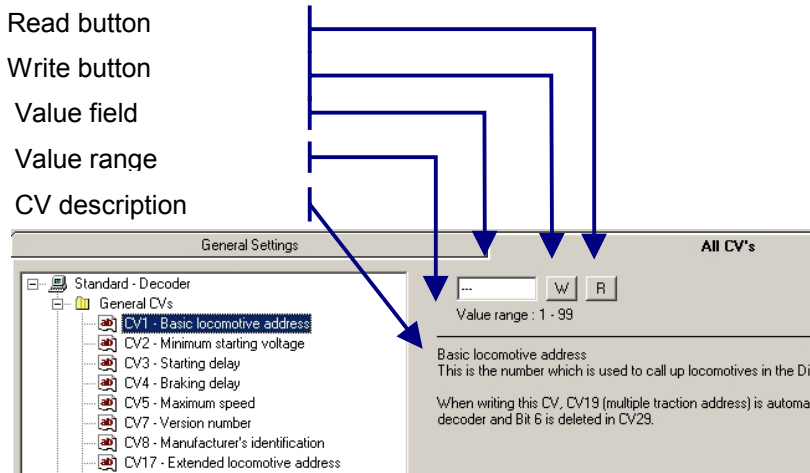
## The tab All CVs

The left side of this tab shows a list of CVs defined in the respectively loaded decoder description. During the initial start, the description "Standard decoder" is loaded and displayed; the CVs are shown according to categories. CVs are displayed and used as in the Windows® Explorer.



Click '-' to hide the list of CVs under the category and keep the overview simple and clear.

Click a CV to see "Alle CVs" ("All CVs") on the right-hand side of the tab:



### "Read" button

Click "L" to read out the selected CV (only possible if "Programmieren auf dem Programmiergleis" ("Programming on the programming track") is selected in the menu "Modus" ("Mode")). The read-out value will be displayed in the value field.

### "Write" button

Click "S" to enter the numerical value shown in the value field into the respective CV. The programme will automatically reread the value to ensure that it is correct (if "Programmieren auf dem Programmiergleis" ("Programming on the programming track") is

selected). The programme detects and reports errors made when entering the value.<sup>1</sup>

### *Value field*

The value field shows the read-out value of a CV. When loading a value file, the value contained in the file for this CV will be displayed. You can change the value by clicking on the field and entering a different value via the keyboard. Click the "S" button to enter the value into the CV.

### *Value range*

The value range permitted for the selected CV is shown here.

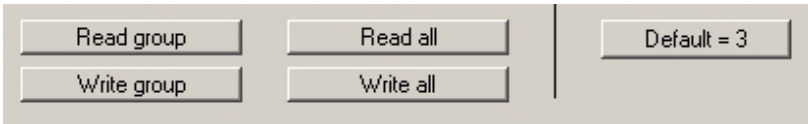
### *CV description*

This text contains information about those decoder features that can be changed with the selected CV.

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<sup>1</sup> When resetting a decoder by changing CV8, the manufacturer ID will be reread during the following read-out. Of course, this does not correspond to the value which you have entered for the decoder set. You will receive an error message which you can ignore.

At the bottom right of the tab "All CVs", you will find a maximum of five more buttons:



#### *Read/Write group*

Click this button to read/write all CVs of the selected category.

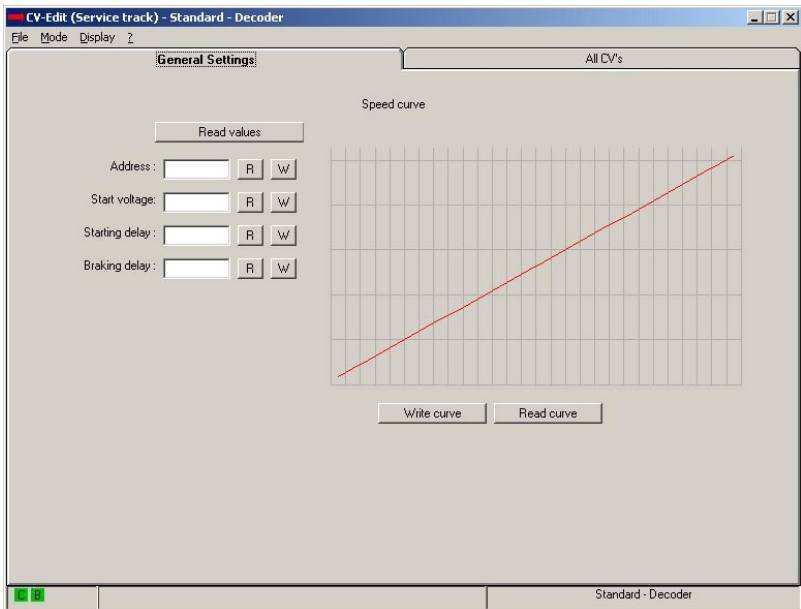
#### *Read/Write all*

Click this button to read/write all CVs defined in the decoder description.

#### *Default= [value]*

Click this button to enter the default value stored in the decoder description into the selected CV.

### The tab "General settings"



Use these buttons to read out and change the decoder features used most often.

Programming the locomotive address is particularly easy here. You do not have to choose between a 2 or a 4-digit address; simply enter the address in the address field. The settings of CV1, CV17, CV18 and CV29 are automatically taken over by the programme.

### *Read / Write curve*

Use these buttons to adjust the characteristic speed line.

Click "Read curve" to read out the appropriate values and to display the resulting speed line graphically.

Use the mouse to edit the speed line (click and draw). The programme automatically calculates the related values. Click "Write curve" to enter the values into the locomotive decoder.

## **Decoder descriptions**

Two decoder descriptions are supplied with the CV editor:

"Standard\_EN.dec" and "LENZ GOLD\_EN

The description "Standard" contains all CVs defined by the NMRA. The description "Gold decoder" contains all CVs used in these decoders.

Further decoder descriptions will be published on our home page [www.lenz-elektronik.de](http://www.lenz-elektronik.de) under "Support".

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**Lenz**  
**ELEKTRONIK GMBH**

Hüttenbergstraße 29  
D – 35398 Gießen  
Tel: 06403 900 133  
Fax: 06403 900 155  
info@digital-plus.de  
www.digital-plus.de

UK Distribution:

**MACKAY MODELS**

Studio 56/57,  
Abbey Mill Centre, Seedhill  
Paisley PA1 1TJ  
SCOTLAND  
TEL 0141-887 9766 FAX +44 (0)141 848 9486  
e-mail, kenmackay@mackaymodels.co.uk  
Web: www.mackaymodels.co.uk

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