

- Interface for connecting a PC to a *Digital plus* by Lenz<sup>®</sup> system.
- All XpressNet functions supported by the command station can be controlled via the PC (by means of suitable software sold separately).
- Baud rate settable (19,200; 38,400, 57,600 and 115,200 Baud).
- RS232 and XpressNet interface.
- LI101F Tool: Software enclosed for setting the baud rate and XpressNet address. This software operates with Windows<sup>®</sup> 9x, 2000, ME, and XP.
- All cables required are included in the package.
- Additional information and data protocol on enclosed CD
- Small, space-saving housing. W 3 1/2 x H 1 x D 1 3/4 in

## LI101F Hi-Speed XpressNet Computer Interface

Art. No. 23110

Version 1 Release 2

Revised 12/03

*Digital*  
— *plus*  
by Lenz<sup>®</sup>



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## Important advice, please read first!

The LI101F is a component of the *Digital plus by Lenz*<sup>®</sup> system and was submitted to intensive testing before delivery. Lenz Elektronik GmbH guarantees fault-free operation provided you follow the advice given below:

The LI101F is only designed for operation with other components of your *Digital plus by Lenz*<sup>®</sup> system as well as the RS232 serial interface of your computer. Any use other than that described in this operating manual and the manual on the data medium is not permitted and all guarantees will become invalid if the LI101F is used inappropriately.

Connect the LI101F only to devices which are designated for such connection. This operating manual will inform you which devices are suitable. Even if other devices (also those of other manufacturers) use the same connectors, you must not connect the LI101F to those devices. *The fact that the connectors are similar does not automatically mean that you may use them for operation.* This is also true even if you are dealing with other devices used for controlling model railways.

Do not expose the LI101F to damp or direct sunlight.

If you still have unanswered questions even after reading this operating manual, then please contact us. There are four different ways of contacting Lenz Elektronik GmbH:

Postal address:	Lenz Elektronik GmbH Hüttenbergstraße 29 D-35398 Gießen	Lenz Agency of North America PO Box 143 Chelmsford, MA 01824
Telephone:	++49 (0) 6403 900 133 The recorded message will inform you of times when we are available for consultation	. ++1 978 250 1494
Fax:	++49 (0) 6403 900 155	++1 978 455 LENZ
E-mail:	info@digitalplus.de	support@lenz.com

If you have any problems with the LI101F, please contact us, stating the following information:

- The device you are using (LZ100, compact etc.)
- The version numbers of these devices and the version number of your LI101F

## Connecting the interface

Switch off both your *Digital plus by Lenz*® system as well as your computer before connecting your interface!

Only use the cables enclosed with the interface for the connection.

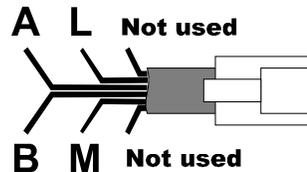
### Connection to the XpressNet

Use this cable enclosed in the delivery for connecting the XpressNet.

Plug one end into the socket "XpressNet" of the LI101F; connect the other end to an adapter LA152. The LY006 cable (purchased separately) can be used if you desire to plug the LI101F into a Din Plug



If you wish to connect the LI101F with the terminal screws LMAB of a LZ100 or LZV100, simply cut the cable in the middle and connect the cable wires with the corresponding terminal screws of the LZ100 or LZV100. The pin assignment is shown in the illustration on the right.



### Connection to the computer

For the operation of the LI101F your computer requires a free RS232 port.

Use the connecting cable for the RS232 interface to connect the LI101F to your computer. Use an adapter plug (purchased separately) if your computer has a 25-pin connection at the RS232 interface.

#### ***Important advice!***

***Make sure that you do not create other electrical connections between the computer and the model railway layout apart from those via the LI101F. Otherwise you might damage the components used in which case all guarantees will become invalid!***

## Activating the LI101F

When you have finished connecting your LI101F, you may switch your *Digital plus by Lenz*® system and the computer back on.

The luminous diode (LED) of the LI101F will turn on if the connection created between the interface and the XpressNet is correct. This red LED is located in the XpressNet socket. When on the transparent phone plug will shine. During operation the LED will remain on.



## The luminous diode (LED)

The LED of the LI101F indicates operational readiness. Constant shining of the LED indicates that the device is in operation and communicating with the command station. Constant flashing, however, indicates that the LI101F is unable to communicate with the command station. Possible explanations are:

- Another Handheld has placed the command station in programming mode (a decoder is being read out or programmed on the programming track).
- The A or B line of the XpressNet are either not connected or wrongly connected.
- The LI101F is the seventh device being used by the Compact (or Atlas Commander). These system only support 6 XpressNet devices)
- The LI101 has an XpressNet address not supported by the system. (SET02/03 only support XpressNet addresses 1,2,3,29 and 30).
- The command station is not addressing the XpressNet devices (damaged command station).

## Installing the software

1. Insert the enclosed data medium "Information and software for LI101F" into your floppy disk or CD-ROM drive.

2. Click on "Start" and then "Execute".
3. Enter:  
"D:\LI101F\LI101F\_SETUP.EXE "

(If necessary, replace the letter "D" of the drive with a letter valid for your computer). The setup program is started and installs the program "LI101F Tool". Simply follow the instructions shown on the screen.

After successful setup you will find a new icon on your desktop:

Double-click on this icon to start the LI101F Tool.



## The "LI101F Tool" Program

The LI101F Tool serves to check the communication between your PC and the digital system.

When the program is started, the PC will immediately try to communicate with the *Digital plus by Lenz*® command station via the interface. The program assumes that the interface is connected to COM1 of your PC. (If you have selected a different available RS232 port, you should first set the selected COM port in the program. Please see "Selecting the COM port" for further details).

If the connection has been correctly established and you are using COM1 of your PC, the program window will display the relevant information about the *Digital plus by Lenz*® system being used and the LI101F interface:

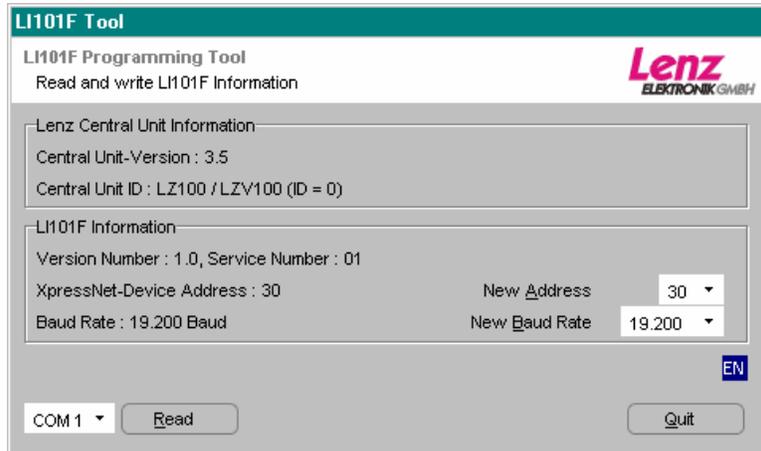


Figure 1: The program window

(The information shown in the area "Lenz Central Unit information" may differ from the above-shown illustration, depending on the command station used and its software version.)

In the upper part "Lenz Central Unit information" the first line shows the software version of the command station and the second line displays its identification. This identification indicates which command station (LZ100, LZV100, SET02 or Compact) is used. This information will be displayed accordingly.

In the lower part "LI101F Information" the first line shows the version and service number of the LI101F. Underneath you will find the set XpressNet address and the baud rate. These settings can be altered with the LI101F Tool.

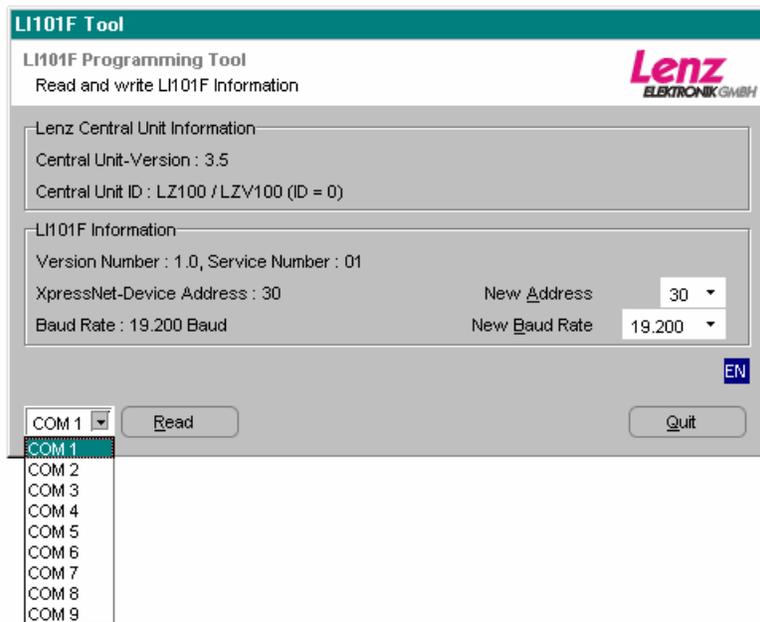
The set COM port is shown at the bottom left of the program window. Next to it you will find the button which you can use to start the process to read-out the information of the interface and the command station. Use the "Quit" button on the extreme bottom right to terminate the program.

If the areas "Lenz Central Unit information" and "LI101F Information" show the information displayed in Figure 1, the LI101 has been connected correctly and the PC is able to communicate with the Digital plus by Lenz® system via the LI101F. The information shown in the area "Lenz Central Unit information" may differ from the above illustration, depending on the command station used and its software version.

### Selecting the COM port

In order for the LI101F Tool to communicate with the LI101F interface, the correct COM port must be selected.

Click on the arrow pointing downwards next to the display of the COM port to open a drop-down list of available COM ports. Select the COM port to which you have connected the LI101F.



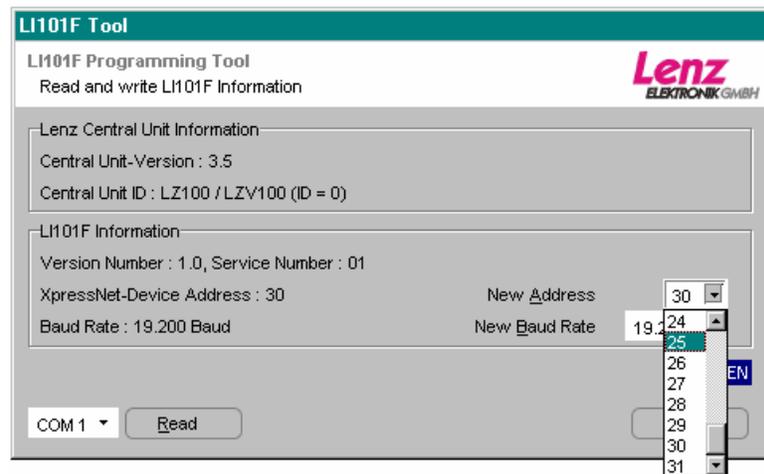
Picture 2

Click on the "Read" button. The program now attempts to communicate with the LI101F via the newly set COM port. If successful, you will see the information displayed in Figure 1. Please note that the information shown in the area "Lenz Central Unit Information" may differ from the above-shown illustration, depending on the command station used and its software version.

### Setting the XpressNet address of the LI101F

The LI101F interface has an XpressNet (XBUS) address, just like any other Digital plus input device. This is the address used by the command station to call up the interface. The interface is set to address 30 as shipped from the factory.

If you want to alter the LI101F's XpressNet address, simply click on the arrow pointing downwards next to the display "New Address". A drop-down list showing the XpressNet addresses which are permitted will open up.



Picture 3: Selecting the XpressNet address

Select the desired new address by clicking on it. Please note that each XpressNet address may only be used once (address 29 is reserved for the transmission module LC100. Use this address only if you are not using an LC100)!

When you have set the new XpressNet address, the "Write" button will appear next to the "Read" button. Click on the "Write" button to enter the new XpressNet address into the LI101F. After writing the new value into the LI100F, the LI101F data will be reread and checked.

### Setting the baud rate

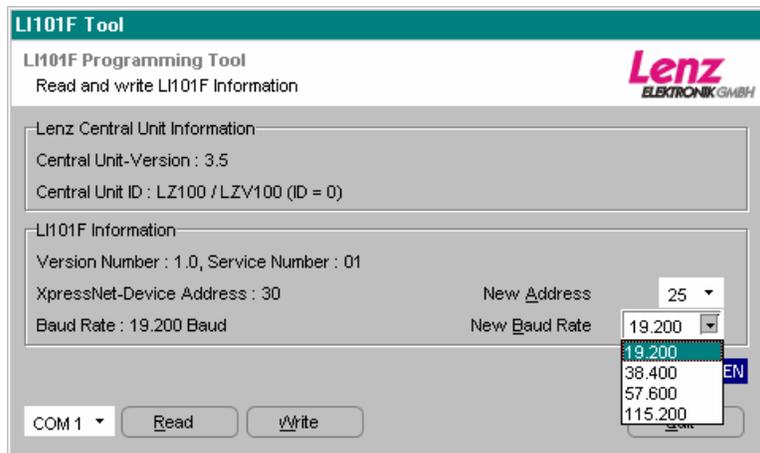
The following baud rates are available for the data transmission between interface and computer: 19,200; 38,400, 57,600, and

115,200 Baud. The LI101F is set to 19,200 Baud as shipped from the factory.

**Please note:**

Check which baud rate(s) your control program requires for successful operation. Be sure to use one of the recommended baud rate(s).

If you want to alter the baud rate, click on the arrow pointing downwards next to the display "New Baud Rate". A drop-down list showing the available baud rates will open up.

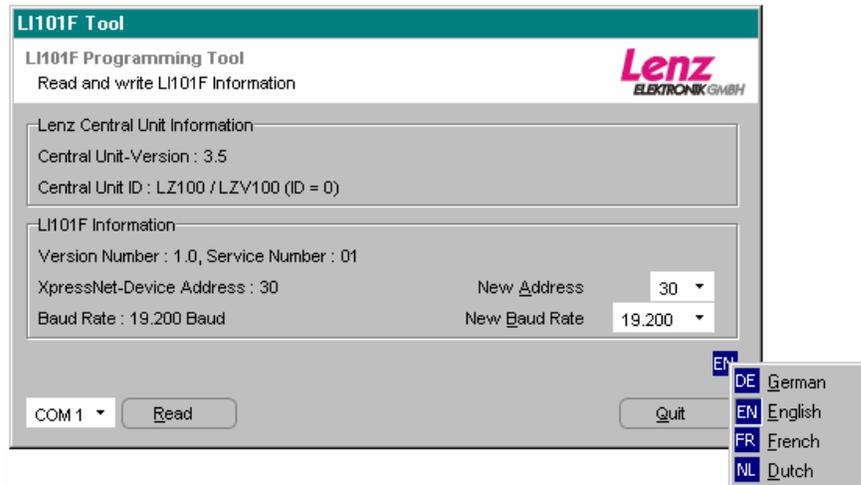


Picture 4: Selecting the baud rate

Select the desired baud rate from the supplied list.

When you have set the new baud rate, the "Write" button will appear next to the "Read" button. Click on the "Write" button to enter the new baud rate into the LI101F. After writing the new value into the LI100F, the LI101F data will be reread and checked.

## Selecting the language

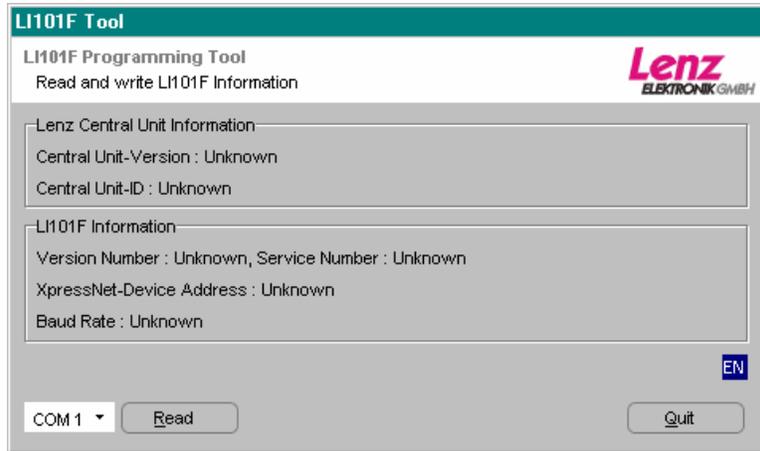


Picture 5: Selecting the language

Using the right button of the mouse, click on this symbol to open the language menu. Select the program language which you prefer.

### Problems with communication

If the LI101F Tool is unable to communicate with the interface, you will see the following display:



Picture 6: Display in case of faulty communication

Please check to ensure that:

- the correct COM port is set.
- the connecting cable between the COM port and LI101F is connected correctly.
- the digital system is turned on (if the system is not turned on the LED of the LI101F will not shine).
- the interface is connected correctly with the XpressNet (in which case the LED of the LI101F will shine).

### Terminating the program

To terminate the LI101F Tool, click on the "Quit" button. (located on the lower right of the window.)

## Data protocol between LI101F and computer

You will find a detailed description of the communication and the protocol between computer and interface in a Pdf-file on the enclosed data medium. File name: "XpressNet\_LI101F.PDF".

## Demo programs

The CD included with the LI101F interface may include one or several demo versions on how to control your model railway via a computer. These demo versions were made available to us by several software manufacturers. Lenz Elektronik GmbH is not liable for the proper functioning of these programs and does not offer solutions for problems concerning their setup and function. If you have any questions, please contact the respective software manufacturer.

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We reserve the right to make changes in line with technical progress, product maintenance or changes in production methods. We accept no responsibility for errors which may occur for similar reasons. We accept no responsibility for direct or indirect damage resulting from improper use, non-observance of instructions, use of transformers or other electrical equipment which is not authorised for use with model railways, or transformers or other electrical equipment which has been altered or adapted or which is faulty. Nor can we accept responsibility when damage results from unsupervised adjustments to equipment or from acts of violence or from overheating or from the effects of moisture etc.. Furthermore, in all such cases guarantees become invalid.

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**Warning:** This product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.

**FC** This device complies with Part 15 of FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

**CE** Please save this manual for future reference!

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