märklin digital

GB USA

Märklin Decoder Tool 3

These instructions explain the basic method for working with the mDecoderTool3. Additional options for settings will be available to the experienced user, which are not explained here however.

1. Intended Use

The Märklin Decoder Tool is a PC program for managing and setting sounds, CVs, and other decoder settings for the mSD3/mLD3 decoder from Märklin.

2. Requirements for Use

- PC with Internet connections and 50 MB of free memory for the Tool
- 1 GB of free memory for the sound library
- Windows® 7 or newer
- Sound library
- Wahlweise eine Central Station 2 / Central Station 3 oder ein Programmer 60971.
  With the Soundprogrammer 60801 there can only be sounds programmed to the mSD-Decoder. Therefore, it will not be further considered here.

2.1 Installation

After the download, start the installation of the program (mDecoderTool3 - v3##-Setup.exe). Follow the installation instructions. Please note that this program is not to be installed on a network drive.

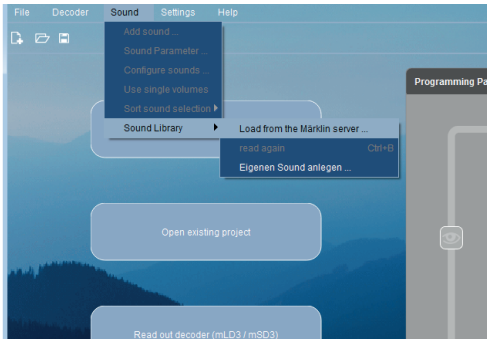
2.2 Language Setting

Under <Settings><Program/Project …> you can change the language for the program to English, French, or Dutch.

2.3 Sound Library

You should first install the sound library in order to edit sounds with the Tool. It is not a component part of the program, but it can be downloaded from the program itself.

Start the installation of the sound library with the menu command <Sound><Sound Library> <Load from the Märklin server ...>.



Download and installation of the sound library will take a few minutes.

2.4 Liability

In general, you must remember that the connection to the decoder must not be interrupted or disturbed during the programming. The decoder could otherwise be destroyed.

Märklin assumes no liability for damage arising from faulty or improper handling or incorrectly programmed decoders.

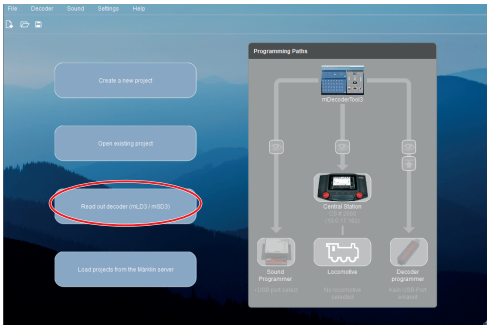
3. Decoder

This decoder should first be read in order to be sure that the right decoder is being edited. Then, an update of the decoder firmware can be done if required.

Using the menu command <Decoder><show decoder data> start a **short** readout of the decoder. After that, the type of decoder and the firmware version for the decoder will be displayed.

3.1 Reading the Decoder

In the main window of the program, you can read the **complete** data and settings for a decoder connected to the Tool by using the item „Decoder auslesen“. Sounds will however not be read.



Alternatively, start this procedure using the menu command <Decoder><Read out decoder ...>. These decoder data are handled as their own project and can then be edited in the program or stored as their own project.

3.2 Firmware Update

An update of the decoder firmware can be transferred to the decoder by using the menu command <Decoder><Update decoder firmware>.

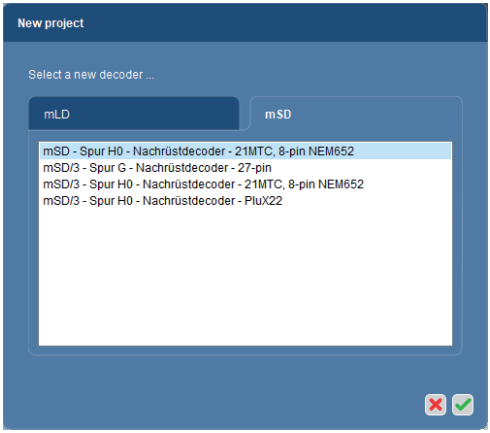
The current decoder firmware in the decoder is part of the program and must therefore not be installed separately in the Tool before the update.

4. New Project

A sample of the programming for an mSD3 decoder is described as follows.

In the main window for the program, select the entry „Create a new project“

In the window that appears, select the decoder that fits, in this case „mSD/3 - H0 Gaure - Retrofit decoder“.

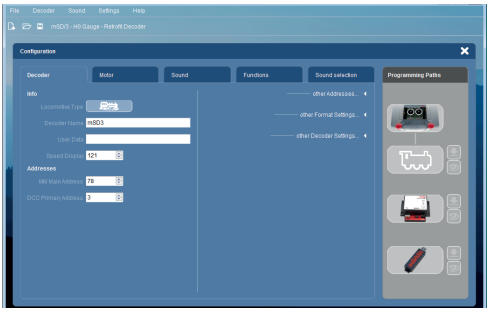


In the program window that is displayed, you will find the three sub-windows „Decoder“, „Functions“, and „Proggramming Paths“ for the corresponding settings. No window is provided for the motor settings. The motor settings are identified and set automatically later during the calibration run.

Initially, only standard values are displayed in the windows for the decoder and function settings.

4.1 Basic Values

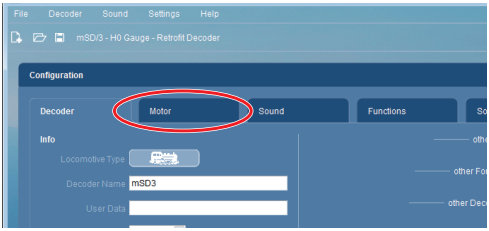
Using open a window with five (5) tabs for the decoder settings. Initially, the basic data must be set: Locomotive type, decoder name (registration name in the CS2/3 & MS2), personal additional data, the speedometer display (for the CS2/3), as well as the addresses for MM and DCC. The locomotive type should always be given correctly, because this entry is evaluated for various decoder functions.



In the right part of the window, three (3) other items are shown. Here, extensive settings can be done. However, standard values are already preset.

4.2 Motor Values

Change to motor settings using the tab „Motor“.

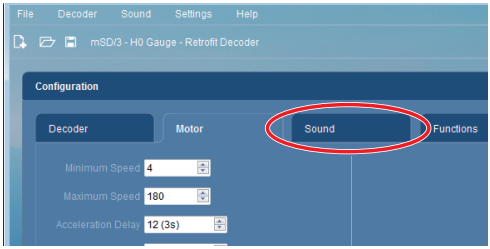


Select here **only** the correct motor, since the other settings are identified and set during the subsequent calibration run.

Here too is an item for additional motor settings in the right half of the window. The options offered here give scope for fine-tuning on decoders that are already calibrated.

4.3 Sound

Change to sound settings using the tab „Sound“.



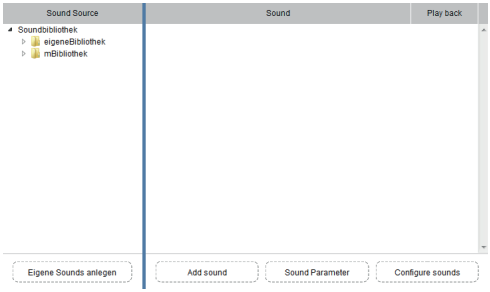
Here only general settings for the sound functions can be done. The sounds themselves are edited later.

4.4 Sound Selection

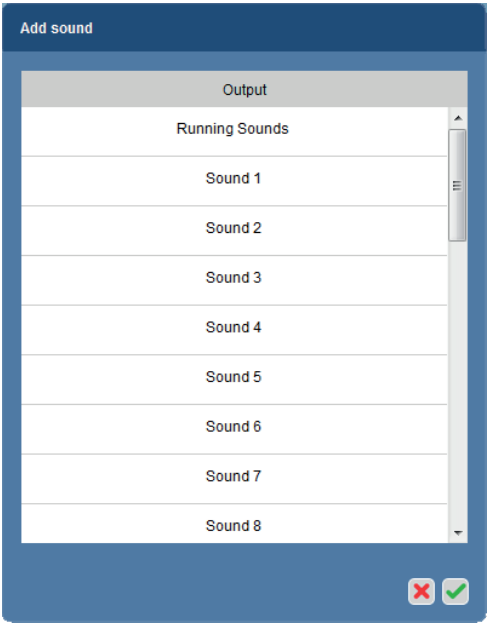
Change to the tab „Sound selection“. Here the various sounds are prepared in order to assign them later to individual decoder functions under „Functions“.

Here you can also incorporate your own sounds. The preparation of the sounds is described later in Section 7. „Setting up Your Own Sounds“.

The window for sound selection is divided into two (2) areas: On the left, the sounds available in the libraries, on the right, the sounds selected for the current decoder.

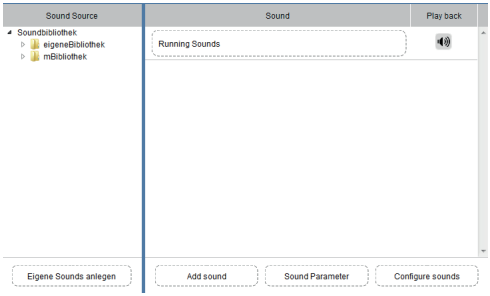


A new sound can be set up using Add sound. This brings up a window in which the new sound is selected.



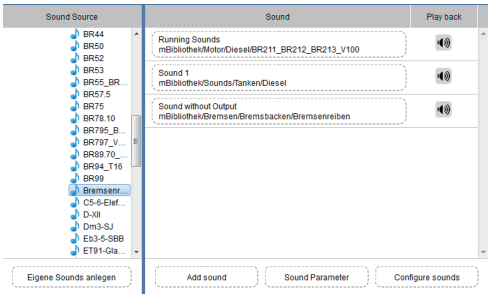
To do this please note the following:

- The sounds 1 to 28 are normal sounds that can be called up using a function button.
- The running sound is always assigned to the function Running / Operation Sound. Nothing else possible here.
- „Sound without Output“ are sounds that are not assigned to functions. They are part of another sound, such as the squealing brakes are part of the running sounds. These sounds automatically supplement the corresponding sound.

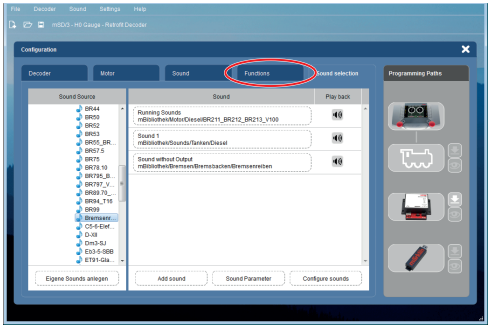


After the sound is set up, an actual sound from the library must be assigned to it. Look for the appropriate sound and transfer it (by holding down the mouse button) to the newly set up sound (Drag & Drop).

This same method can be used to set up other sounds as desired and required.



When all of the desired sounds have been set up, change to the tab „Functions“.



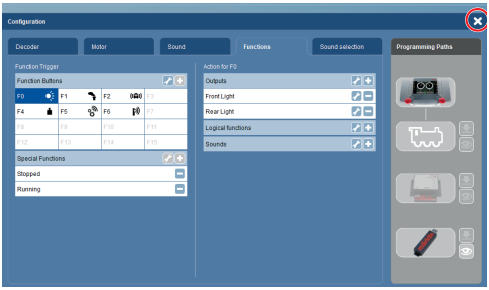
4.5 Functions

The window „Functions“ has two (2) columns. The left column shows function activators; the right one shows the possible functions. Functions are already assigned to function buttons F0 – F2 & F4. The previously set up running sound is immediately and correctly assigned here and needs no further editing.

Additional functions are set up by first clicking to the left of the desired activators and then assigned to the right of the corresponding function. Thus for example to the left of „F3“ and then to the right at „Sounds“ on the and then the corresponding sound. Using the button at the selected sound, the sound output can then be custom defined.

After that the function is selected by double clicking on the corresponding activator (ex. „F3“), a suitable icon (for the Central Station), and the operating mode. In addition, settings for analog and DCC multiple unit motive power operation are possible.

At the end, you leave the configuration by clicking once on the „X“



4.6 Protecting the Project

Between the various work steps already described, we recommend storing as a project the data that has been entered.

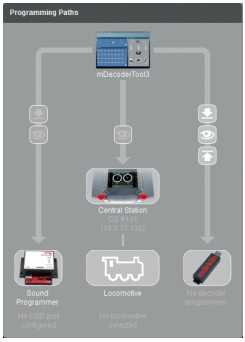
To do this, click optionally on the diskette symbol in the main program or select the menu command <File><Save>.

5. Programming the Decoder

The goal of the work described above is to program a decoder with custom settings. When you have a finished project, that is all of the required settings in the program have been done and stored, the data can then be transferred to the corresponding decoder. Various ways to do the transfer:

- With the 60971 programmer
- With the Central Station (2 or 3)
- To a limited extent with the 60801 Sound Programmer

A window is shown in the right half of the window for the main program. The mDecoderTool3 is displayed here and which devices for programming the decoder are currently connected and recognized (only the 60971 Programmer or the Central Station).



The image shows a sample in which a 60971 Programmer has been connected and recognized. This can be recognized by the eye symbol on the programming path. The decoder connected to the Programmer can still be read by means of the eye and the recognized characteristics can be displayed.

The programming procedure is started on the corresponding programming path with a click on the button . A query is done again whether only sounds, only settings, or both should be

transferred to the decoder.

5.1 With the Central Station (2 or 3)

When programming using the Central Station the programming is done by the Central Station and is only controlled by the mDecoderTool3.

Please note that the locomotive with the decoder to be programmed must be standing on the programming track. In addition, no other decoder may be connected using the programming track.

The Central Station 1 is not supported for this.

5.2 With the 60801 Sound Programmer

Only sounds can be transferred to the mSD decoder with the 60801 Sound Programmer. Other decoder settings are not possible on this path.

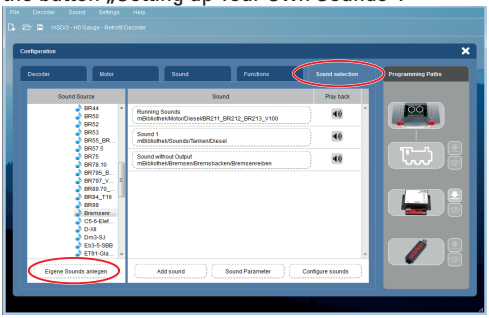
6. After the Programming

After the programming of the decoder with the mDecoderTool3 is completed, the decoder can now be used. However, no settings for the motor control have been done yet. The locomotive with the newly programmed decoder will accordingly still not run optimally.

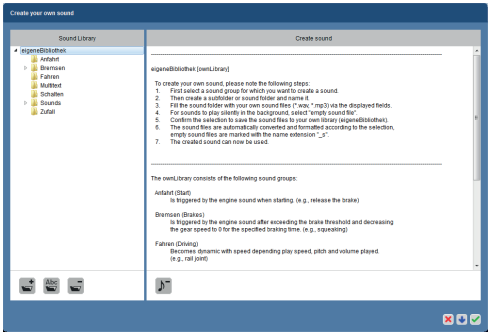
For optimal running characteristics, we recommend that a calibration run be done after programming with the mDecoderTool3. Make sure you pay attention to the notes in the instructions for the decoder.

7. Setting Up Your Own Sounds

An assistant can be started on the page with the tab „Sound Selection“ (see Section 4.4) by using the button „Setting up Your Own Sounds“.

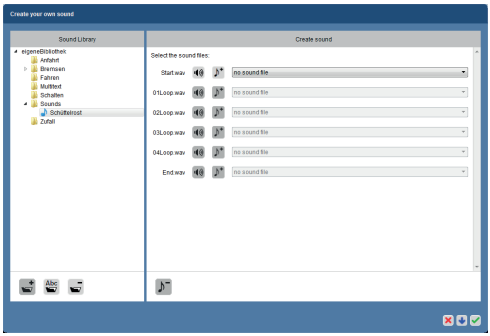


This assistant supports you in editing your own sounds.



In the left half of the window, you will see a tree structure with the categories in which the new sounds are sorted. In the right half of the window, an appropriate help text is shown in each case for a situation.

First, select on the left the appropriate category for your sound. Here in the example we set up a general sound for shaking the grate. We selected „Sounds“ and set up a new folder with the name „Shaking Grate“ by using the button .



The sound to be set up is composed of several parts:

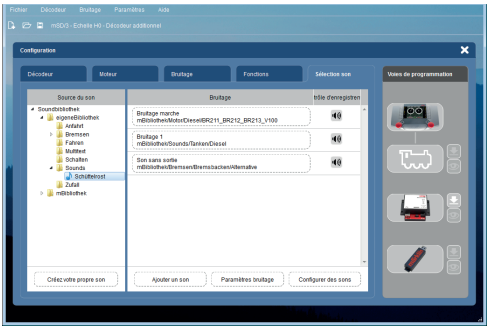
Start.wav: The sound is first played when the appropriate function is called up.

0xLoop.wav: The sound itself consists of loops that are played in a random sequence as long as the sound is turned on.

End.wav: This is played at the end when the function is turned off.

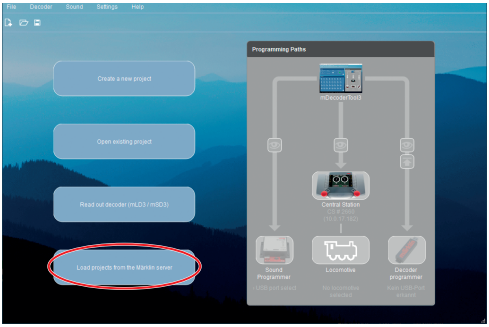
You can assign a sound file of your choice to each sound element using the button . This way you can use files in the format wav and/or in the format mp3. Sound elements with nothing assigned to them here are not included. End the sound composition by using the button .

The newly created sound is now available for selection in the sound library.



8. Projects

It is possible to load complete projects from the Märklin server.



Here Märklin has collected by item number all of the data required at a time for a locomotive decoder in a project.

The data can be loaded and programmed unchanged or custom-tailored to a **retrofit decoder** (mSD3/mLD3).

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