W i n - D i g i p e t 2012.1 *Premium Edition*

CONTROL SYSTEM FOR MODEL RAILROADS USING

DIGITAL-SYSTEMS AND INTERFACES OF

MÄRKLIN, ESU, TAMS-ELEKTRONIK, UHLENBROCK, FLEISCHMANN, ROCO, TRIX, MÜT, RAUTENHAUS, LITTFINSKI DATENTECHNIK, STÄRZ, CT-ELEKTRONIK, MASSOTH, LENZ, THORSTEN MUMM, FALLER, D&H-MTTM, MODELLEISENBAHN CLAUS

Program-Version 12.1 - 32 Bit for operating systems Microsoft Windows 2000 SP4 / XP SP3 / Vista / Win 7

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My special thanks apply to Mr. Markus Herzog, Düren, for his support with the programming.
I'd also like to thank my beta-testers and Mr. Karlheinz Battermann (author of the manual).

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CONDITIONS OF USE

This program is the exclusive property of me, Dr. Peter Peterlin, Tilsitstrasse2a, D-50354 Hürth, Germany.

The purchase of this program confers to you, the buyer, and only the right to use the program, not the property thereof.

Neither the program nor any program file thereof nor this manual may be altered in whatever manner.
It is strictly prohibited to pass or transmit this program to third parties or persons, not even for testing purposes.

The Demo-version controls not more than 12 solenoid devices and 4 locomotives; only a maximum of 20 timetable or tour automatic lines is possible. The track diagram has a size of 50x30 symbol fields.
Despite outmost care with creating and testing the program, errors therein can unfortunately not be excluded. Should errors caused by the program itself occur, I shall do my level best to eliminate them free of charge. Moreover you find in the Internet at the address http://www.windigipet.de/.

Nevertheless, with the change of the program version and payment of the suitable update price the delivered CD-ROM has to be sent in any case back to me.
Errors caused by incompetent handling of the CD-ROM are at buyer‘s charge.

Any liability is expressly excluded for errors, mishaps and faults of any kind in and by the program and its manual.

Tip**!**
In this manual there are many coloured images with details which cannot to be seen in the printed manual so well. Open in this case, perhaps, in addition, the manual on the CD-ROM or on the help in the program.

	You can always download the most recent version of the manual from the homepage of Win-Digipet. This PDF-File may also be printed for private use. Transfer and sell of the printing version is not allowed.

Quick entrance– First steps: Installation/Program-Start

You owe a digital model railroad layout and just purchased **WIN-DIGIPET 2012.1**. Within the manual we will use in the most cases the name **WIN-DIGIPET 2012**, because this manual is based on the german manual for version **WIN-DIGIPET 2012**. You are eager to see whether or not something will „move“on your layout under the control of the program.

For people with little time on their hands, a **quick start** – step by step- is described here. However, it is necessary to study the complete manual- **from start to finish**- to understand **all** functions and possibilities of WIN-DIGIPET 2012.

This quick start will illustrate...

- how to create the basic system settings,
- switch two solenoid devices,
- control one locomotive,
- display feedback contacts,
- create and switch a route.

Before continuing please read...

- chapter **2** of this manual – sections **2.1 to 2.3**
- and chapter 3 - sections **3.1, 3.2 and 3.3**

Then proceed...

- with settings according to section **2.1 to 2.3** depending on the requirements of your computer/model railroad
- and follow the instructions in section **3.2** and **3.3** of this manual.

After all you have installed **WIN-DIGIPET 2012** on your computer and can begin with the quick entrance.

<u>By the first program start</u> the Original WIN-DIGIPET 2012 CD-ROM must be placed in the drive. Later the original CD is automatically demanded after few starts of the program. Keep the original CD very carefully if you do not leave this in the drive.

Program start

Initially click on ‘Start’ in the task bar - <Programs> - <Win-Digipet 2009 Premium Edition>, then <Win-Digipet 2009 Premium Edition>...

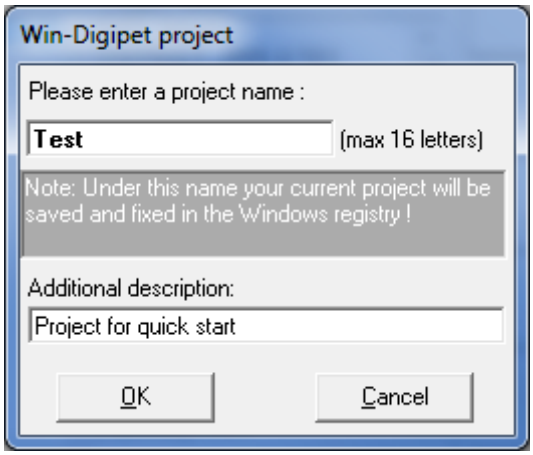
...or click on the following symbol on your desktop 

.

> You can also start the office version, because in Win-Digipet 2009 this version is also installed automatically in the same directory as the normal version, this version is intended for use without any connection to your layout.

A selection window opens „Win-Digipet project“.

Enter the project name, not more than 16 characters long and below a description, with a maximum length of 50 characters.



You only need to do this **once** when you start the program for the first time. The project will be saved with this name and recorded to the Windows registry.

Further projects can be created later.

By completing the form and confirming with “OK” you are in the main program of **Win-Digipet 2009**.

Quick entrance–Second step- System settings

System settings

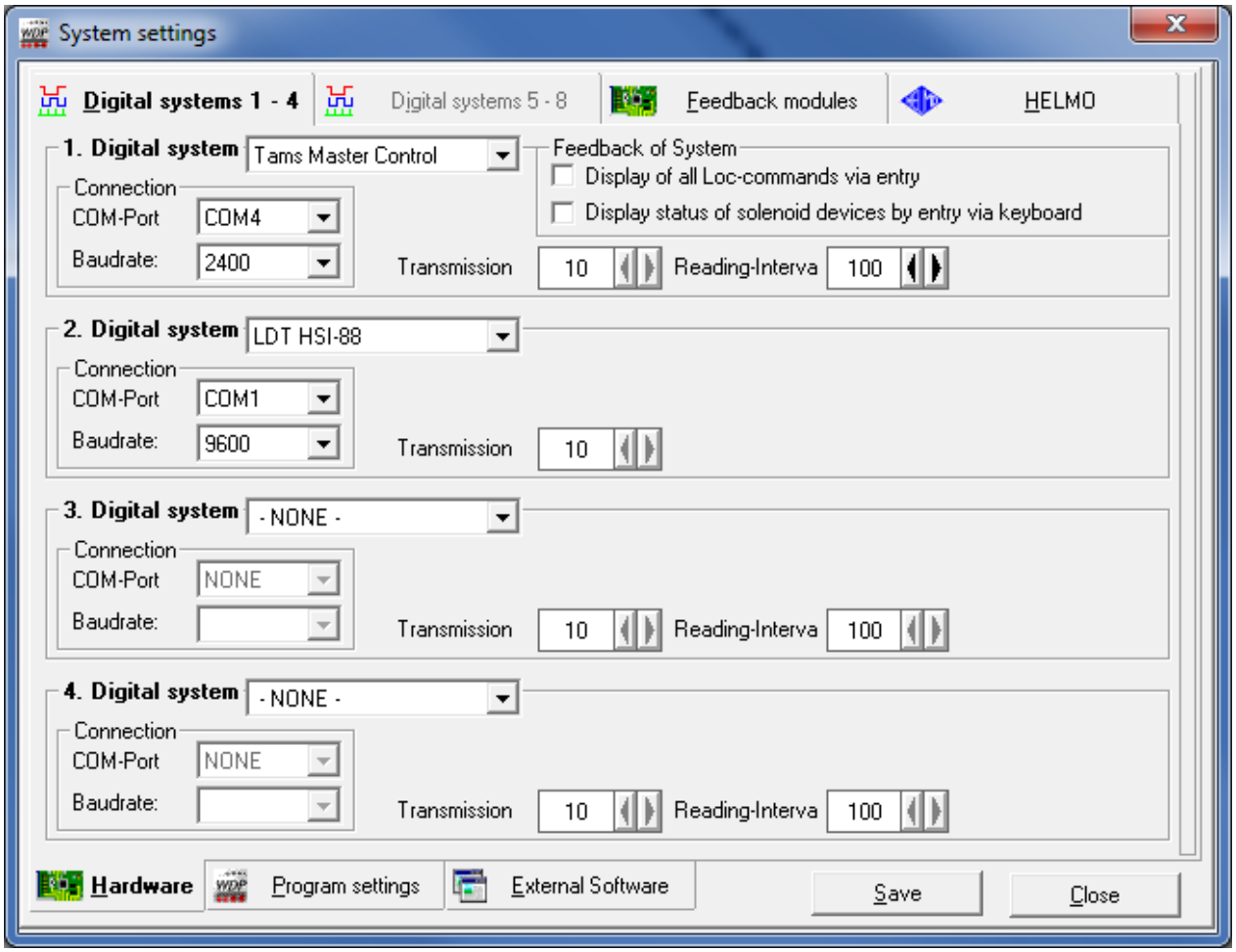
For installation of a working connection to your model railroad layout, you have to inform your system about...

- your digital system ,
- the connection parameters of your digital system
- and the number of feedback modules

Click in the menu bar on 'File' and then on 'System settings' or on the symbol in the toolbar. A new window with the first index card 'Digital system' appears

Choosing a digital system

Record the presently important settings on that index card.



This quick entrance is based on the assumption, that you control your layout with the Tams Master Control and use the LDT HSI-88 as feedback system. If you use other digital systems you can find additional information in chapters **4.1** to **4.3**.

- **Digital system connected**

  Select as first digital system the Tams Master Control and as second digital system the LDT HSI-88.

- **Interface connection**

  Sixteen serial com-port connections (COM 1 to COM 16) are catered for. Normally COM 1 is selected for the Interface. Select your own com-port from the list. An error message will be displayed, if you select a non-existent com-port when you attempt to save the setting.

  NONE is only for test purposes of the program without interface.

- **Baud rate**

  Here you can select the baud rate of your digital system. The baud rate for the LDT HSI-88 is fixed 9600 Baud, because these systems do not support a baud rate selection. For the Tams Master Control select a baud rate equal or greater 19200. Make the same selection in the settings of the Tams Master Control. If you connect the Tams Master Control via USB select 57600.

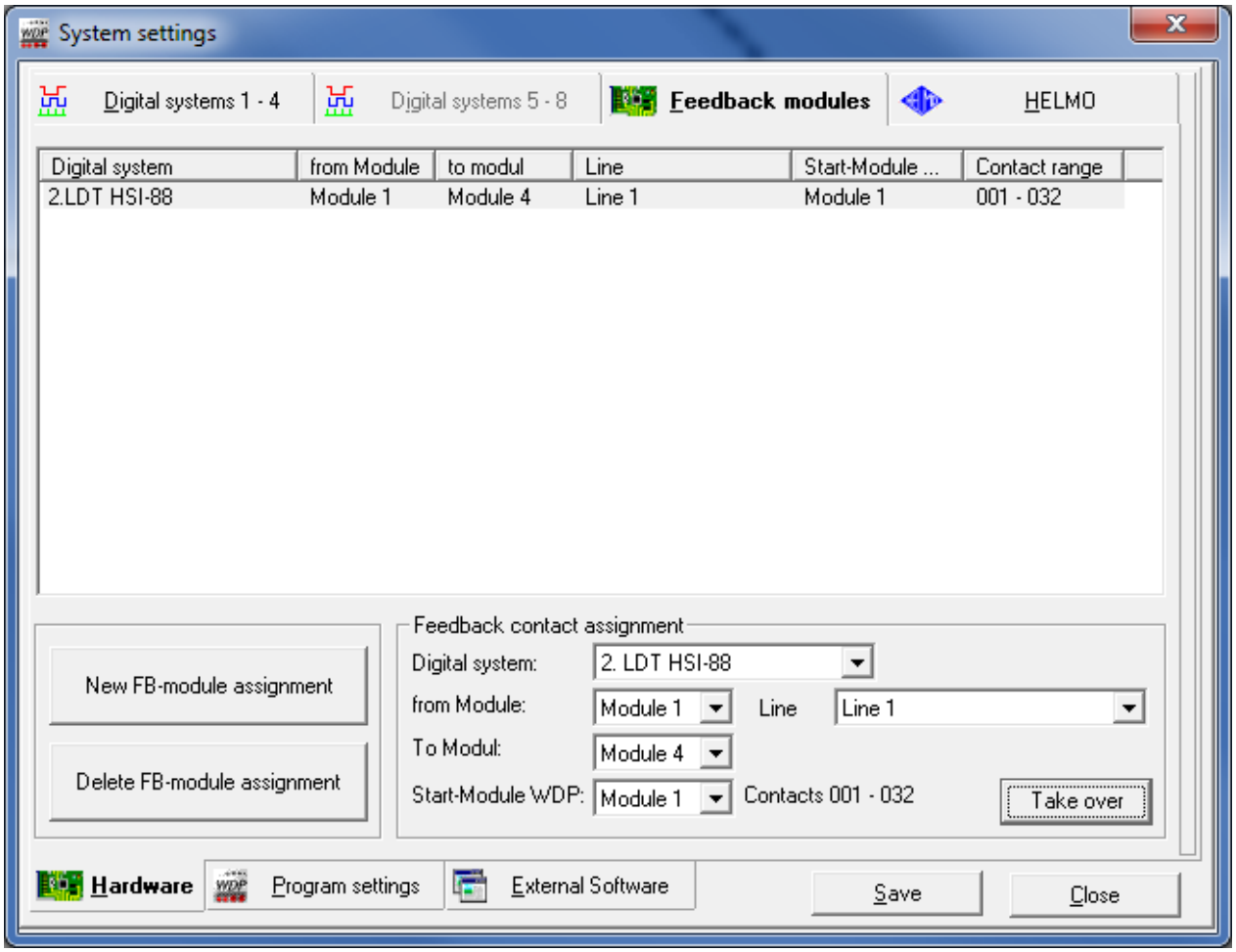
All other setting in the system settings shall be not changed for this time.

Now click on '***Save***' and close the window via '***Close***'.

Win-Digipet 2009 will now force you to leave the program and restart it before you can register the feedback modules.

Registering feedback modules

Restart the system settings and select the index card “Feedback modules”.



By clicking on **‘*New FB-contact assignment*’** two buttons and four additional list fields will appear...

<u>Important!</u>
When using **s88-feedback modules** you should remember, that Win-Digipet only uses feedback modules with 8 contacts, because this **1** normal s88 feedback module (16 contacts) is equivalent to **2** feedback modules in Win-Digipet.

Now register the feedback modules according to the example above.

For the first try you should just register the first two s88-modules with 16 contacts each.

Of course you can also register all your feedback contacts. Additional information concerning this topic can be found in chapter **4.3** of this manual.

Now click on **‘*Save*’** and leave the window via **‘*Close*’**.

Win-Digipet 2009 will now force you to leave the program and restart it before you can continue with the next steps.

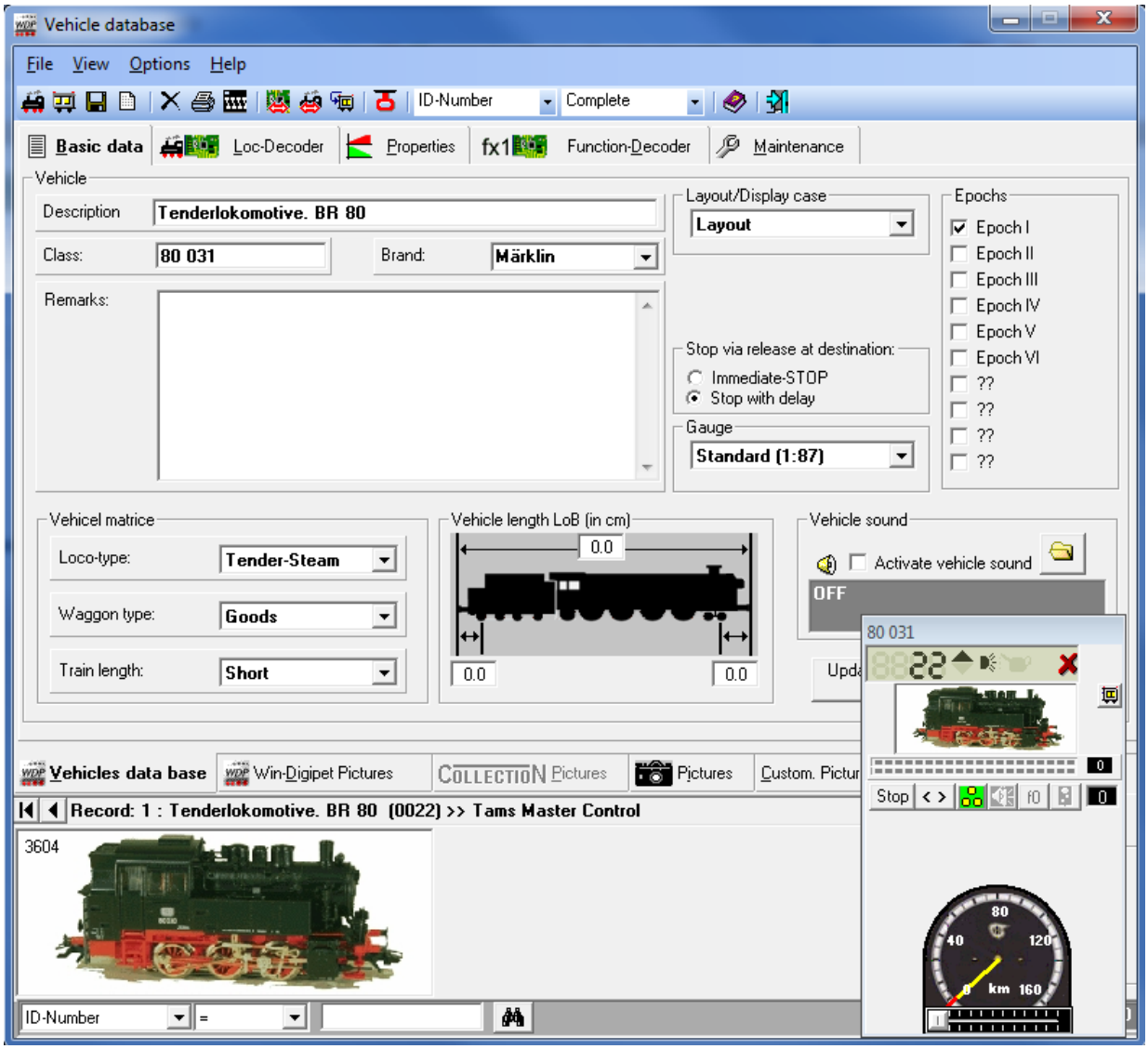
Quick entrance – Third step: Controlling locomotives

Controlling a locomotive

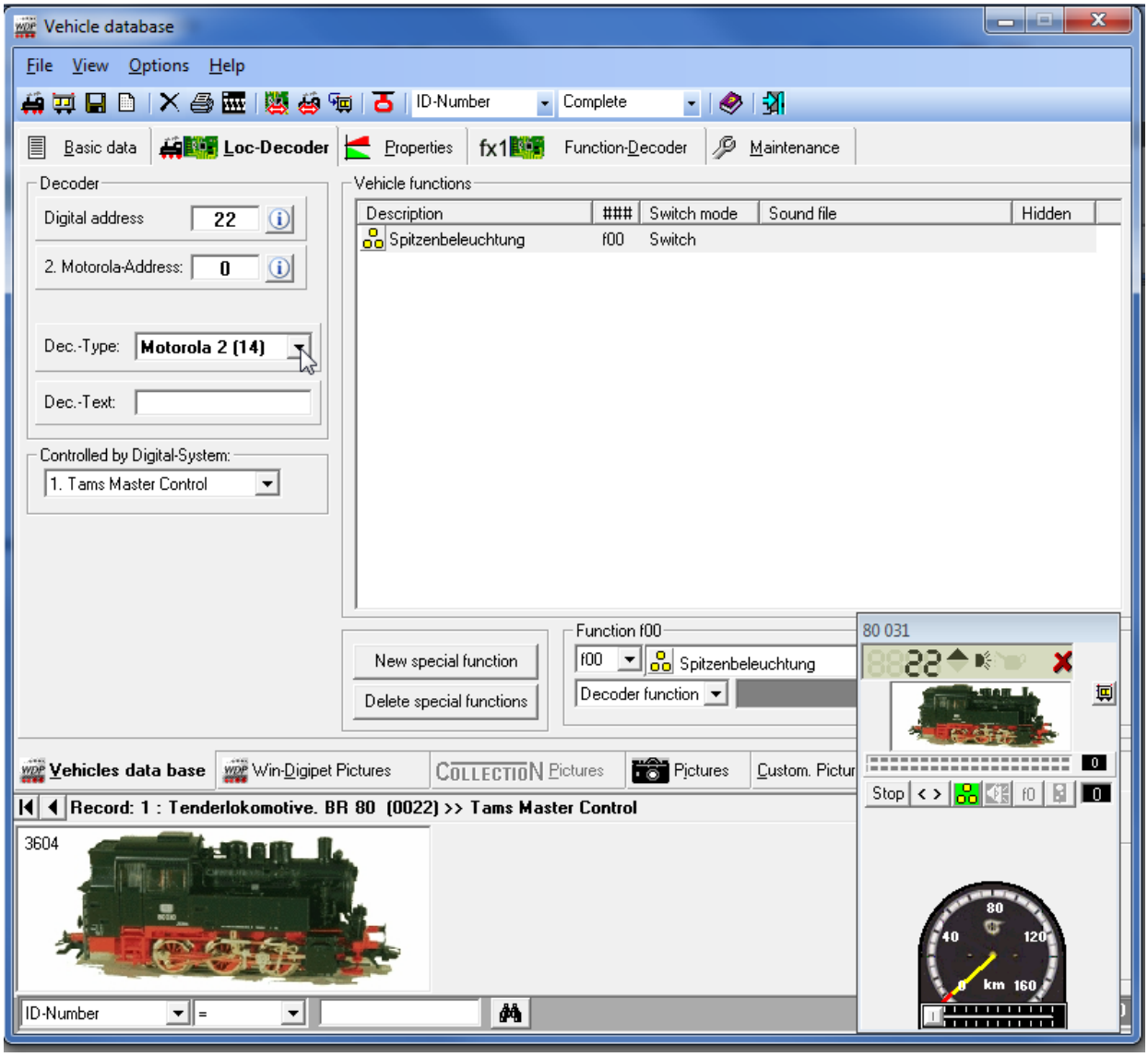
Click in the menu bar on ‘File’ and then on ‘Vehicle data base’ or on the symbol in the toolbar.

On the first index card „basic data“ you’ll register the data of your locomotives.

Two locomotives are given as default by Win-Digipet 2009: a BR 80 and a Crocodile. For the quick start select the BR 80 for test purposes of one of your digital locomotives.

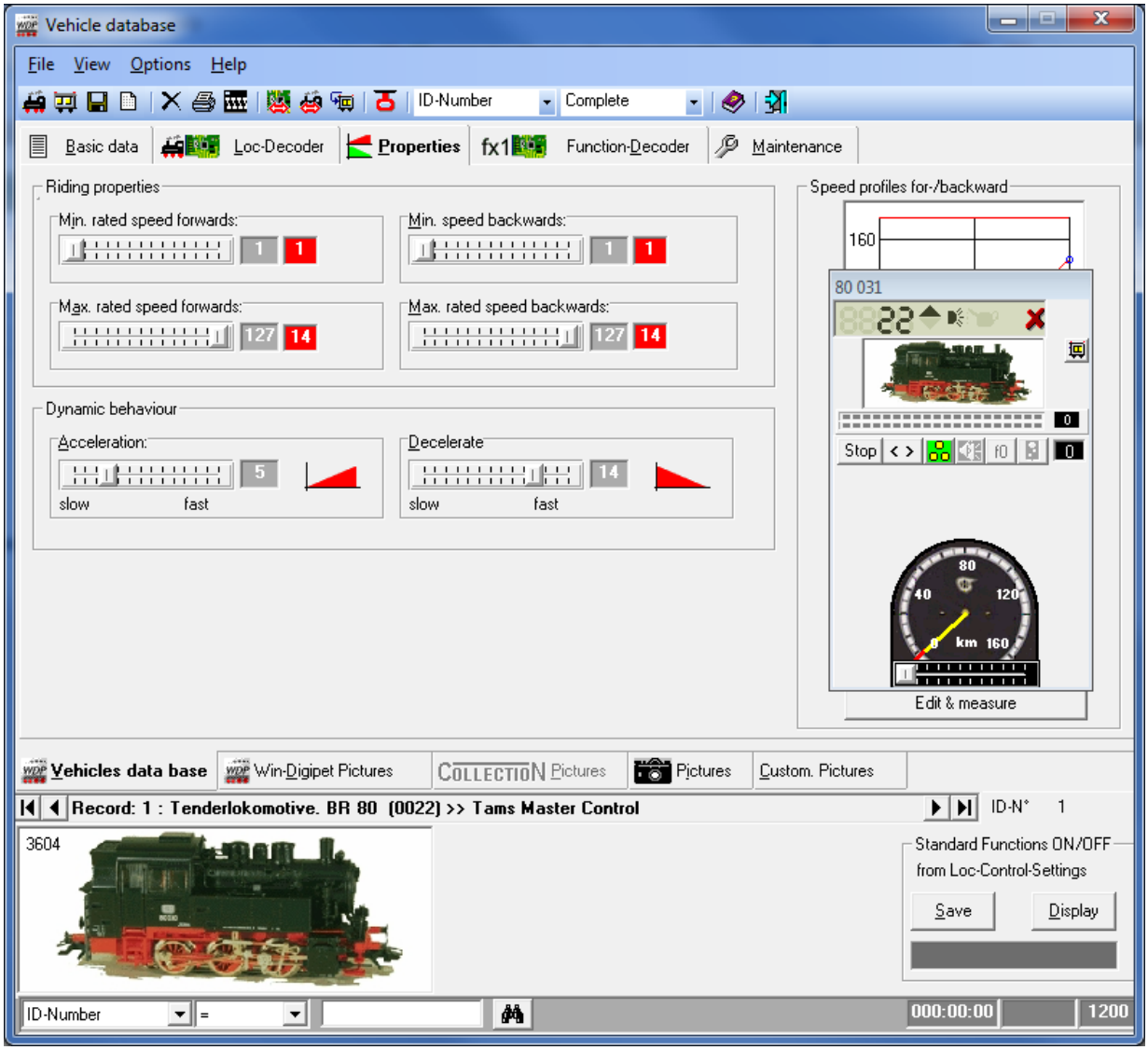


Select on the index card “Vehicle-database - Loc-Decoder“ the needed decoder-type for your locomotive and register the address of the locomotive (here 22).



Select the function (f0) of the locomotive, which is the headlight in most cases. Below you can select the special functions of the locomotive. For this purpose open the selection fields with the small arrows at the bottom the list and selected the desired pictogram and description, afterwards press the button to the transfer the selection to the list.

On the index card „Vehicle-Database - Properties“ you should leave all values set to the default values.



After a click on the turning knob of the locomotive control, the locomotive should start moving. The top indicator indicates the nominal speed and the indicator below the current speed.

You can now test also the other functions like **Stop**, **Turn**, **Function (f0) and special functions**.

You can leave the locomotive database via the menu command <File> <Close> or with a click on the symbol ☒ or the symbol in the toolbar.

Quick entrance – Fourth step: Track diagram editor

Create track diagram, record solenoid devices and test, record feedback numbers

At first you will find an „empty“ track diagram. After you have recorded your locomotives and the system settings, create a track diagram.

Click in the main menu on ‘File’ and ‘Track diagram editor’ or on the symbol in the toolbar.

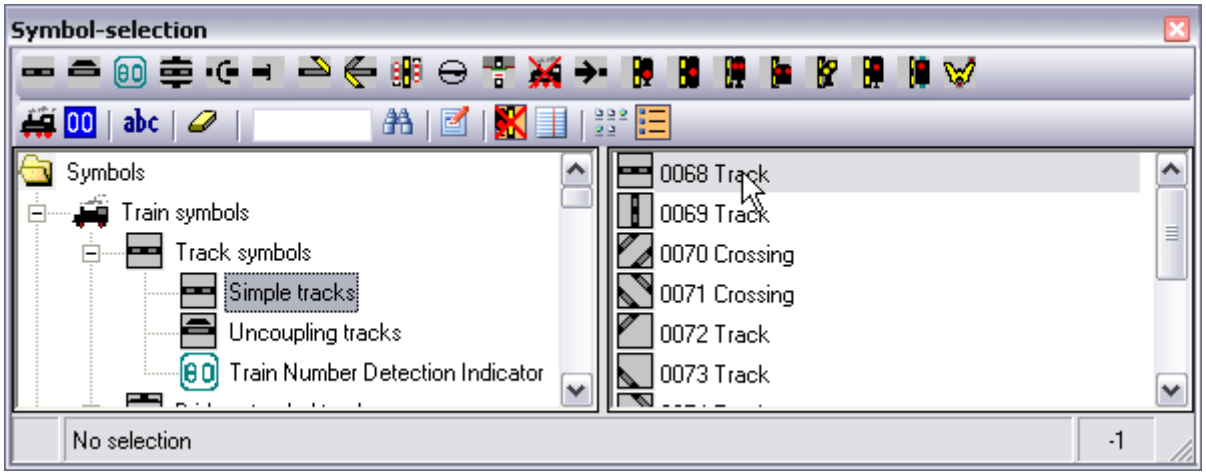
The track diagram editor and its track symbols window appear.

A small circular two block system (signal to signal) should demonstrate the handling in this quick start chapter.

Create block system

Click on the type field .in the toolbar of the symbols window. Click on the symbol 0068 in the symbol selection window.

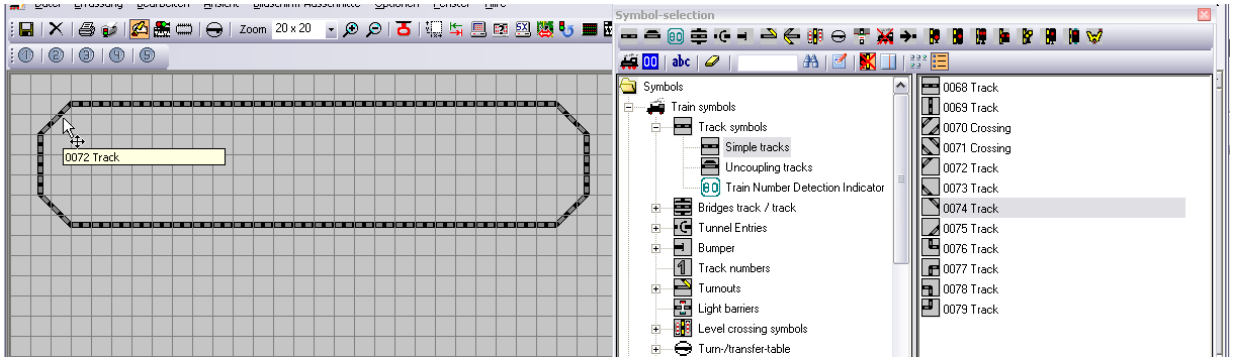
The mouse pointer changes from the pointer to an arrow with the selected symbol. The selected symbol is displayed in the lower left corner of the symbols window; next to the symbol the description text is displayed.



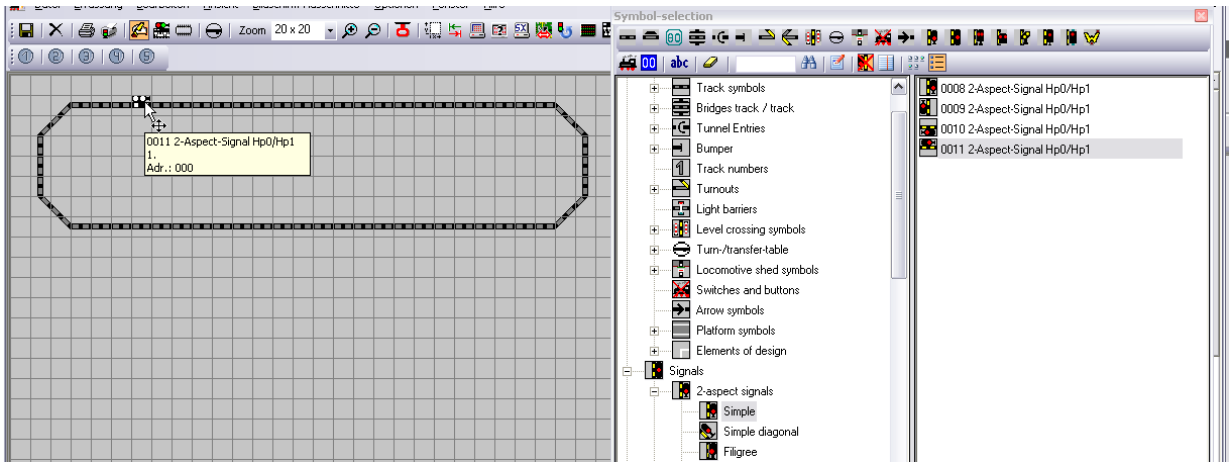
Place the symbol where needed in the track diagram and press the left mouse button a second time.

Drag the mouse pointer -with the left mouse button pressed- over the whole length of the block, if a symbol appears more than once, e.g. here „straight track“.

You can create now the rest of the circular diagram. Therefore you can use also the symbols 0069 and 0072 to 0075. The result of your work should look similar to the picture shown below.

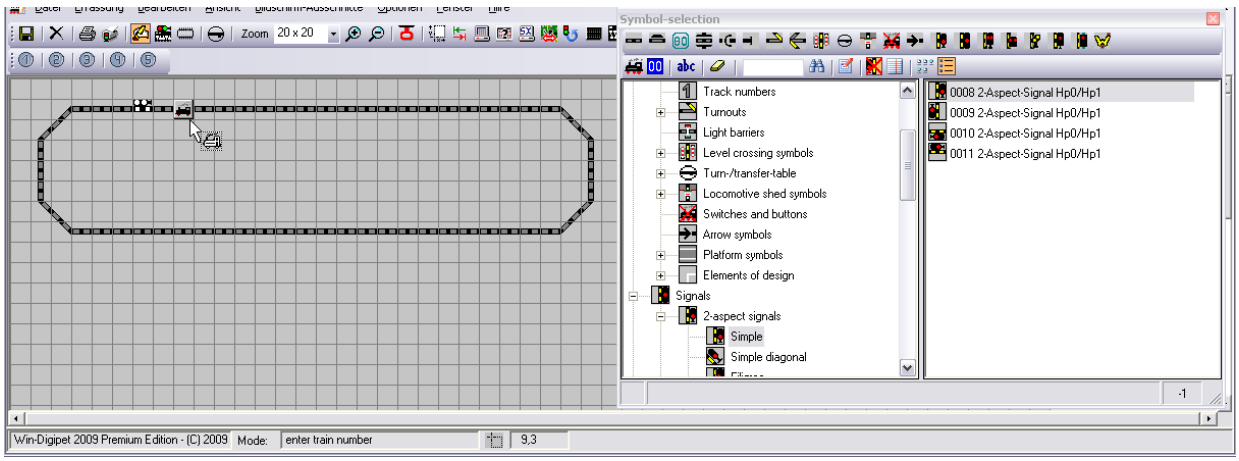


Next step is to place the two block signals as described above, they are very important, because they guarantee the locking of routes.



At the moment they are white, as they have no digital address assigned yet.

Also the train number symbols for the train number display have to be placed (locomotive symbol in symbol selection window), if possible always **two fields in front** of a signal.

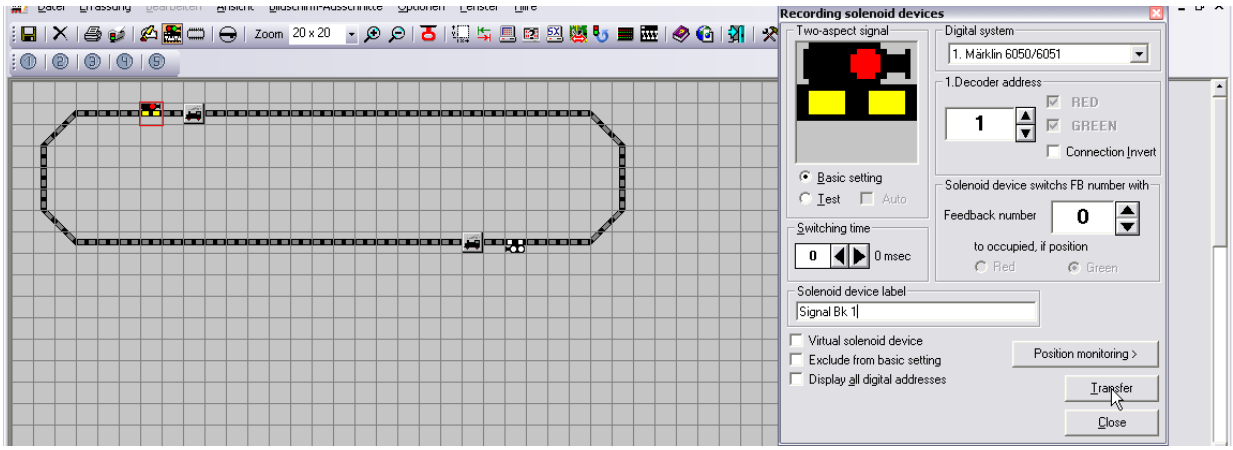


Allocation of digital addresses to solenoid devices

Click on the symbol in the toolbar.

The track symbol window disappears and the mouse pointer changes to an arrow with micro switches.

Point to the **left**-hand signal: It will be framed in red. Click on it, the window „Recording solenoid devices“ appears.



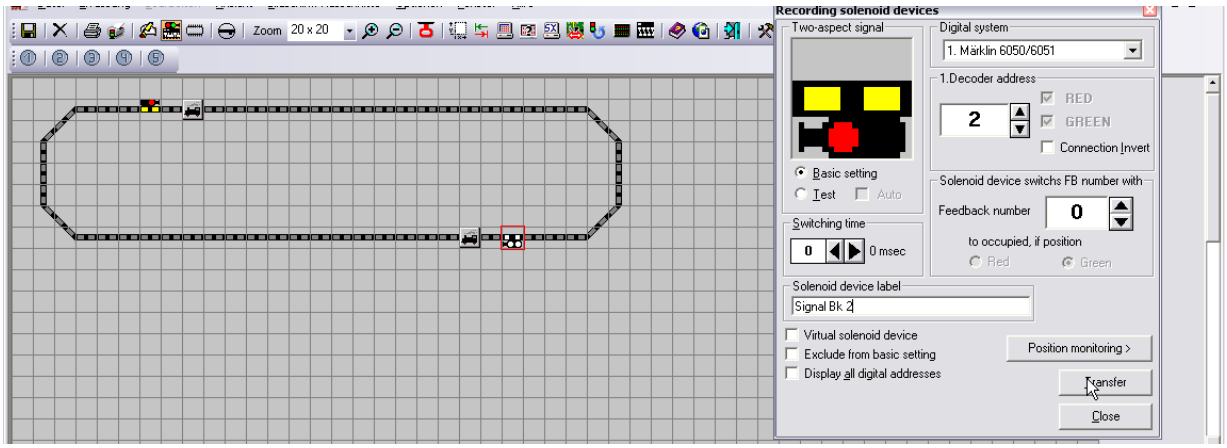
First of all select the digital system the signal is connected to. If you use only one digital system this will be set automatically.

The signal is displayed as a big symbol in the top left hand. It also bears its type, e.g. „Two aspect signal“. Record its address in the address field.

You can enter also enter a name/description for the signal. This will help identifying the solenoid device in other program parts e.g. „Signal Block 1“.

Finally, use the command **'Transfer'** to place the solenoid devices into the track diagram. The track layout now shows the solenoid device in its initial setting.

For the right signal proceed in the same way as described above for the left signal.

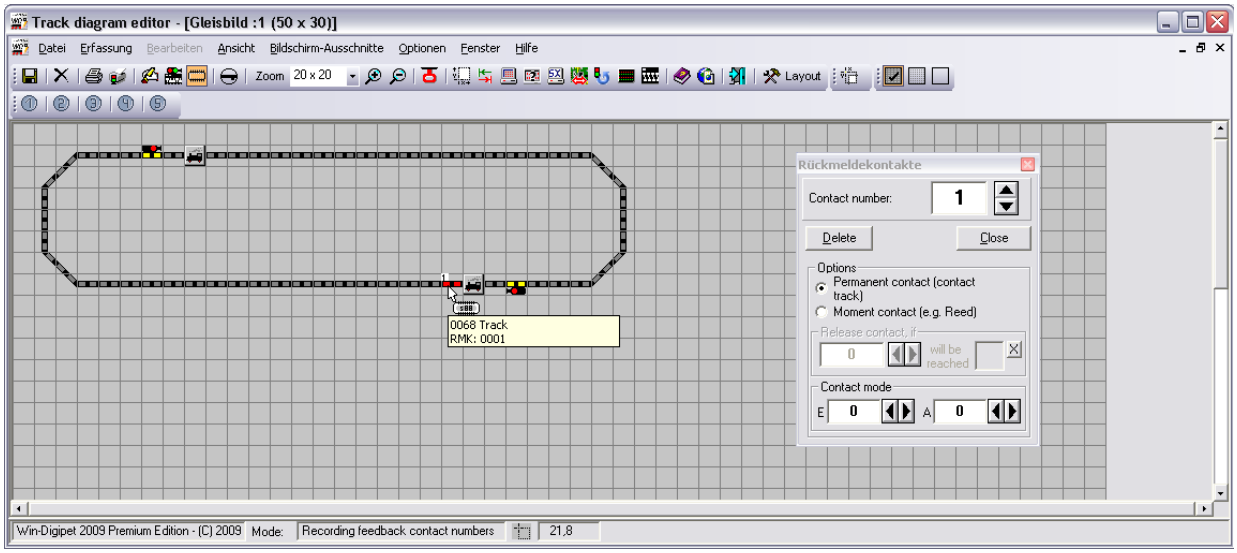


You can enter also enter a name/description for the signal. This will help identifying the solenoid device in other program parts e.g. „Signal Block 2“.

Recording feedback numbers

Click on the switch in the toolbar.

The window „Feedback contacts“ opens.

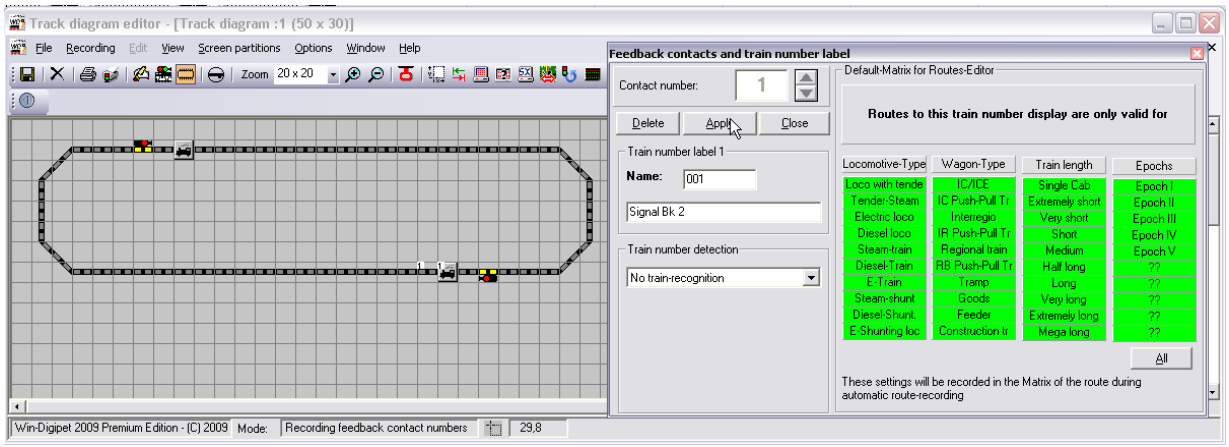


In the field „*Contact number*“ record the number of the contact, using mouse clicks (or the keyboard) on the arrows.

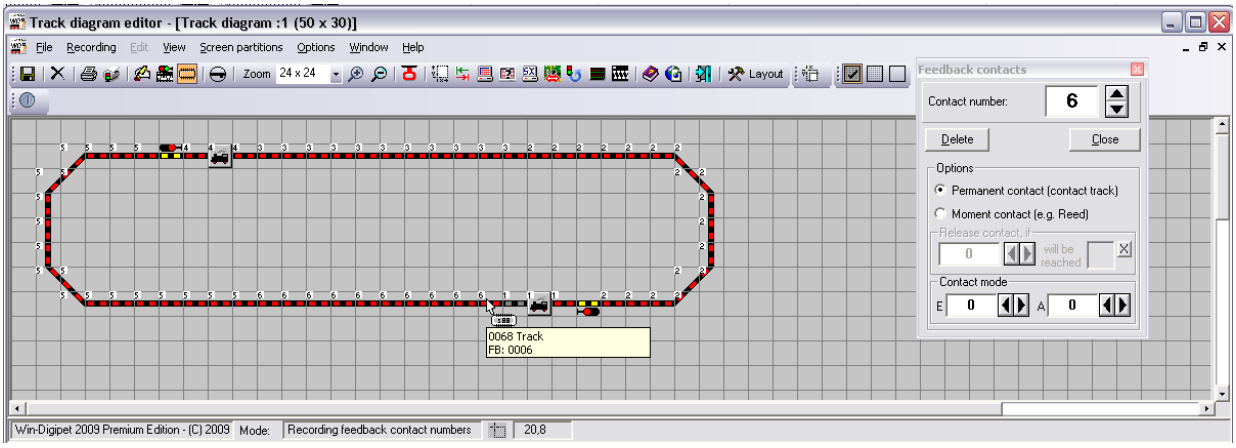
Point the mouse pointer to the track symbol to which you want to assign the contact number and press the left mouse button. The correct contact number is displayed at this place. You can place the number as often as required in the track diagram by pressing the left mouse button several times or by dragging it with the mouse pointer.

If you assign a feedback number to a train number display the contact number window will change.

In this window you can assign a short name and description with a maximum length of 24 characters to your train number display. These registrations will be used later for automatic route creation with the route wizard. You have to save the changes using **'*Transfer*'** or delete the texts using **'*Delete*'**. If you do enter invalid characters you will be noticed about this issue.



Six contact numbers are used in our small example. The positions all of them can be seen in the following screenshot.



We are using four feedback contacts numbers for the track from the right to the left block signal. We start at the right train number display using contact number 1, followed by contact 2, brake contact 3 and destination contact 4 for the next train number display.

A block shall always consist of a minimum of three contacts:

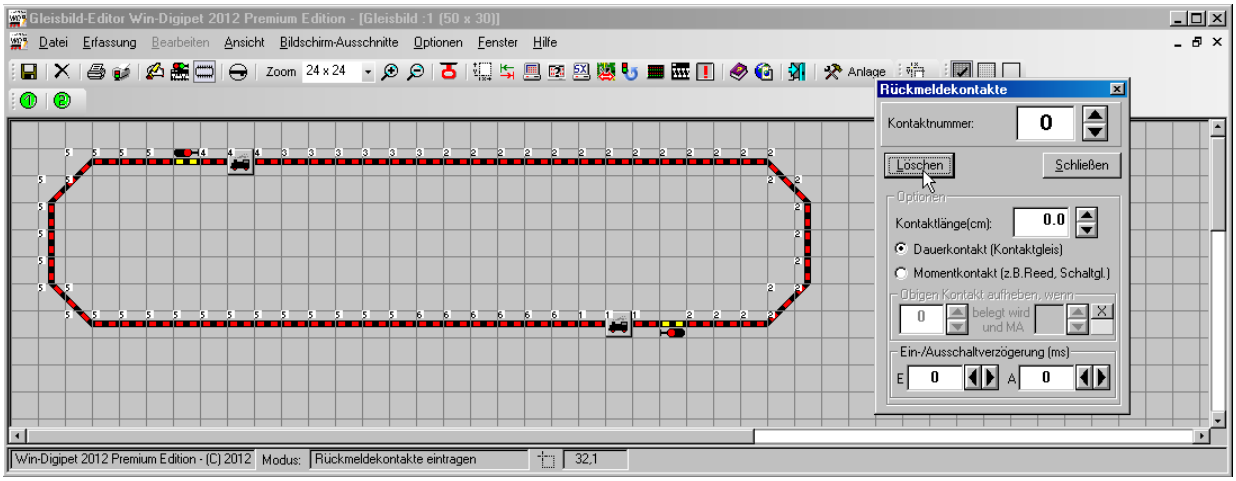
- Start contact (C 1 for first route, and C 4 for second route)
- Brake contact (C 3 for first route, and C 6 for second route)
- Destination contact (C 4 for first route, and C 1 for second route).

The destination contact of one route is always the start contact for the following one.

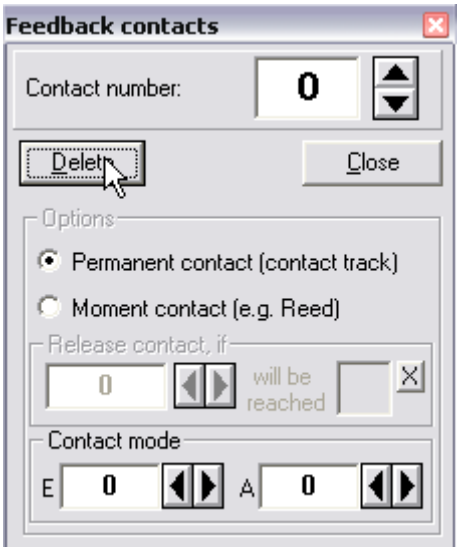
For an optimal control of your locomotive it is better to use further line contacts as shown above. This depends of course on your model railroad layout and the length of your block systems. For special routes you can even resign the braking contact.

Important note!

Please always **observe** that the train number fields also containing the contact numbers. This is very important, for a trouble-free train operation also as it is needed for the correct train number display.



Click on **'*Delete*'** to erase a contact number and precede analogy to recording of feedback numbers.



To save the track diagram finally choose 'File' 'Save' in the menu bar or click on the switch in the toolbar and leave the track diagram editor using the symbol .

In the main program you are now able to…

- control locomotives
- change both signals with a mouse click
- and observe track occupation.

Please compare again the track diagram displayed in the main program to the one here in the manual to get sure, that you can follow the next examples.

Now place a locomotive on the track and take a look at the occupation indication in your track diagram (track colour red). Now you can drive your locomotive around the track using the locomotive control or your digital system and by this you can check the correct function of all feedback contacts.

Eventual errors shall be corrected using the track diagram editor.

Quick entrance – Fifth step: WDP controls the first locomotive

How are trains (locomotives) controlled by Win-Digipet?

Using **Win-Digipet** you can control your trains (locomotives)...

- manually using your digital station
- manually using a locomotive control in the program or
- automatically using routes

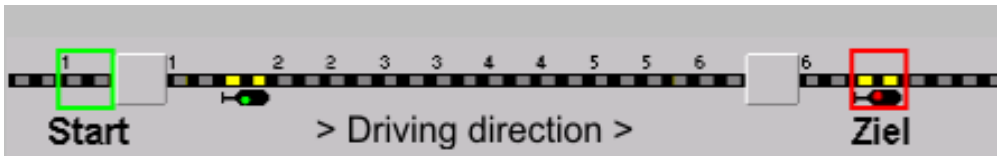
The manual control of locomotives has been already used in the last chapter for the control of your feedback contacts. In this situation you controlled your locomotives manually using your digital station or using a locomotive control in the program but be honest…you did not care about signal states…

But within **Win-Digipet** the trains should use switched and secured routes. Now…what are routes (sometime also called blocks)?

What is route in Win-Digipet and what consequences do they have?

A route is the way between two train number display, because on your layout/in this program all trains move from one to another train number display. Only using train number displays the train number (in most cases the digital address for short displays or the class for long displays) will be transported and indicated along the way. The train number displays will also be used to select the route´s start and destination by clicking on the start and destination train number display.

Normally a route should start one contact before the start train number display and shall end at the destination signal behind the train destination train number display as showed in the following picture.



The yellow or yellow/route indication of the switched route is only an optical feature and has no locking/securing function, which is very important for crossing routes.

The lock function is only available via solenoid devices like...

- turnouts and
- signals

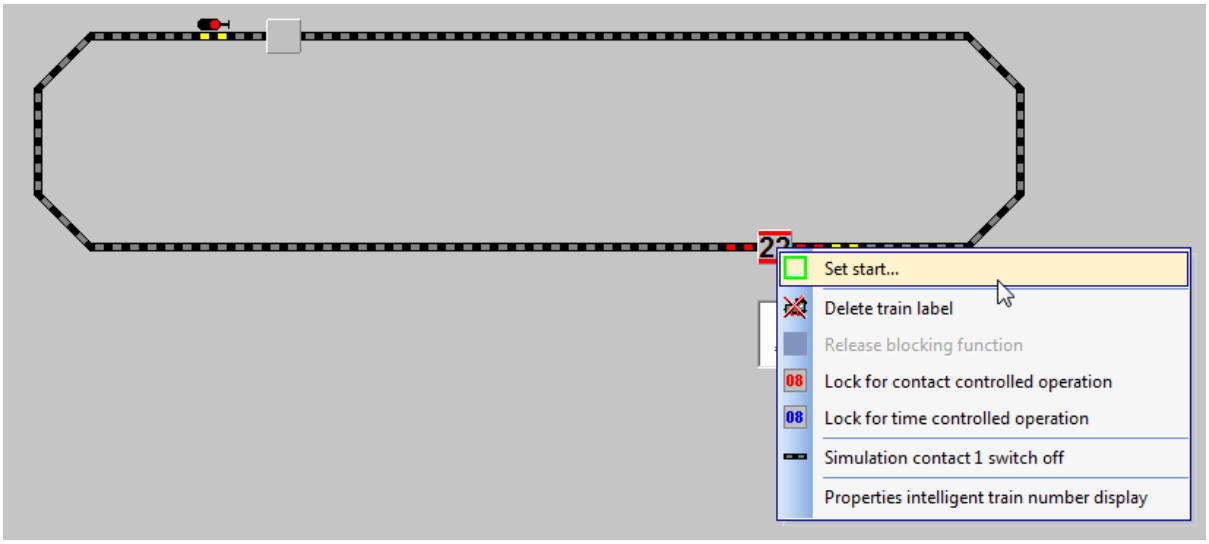
...just to mention the most important ones.

Therefor the signals in the track diagram of **Win-Digipet** are very important, even when they are not really standing on your layout. This applies especially to hidden stations, where you will normally never install real signals.

The first route from train number display to train number display

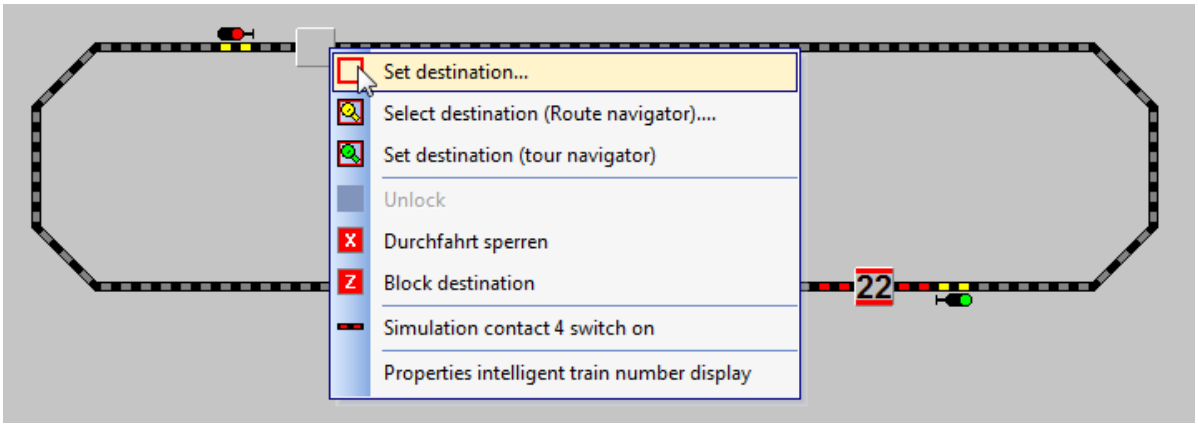
Drag with pushed right mouse button a locomotive from the locomotive bar on the train number symbol beside the right signal at contact 1 and put the locomotive on the track at contact 1. If your locomotive is very long as in our example also contact 6 in the track diagram might become occupied.

Click with the right mouse button once on the right start train number display where locomotive 22 is standing.



Now select from the context menu <Set start...>.

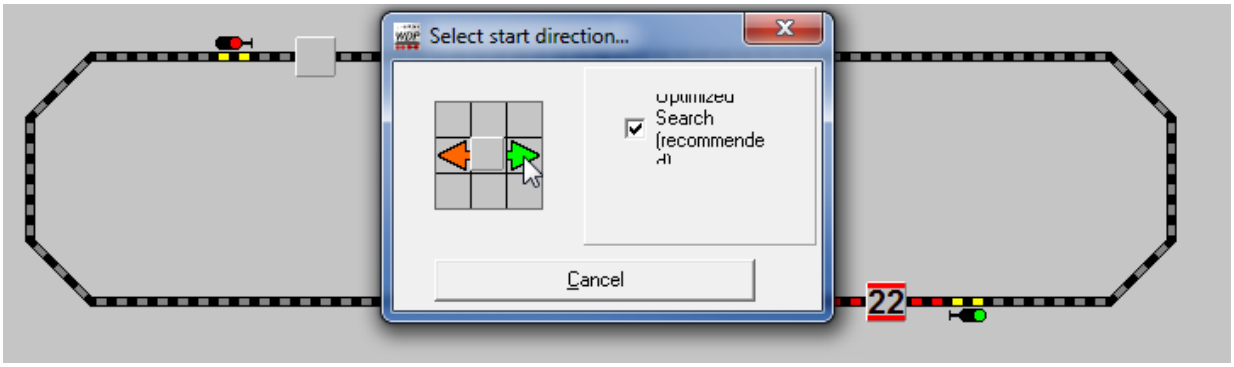
Now click with the right mouse button once on the left train number display.



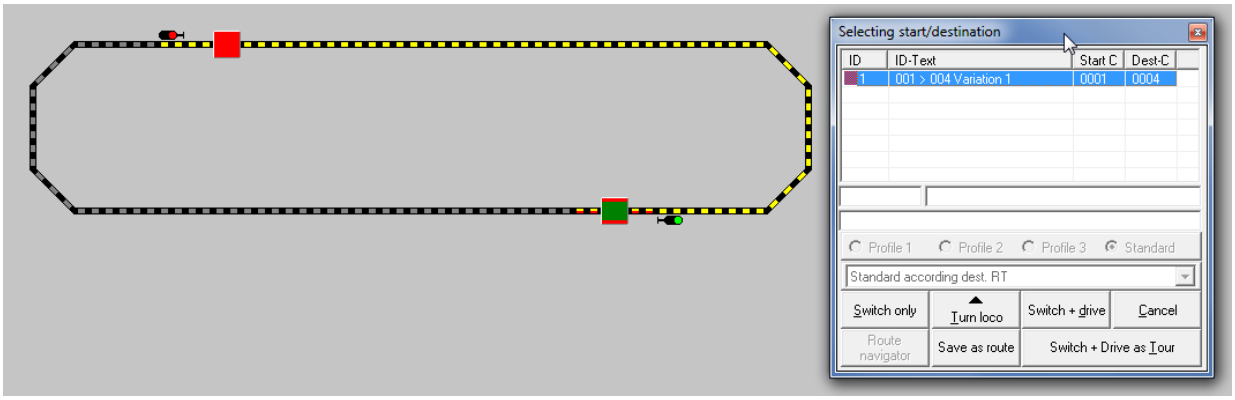
Now select from the context menu <Set destination (route navigator)...>..

All other commands will be explained later.

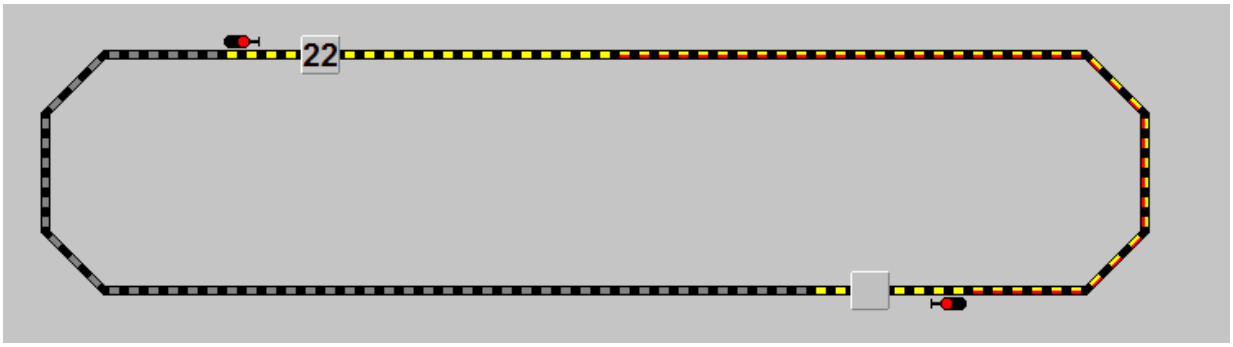
Now a new window will appear asking for the start direction of the train. In our example the train shall starts its journey to the right, therefor click on the right arrow.



The program will now search a suitable way from the start to the destination and will list the possible routes/ways in the start/destination selection window.

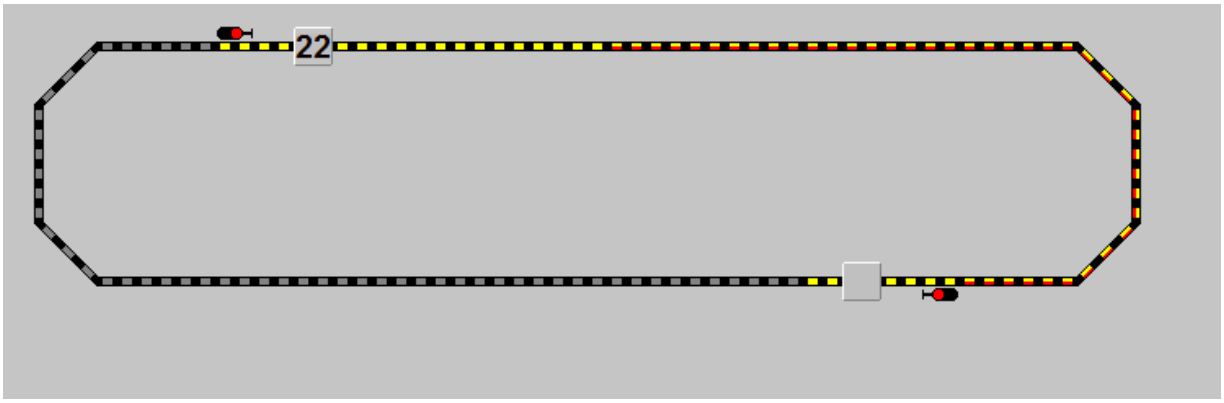


If all conditions are fine (e.g. no other train on the way from start to destination) the button **'*Switch + Drive*'** will be enabled. Click on this button and the locomotive will start its way to its destination.



You can follow the train's way on the screen. In our example the train number has already transported to the destination, the train has reached contact 2 and contact 6 is not occupied any more. The yellow/red track symbols indicate an occupied track within a switched route.

The start signal is still in state green because the start contact 1 is still occupied, it will be switch to stop as soon as the start contact gets free.



The train will now continue its journey to the brake contact 3 and will there reduce its speed. When reaching contact 4 the train will be stopped.

The route will then be released and contact 3 and 4 will show you just a simple occupation. Also the train number display indicates that its contact is occupied.

The second route from train number display to train number display

After this first successful route we want to continue directly with the second one.

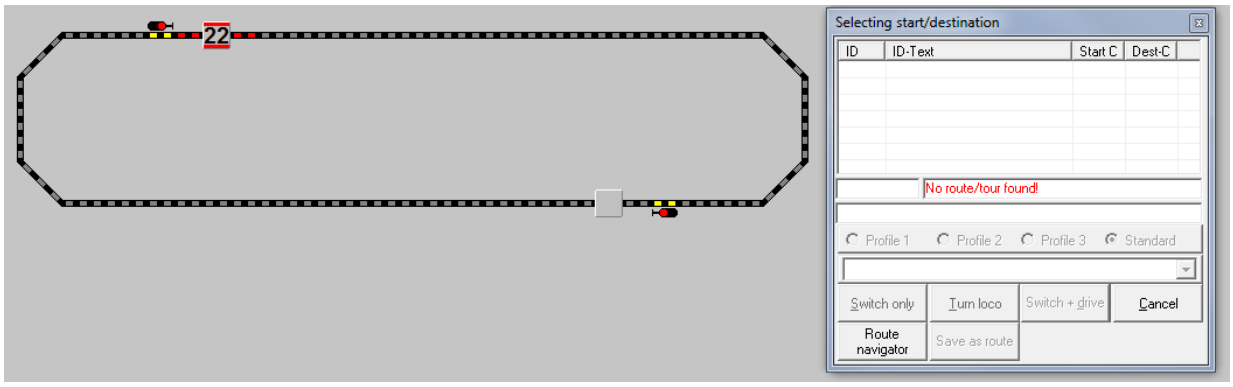
In this example we will show you the second way to switch/call a route. Therefor your computer mouse needs a middle mouse button, which is not assigned to any special function but only to normal middle mouse button functionality. If your mouse (configuration) does not meet this requirements you can use the context menus via right mouse button as described before.

Now click with the middle mouse button onto the start train number display which actually contains train number 22 and make a second click onto the train number display at the right bottom.

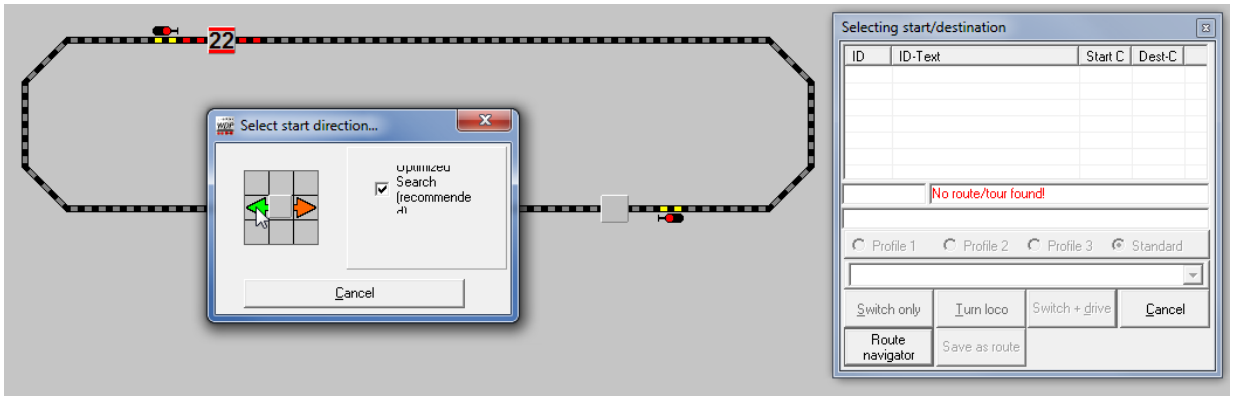
For security the maximum allowed time between these two clicks has been set to 10 seconds.

After these two clicks the start/destination-selection will appear and inform you that no routes or tours have been found for this way.

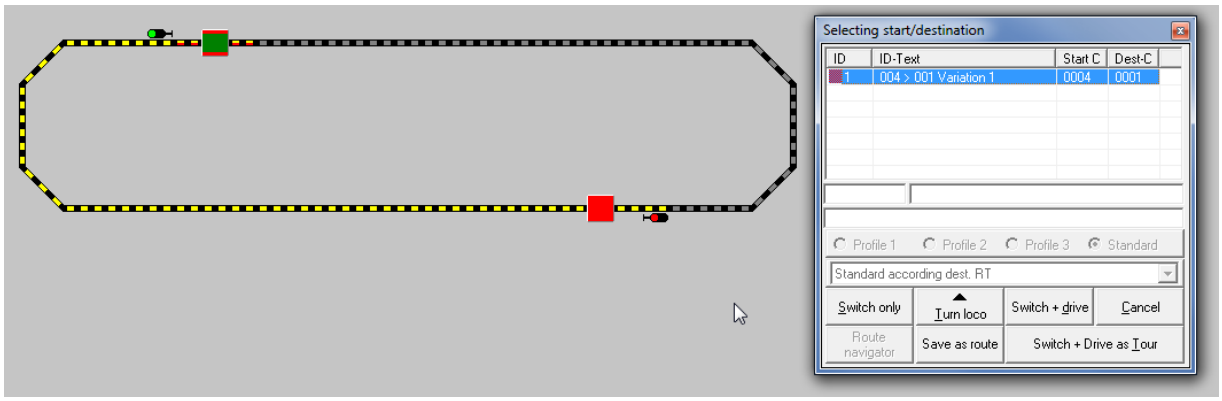
Only the buttons **'*Route navigator*'** and **'Cancel'** are enabled and clickable.



Now press **'*Route navigator*'** and immediately the window for the selection of the start direction will appear.



Please click onto the left arrow and within the start/destination selection the program will now make as suggestion for a route from start to destination.



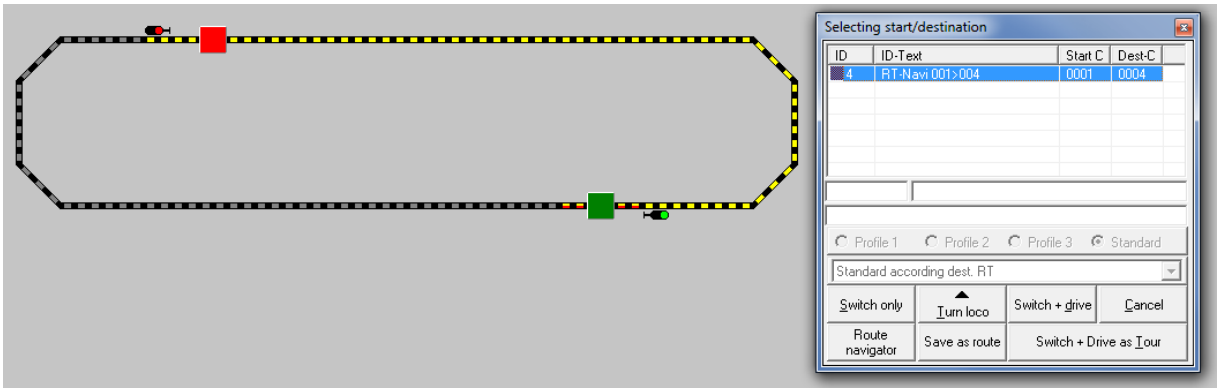
If all conditions are fine (e.g. no other train on the way from start to destination) the button **'*Switch + Drive*'** will be enabled. Click on this button and the locomotive will start its way to its destination.

You can follow the train's way on the screen and the layout as described in our last example.

Driving a second and further round(s)

You want to drive a second and further round(s)?

No problem, just click again with the left mouse button on the train number display at the right bottom and afterwards on the train number display on the upper left and the start/destination selection will directly show the route which has been created in the first round.



If all conditions are fine (e.g. no other train on the way from start to destination) the button **'*Switch + Drive*'** will be enabled. Click on this button and the locomotive will start its way to its destination.

You can use this procedure as often as you like.

The routes created by the route navigator are only temporary ones. As soon as you open the route editor or leave the program these temporary routes will be wiped. These routes are also indicated with a red square with in the start/destination-selection.

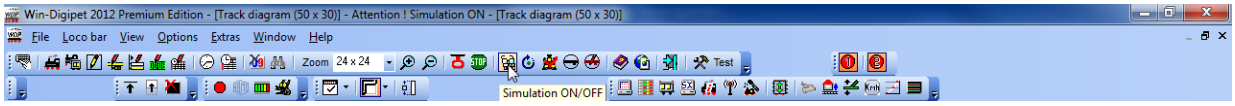
Simulating routes and trains

You want to try our examples from the previous chapters, but you don´t want to build an extra layout for this?

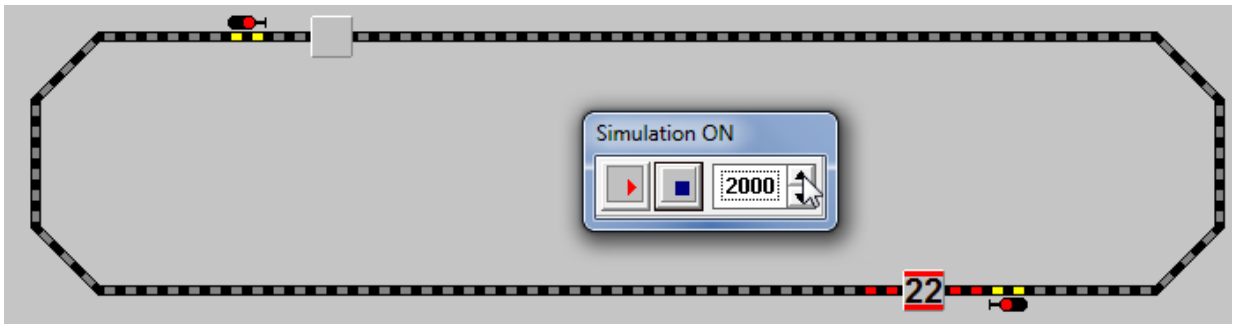
This is no problem, you can use the simulation in **Win-Digipet**. Therefor proceed as described in the first chapters of the Quick entrance. Just select NONE for the digital systems COM-Port numbers.

Please remember to save your changes always before leaving the track diagram editor.

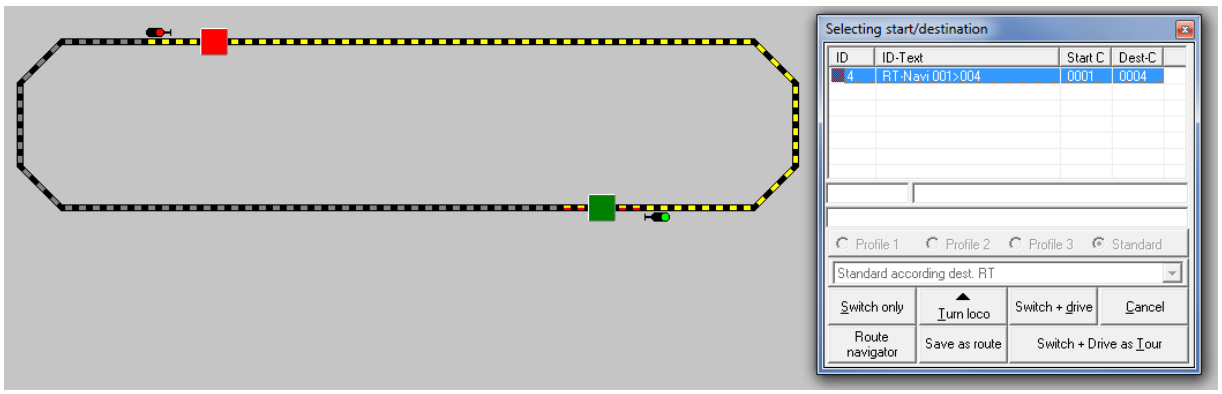
In the main screen of **Win-Digipet** you can activate the simulation with the button showing the eyeglasses.



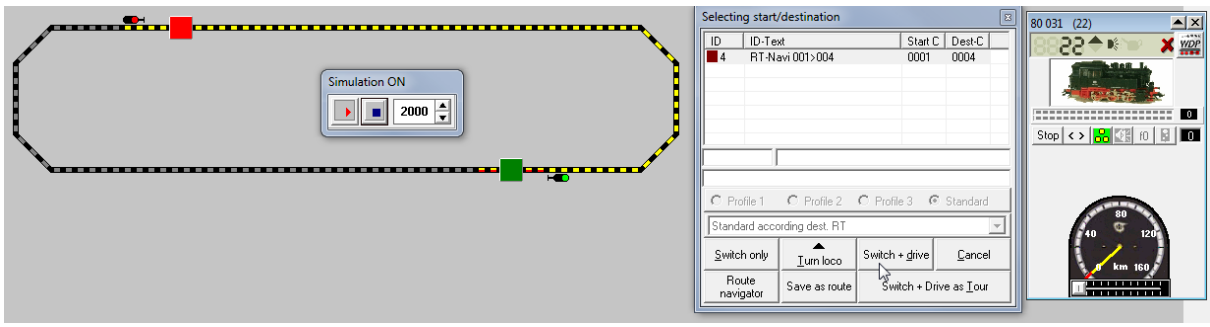
A small window with the title “Simulation ON” will appear and you can adjust the speed of simulation. 2000msec is as good value. Also contact 1 will be indicated as occupied because locomotive was registered at contact 1 when the simulation has been activated.



Just click with the left mouse button on the train number display at the right bottom and afterwards on the train number display on the upper left and the start/destination selection will directly show the route which has been created in the first round.



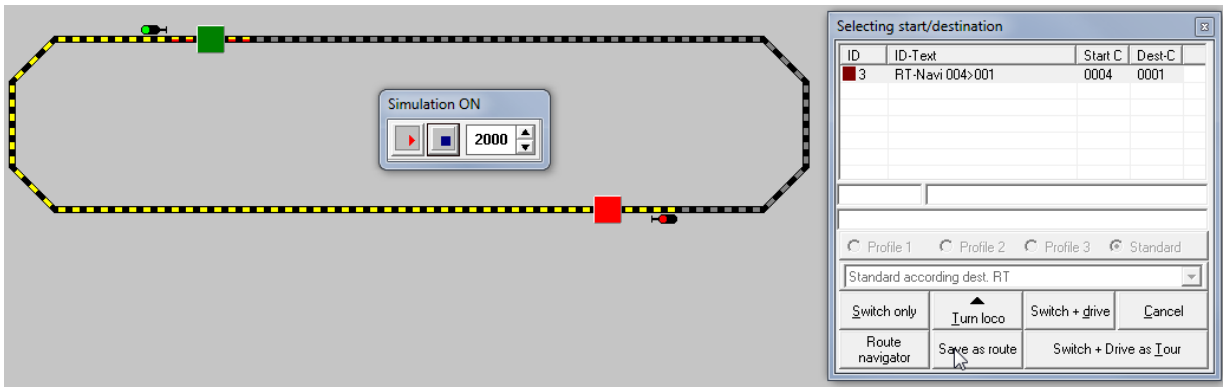
First of all open the locomotive control of locomotive 22 and afterwards click on the button **‘*Switch + Drive*’** and the locomotive will virtually start its way to its destination.



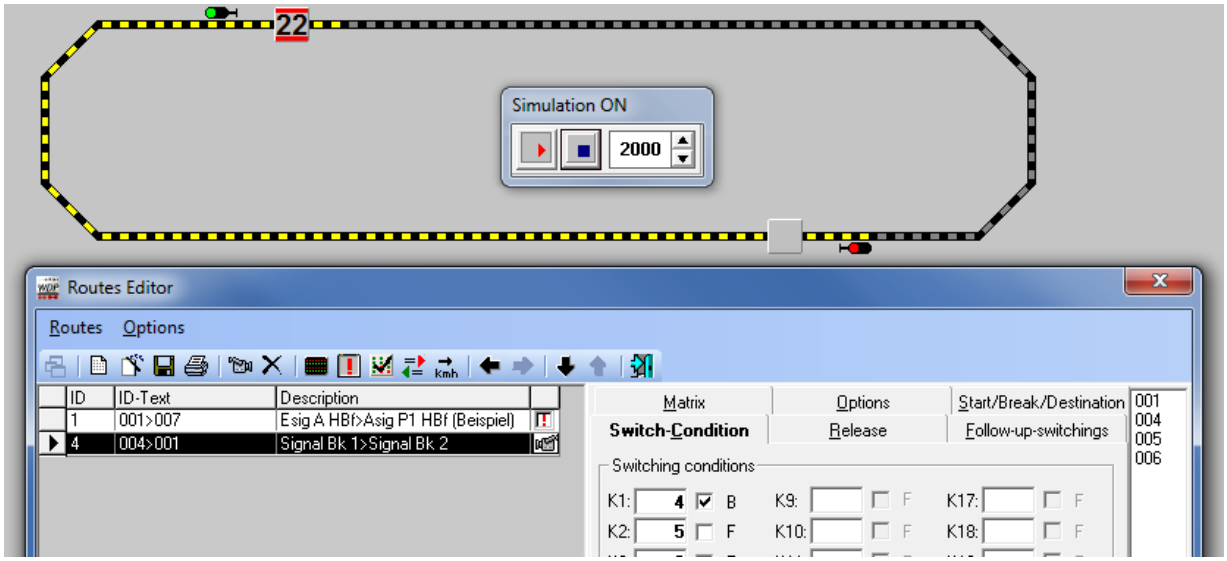
You can now follow the train's virtual way on the screen.

Saving routes from the route navigator to the route database

As mentioned before as long as you don`t terminate Win-Digipet all temporarily created routes from the route navigator are still available. So when opening the start-destination for such a previously used way again you cannot only select to use this route again, but can also select **'*Save as route*'**.



Just click on this button and the routes will be saved permanent to the route database.



You can see that the route with all necessary settings (which will be described) is now available in the route editor and can be even used after closing and reopening the program.

This was the last chapter of our quick entrance. We hope you have managed the first steps into the program. All functions in detail will be described in the next chapters of this manual. Good luck....

1 – PROGRAM CONCEPTS

1.1 General

WIN-DIGIPET is a modern, far-reaching, intelligent and very user-friendly software to control a model railroad, which is equipped with components of Märklin Digital, Uhlenbrock Intellibox, Fleischmann Twin-Center, InfraCar-System, Lenz Digital Plus 2.0, Lenz Digital Plus 3.0 / 3.5, Lenz LI-USB, Selectrix-Systems of Trix, MÜT and Rautenhaus, Switch-COM System, Tams Master Control, ESU ECoS, CT ZF 5, Märklin Central Station or other conform system.

WIN-DIGIPET 2012.1 (32 Bit) was developed for computers with one of the following operation systems: **Windows** 2000 SP4 / XP SP3 / Vista/ Win 7.

Version **2012.1** of **WIN-DIGIPET**- software offers a comprehensive and comfortable solution to control Digital layouts of any size. Within the manual we will use in the most cases the name **WIN-DIGIPET 2012**, because this manual is based on the german manual for version **WIN-DIGIPET 2012**

1.2 The three pillar structure of Win-Digipet

Every software for controlling a model railroad has its own philosophy; this applies also to **Win-Digipet**.

The three pillars of Win-Digipet are...

- the locomotive database containing all locomotives
- the track diagram representing your model railroad layout in a simplified way
- and the routes from start- to destination contacts.

These pillars are the fundamental program parts. All other program parts need these three for correct operation.

Because of this you should take maximal care on this data.

1.3 Controlling the program

Fundamentally you can enter all data inputs via the keyboard of your computer, but using the mouse is quicker.

In the graphical part of the program you can select all particular symbols by mouse only.

In a menu tray, you can get from panel to panel with the **tab-key** or **arrows-up** and **arrows-down** keys; with the shift-tab-key you can get back to the previous panel. Each active panel will be illuminated. A switch, e.g. “On/Off”, will be operated with the **space-key**.

Active windows in the main program or track diagram editor can be closed using the ESC-(Escape)-**Key**.

Within a window with scroll bars, you can scroll from line to line via the **arrows-up** and **arrows-down** keys. Also with a mouse you may temporarily scroll within a window with roll bars: If you click on the lower horizontal frame bar, it will move forwards, if you click on the top horizontal frame bar, it will move backwards.

The **PgUp**- and **PgDn keys** (page up and page down) will leaf through sidewise.

Even if you prefer to use the mouse you have to enter any text via the keyboard.

With the key...

- **F1** you call the help function
- **F2** all Loco-controls get minimized and arranged at the top
- **F3** all Loco-controls get minimized
- **F4** all Loco-controls get closed
- **F5** you increase the zoom factor (Zoom +)
- **F6** you decrease the zoom factor (Zoom -)
- **F7** you can open the train inspector
- **F8** all locomotives can be stopped and started respectively
- **F9** you cause an emergency stop
- **F11** you can get from one open window to the next one
- **F12** the time table operation is stopped.

1.4 Programming Win-Digipet

For the usage of **Win-Digipet** no programming knowledge is needed, you can make all your programming using comfortable editors and you get assistance for the search and correction of errors by the powerful check routines integrated in the program.

1.5 Driving using km/h

In **Win-Digipet** 2012 you can drive using only km/h like real world railroads. When updating from an older version (Win-Digipet Pro X.3 and older) to **Win-Digipet 2012**, your project will be automatically updated to km/h mode. You should convert your routes afterwards according to section **8.12**.

2 – HARDWARE, INTERFACES, CONNECTIONS

2.1 Hardware requirements for WIN-DIGIPET

Minimum:

- Operating system: Microsoft Windows 2000 SP4 / XP SP3 / Vista / Win 7
- CPU: Pentium IV 2 GHz
- Memory: 1024 MB (or least requirement of the used operating system)
- Graphics card: Resolution 1.024x768, True Color
- DVD/CD-ROM: DVD/CD-ROM
- Soundcard: (optional)
- Hard disk: > 200 MB free
- Equipment: Mouse, keyboard (optional Joystick)
- Internet Explorer: IE > V 6.0
- OPTIONAL: DirectX: > V7 (optional if sound card used)
- Soundcard: 100% DirectX 7.0 kompatibel (optional)

Recommended:

- Operating system: Microsoft Windows 2000 SP4 / XP SP3 / Vista / Win 7
- CPU: Dual Core Processor
- Memory: 2048 MB (e.g. for Win-XP)
- Graphics card: minimal 1.024x768 or better, True Colour
- DirectX: > V7.0
- DVD/CD-ROM: DVD/CD-ROM
- Soundcard: 100% DirectX V7.0 (or higher)
- Hard disk: > 200 MB free
- Equipment: Mouse, Tastatur (optional Joystick)
- Internet Explorer: IE > V6.0

In Windows select ‘My computer‘ - ‘Control panel’ - ‘Display’ - ‘Settings’ and specify the following:

- Desktop area: **1024 x 768** Pixel (or more)
- Colour palette: True Colour 32 Bit
- Font size: Small Fonts 96 dpi - **Important!**

The setting "Large Fonts" distorts graphics. Test the correct setting for „**Small Fonts**" using the turntable. Click on the symbol 'Turntable' (chapter **6**). Two shifted turntables indicate the wrong setting. Select **„Small Fonts"**

2.2 Digital control of your railroad layout

For controlling your railroad layout you have must have the following things...

- a digital system
- digitalised locomotive
- digitalised solenoid devices like turnouts, signals etc.
- and occupation feedback system for your track sections.

Win-Digipet 2009 can be used with the digital systems listed in chapter **4.1.1**. The connection between your digital system and the computer shall be described in the digital system's manuals and/or on the internet homepages of the manufacturers.

For correct operating we recommend to use always the newest firmware version installable on your digital system.

For the correct monitoring of the train movements and track occupations the program needs feedback contact information. **Win-Digipet 2009** supports the usage of permanent as well as momentary contacts. But we suggest using permanent contacts because they are more flexible and more failure-safe. The forum of Win-Digipet at our homepage (http://www.windigipet.de) contains some workshops explaining how to convert your tracks to be usable with feedback contact. Also many factures of feedback contact systems provide information concerning the feedback setup.

If possible you should install a nearly all-over feedback system, because at gaps the computer is blind.

2.3 Interface connection of serial interfaces via USB port

You can connect your Interface with your PC or Laptop using a suitable USB-RS232-converter, if your PC/Laptop has no serial port.

We suggest using an (additional) PCI/PCMCIA-interface-card, because this will result in better results/performance than USB-RS232 converters.

2.4 Setup of your Firewall-Software

The digital systems ESU ECoS, Märklin Central Station and Märklin Central Station 2 are connected to the computer using the Ethernet port of your computer. Therefore you have to set up your firewall, so that the firewall allows the passing of the control data for these systems.

The way of setup might be different for every kind of firewall, but you have to set it up meeting the following requirements:

- the ESU ECoS and the Märklin Central Station use the program „WDNetCtrl.exe" inside Win-Digipet-directory and the port 15471. Therefore you have to add this EXE-File and/or port 15471 to the “White list”.
- the Märklin Central Station 2 uses the program „ WDPUDP.exe" inside Win-Digipet-directory and the ports 15730 and 15731. Therefore you have to add this EXE-File and/or ports 15730/15731 to the acceptance list.

2.5 Internet -Homepage

If you have access to the Internet, you can click on the symbol in the menu bar or you can open your browser by using the Help-System to get direct access to the **WIN-Digipet homepage. (www.windigipet.de).**

There, you will find news, updates or may leave your individual questions in the user forum.

3 – INSTALLATION AND START, HELP

3.1 General

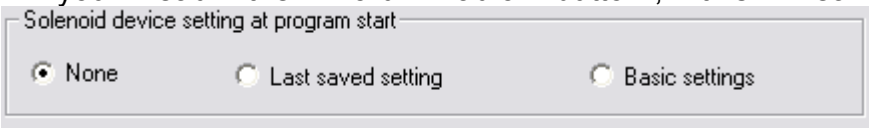
Knowledge and operation of Windows operating systems is assumed with regards to this manual. Referring to “Windows“ includes Windows 2000 SP4 / XP SP3 / Vista / Win 7 in this manual.

”Click” and “Double click” refer to the left mouse button; the ”right mouse button“ action is underlined in the text.

In this manual...

- Menu commands are written as <File> <Save>.
- Button and selection fields written in “*Quotation marks*“ and printed italic.
- Command buttons are surrounded by **‘*Apostrophes*’** and printed bold/italic.

If you read the word “radio button”, this means selections as this:



In these selection areas only one option can be selected at the same time.

3.1.1 Backup of previous data

If you have prior to the new version, the version 9.x, ProX.x or 2009.x of the program you should make a backup **before the installation** of **Win-Digipet 2012 Premium Edition** according to section **18.19** or an automatic backup according to **4.10.1**.

3.1.2 Backup of symbol files

If you modified the symbol files supplied with version 9.x, Pro X.x or 2009.x you should backup your symbols files also, because with **Win-Digipet 2009 Premium Edition** new, completed symbol files are delivered.

3.2 Close all applications

Before you install an update of **WIN-DIGIPET 2012** please backup your project(s) and restart your Computer and Windows.

Close all open applications before installing **WIN-DIGIPET 2012**. This also includes the Microsoft ® Office shortcut. It is advisable to delete all Microsoft ® Office programs from the auto start file.

3.3 Installation, switching-on sequence, update

Insert the CD-ROM, containing **WIN-DIGIPET 2012** software in the CD-ROM drive.

In the task bar click 'Start' - 'Run'. The window 'Open' to the setup program appears. Default value is **A:\SETUP**. Please change the drive letter to your CD-ROM drive, i.e. **D:\SETUP.** Confirm with '***OK***'.

If your CD-ROM has another drive letter replace d:\ accordingly.

WIN-DIGIPET 2012 uses for installation the **WINDOWS INSTALLER**. All copied files will be registered in a database. In case of a de-installation, all relevant and program related files will be deleted from your system. Due to this fact the amount of superfluous data files will be very little.

The "windows installer" needs to expand and prepare the installation routine; hence a minimum of **200 MB free disk space** on your hard drive (**c:\)** is required. All files are expanded and copied to a temp directory. These files and the created temporary directory will be deleted automatically after the installation.

At the beginning of an installation, the Install shield installation routine will check, if the "windows installer" is available on your system; if not, this routine will be installed automatically.

A restart of your computer is eventually necessary. After restart the installation will proceed automatically. Normally you just have to click on **'*continue*'** or **'*OK*'**, then, the installation will proceed until completion.

First installation: The default installation path for **WIN-DIGIPET 2012** is **c:\wdigipet**. If you would like to change this, click on **'*change*'** and overwrite the path **c:\wdigipet** in the window "select directory" with your favourite hard drive letter and directory name. Confirm with **'*OK*'**.

If you already own a previous version of **WIN-DIGIPET 2012**, you **have** to use the existing installation path- and directory where the existing WIN-DIGIPET-Version is installed. Already registered data will not be overwritten.

Existing databases for locomotives, routes, etc. will be **automatically** converted to the new version **WIN-DIGIPET 2012**. Please confirm with **'*OK*'** or **'*Start*'** when prompted.

At the end of the installation process there will be a program group with 7 entries in your start menu and also 7 program symbols representing Win-Digipet 2009 on your computer.

- A symbol **„Data maintenance"**, allowing you to access maintenance, backup and restore data.
- An editor for editing the function symbols of locomotives and functionary decoders.
- A symbol **"Track Layout Editor"** to get direct access to edit your track layout.
- A symbol **„Projects"**; an additional program to control created and non-active layouts in the folder „Projects" (create, load and delete new projects).
- A symbol for opening the port list utility of **WIN-DIGIPET 2012**. This little program displays a list of all available serial ports (also the simulated ones of USB-converters) in your system.

- A symbol **„WIN-DIGIPET 2012 Office“**, as the program start-symbol for usage **without any** layout connection. The original CD must not be available for starting the program.
- A symbol **„WIN-DIGIPET 2012“**, as the program start-symbol for layout connection using copy-protection of the CD.

3.3.1 Start of Win-Digipet 2009 - only DEMO-Project present until now

For starting of **Win-Digipet** click on the following symbol on your desktop...

A window „Win-Digipet-Projects“ opens.

Insert the project name, max. 8 characters. The name can be fictitious. A description of not more than 50 character length must follow.

This is **only necessary once**: When data is created for the first time.

Click on **'*OK*'**. **WIN-DIGIPET 2012** with an empty track layout appears.

Now you can start the creation of your project. Please proceed the following way:

- Input all your data, starting with system settings of **Win-Digipet** (see quick entrance or chapter **4**)
- Add your locomotives to the locomotive database (see quick entrance or chapter **5**)
- Create your track diagram within the track diagram editor (see quick entrance or chapter **6**) and
- Create and routes for your blocks (see quick entrance or chapter **7**).

At further program starts click on the symbol on your desktop...

Then **WIN-DIGIPET 2012** starts directly.

Users of Windows 7 or Vista should be logged on as administrators during installation or should select „Run as administrator“ from the context menu of the desktop icon (even when logged on as administrator with activated User Access Control, which is standard for nearly every installation).

3.3.2 Start of Win-Digipet 2009 using a project of a former version

Now you can start Win-Digipet as usual.

If you have worked with version **9.x, ProX.x** or **2009.x** before you won't get any converting messages. If you have worked only with version **8.x** before, the program will automatically convert your routes and locomotives to version **2012**.

After the complete program start you should see the track diagram of **Win-Digipet 2009** as usual.

For working with the program you **won't** have to do any new settings, because all old settings will be converted. But for your own interest you should take a look at the new system settings.

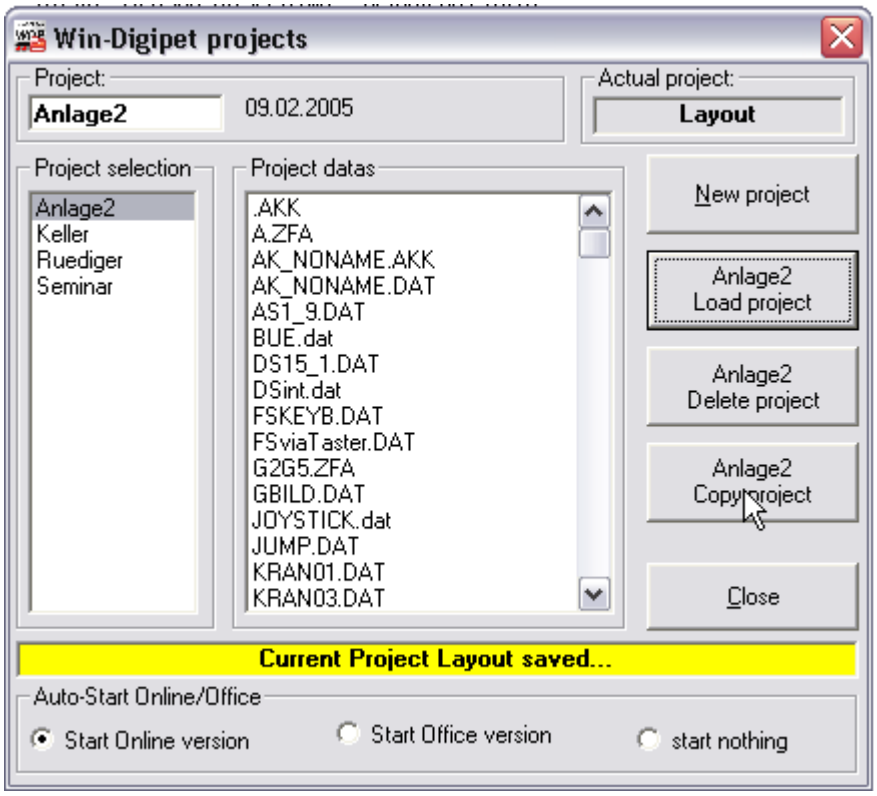
In former versions of the program the only way to control locomotives was using speed steps. In **Win-Digipet 2009 Premium Edition** you can control your locomotives much more comfortable using real world speeds in km/h. There is no way back to the old speed step mode.

3.4 Copying an existing project into a new one

In some cases you might want to copy a project e.g. if you want to use the new km/h mode you have to copy your old project into a new one, which is enabled for km/h.

Win-Digipet 2009 Premium Edition offers therefore a comfortable function.

Close WIN-DIGIPET 2012 and access **'Projects'**, click on <Start> in the task bar, followed by <Programs> <Win-Digipet 2009> <Projects> – and **not** <Win-Digipet 2009> or the corresponding symbol on the desktop.



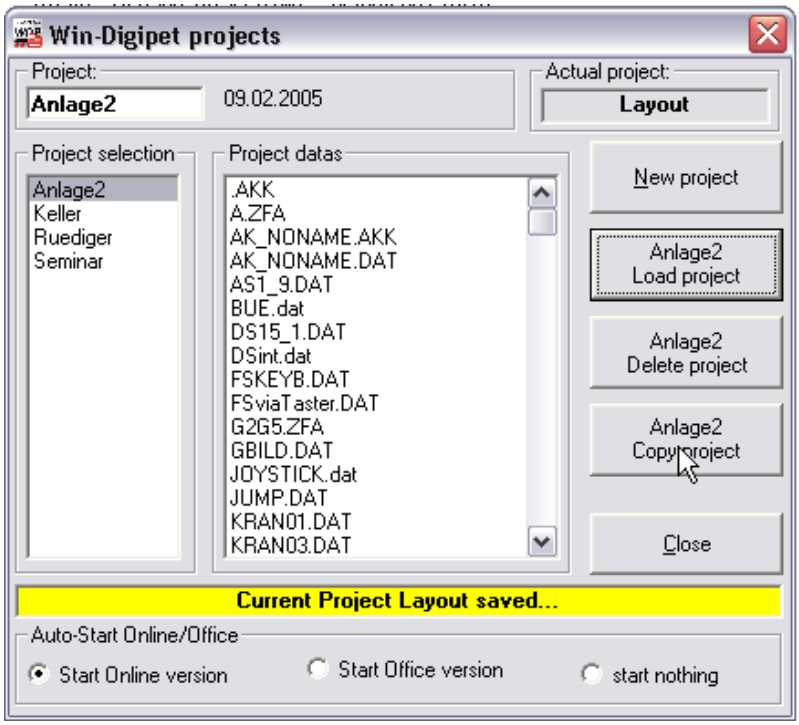
This will access the program „Projects“ showing all your projects. Select the project you want to copy. Now press the ***'… copy Project'*** button. Now you will be asked to enter a new project name and description (see **3.3.2**) and you get the possibility for testing your locomotives driving with km/h speed in the new project.

After pressing ***'OK'*** the new project will be created and all data will be copied from the old to the new one. Now you select the old or the new project from the list and load it using the ***'… Load Project'*** button.

3.4.1 Creating a new project

We assume that you have created your own layout as the **first** Project and saved it. Now you want to create a further layout, your **second** Project.

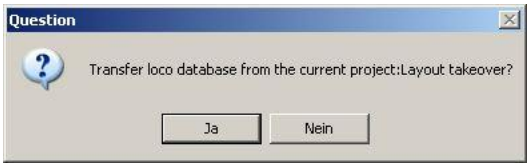
Close WIN-DIGIPET 2012 and access **'Projects'**, click on <Start> in the task bar, followed by <Programs> <Win-Digipet 2009> <Projects> – and **not** <Win-Digipet 2009> or the corresponding symbol on the desktop. This will access the program „Projects“ showing all files of your **first** project.



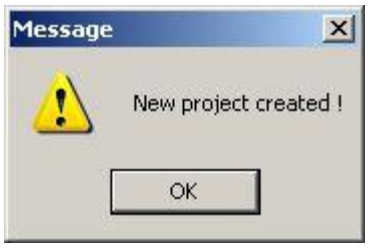
Click on **'New project'**. The selection window „Win-Digipet Project“ appears again; insert the name and description of the second Project.

You can answer the questions, if you want to transfer your system settings or your locomotive database (see chapter **5**) with **'Yes'** or ***'No'***.

This depends of course of your needs and track layout.



The message „New Project created“ appears.



After a click on **'*OK*'** the WIN-DIGIPET-Project window closes...

...and **WIN-DIGIPET 2012** starts automatically.

An empty track diagram appears to input the data for the second Project or the track diagram data imported from a previous project.

The same applies for the third, fourth, etc., project.

3.4.2 Program start with/without Original CD-ROM

By the first program start **the Original WIN-DIGIPET 2012 CD-ROM** must insert in the drive, later it is demanded of the program automatically every few days.

If you want to do edit your data on a second computer (e . g. in the living room or office) and transmit it afterwards to your model railroad-computer, start the special **"Office" version of WIN-DIGIPET 2012**. The Original Authentic **WIN-DIGIPET 2012** CD-ROM is not necessary for this version, it launches **WIN-DIGIPET 2012**, but without connection to your model railroad layout.

3.4.3 Program start - Multiple Projects

Only one of the multiple projects can be displayed on the screen (main program), all others are stored in a folder. The program 'Projects' and your command can access them before the start of **WIN-DIGIPET 2012**.

During installation of **WIN-DIGIPET 2012**, a **project** named "**DEMO** will be copied automatically into the folder "\PROJECTS\DEMO" on your hard drive.

If you would like to have a look at the Demo-data, please load the Demo-Project via <Start> in the task bar, followed by <Programs> <Win-Digipet 2009> <Projects>.

Once loaded, you will find a small and clearly arranged track layout with all data, which was taken over from a seminar of the program author. Play around with this data to familiarise yourself with **WIN-DIGIPET 2012**. If you want to return to your own project, use the same method as described in loading the "DEMO-Project".

To access another Project in the Project folder from the presently displayed Project, close **WIN-DIGIPET 2012** and activate it as described above. The currently displayed Project is saved in the folder "Projects" and the window "Win-Digipet Projects" appears.

Highlight the Project in "Project-Selection" to make this the current Project. Click on ***'Load Project'*****,** to transfer it to the Win-Digipet directory.

All data is displayed after WIN-DIGIPET 2012 has been automatically restarted.

3.4.4 Deleting a project

If you want to delete a project, close **WIN-DIGIPET 2012** and run the program „Projects".

Important notice

'*Delete project*' deletes a Project marked in 'Project Selection' on your Hard disk.

	All projects can be deleted **except** the actual project!

3.5 Help-functions

Execute all steps provided in chapters **4 - 18** of this manual.

These are logical steps, giving you guidance on how to best use all control functions of **WIN-DIGIPET 2012** to control your model railroad layout.

<Help> in the menu bar can access additional information needed for a particular program part.

	The **F1** function key displays the help function of the presently used window.

3.6 Example project data of the manual

During the installation of **Win-Digipet 2012** the example project data, which has been used for writing parts of this manual has been installed also. You can load this project **WDP2012** according section **3.4.3** of the manual. This can be very useful for understanding the manual.

4 – SYSTEM SETTINGS

After you have installed **WIN-DIGIPET 2012** and have done already your first experiences with the program, you should get to know the functions **of WIN-DIGIPET 2012** in all details within the following chapters.

In this program part you appoint how **WIN-DIGIPET 2012** should react to inputs etc. .

After you have launched **WIN-DIGIPET 2012**, all program parts are loaded, and you are in the main part of the program. In the upper part of the monitor the **WIN-DIGIPET 2012** toolbars with the most important icons appear for opening different program parts.

The meaning of each icon is displayed as tool tip if you point on the icon with your mouse. The icons of these toolbars - and all the other toolbars of the program - explain themselves; therefore, not all meanings are especially explained in this manual.

If you haven't registered any data until now, **an empty** track diagram appears on the monitor after start of the program.

Click on the symbol  in the toolbar.

A new window "System settings" appears.

Tip!
You do not need to confirm every tab in the system settings with ***'Save'***.

Only after all your inputs, you have to save with ***'Save'***. Accordingly you leave the system settings with a click on the button ***'Close'***.

<u>Important tip!</u>
If you miss in the picture above the ...

- Profiles editor

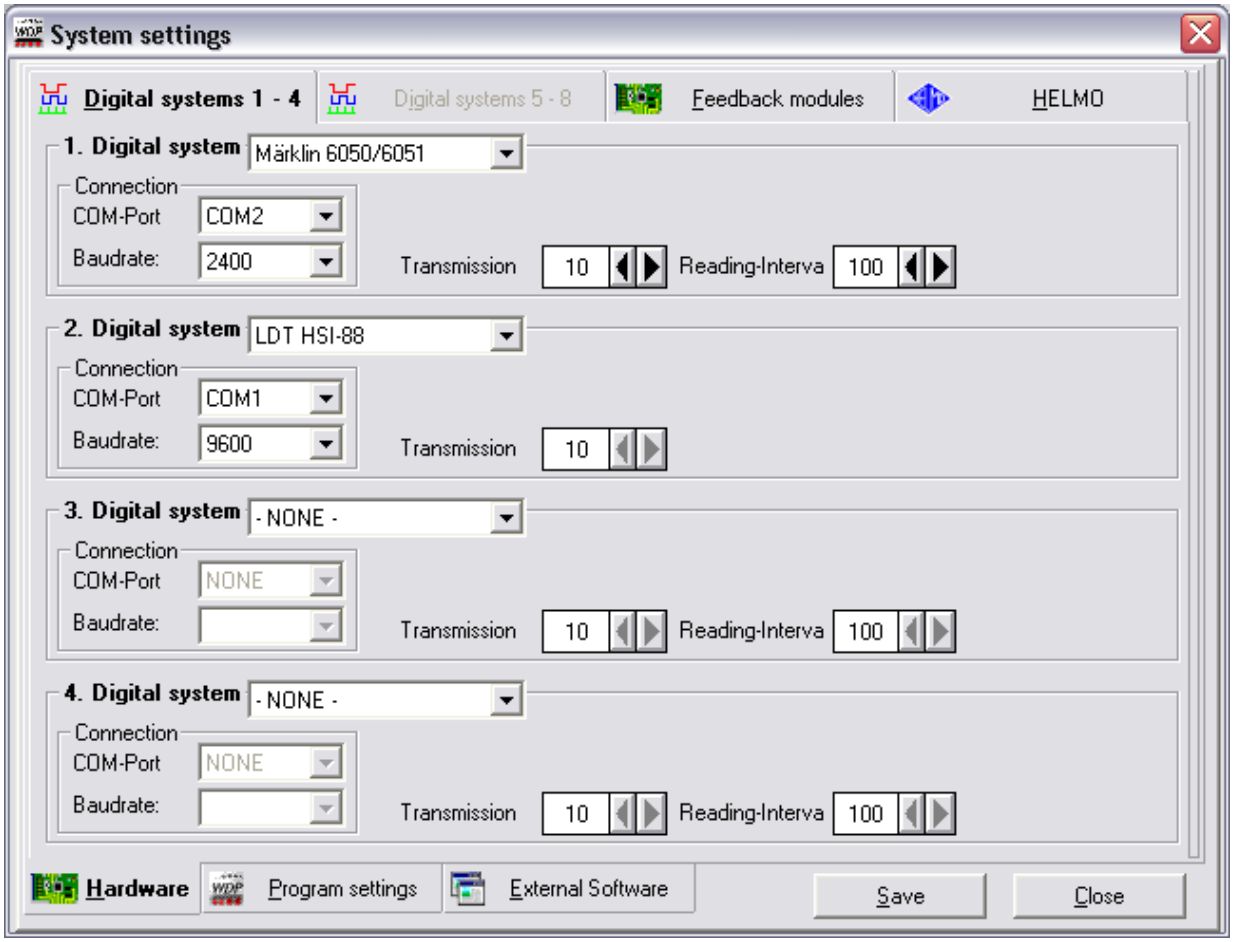
... these are displayed not until the profiles (see **4.5.3**) have been activated.

4 – SYSTEM SETTINGS

4.1 Index card „Hardware – Digital system“

On these two index cards you can configure your digital system. Up to 8 digital systems are possible for one layout.

Your old settings will be converted when updating to Version 2009, but we recommend opening the system settings and controlling the settings (if you used prior versions 8.x, 9.x, ProX.x, 2009.x)!



If you update from version 9.0 or prior please also check the feedback contact setting!

4.1.1 Connected digital system

Until now Win-Digipet supports:

Manufacturer	Name of system
	Locobuffer
Wolfgang Kufer	OpenDCC, as well as BidiB-Interfaces
CAN-Digital-Bahn	CC- or PC-Schnitte
CT-Elektronik	ZF5
Döhler & Haas und MTTM	Future Central Control
Electronic Solutions Ulm (ESU)	ECoS und ECoS 2
ESU bzw. Märklin	Central Station Reloaded
Faller	PC-Modul 161351
Fleischmann	TWIN-CENTER
Helmo/Littfinski Datentechnik(LDT)	System Inter 10 (for feedback)
Infracar, Karsten Hildebrand	Infracar-System (for car control)
Lenz	LAN/USB-Interface
Lenz	LI100(F) / LI101(F) / LI-USB
Littfinski Datentechnik(LDT)	HSI-88 (for s88-feedback)
Littfinski Datentechnik (LDT)	HSI-88 USB (for s88-feedback)
Massoth	DiMAX
Märklin	Central Station and Central Station 2
Märklin Systems	6020/6021 and nterface 6050/6051
Modelleisenbahn Claus	DCCar
modellplan	Digital-S-Inside and Digital-S-Inside 2
modellplan	Switch-Com
MÜT	Multi Control 2004
OpenDCC	Z1 P50X
Rautenhaus	Interface RMX 952
Rautenhaus	Interface SLX 825
Rautenhaus	Interface SLX 852
Stärz	SX-Bus-Interface
Stärz	ZS1 and ZS2
Tams	Tams Master Control
Tams	Tams RC-Link Interface
Trix	Selectrix-System
Uhlenbrock/Modeltreno	INTELLIBOX
Uhlenbrock	INTELLIBOX II
Uhlenbrock	IB-Com and Gamesontrack
Uhlenbrock	Intellibox Basic (UB65060)
Uhlenbrock	USB-LocoNet-Interface 63120

After changing the digital system, it is necessary for you to click on ***'Save'*** and ***'Close'***, because **WIN-DIGIPET 2012** has to be restarted otherwise some options can't be used.

4.1.2 Port for the interface (serial/USB)

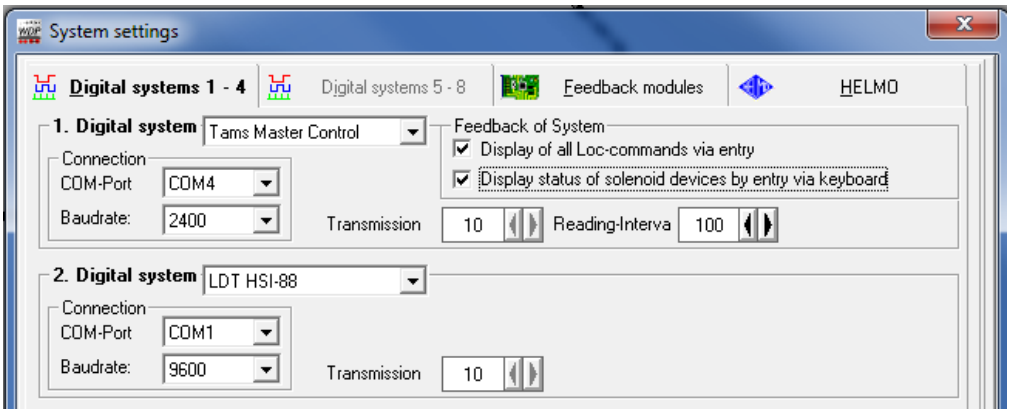
In case of serial port or most USB interfaces: Select the serial port, which is connected to your interface. You can get a list of all available serial ports using the port search program. Most USB interfaces emulate a virtual serial port in the system, this can also be found via the port search program.

You can choose between 16 serial ports (COM 1 to COM 16). In most cases port 1 is used.

In the following sections you will find some additional information regarding several digital systems.

Please read the manual of your digital system also.

- **Tams Master Control**
  If you want to connect your Tams Master Control via USB: Please install the USB driver from the Tams-CD. The minimum update-Version is 1.4.6g of Tams which you can purchase from the Tams website (http://www.tams-online.de/).

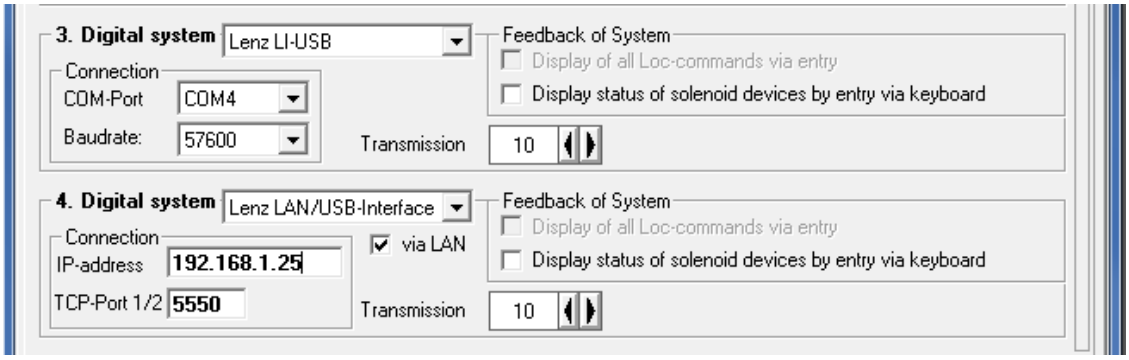


- **Tams RC-Link**
  If you want to connect this interface via USB: Please install the USB driver from the manufacturer CD or homepage. Afterwards you can detect the used virtual serial interface via the Win-Digipet port search program.

- **DiCoStation**
  The LDT HSI-USB connects to the PC via USB and you have to install the driver delivered with the device. With the software of the manufacturer you can also select a device number for the device (standard is 1), if you have more than one HSI-USB. This device number has also been entered into Win-Digipet´s system settings.

- **D&H Future Central Control**
  This interface has to be connected via USB: Please install the USB driver from the manufacturer CD or homepage. Afterwards you can detect the used virtual serial interface via the Win-Digipet port search program.

- **Lenz LI-USB / Lenz LAN/USB**
  These interfaces have to be connected via USB in most cases: Please install the USB driver from the manufacturer CD or homepage. Afterwards you can detect the used virtual serial interface via the Win-Digipet port search program.
  If you want to use the Ethernet interface of the LAN/USB interface you have to make the IP settings in the interface according to its manual and afterwards you have to enter the IP address of the interface in Win-Digipet.

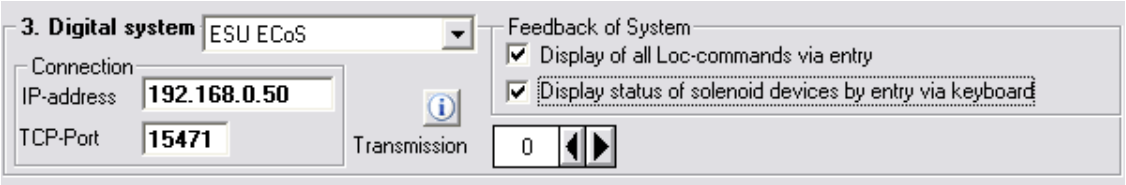


- **Intellibox II, Intellibox Basic, Intellibox Com**
  These interfaces have to be connected via USB: Please install the USB driver from the manufacturer CD or homepage. Afterwards you can detect the used virtual serial interface via the Win-Digipet port search program.

- **Switch-Com**
  This device is connected via parallel printer port and you have to select the port number...

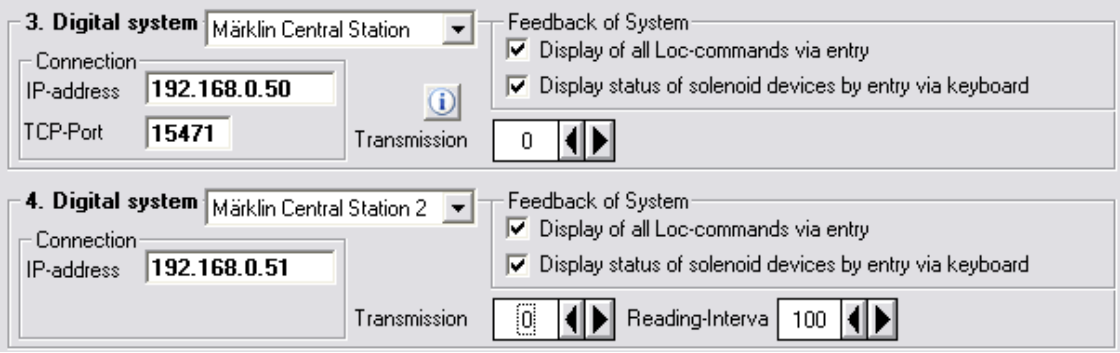
NONE
This entry is only for testing proposals without any interface connection.

- **ESU ECoS, ESU ECoS 2 / Central Station Reloaded**
  These systems are connected to the PC via an Ethernet cable.



Please enter the IP address of the system. The TCP-Port 15471 shall not be changed, because this fixed in the system.
For additional help when installing the systems use the network digital system assistant. This can be started by the button with the magic wand. This wizard is absolutely self-explaining.

- **Märklin Central Station and Märklin Central Station 2**
  The Märklin Central Station and Märklin Central Station 2 are connected to the PC via an Ethernet cable.



Please enter the IP address of the Märklin Central Station (2). In case of the Märklin Central Station you have also to enter TCP-Port **15471**, this shall not be changed, because this fixed in the Märklin Central Station. For the Märklin Central Station 2 there is no need to enter a port number.

For additional help when installing the systems use the network digital system assistant. This can be started by the button with the magic wand. This wizard is absolutely self-explaining.

The minimum firmware version for the Märklin Central Station 2 in combination with **Win-Digipet 2009** is Version 2.0.1.

4.1.3 Transfer speed (baud rate)

When changing a digital system the baud rate will set to default baud rate of the selected system. You can change the baud rate to other values (Default, 2400, 4800, 9600, 19200, 38400, 57600 or 115.200).

Some digital systems do not support any baud rate change.

4.1.4 Reading interval time

For many digital systems this option is not available because the program recognizes automatically when new reading is necessary.

Here you determine how fast your feedback modules are read out and displayed. Settings between 100 and 2000 milliseconds are possible. The default value is 100 milliseconds indicating that all feedback modules on your layout are read ten times per second. The lower you set this figure, the faster the readouts are performed. A figure too low might jam the interface and/or disturb the displays on the screen.

It is recommended that you carry out some testing to find out which setting suits your system best. For the Märklin interface 6050/6051 your minimum setting shouldn't be below 140.

If you use several digital system e.g. an Intellibox for driving and switching and a HSI for feedback, you should set the time for the HSI to 100 msec and the time for the Intellibox to 1000 msec or more. This gives more priority to the HSI feedback information.

4.1.5 Break between commands

The Märklin Interface is unable to cope with too short command sequences .Thus, it is possible that in routes switching routines, one or more solenoid devices are „suppressed“ or not correctly switched. This depends also on the type of computer used.

Select between 10 and 100 milliseconds; default value is 10 milliseconds. You should increase the setting, if solenoid devices are incorrectly switched or not switched at all.

This is an overall setting for **all** of your solenoid devices. In addition, you can change the switch time of individual solenoid devices; see paragraph **7.2** for details**.**

Note:

No intervals between commands are necessary when using the following digital systems:

- CAN-Digital-Bahn
- Digital-S-Inside
- Fleischmann Twin Center
- Helmo Inter-10
- LDT HSI-88
- LDT HSI-88-USB

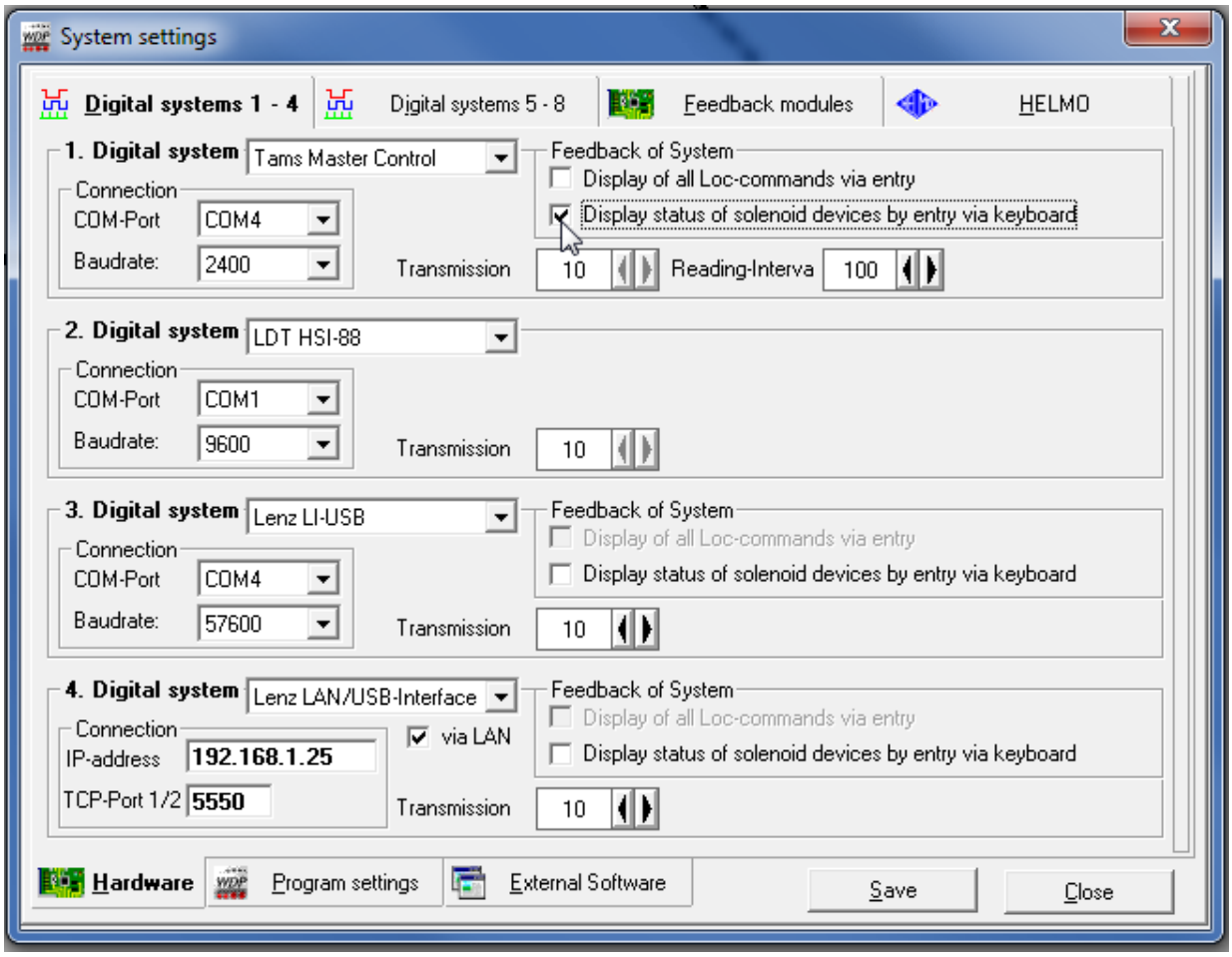
- Locobuffer
- Tams Master Control
- Uhlenbrock IB-Com
- Uhlenbrock Intellibox
- Uhlenbrock USB-LocoNet-Interface 63120
- Uhlenbrock 65060 Intellibox Basic

The setting is 0 and cannot be changed.

4.2 Events of the digital system

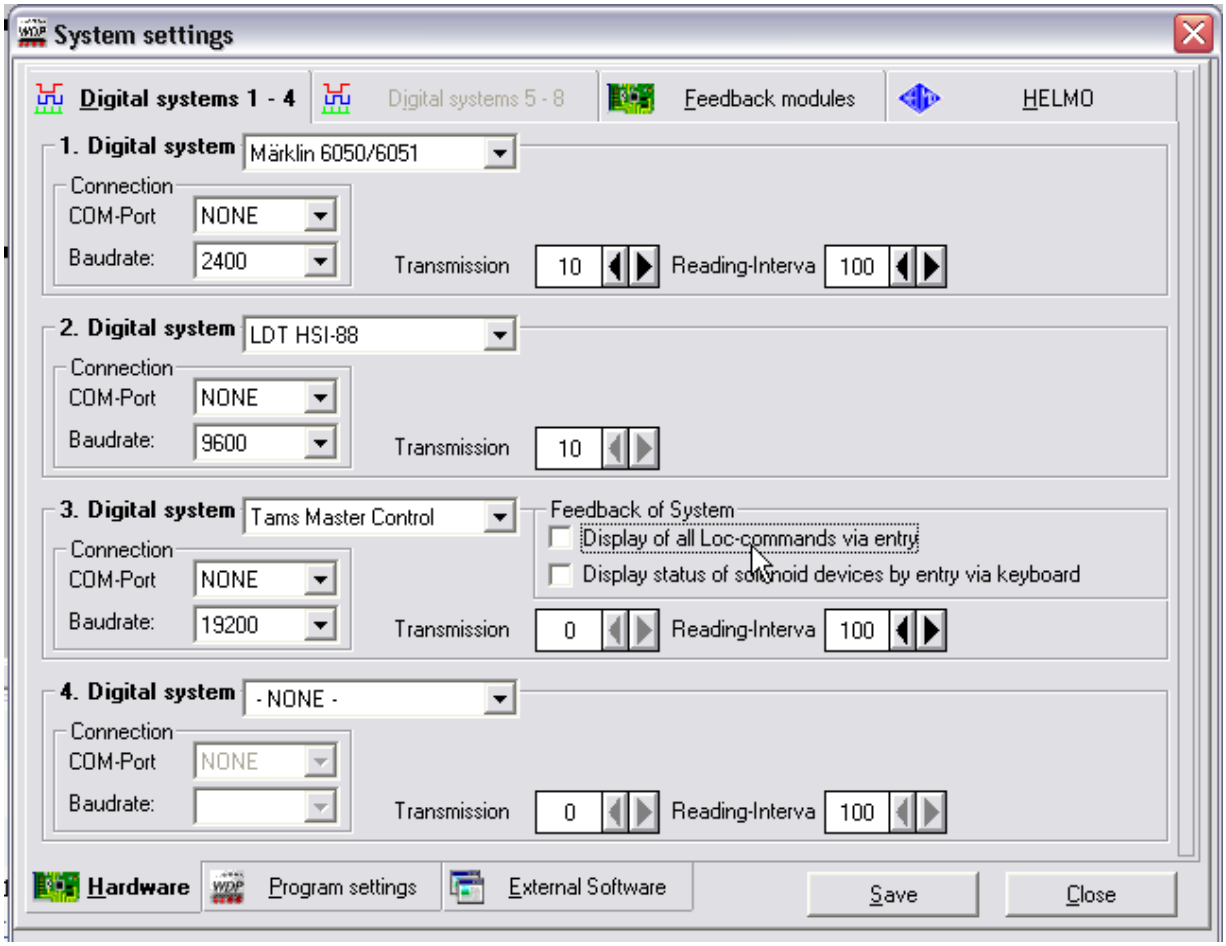
Contrary to the Märklin-System 6050/6051 for many other systems all events on the layout can be fed back to the computer via many digital systems. A real feedback between the system and the computer exists.

4.2.1 Display solenoid device position if manual input via keyboard



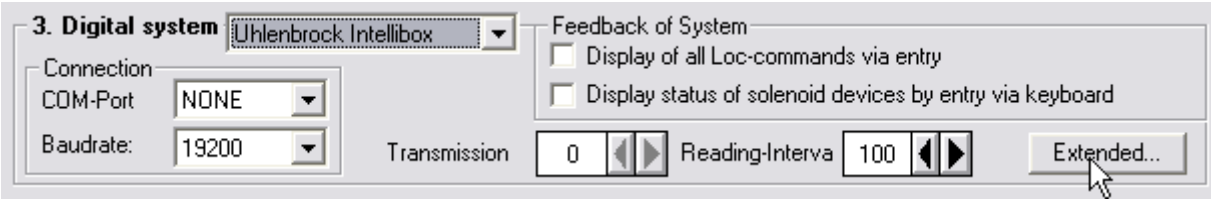
All changes on solenoid devices at manual keyboard input are displayed, if „*Display solenoid device position if manual input on keyboard*" is activated.

4.2.2 Display all locomotive commands if manual input on controller



All manual inputs on external controllers are displayed on the screen if "*Display all locomotive commands if manual input on controller"* is activated and this is supported by your digital system. If you turn the speed control knob on your digital system, the actual speed is also displayed on the control knob in the loco control field of Win-Digipet Control. Also light, special functions and direction of travel are displayed. This function is not available for all kind of digital systems (e.g. Märklin 6020/6021, Lenz).

4.2.3 Further options for Digital-S-Inside, Intellibox and Fleischmann Twin Center



If you click on the button **'*Extended*'** you will see further options for this digital system.

An error message is displayed if "Locking solenoid device within an active route if manual input on keyboard" is activated. This would be the case if you try to access a solenoid device from the external keyboard, within an active route.

Intellibox and TwinCenter offer the possibility to use (nearly) all decoder types on one layout simultaneously (Märklin, Lenz, Trix, Uhlenbrock, Digitrax etc.).
Under such conditions – and only then - Märklin-Decoder could show a small problem: -lights on locomotives might flicker.

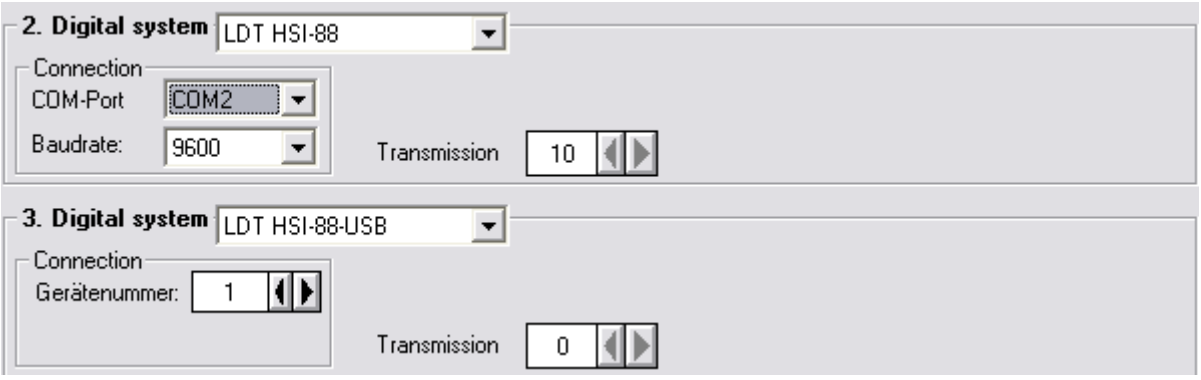
The option *"Activate anti light flicker" nearly* eliminates completely the flickering of the lights.

Use tests to decide the factor low - medium – strong.

The minimum activation time for all solenoid devices is set here. Values are between 0 to 500 msec. This minimum activation time is adhered to, even when the program has sent a switching-off command. Recommended value is 100 msec.

If you made changes concerning this extended options you have to confirm your changes via the button **'*Save*'**. Afterwards you can close the extended options tab via the button **'*Close*'**.

4.2.4 LDT High Speed Interface HSI-88 and HSI-88 USB



The company **Littfinski-Datentechnik (LDT)** in D-25482 Heist near Pinneberg (North of Germany) supplies their **LDT High Speed Interface HSI 88** to accelerate the feedback contact messages to the bus of the s88 feedback modules. All Märklin compatible feedback modules can be connected.

The **HSI-88** is able to transfer the feedback information with a transfer speed of **9600 Baud** and not only 2400 Baud like for the Märklin Interface.

The **HSI-88 (USB)** cannot just only read back one feedback line, but **three at a time**. Therefore there is no need to arrange them all like pearls on a cord like you have to do for the Märklin Interface. You may arrange up to **three lines for the bus** in parallel and you have got the advantage, that these s88-bus lines will be performed quicker.

Important!
The assignment of feedback modules is explained in section **4.3**.

You can arrange 31 feedback modules per line, but summarised you may not exceed 31 together in all three lines. The **HSI-88** requires a separate COM-port on its own.

The **HSI-88** is triggered by events. One or several feedback inputs will be reported **directly** to the PC.

This saves computer capacity and the **feedback time will be shorten**, because the PC needs not check any changes in a cycle (and therefore with delay), but the PC gets all changes reported **active** by the HSI-88.

If you have a big layout you can also reduce the amount of cables by using more than one **HSI**, but the total amount of feedback contacts may not be greater than 992.

If you divide the bus into three lines, an additional acceleration in conjunction with the HSI-88 will be possible for Intellibox-Users.

The numbering scheme of all used feedback modules will start with 1 and ends with a maximum of 62, starting at the left bus line from the bottom to the top, after that, from the middle bus line (bottom to top) and the same for the right bus line.

You should connect the amount of feedback modules quite regular to all three bus lines.

You can find examples for the connection and additional information to the HSI-88 (USB) on the homepage of Littfinski-Datentechnik: www.ldt-infocenter.com

4.2.5 Save settings

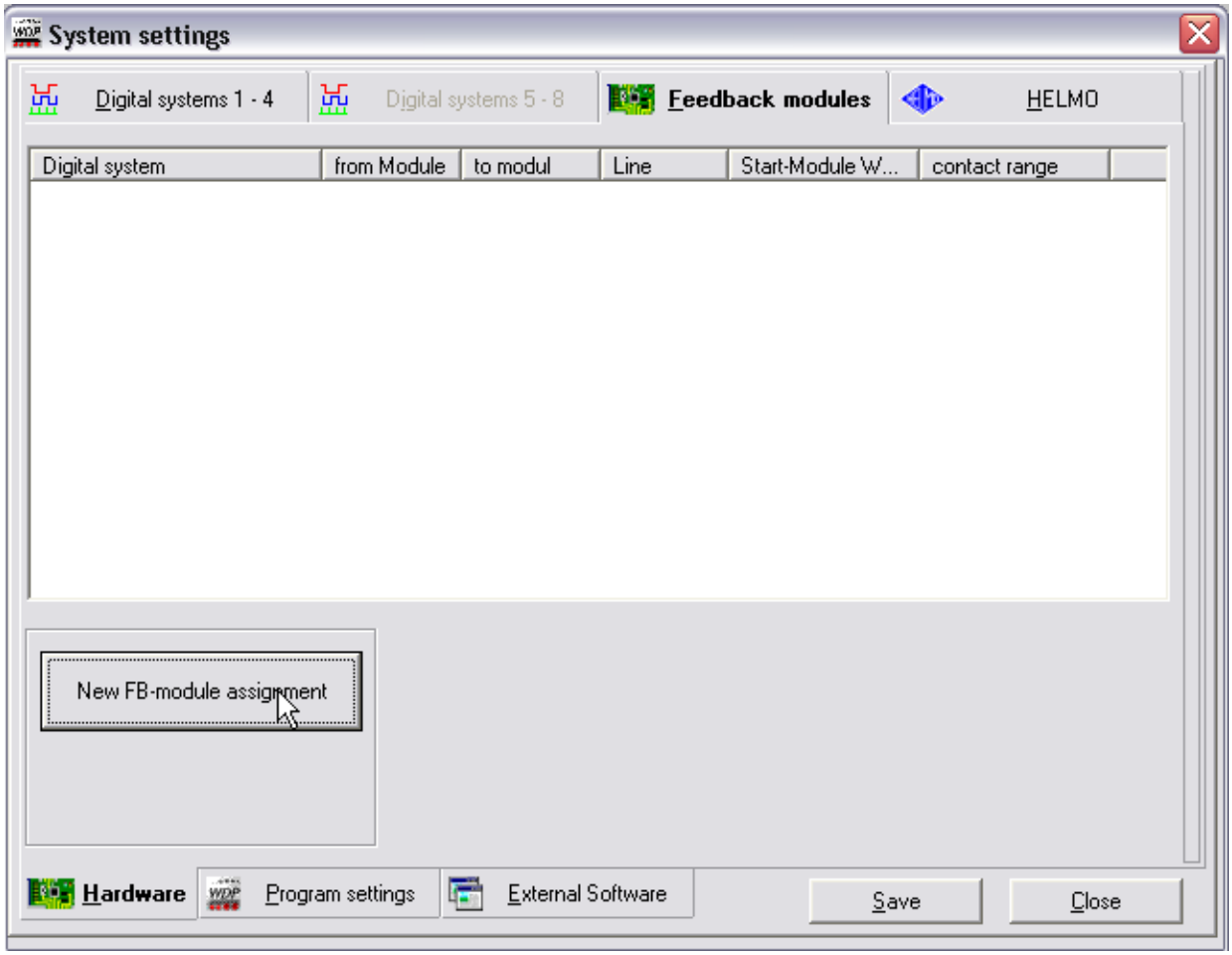
Having carried out all settings, click on ***'Save'***.

WIN-DIGIPET 2012 creates a file in the Windows Registry with the name of the active project. All updates and settings are saved here.

Please do not attempt to change, modify and delete values of these files. This should only be attempted after having spoken to the author of the program, in case of difficulties.

A program part is closed without saving data if you click on ***'Close'*** instead of ***'Save'***. You are returned to the main program.

4.3 Index card „Hardware - Feedback contacts“



After registering your digital systems according to section **4.2.5** you have to save and close the system settings and restart **Win-Digipet 2009** afterwards. Now you can open the system settings again to assign the feedback contacts to your digital systems.

4.3.1 Feedback contact registration

In each row of the feedback contact list you can select a digital system for feedback contact usage. **Win-Digipet 2009** supports up to 1984 feedback contacts.

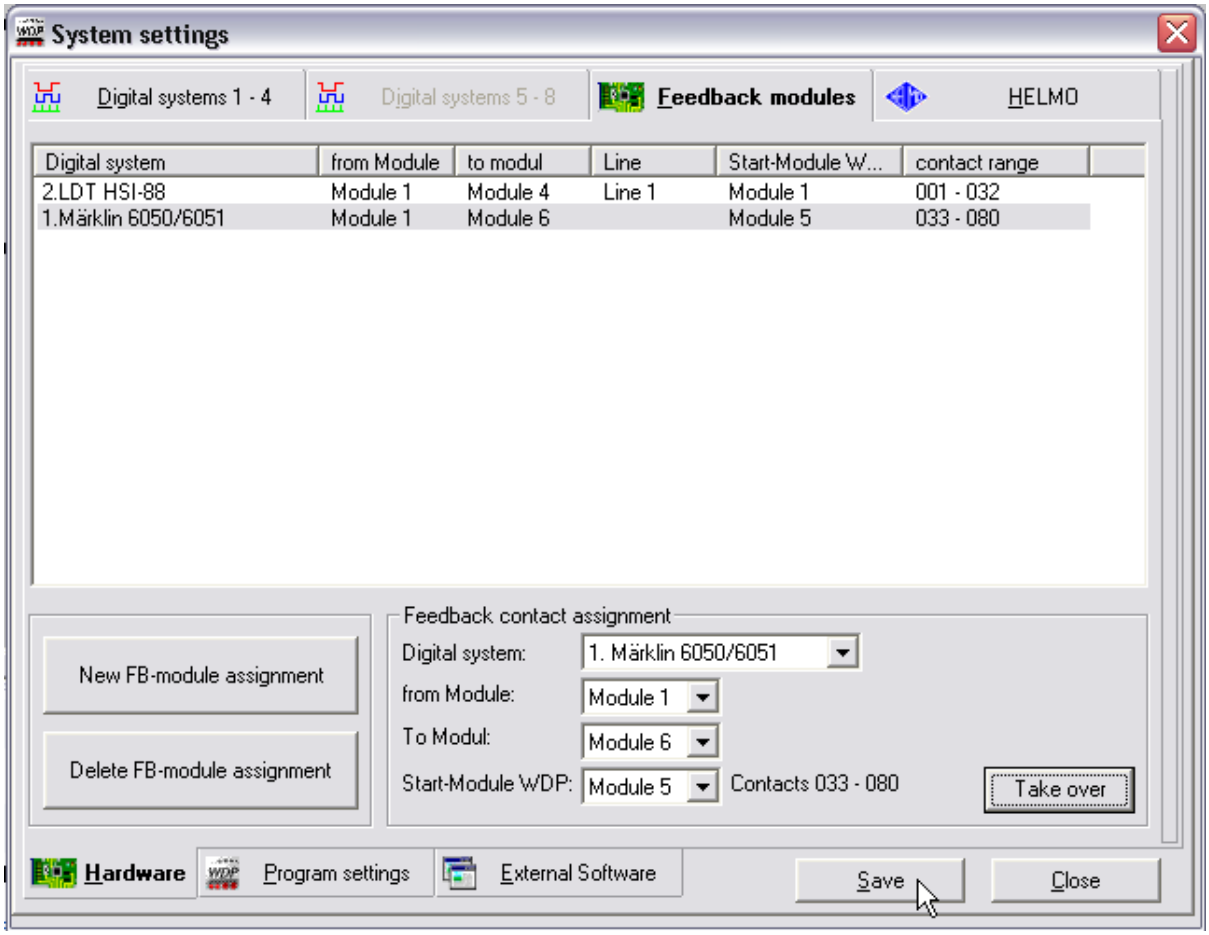
Important!
The calculating scheme for the counting of feedback modules has been changed in Version **9.2**. Until the last version the feedback modules for s88-feedback systems have been counted in groups of 16, now this has been changed to groups of 8 to get a unique calculating scheme for all type of feedback contacts. This means 1 S88-feedback module will count as 2 feedback modules within Win-Digipet.

By clicking on **'*New FB-module assignment*'** some additional input fields appear:

- „*Digital system*“
- „*From Module*“ and „*To Module*“ as well as
- „*Start-Module WDP*“

With this input fields you enter new items to the feedback contact module list. Each entry consists the selection of the Digital system the feedback contact modules are connected to, the number of the first and last module used (e.g. 1 to 8 when using 8 modules with 8 connectors each or 4 modules with 16 connectors each) and the Start-Module in WDP. Within the program WDP use the feedback contact numbers 1 to 1984. If you want to assign the modules from the example above to the contact numbers 1 to 64 then you have to select 1 as Start-Module, if you want to use contact numbers 65 to 128, then you have to select Start-Module 9 and so on. For some digital system you also to have to select the bus the modules are connected to e.g. for HSI. After making your selections you can transfer the data to the table using **'*Transmit*'**.

Using the same method you can make up to 50 feedback contact module block assignments in the program. Please study some examples below.



Using **'*Delete FB-contact assignment*'** you can remove the selected list row.

After changing the feedback contacts you have to press ***'Save'*** and ***'Close'***. Afterwards you will be forced to restart the program to reinitialise the feedback contact system.

4.3.4 Feedback modules and several digital systems

If you use S88-feedback modules with an ECoS, Central Station, Intellibox or Twin Center, you have to register the number of these feedback modules in the system settings of **Win-Digipet 2012** and also in the menu of these systems.

But be careful in this case you have count in groups of 16.

Example:

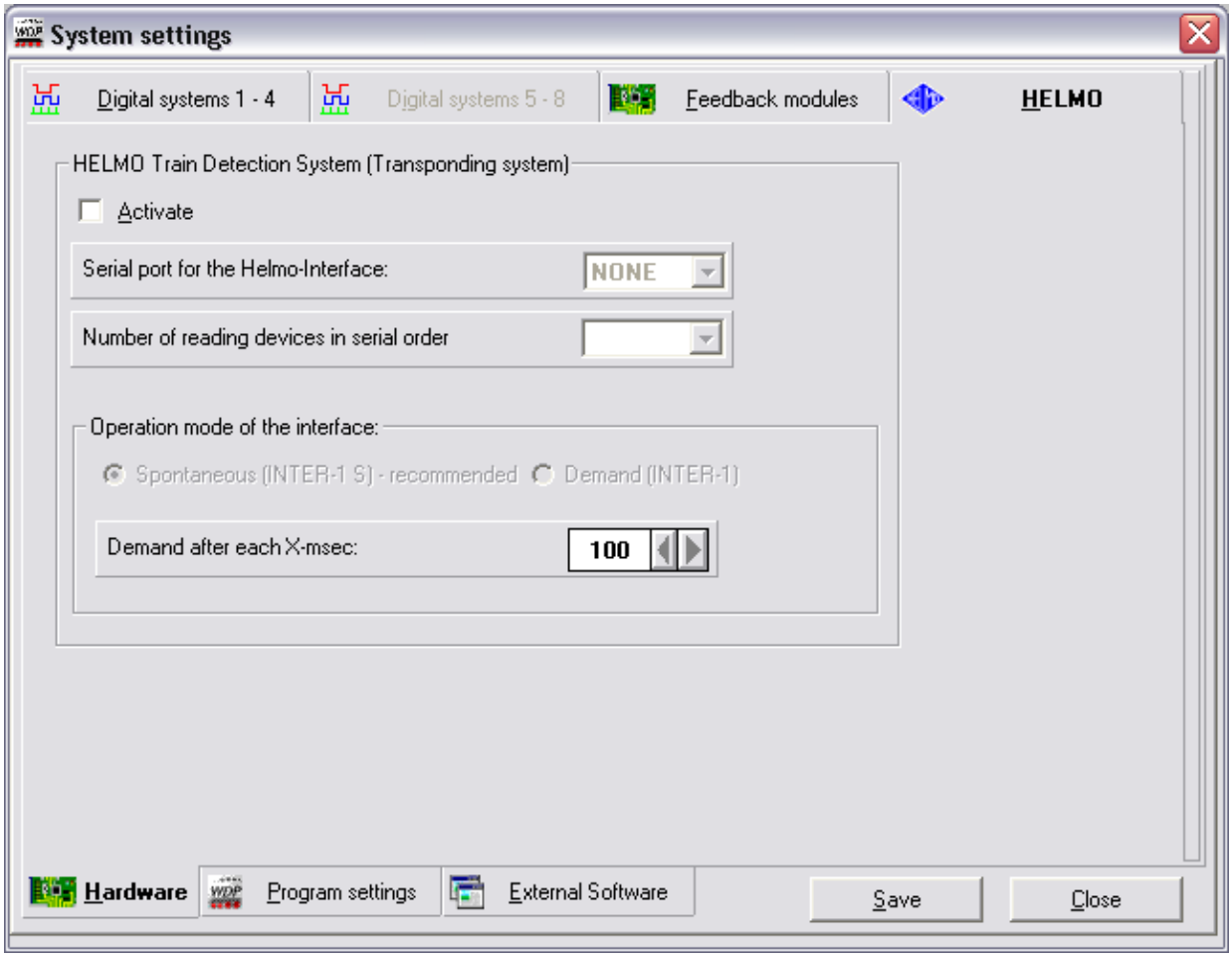
- You have connected 12 s88-feedback modules with 16 inputs to your Intellibox/ Twin Center
- The you have to register 24 modules in the system settings of **Win-Digipet 2009**
- But in the menu of the Intellibox/Twin Center you have to register 12 modules.

These settings in the menu of the Intellibox/Twin Center are very important because otherwise **Win-Digipet 2012** will possibly not receive feedback contact messages from these digital systems.

When using the Märklin Central Station **2** please remember the following:

You have to register a feedback contact in the central stations track diagram with the highest used feedback contact number in Win-Digipet for this system. By this registration the Märklin Central Station 2 recognizes how many S88 modules have been connected.

4.4 Index card „Hardware – Helmo“



The HELMO Detection System in conjunction with a transponder mounted at the locomotives makes it possible to identify the exact loco-address if the train rides over these specific reading devices.

A maximum of **30 reading devices** may be installed at your model railroad.

Via an interface and a separate COM-port, the identified addresses will be reported to the program. Two kinds of HELMO-interfaces are offered, for a different way to identify the loco-addresses:

Inter1-S :

This interface reports directly – without specific demand of the program – any change from the reading devices. This is the faster and recommended method, because additional data, which increases the data stream and slow down the system, are not necessary.

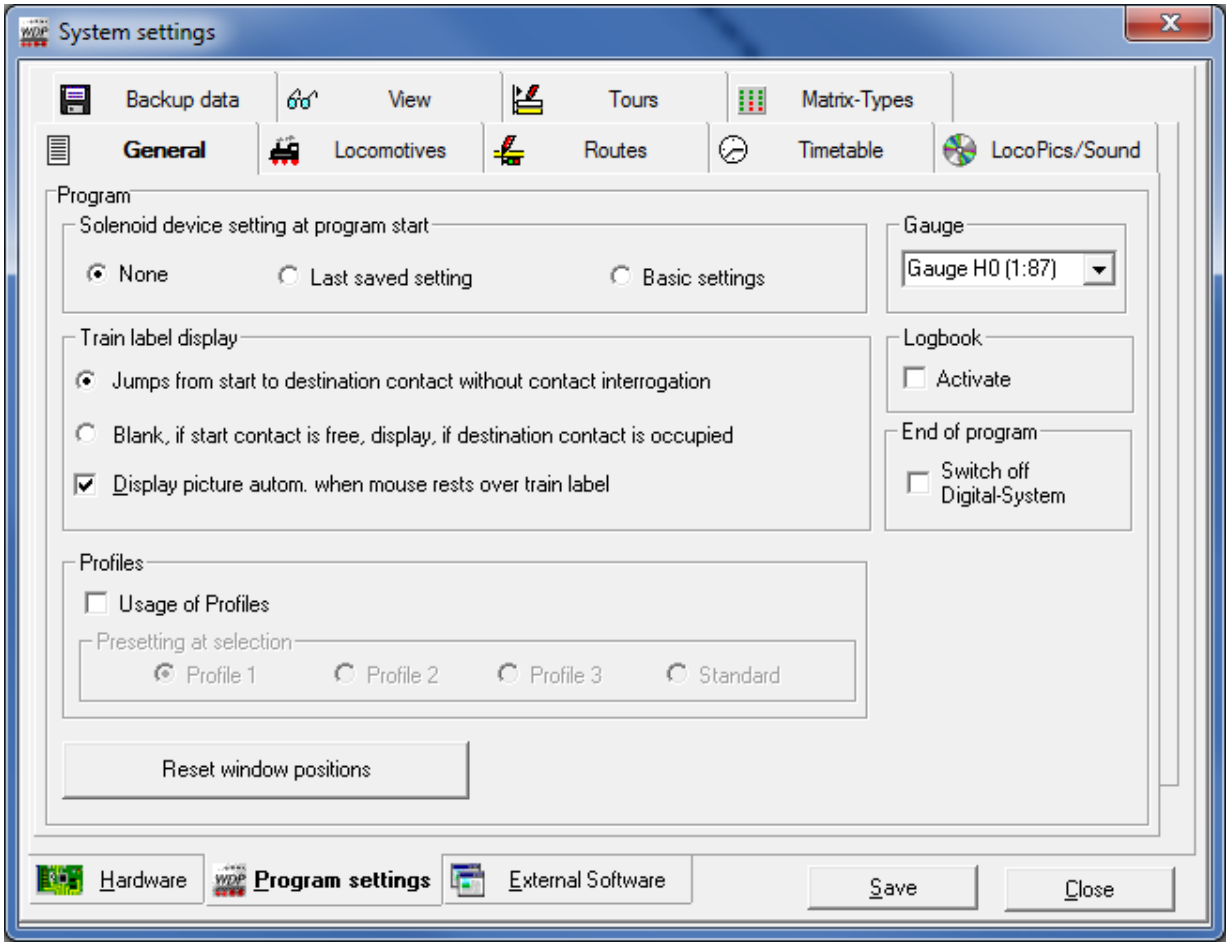
Inter1:

This interface just works on demand by the program. The inquiry time can be individually adjusted.

When you have activated a HELMO-interface, the switch button in the main program will be activated and the amount of reading devices will be displayed and are ready for identifying the addresses (see **18.17.11**).

You can find additional information on the HELMO-homepage: www.helmo.de

4.5 Index card „Program settings – General“



4.5.1 Solenoid device setting at program start

You can select if and under which condition the solenoid devices should be switched after starting the program...

- No solenoid devices are switched (recommended) or
- all solenoid devices are switched to their last saved setting according to their actual switching position on the screen or
- to their basic settings.

The last two options are only useful, if you make frequent manual changes on the keyboard while the program is running, because when using this options the program starts is more or less delayed depending on the number of the installed solenoid devices.

4.5.2 Settings under „Train number display“

Here you define whether the train number display is performed, using feedback contacts or not.

If yes, select: “*Blank, if start contact is free, display, if destination contact is occupied“.* More details in paragraph **18.10.3.**

If no, select: “*Jump from start to destination contact without contact interrogation“*. More details in paragraph **18.10.2.**

If you checked the switch *“Automatically display picture when moving mouse pointer on train number“*, the train number field in the track diagram, to which the mouse pointer is pointing, not only displays the train number but also the picture of the locomotive.

4.5.3 Usage of profiles

On this index card you can activate the usage of profiles.

Only when checked...

- The menu commands <File> <Profile-Editor>
- and the symbol in the toolbar are active.

the profiles are available in manual and automatic operations.

4.5.4 Presetting at selection

If you have created profiles (see **10.2**) you can preselect which profile to use with the “Start/Destination function“, so you don’t have to change from “*Standard*“ to “*Profile 1*“ every time. If no “*Profile 1*“ exists automatically “*Standard*“ would be used. When using “*Standard*“ the route will be executed as defined in the routes editor without any profile.

4.5.5 Reset window positions

For user of **WIN-DIGIPET 2012**, who use more than one display the button *“Reset windows positions”* has been created.

When pressing this button all saved positions for the several windows in the program would be reset to their standard position on the first screen. This is very useful to restore a one-display-operation after using more than one display.

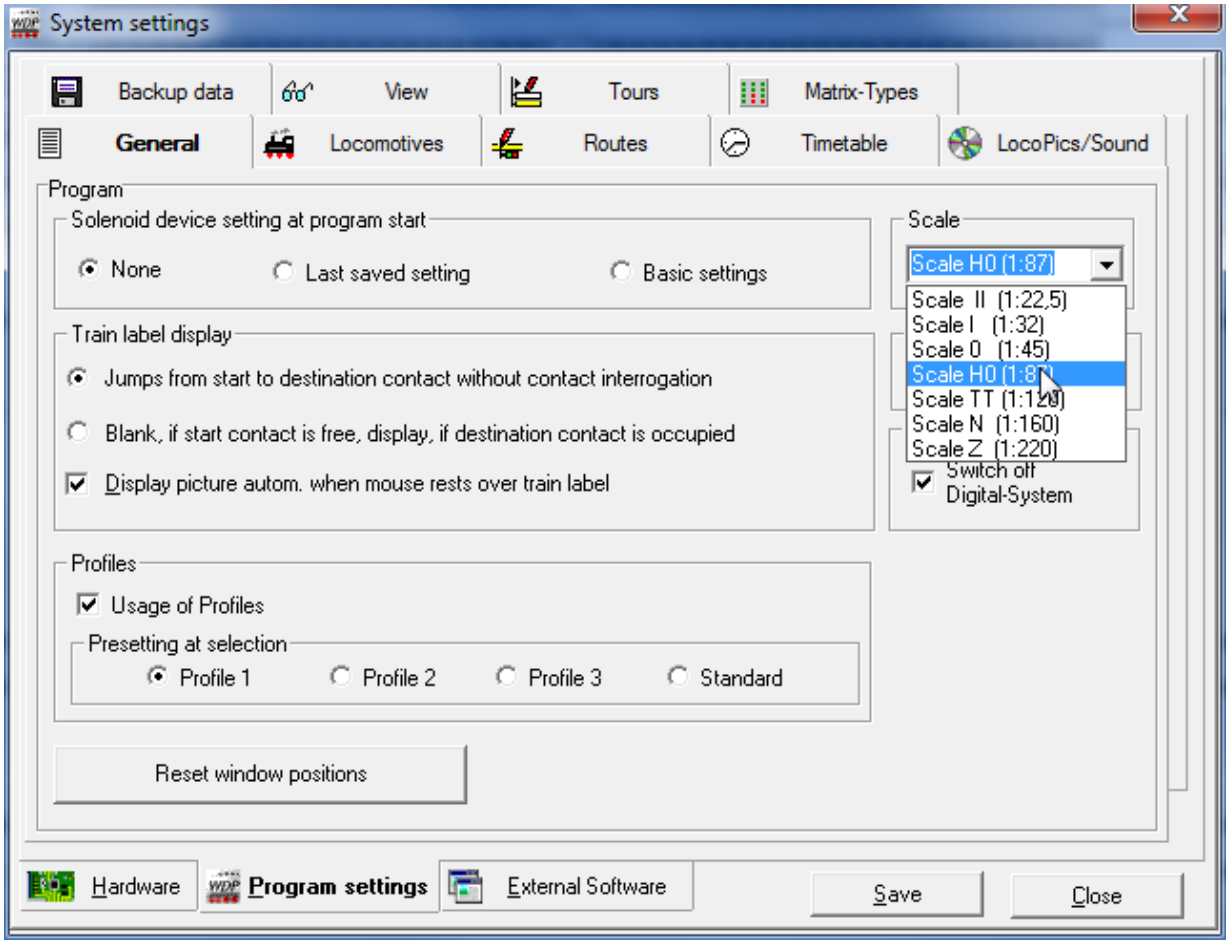
Now all windows are **not** centred automatically any longer to the first screen when opening**.**

You can reset the positions of the locomotive controls with a click on the symbol or with the key **"F2"**.

If the windows to be reset are open at the moment you have to close Win-Digipet and reset the window positions with the corresponding button in the data maintenance program, see **18.19.6**.

4.5.6 Scale

Here you can select the scale of your model railroad layout. The standard value is H0 (1:87).



If you have parts on your layout with a different scale size e.g. N for a narrow-gauge track you should select here your main scale and for single locomotives using another scale you can select the differing scale in the vehicle database.

4.5.7 Logbook

If you activate the logbook **Win-Digipet 2009** will list all important messages of the program in the logbook.

You can open the logbook using the menu command <View> <Logbook> or via the context menu of the track layout.

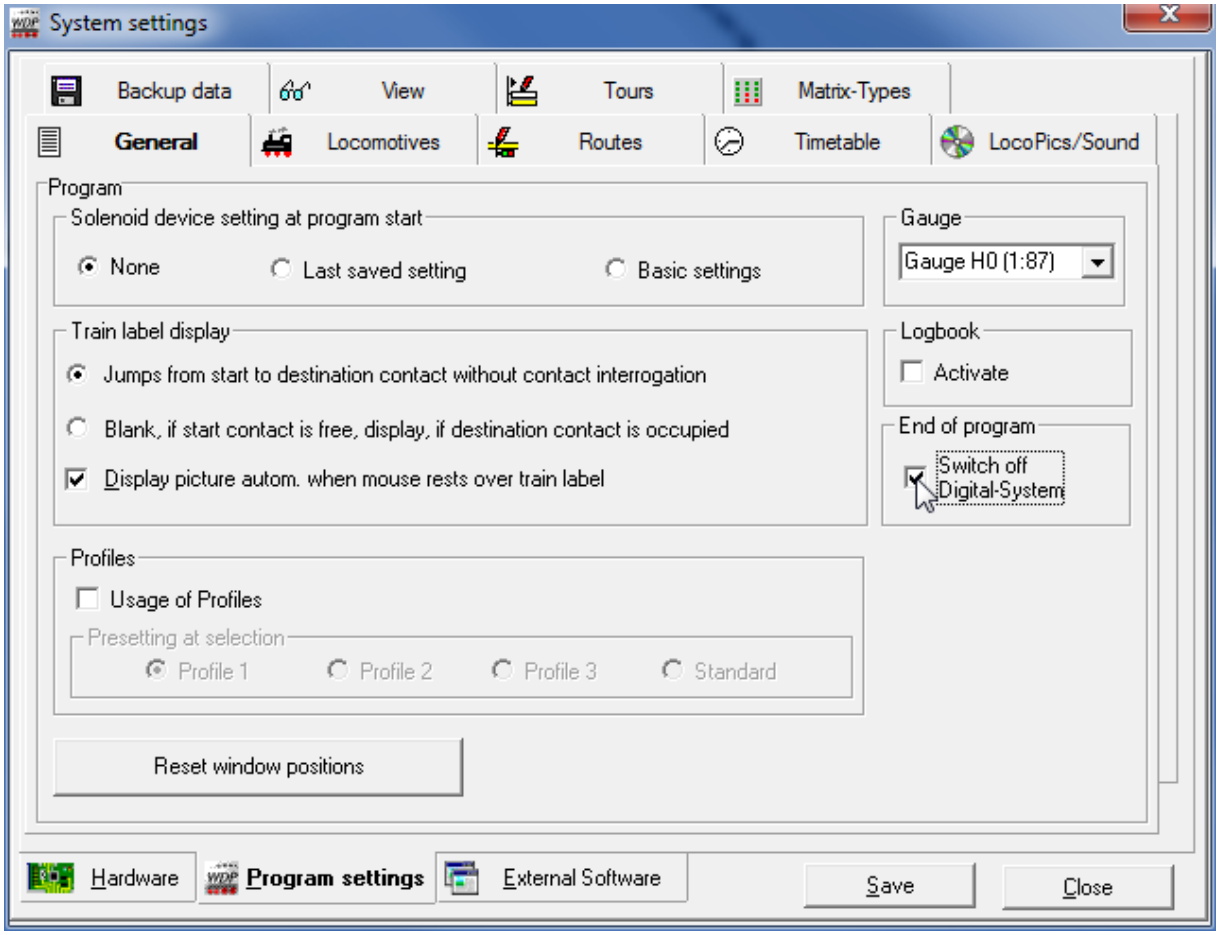
You can also clear the list manually or save the list into a file.

Important!

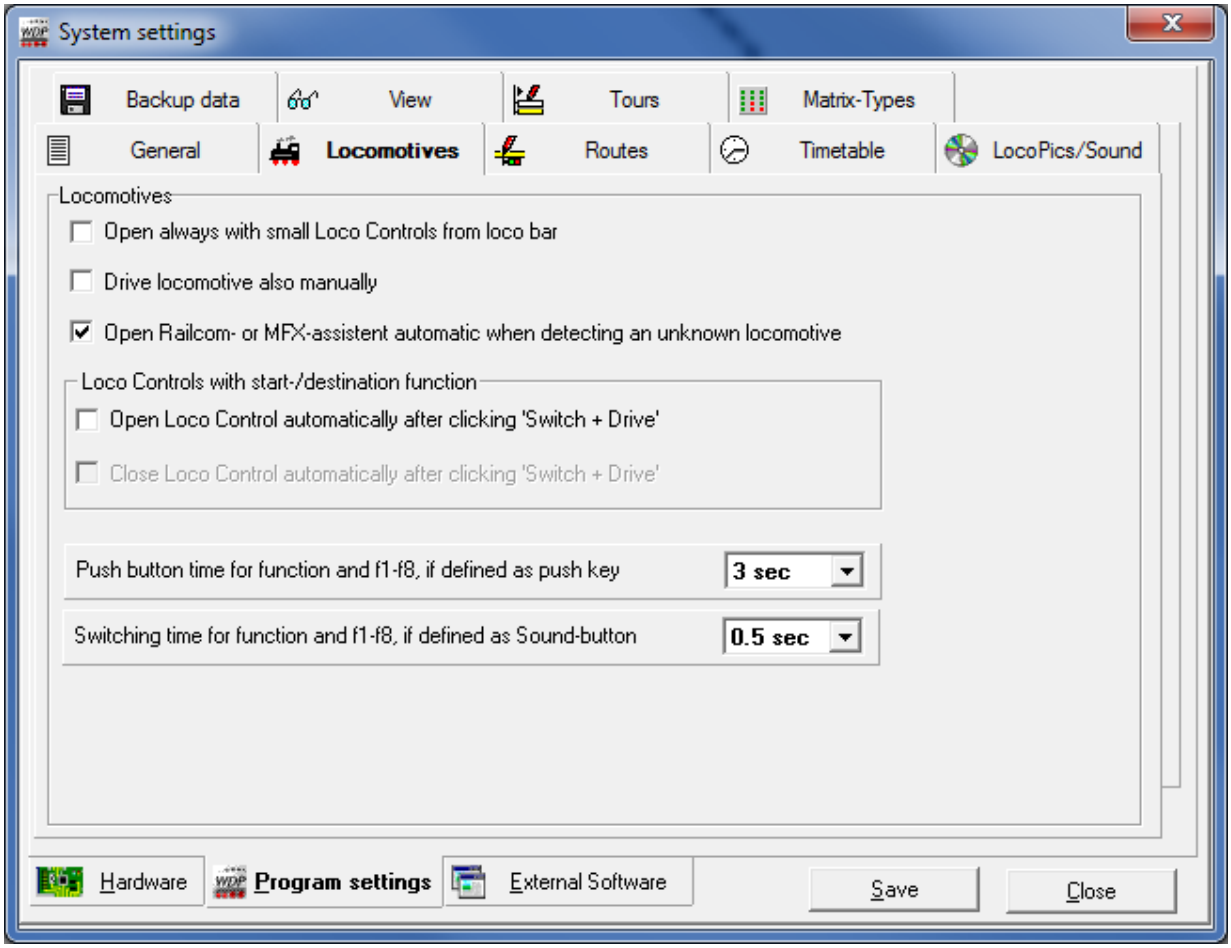
The logbook only supports only up to 4000 items. If you exceed this number the items will be saved temporally and after saving the logbook all items will be visible in the saved file.

4.5.8 Switching digital systems off at end of program

When checking this option **Win-Digipet 2009** will switch off (stop) your digital systems when closing.



4.6 Index card „Program settings – Locomotives“



4.6.1 Settings under „Locomotives“

At the “Locomotives” index card, you can determine to open the “Loco Controls” in small size („Mini“), if you click on the locomotives in the loco selection bar with a left-button-mouse-click, otherwise they will open in large size („Maxi“).

If you switch a route with the “Start-Destination” function (see chapter **18.5.1**) and the digital address of a loco is marked in a train label display on the track layout and this train is available on its start contact, then the button “Switch + Drive” will be activated. On this frame you can determine to open the Loco-Control simultaneously to the start of the train.

If yes, also the feature “Close Loco-Control automatically after ’***Switch + Drive***’ will be activated. Depending on your statement, the Loco-Control will be automatically closed (or not), after the train has reached its destination.

4.6.2 Drive locomotives also manually

Locomotives can be controlled in **Win-Digipet 2012** also manually without computer interference. This function can be activated per locomotive by pressing the “hand” at the locomotive’s control. The according option in the system settings can be used to (de-)activate this function generally (see also **18.15.5**).

4.6.3 Open Railcom-/MFX-assistant automatic when detecting…

When activating this option the Railcom-/MFX-assistant will open automatically whenever a new locomotive is detected by one of the supported systems.

☑ Open Railcom- or MFX-assistent automatic when detecting an unknown locomotive

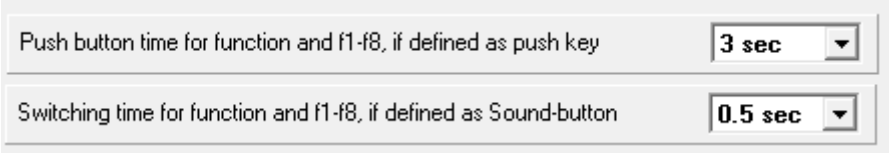
Please read also for...

- RailCom Chapters **18.10.11** to **18.10.13**
- mfx Chapters **18.12.1** to **18.12.2**

4.6.4 Push button time for the (Locomotive)-function and f1 – f28

Fundamentally, “definition as push key or sound push-key” means, that after switching of a function via mouse click, this switch will be deactivated after a (adjustable) time – the second mouse click for deactivating the function is therefore not necessary. For example, this is meaningful for functions like “Horn” or “Bell” or “Telex”.

In the Locomotive-Database (chapter **5**) you are able to determine, if such functions shall be defined as a (sound) push key or not. Are these functions defined as a push key, they will be deactivated (switched off) after the selected time.



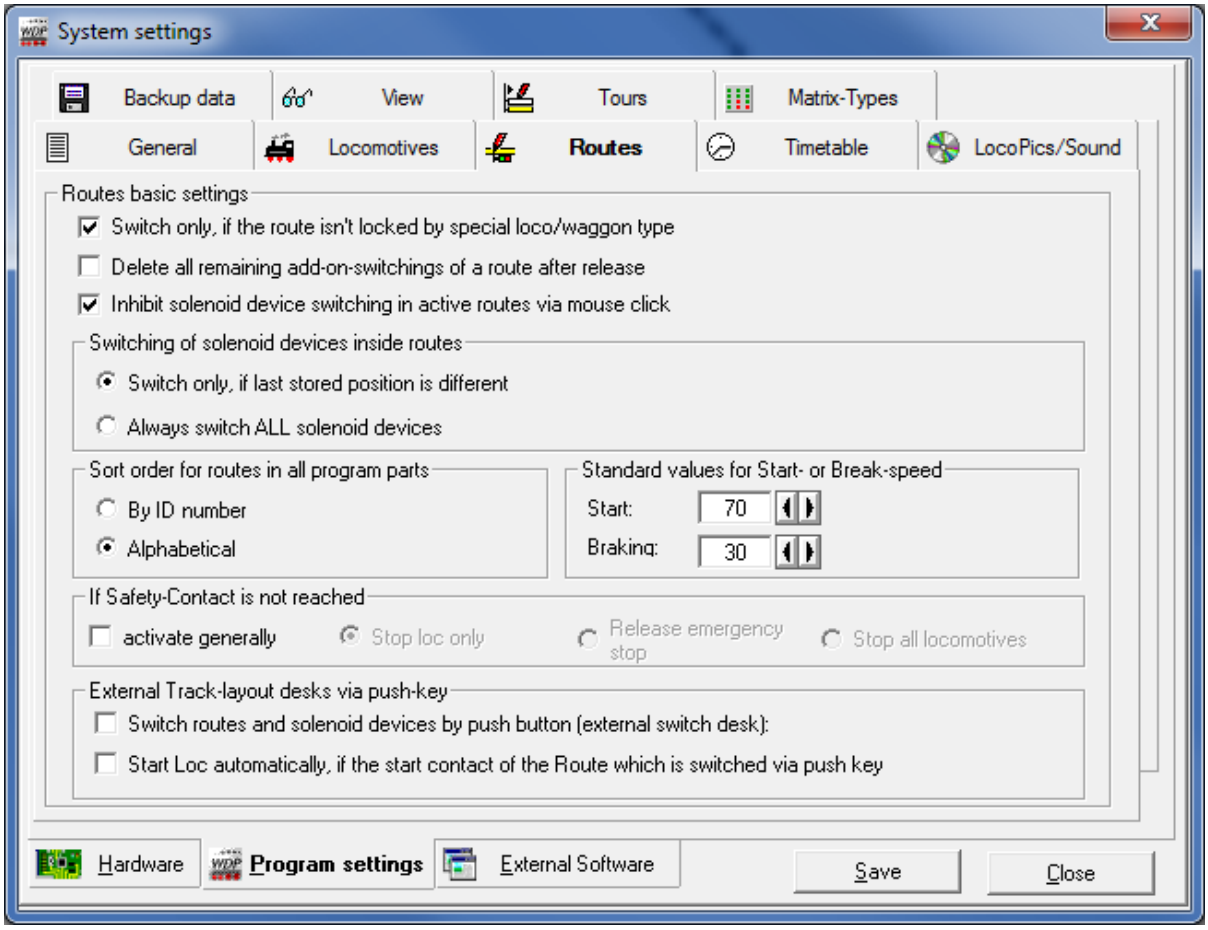
The push buttons time in **Win-Digipet** can be set manually for normal push buttons and sound push buttons.

The time for **push buttons** (e.g. Telex) can be set from 1sec to 8sec.

The time for **sound push buttons** can be set from 0,1sec to 2sec.

If you can hear a sound twice you should shorten the sound push button time.

4.7 Index card „Program settings – Routes“



4.7.1 Switch only, if the route isn't locked for a special loco-/wagon type

If you activate this feature, the program checks, whether the designated route is locked for a specific loco- / wagon type (e.g. E-Loco is not valid for tracks without power cable). If you do not activate this feature, there will be no check. All entries in the routes-editor or in the locomotive-database will be ignored.

This feature is particularly interesting for switching of routes, for the Switch + Drive function (see **18.5.1/18.5.2**), the tours (see chapter **9**). In the timetable-editor, you will get a warning if you try to assign locomotives to routes, which are normally locked for this particular route.

4.7.2 Inhibit solenoid device switching in active routes via mouse click

All solenoid devices, which should be manually switched via a mouse click in an active route, are blocked are in an active route, if the switch is checked. A message is displayed, informing you about the event.

4.7.3 Delete all remaining add-on switching of a route after release

By this option all outstanding add-on switching is deleted when the release condition of a route is fulfilled. It is recommended using this feature quite carefully, because it also compensates bugs in your configuration (wrong settings in the Routes-Editor) or conflicts with not proper working feedback contacts on your model railroad.

Be careful with this function, because in many cases this function just masks your own errors and can then lead to strange symptoms.

4.7.4 Solenoid devices switching within routes

If you select the function*: "Switch only, if last stored position is different"*, only solenoid devices inside selected routes will be switched, if their settings are different to the current settings registered in the program.

With this function, the serial data stream will be decreased dramatically and the performance of other commands will speed up rapidly, because if the switching of the solenoid devices is already in a correct position, it's not necessary to switch them again.

If you switch solenoid devices manually by hand, or routes have just been tested by the program, problems may occur or the program will identify the switch positions in a wrong setting. To ensure, that this won't happen, please reset to default settings of all solenoid devices (see **18.4**) before you start the timetable operation or the tour automatic.

Remark for Intellibox-Users.

You can also speed up the switching of solenoid devices, if you don't connect any keyboards to your Intellibox and the **special option 33 is set to zero**. Due to this setting, there will be no feedback from the solenoid devices to the keyboards and this will save time in addition.

4.7.5 Sorting function of routes in all program parts

Please determine if the routes shall be sorted and displayed by ID-number or in alphabetical order in all program parts.

You can, nevertheless, select another sorting in the routes editor according.

4.7.6 Standard values for start- or breaking speed

These values can be used to simplify the standard speed settings when creating new routes in route editor or with the route wizard according to chapter **8**.

4.7.7 If Safety-contact is not reached

Because of problems on model railroad layouts caused by not properly switching turnouts this function was implemented as a **minimal** protection to your trains.

By using this option you have to select for every route in the routes editor a *safety-contact*.

When checking "*activate generally*" you have the choice between three actions being executed by the program if a safety-contact is not reached within the selected time:

- Just stop the affected locomotive or
- release an emergency stop or
- stop all locomotives.

Indeed, this function does not protect against a possible crash, but, nevertheless, can help to the decrease the amount of damage.

We suggest using the emergency stop option only in exceptional cases, it is better to stop all locomotives.

In general you should invest some time in proper working hardware and shouldn't use this option, because it just compensates the effect of bad hardware.

4.7.8 Switch routes and solenoid devices by push key (external switchboard)

This fundamental switch activates the switching of routes and solenoid devices with an external track layout switchboard by feedback contact keys. The contacts will be defined in the Routes-Editor. To register a contact in the Routes-Editor, this feature has to be enabled in general in the system settings.

If you quit the Routes-Editor, all such contacts with its ID-number of the corresponding route will be stored in a separate file.

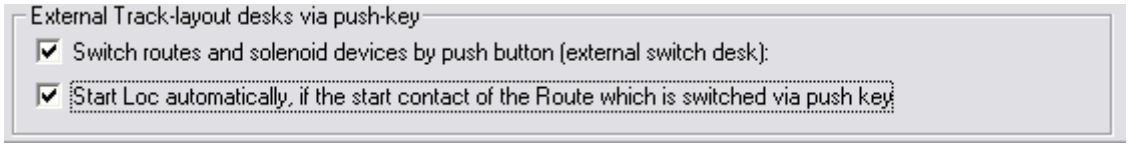
With one button, you are able to switch several solenoid devices / routes. The interrogation will be performed every 500 milliseconds, therefore you have to push a button for at least half a second.

Switch conditions will also been taken into consideration and also the release of partial routes and the add-on-switching are available as well. If no release-condition is registered, the route will just be indicated very shortly.

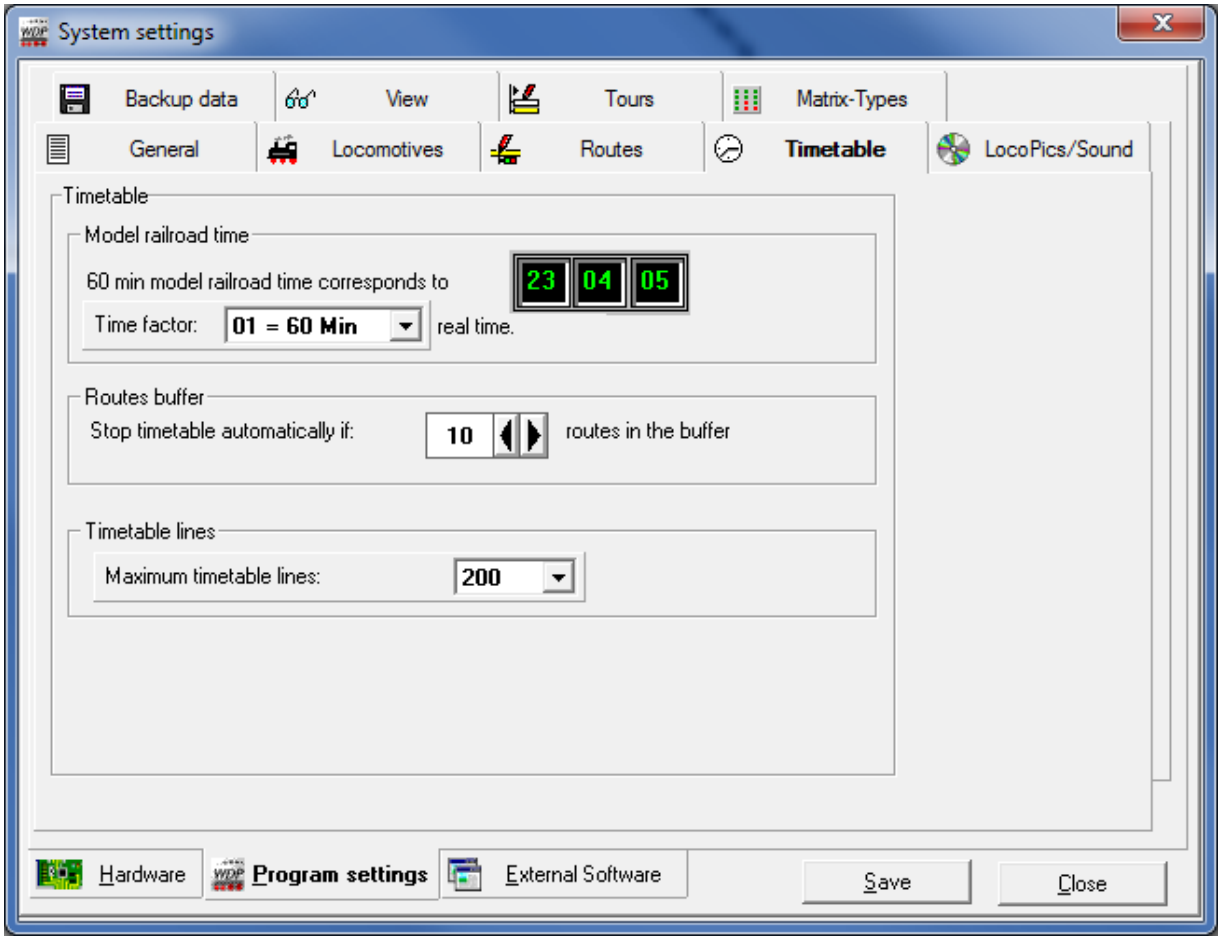
If you **do not** use an external track layout switchboard, please keep this switch definitely **deactivated**

In **Win-Digipet 2009** you will find an additional check box.

If you activate the second option also the locomotive on the start train number display will be started and driven according to settings in route or if available the according profile.



4.8 Index card „Program settings – Timetable“



4.8.1 Model railroad and Real-time

Select the ratio of model railroad to real time under *“Time factor“* in the form:

60 minutes model railroad time are equal, using time factor X, to Y minutes real time.

Select “Y” in **15** steps between 60 and 4 minutes; “X“ changes automatically.

4.8.2 Number of lines in the routes buffer

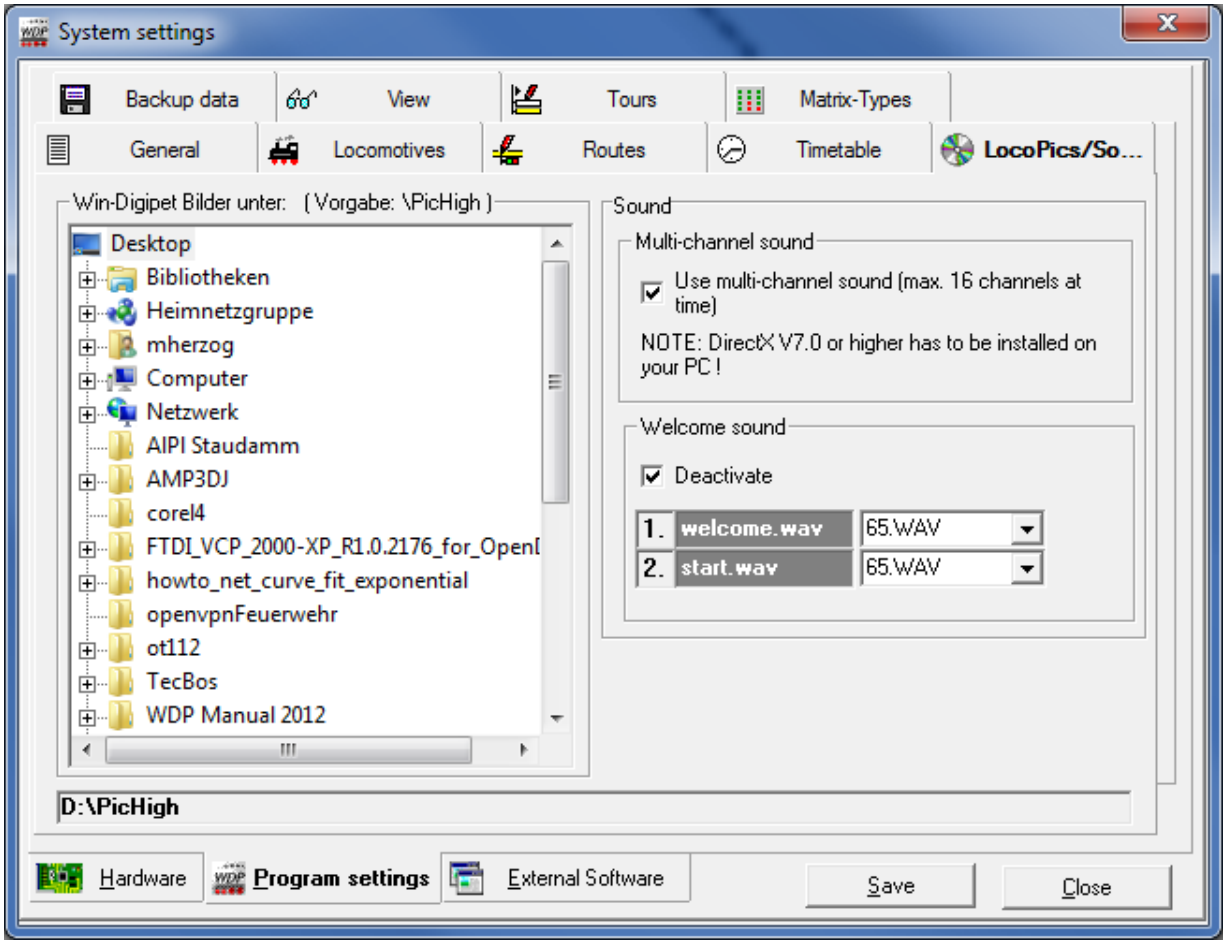
Routes which could not be switched in a timetable at the given time, are filed into a “routes buffer“.

The timetable stops automatically when the buffer is full. Select the size of the “Routes buffer“ between one and 100 lines; default is 10.

4.8.3 Number of lines per timetable

You can determine a maximum of 100, 200, 300, 400, 500, 600, 700 or 800 lines for each of your timetables. Default value is 200 lines.

4.9 Index card „Program settings – Loc-Pictures / Sound“



All available drives on your system are displayed on the index card *‘CD-ROM/Sound’*. Click on the drive letter of your CD-ROM-Drive and select the according path e.g. “D:\PicHigh”.

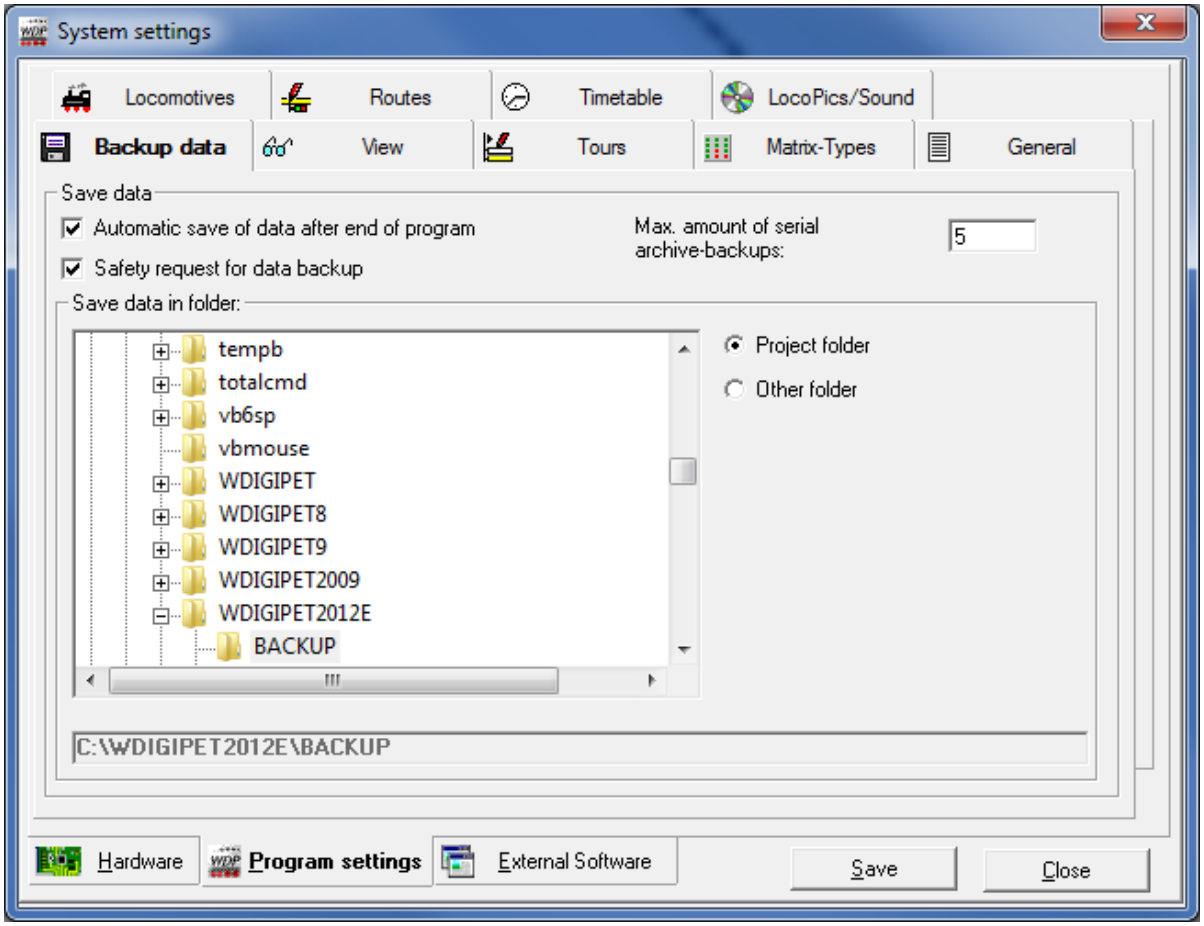
In the frame *“Sound”* you have the choice to use multi-channel sound. Up to **16** channels may be used simultaneously.

Due to this, a long sound won’t be discontinued, if a new sound will be released by a contact event.

If you experience sound problems, disable this feature. Then only one sound can be played at one time and a new sound will interrupt the previous one.

You can either disable or select your favourite “**Welcome-Sound**” (“Welcome to WIN-DIGIPET”), which you will hear, when you start **WIN-DIGIPET 2012** (1st and 2nd sound at program start). The program can be used with WAV and MP3 files.

4.10 Index card „Program settings – Backup data“



4.10.1 Automatic save of data after end of program

On this index card you can decide if you want to make automatic backup copies of your data and select the relevant options. If you work with several projects or change your project very often you should check *“Automatic save of data after end of program“*.

This option helps to prevent you from losing data.

When you check “*Safety request for data backup*“ a safety request will be displayed every time you leave the program, this request allows you decide whether to make a backup this time or not.

You can choose where to backup your data...

- Archive-Backup directory in the project folder or
- Archive-Backup directory in another folder.

The project folder is not the folder “PROJEKTE”, but it is a subfolder of the folder “PROJEKTE” with the same name as the project. If it doesn’t exist it will be created automatically by **WIN-DIGIPET 2012**.

4.10.2 Data backup into the project folder

This is the default setting.

You don't have to make any further settings for selecting the backup folder. After the first automatic backup the program settings will show the project's folder as backup folder. The backups will be made as compressed Zip-Files.

4.10.3 Data backup into another folder

If you want to backup your data to another folder select *"Another folder"* and select the backup folder in the left window.

The currently selected folder for your backup is displayed in the box under the folder selection window (the selection window is similar to the Windows Explorer).

You can select any drive of your computer similar to the data maintenance as destination for your backup. You can even select network drives if created. In this folder **WIN-DIGIPET 2012** creates automatically a subfolder with the name of your project and the automatic created compressed ZIP-Backup-files will be placed there.

4.10.4 Max. amount of serial backup copies

Independent to, which folder you selected as backup folder, you can select a *"Maximum. amount of serial backup copies"* between 1 and 9998 to be created by the backup routine. Normally you should select a value between 5 and 20 to get sufficient results.

WIN-DIGIPET 2012 creates in the backup folder ZIP-Files using the following nomenclature:

"BACKUP_XXXX_DD_MM_YYYY_HH_mm.zip". The abbreviations mean:

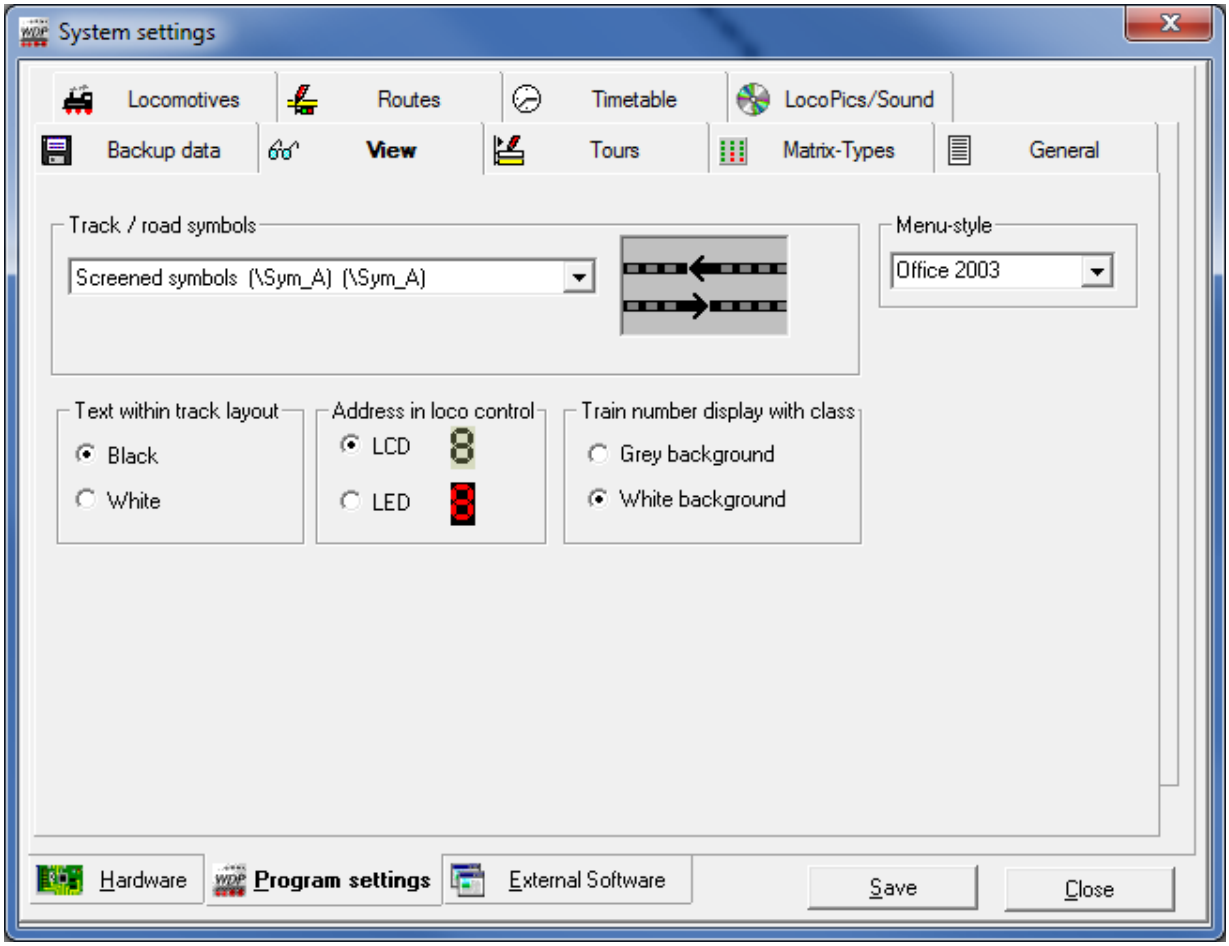
- XXXX — Sequential backup number 0001-9998, when reaching 9998 it will be automatically continued with 0001
- DD_MM_YYYY — Date of the backup
- HH_mm — Time of the backup

If you select for example "20" as maximum amount of backup copies, the oldest backup copy will be deleted when the 21st backup copy is created.

When decreasing the maximum amount of backup copies and caused by this more than one backup copy would have to be deleted a security request will be displayed.

Using the "Data maintenance" (see **18.19.2**) you can restore data from your archive backups.

4.11 Index card „ Program settings – View“



4.11.1 Settings under „Track / road symbols“

Within the main program a great variety of track symbol table is available...

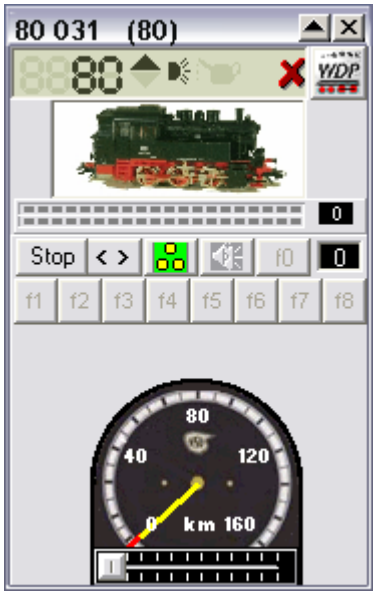
- Screened symbols **Sym_A**
- Drawn through symbols **Sym_B**
- 3D-Symbols **Sym_3D**
- DB-Standard symbols V1 and V2 **Sym_DB** and **DB_2**
- Symbols with signals in the centre of the track **Sym_C**
- Street and Railroad symbols **Sym_Auto_Bahn** and **_B**
- Railroad and street symbols **Sym_Bahn_Auto**
- Alternative symbols V1, V2 and V3 **Sym_SP, SP2** and **SP3**
- Screened symbols Switzerland **Sym_SBB_A** and **_C**
- Screened symbols Switzerland (red-green blind) **Sym_SBB_A_G**
- Drawn through symbols Switzerland **Sym_SBB_B**
- Screened symbols Netherlands **Sym_NL_A**
- Screened symbols BELGIUM **Sym_BEL_A**
- Screened symbols SPAIN **Sym_RENFE_A**
- Screened symbols ITALIA **Sym_Italia_A**

4.11.2 Settings under “Colour of text within track“

Here you have the choice between black and white text colours, so that the text colour can be selected according to the background colour, for example when using the German railroad symbols (DB) you has to select the white text colour.

4.11.3 Display LCD/LED

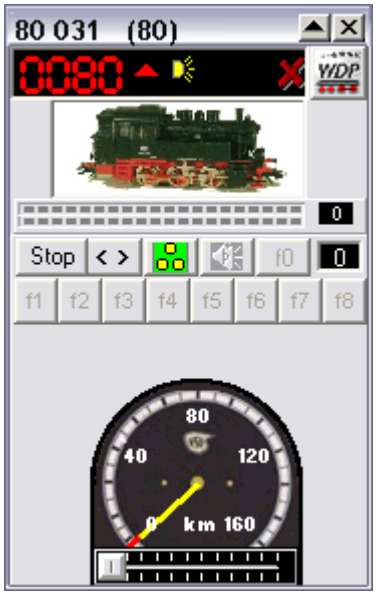
Here you can choose between two possible appearances of the locomotive controls.



left LCD-Display

and

right LED-Display



4.11.4 Menu style

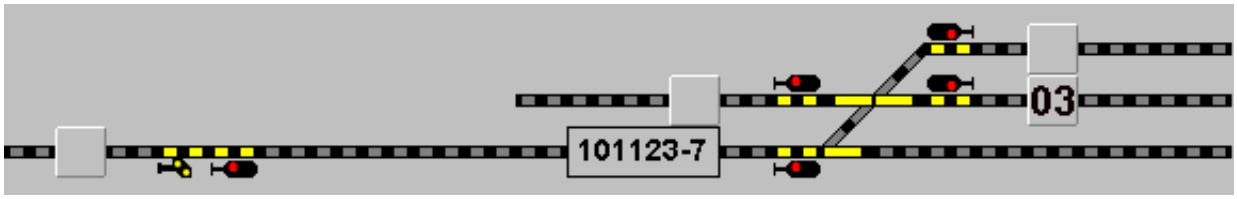
In **Win-Digipet** you have the choice between four different menu styles.

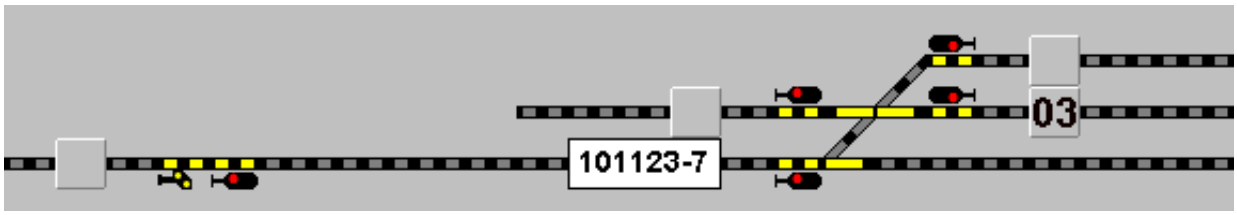
4.11.5 Background colour for train number displays with class

In the track diagram of **Win-Digipet** you can now place three train number displays with **identical** feedback contact number as shown below.

In the system settings of the program you can choose the back colour of these displays.

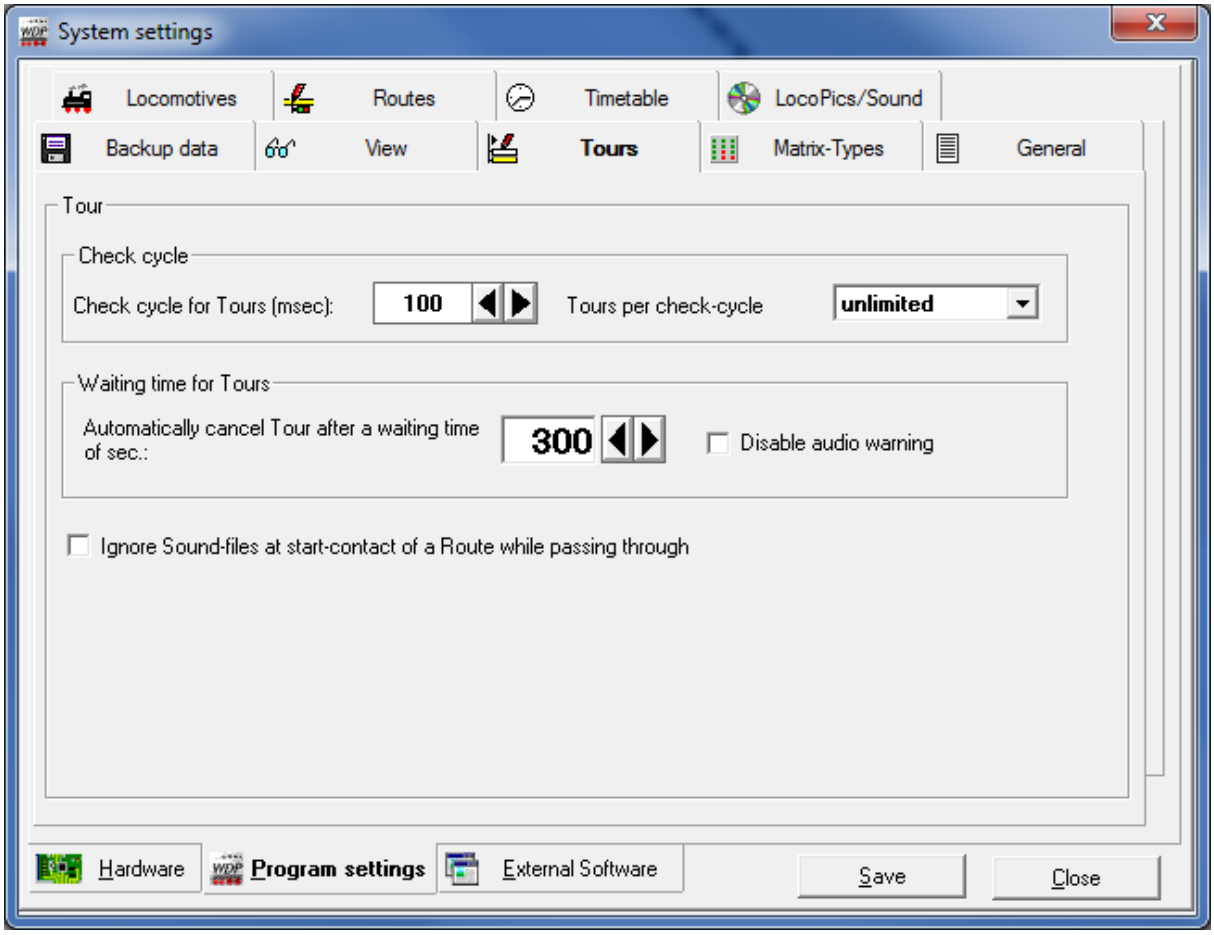
Examples...





A single train number display shows you only the digital address of the locomotive and the larger train number displays show you the class of the locomotive.

4.12 Index card „Program settings – Tours“



4.12.1 Check cycle for tours

This value defines the time between two examinations of check contacts in active routes used in tours. When the checked contact has been reached and the next route of a tour is free, the route will be switched automatically.

The check cycle here is similar to demand time in demand contact (DC) operations.

You should keep in mind, that a smaller check cycle time results in a higher processor load . In dependence to the power of your PC and the size of your model railroad layout 250 msec could cause better results in operation than a value of 100 msec.

You will have to find out the ideal value by experimenting.

4.12.2 Tours per check cycle

With this option you can change the check cycle for tours to improve the performance of **Win-Digipet** on your PC (especially for slow PCs).

The standard setting is unlimited and can be changed to values from 1 to 100.

One example:

In your automatic...

- 25 tours are running
- and you fix the setting to 5 tours per cycle,
- then the first check cycle will test 5 tours,
- after reaching the next check cycle time the next 5 tours will be tested
- and so on…

...until all tours have been checked and the cycle will start again from the beginning.

4.12.3 Automatically cancel tour after a waiting time

With this setting you determine, the case to cancel a tour if it cannot be continued. Reasons for discontinuation could be...

- the next routes are still occupied
- the next route is not allowed for this type of train (Check for error in tour!).

If the tour cannot be continued after the selected time, a short message will be displayed and an alert will be played (“Ding-Dong“). By checking ”Disable audio warning“ no alert will be played.

The affected tour will be treated differently...

- using “Switch + drive“...
  - the tour stops
  - the tour in the tour inspector window marked by a red hourglass
  - the colour of the train number remains green
  - no further warnings will be displayed
- in tour automatic operation with **unchecked** “With tour departure time“...
  - the tour stops
  - the tour in the tour inspector window marked by a red square
  - the colour of the train number remains green
  - no further warnings will be displayed
- in the tour automatic operation with **checked** „With tour departure time“ and **without** alternative DC route or tour...
  - the tour stops
  - the colour of the train number switched back from green to black/white
  - the tour in the tour inspector window marked by a red hourglass
  - a short warning message will be displayed and a warning will be played if not disabled
- in the tour automatic with **checked** „With tour departure time“ and **with** alternative DC route or tour...
  - the tour stops

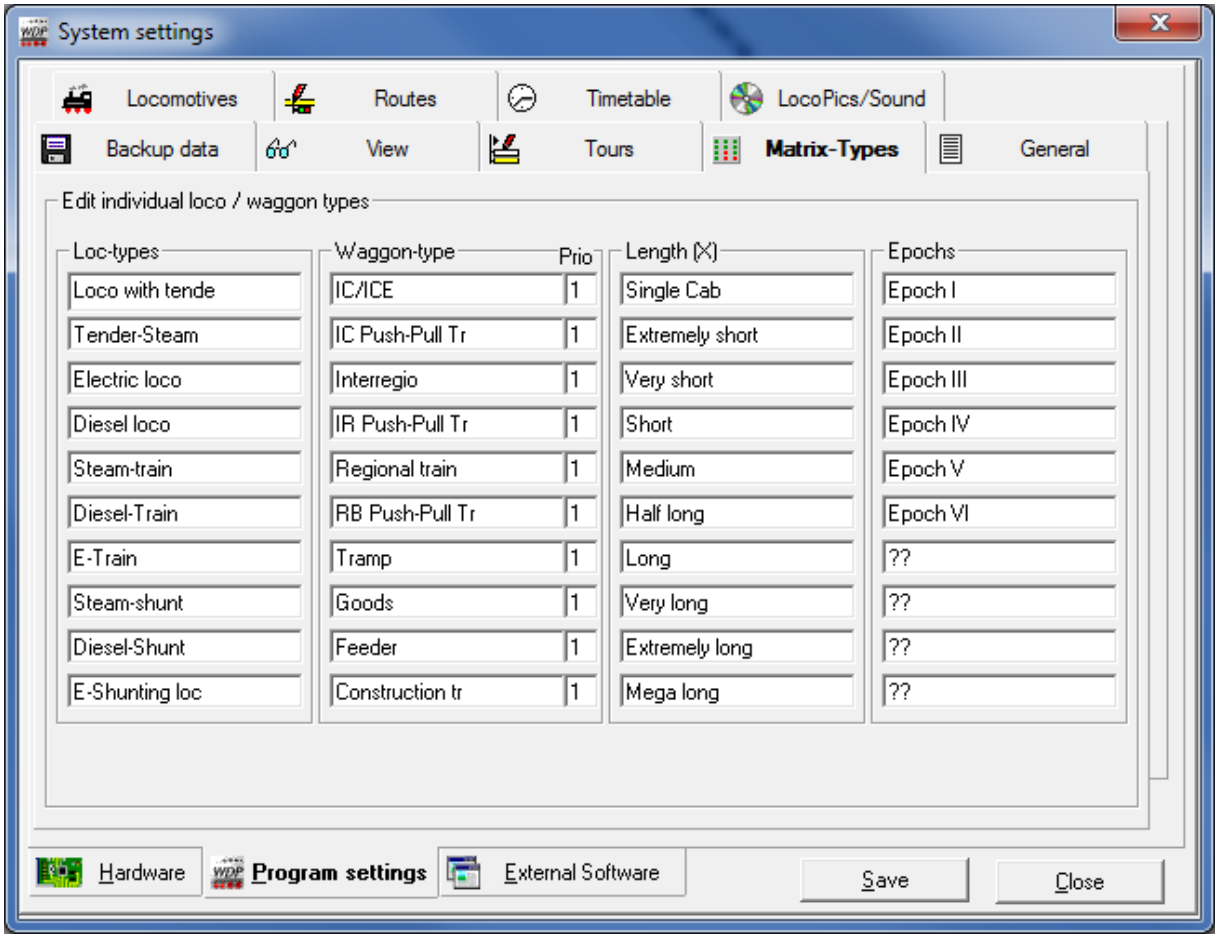
- the colour of the train number switched back from green to black/white
- a short warning message will be displayed and an alert will be played if not disabled
- the tour will be deleted in the tour inspector

the train will drive on controlled by the tour automatic.

4.12.4 Ignore sound-files at start-contact of route while passing through

This function in **Win-Digipet** was created to control the operation of tours using profiles. If you have registered a sound-file at a start contact of a route (e.g. a platform announcement) you can decide here if this sound should also be played if a train just passes this contact within at tour.

4.13 Index card “Program settings – Matrix-Types“



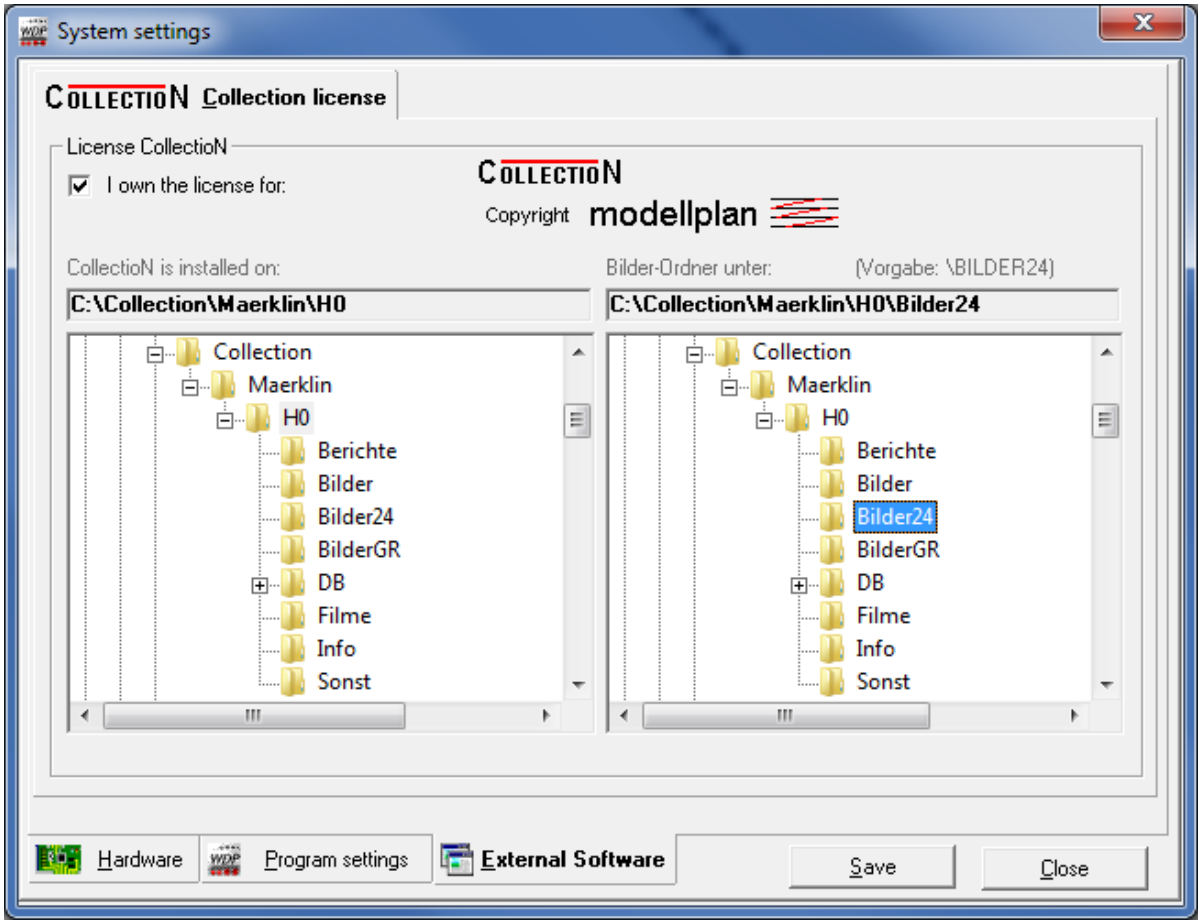
The global definitions for loco-/wagon types will be done and saved here. Feel free to overwrite the predefined settings with any inputs you like. You will find the registered Loco-/ wagon types in the locomotive-database (see **5.4.2**) and the routes-editor (see **8.10**) to release or lock routes for specific loco-/ wagon types.

You can lock routes for specific loco-types, but also for trains, which are (for example) too long for the selected routes.

In the small column “Prio” you can choose values between 1 and 10 for different types of wagons. Wagon-types with higher priority (lower value) will have priority compared to these with lower priority (higher value). These values will be taken into account for concurring tours.

For example, this is an interesting feature for fiddle yard tracks: In the tour automatic operation a too short track will not be occupied by a long train, or an E- loco will not use tracks without power cable.

4.14 Index card "External Software – Collection License"



WIN-DIGIPET enables you to represent each of your **locomotives** with its **picture**. For this purpose picture data has to be entered into your system.

WIN-DIGIPET comprises the picture data of all Märklin locomotives with the reference numbers 26xx, 36xx, 37xx and 39xx; this is a database containing more than **375** pictures.

There are also various programs by third parties on the market. Well known are the data bases „Collection", by Modellplan in Göppingen and „WiniCat", produced by a Belgian company.

You can even scan your own pictures into WIN-DIGIPET.

"Collection Version 2009" contains the numerical data and picture data of all locomotives in gauge 00 and H0 manufactured by Märklin between 1935 until February 2009.

If you purchased the data base „Collection" by Modellplan, insert it into your CD/DVD-ROM drive and carry out the installation according to the Modellplan manual.

The installation path **C:\COLLECTION\MAERKLIN\HO** is set to default value; if you do not modify it, the executable program (.exe) of „Collection" will be in this directory.

Click on the index card „Collection License” and tick yourself as licensee in the upper left-hand corner.

Select the drive and folder in the middle of this index card in which “Collection“ was installed. At the left you will see this message „Collection is installed on “C:\COLLECTION\MAERKLIN\HO“.If you modified the installation directory during the installation of “Collection“, you should set the correct directory in which the executable program is stored.

If the attempt to get access to the database of Collection fails, you will get the message: “Collection (.EXE) not found!“.

In the right part of this index card you can select the exact path to your collection pictures e.g. “D:\BILDER24“ if the files are still on the DVD or “C:\BILDER24“ if you have copied the pictures to your hard disk.

4.15 Com port settings (COM1 etc.) of your PC

- The settings of the baud rate in the Windows setup have no effect on **WIN-DIGIPET**!
- The baud rate for the interface can only be changed by the program settings of **WIN-DIGIPET**
- The P50X protocol for the Intellibox will always be used for the Intellibox, even if you have deactivated it in the IB.
  In case of using the P50 protocol between the IB and **WIN-DIGIPET** the Digital system has to be set to „Märklin/Arnold". Please reset the IB and restart **WIN-DIGIPET**!

We suggest only changing the settings for the FIFO buffer using the Windows device manager because these changes cannot be performed by **WIN-DIGIPET 2012**. For…

- the Intellibox set the buffers to maximum and
- for the HSI-88 to minimum.

These settings can be found in the Windows Device manager at the properties of the affected COM Port.

4.16 Exit System Settings

All system settings are saved, if you clicked ***‘Save’*** .

You can leave the system settings with the button **‘*Close’*** or by a click on the symbol ☒ in the caption bar.

5 – VEHICLE-DATA BASE

5.1 General – Upgrading from previous versions

In this part of the program, all of your locomotives and functionality models will be registered and managed. An unlimited amount of locomotives can be stored, but a maximum of 250 can be controlled simultaneously.

With the controlling concept of **WIN-DIGIPET 2012** you can also register and switch the special functions **F1** to **F28**.

In an impressive way **WIN-DIGIPET 2012** gives you an outstanding overall control of all events on your layout. Each locomotive with its coloured picture is displayed on the screen.

In WIN-DIGIPET 2012 locomotives are comfortably controlled through locomotive control panels („Win-Digipet-Controls“, „Loco-Controls“). You can display those two controls in three different sizes (“Maxi“, “Mini“ or “Micro“) on the screen, depending on the operation of the trains.

Furthermore it is possible to control up to 10 locomotives via the command bar without opening any locomotive control. This command bar is of course synchronized with the locomotive controls.

After the first start, after an update from WIN-DIGIPET version 5.0, 7.x or 8.x to **WIN-DIGIPET 2012**, the vehicle database will automatically be converted.

You should **check and correct** or **assign again**…

- Decoder-Types
- Function (f0) and special functions (f1-f28)
- Minimal rated speed for- and backwards
- Maximal rated speed for- and backwards
- Acceleration and deceleration parameters
- Starting speed
- Matrix settings
- and the functionality decoder.

In most cases **WIN-DIGIPET 2012** converts your old data.

In this new version of Win-Digipet the former locomotive database has been renamed to vehicle database, because in this new version you are able to arrange not only locomotives to double tractions. You can also combine locomotives and wagons to whole trains.

Why was this done, you might ask now?

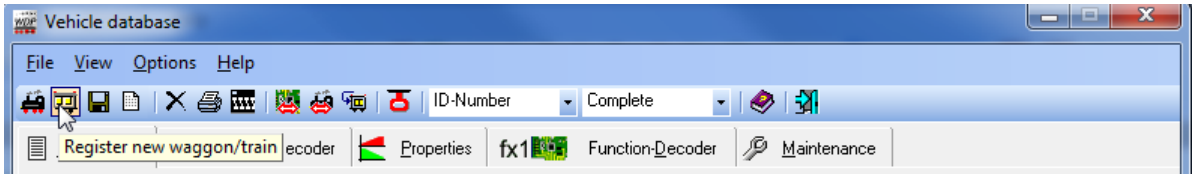
In the past Win-Digipet only controlled or registered locomotive, all information regarding the whole train had to be registered for the locomotive leading the train. Because of this a change of waggon type, train length etc. resulted always in a change of the locomotive attributes. Now with Win-Digipet 2012 the program offers the possibility to register locomotive as well as wagons and to combine them to trains. So now it is very easy to combine waggons and locomotives to a complete train without any need to change attributes of its parts.

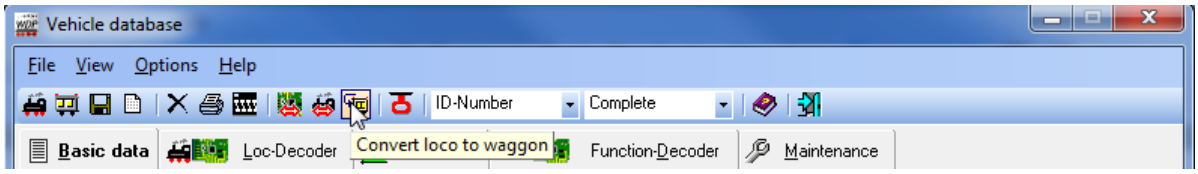
When registering vehicles you should distinguish between...

- a single locomotive
- a single waggon
- a group of waggons
- a crane.

Why do we list single waggons and a group of waggons? If a group of waggons is always coupled to a composition, then you should register this group as one dataset and not each individual waggon, because this will bring no additional information and will only result increased system power usage.

The new toolbar in the vehicle database...



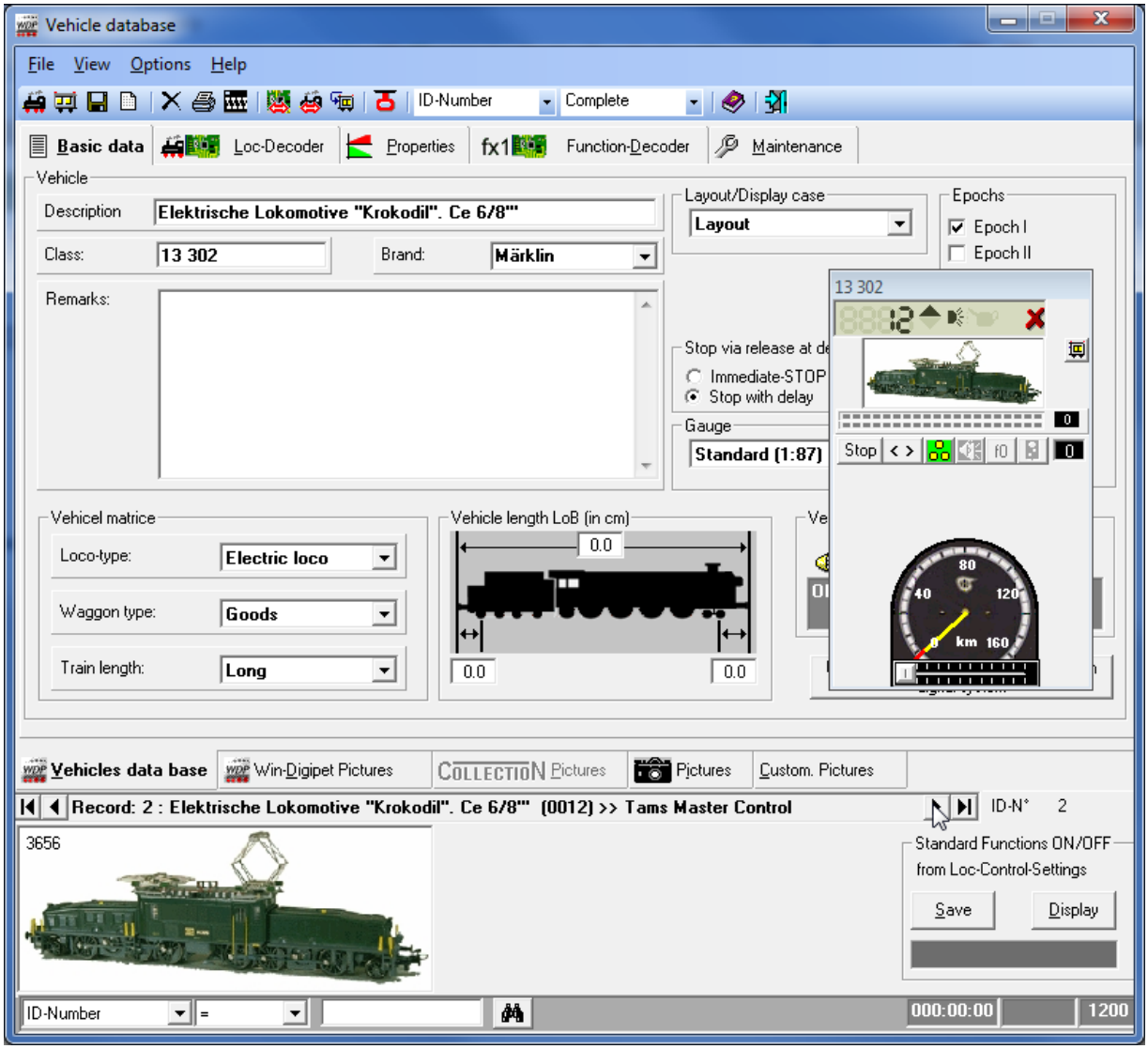


In the following descriptions, we always use the term locomotive, even if it is a car.

When taking about waggons we also mean a group of waggons.

Cranes have to be registered also as waggons. Compared to former version now also more than one crane of the same type is supported.

Now open the vehicle database by clicking on the symbol  in the main toolbar. Now the vehicle database will open showing the first registered locomotive. By default the locomotive database contains two example dataset which can be overwritten.



5.2 Creating a new locomotive

To record a new locomotive click to the switch  at the toolbar.

Complete the form with the data of your locomotives. If you don't need the example locomotives you can overwrite them with the characteristics of your own locomotives.

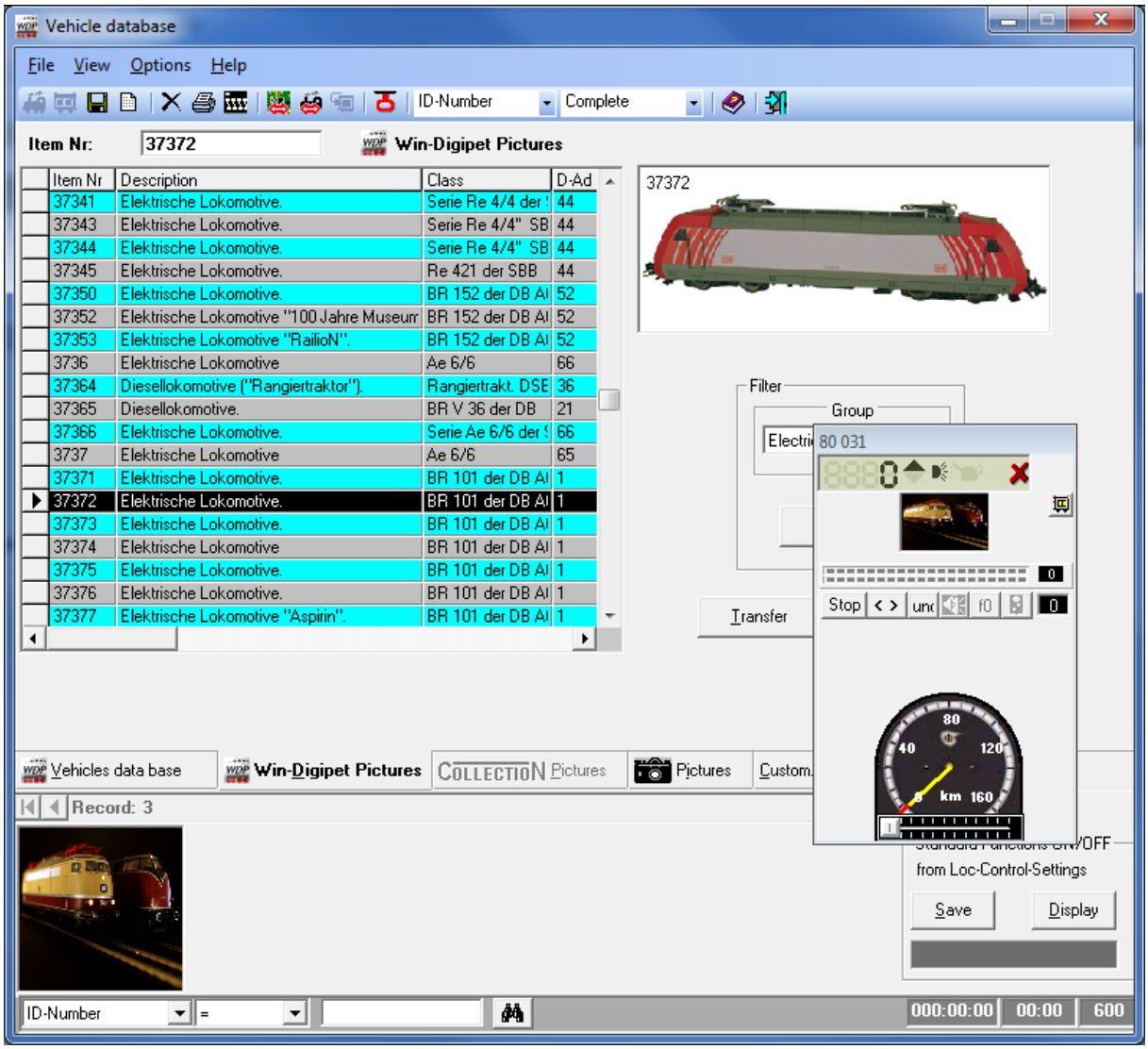
5.3 Determine pictures of locomotives

First select a picture matching the locomotive you intend to record; four alternatives are at your disposal...

- WIN-DIGIPET pictures
- Collection pictures
- Own pictures.

5.3.1 Win-Digipet -Pictures and Collection Picture

Select the index card “Win-Digipet Pictures “.A list with 375 Märklin-Digital locomotives of the series 26xx, 36xx, 37xx and 39xx until year 2005 opens. With a mouse click into the list select the locomotive you want.



Through the “Filter“ you can reduce the list to represent only selected types of locomotives. For selection define “Group“ followed by a click on ***‘Search’***. You will see the selected group immediately in the list window.

Now click on the line in the list describing your locomotive; at the same time the picture is displayed at the upper right. Click on ***'Transfer'***: Now you will be asked if you want to transfer the basic description from the database to your locomotive's data.

The system changes to „Vehicle database", and the picture appears in the picture box at the bottom. The small number written in the upper left corner of the picture show you the item number of the locomotive transferred from the picture database.

Collection pictures can be used the same way. The only difference is that you use the Collection-Index-Card.

5.3.2 Custom pictures

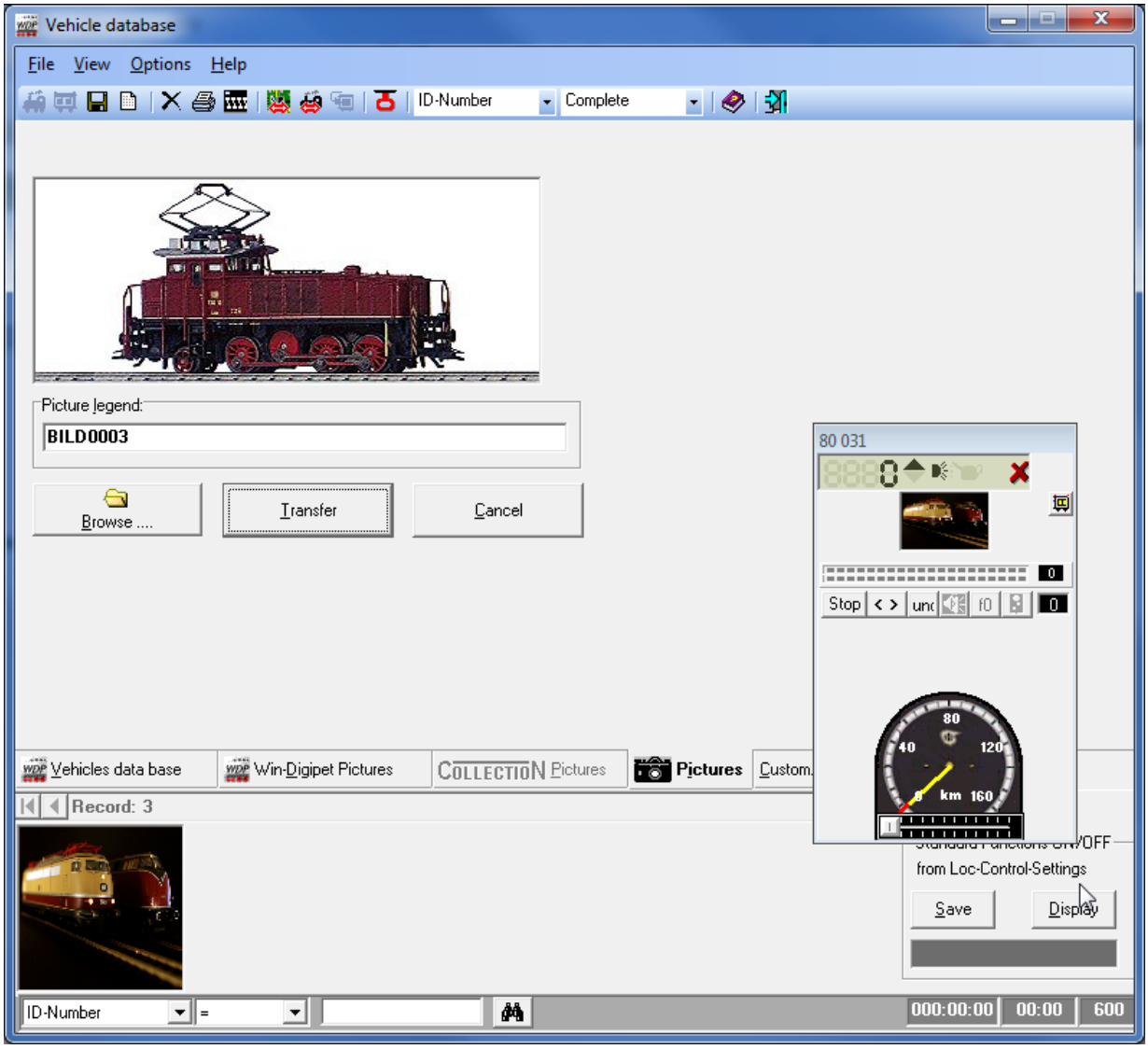
If you have already pictures of your locomotives or want to create them by yourself, select the index card "Custom pictures". If you have already the picture of the locomotive stored on your computer, use the button **'*Browse*'.**

Please browse your computer for the picture.

WIN-DIGIPET 2012 supports pictures in the BMP- and JPG-Format. The picture shouldn't be bigger than **200 Kbytes**. If possible the pictures should have an aspect ratio of **5 : 2**.

For good results we give a recommendation to a picture size of 352 x 142 Pixel with a resolution of **72 dpi**.

Finally you would enter an individual caption for the upper left corner of the picture and **'*Transfer*'** the picture to the vehicle database.



In the field "Picture legend" normally "BILD0xxx" is preassigned by **WIN-DIGIPET 2012** automatically, where "xxx" is the current ID No. of the locomotive to be registered in the database. The picture description is displayed in the picture on the top left and should not be too long.

If you delete the preassigned legend the program will acknowledge this with “No picture“

5.3.3 Export of locomotive pictures from Win-Digipet to Märklin Central Station 2

The pictures stored in the locomotive database of Win-Digipet can be transferred very easily to the Märklin Central Station 2.

Just press the button in the toolbar of the vehicle database (see **5.8**), now select the vehicle the in the list and press the button for the picture export to your digital system. Now the pictures of all selected vehicles will be transferred to C:\WDIGIPET\LOKBILDER\Export_CS2 in „PNG“-Format.

The transfer to the Märklin Central Station 2 can be done using an empty USB-stick. In the main folder of the USB-stick you have to create a folder named „icons“. Now copy all exported pictures to this folder and afterwards plug the USB stick into the Märklin Central Station 2.

The main directory of the USB stick may not contain any CS2 firmware files.

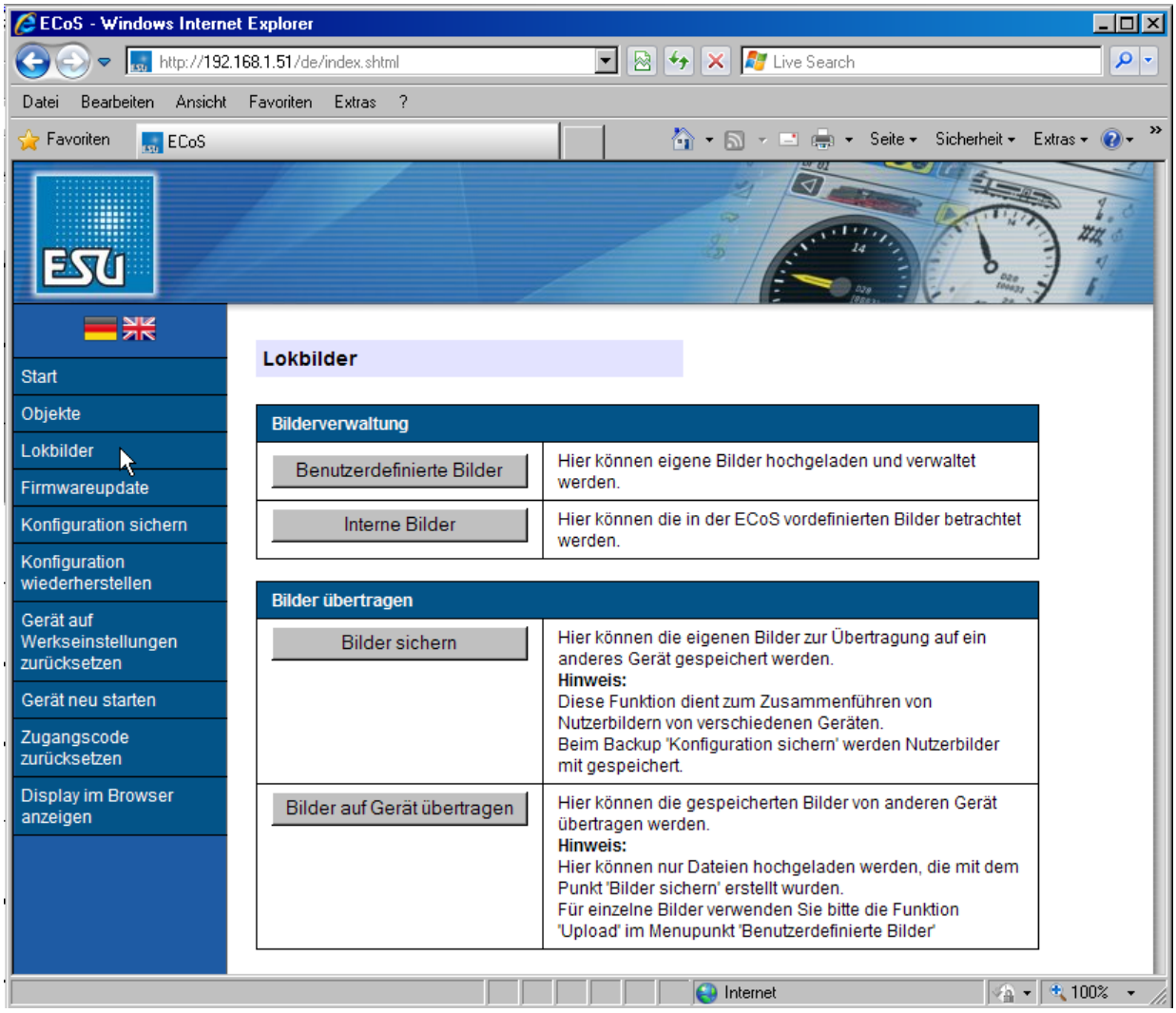
Now use the menu <setup> in the Märklin Central Station 2 and select <Program update>. Now the pictures will be transferred from the USB stick in to the CS2.

5.3.4 Export of locomotive pictures from Win-Digipet to ESU ECoS 2

The pictures stored in the locomotive database of Win-Digipet can be transferred very easily to the ESU ECoS 2.

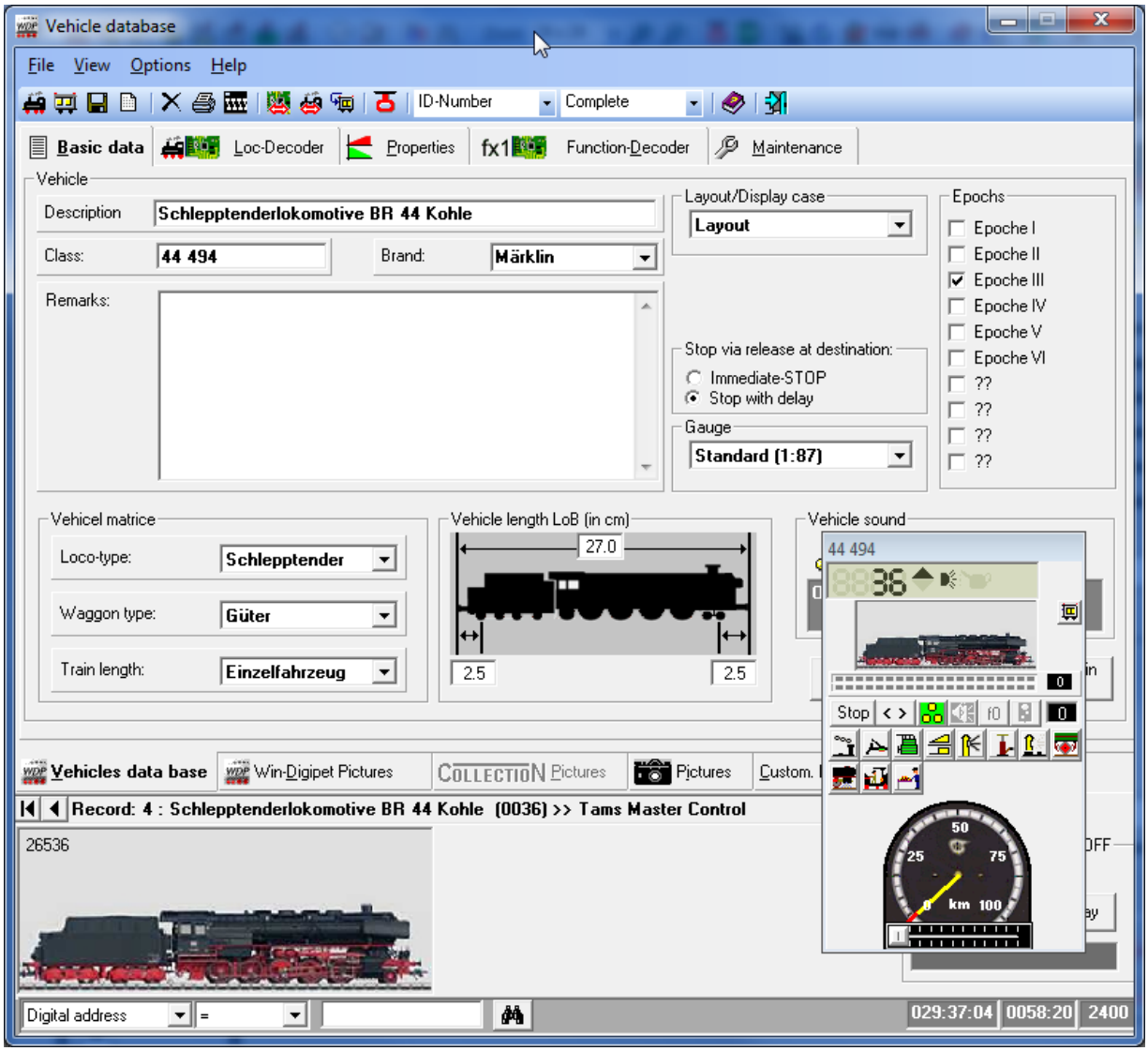
Just press the button in the toolbar of the vehicle database (see **5.8**), now select the vehicle the in the list and press the button for the picture export to your digital system. Now the pictures of all selected vehicles will be transferred to C:\WDIGIPET\LOKBILDER\Export_ECoS2 in „BMP”-Format.

For transferring the pictures to the ESU ECoS 2 start a web browser and open the main site of the ECoS 2 (e. g. http://192.168.1.51).



Using the menu buttons on this website you can transfer picture by picture into the ECoS2. For more information please refer to the ESU user manuals and descriptions.

5.4 Index card "Vehicle-Database – Basic data"



5.4.1 Description, Class, Brand, Comments

The panel "Description" should contain a description of this locomotive; it is frequently fetched from the databases. You can also enter your own description, e.g. steam locomotive 38 2182 Prussian P 8. Up to 60 characters are allowed.

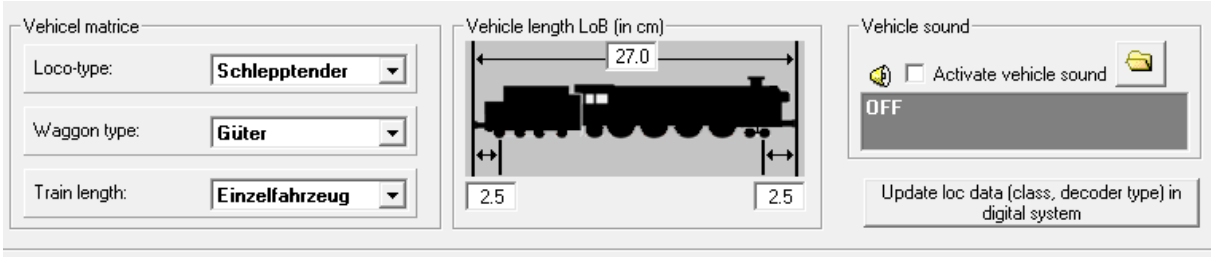
Next enter the class. A maximum of 9 characters is allowed here (e.g. BR 39.00 or E 10.1-3 or V 100.20 etc.).

The panel "Brand" should contain the manufacturer of your locomotive. A maximum of eight letters is possible.

Some special characters which are used internally in the program are blocked automatically.

The field “*Remarks*“ can be used for any remarks concerning this locomotive.

5.4.2 Loco type and Loco sound



Here you can determine to which loco-/wagon type your train belongs. This list depends directly on your input, which you have done in the system-settings (chapter **4.13**).

Here you can also select the length of your train.

You will find the same selection list in the routes-editor. There, you can determine, if individual routes are locked for specific loco-/wagon-types, respectively train length

	You should select the train length according to the length of the rails in your stations or of your block systems.

For the length of the vehicle length over buffers (in cm), enter the length of each locomotive, an entire train set, an individual wagon or a wagon group. The indicator measures the length of the vehicle length over buffers (buffer length) of buffer to buffer. Consider also the length of the coupling distance, because the set of features added to the coupling distance added to the buffer length measurements. Thus, the overall dimension is greater than the sum of the individual dimensions.

	In the graph with the stylized Tender locomotive always provided the direction from left to right and you should also create your own pictures the same way.

	Please keep in mind that for locomotives which are part of train, the train matrix will be taken into account and not the locomotives matrix.

The two dimensions of the first and last axle to the buffer at the beginning and end of the locomotive always refer to the first or last axis causing an occupation message. This information will be considered later, when using trains to calculate the exact stop position.

> If you work on your layout with occupancy detectors (sensors, power), then the first and last axle is not always causing an occupation message, it can also be any other axis of the locomotive. If you use Marklin metal tracks and current sensors to realize the feedback you need to measure the distance from the buffer to the pickup shoe and add the dimension of the front or rear.

If you want to assign a **Loco-Sound to the locomotive**, you activate this sound here. This feature enables to combine a specific loco-sound to the corresponding loco-control.

You can browse for a sound in every folder of your computer by **'*Browse*'**.

Select a sound: Immediately the sound-button will be activated in the loco-control and can be switched on and off whenever you want.

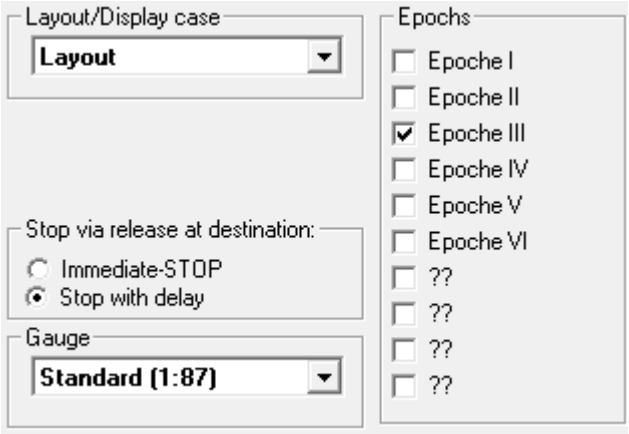
If you have defined a specific loco sound, it will also be available for the profiles and the automatic operations.

You can deactivate the loco sound by uncheck "*Activate loc sound*".

5.4.3 Layout/Display case, Locomotive/Crane, Scale, Loco-Stop, Epoch

Here you determine by *"Layout/In display case"* whether the locomotive belongs to the bulk of not more than 250 locomotives actually operating on your layout.

Only vehicles of the category *"On layout"* will be activated and included for operation in the main program.



With the Radio-Buttons **"***Immediate-Stop*" / „*Stop with delay*" you have influence on the reaction of the locomotive to a fulfilled release condition.

If you select **"***Immediate-Stop*" the locomotive ignores the deceleration factor and stops immediately when the release condition is fulfilled. This function has of course no effect to deceleration rate included in the locomotive's decoder.

This criterion is just taken into consideration when driving with the **Start/Destination-Function** or with Standard routes in the tour automatic. It will **not** be used when driving with profiles or the timetable.

In the field scale you can select the scale size of your locomotive, normally you don´t have to make any registrations here because the value from the system settings will be used (see **4.5.6**). Only if you have locomotives of different scales on your layout you will have to make changes here.

In the field "Epoch" you can select the epoch of the locomotive. This can be used later as criterion in the tour automatic.

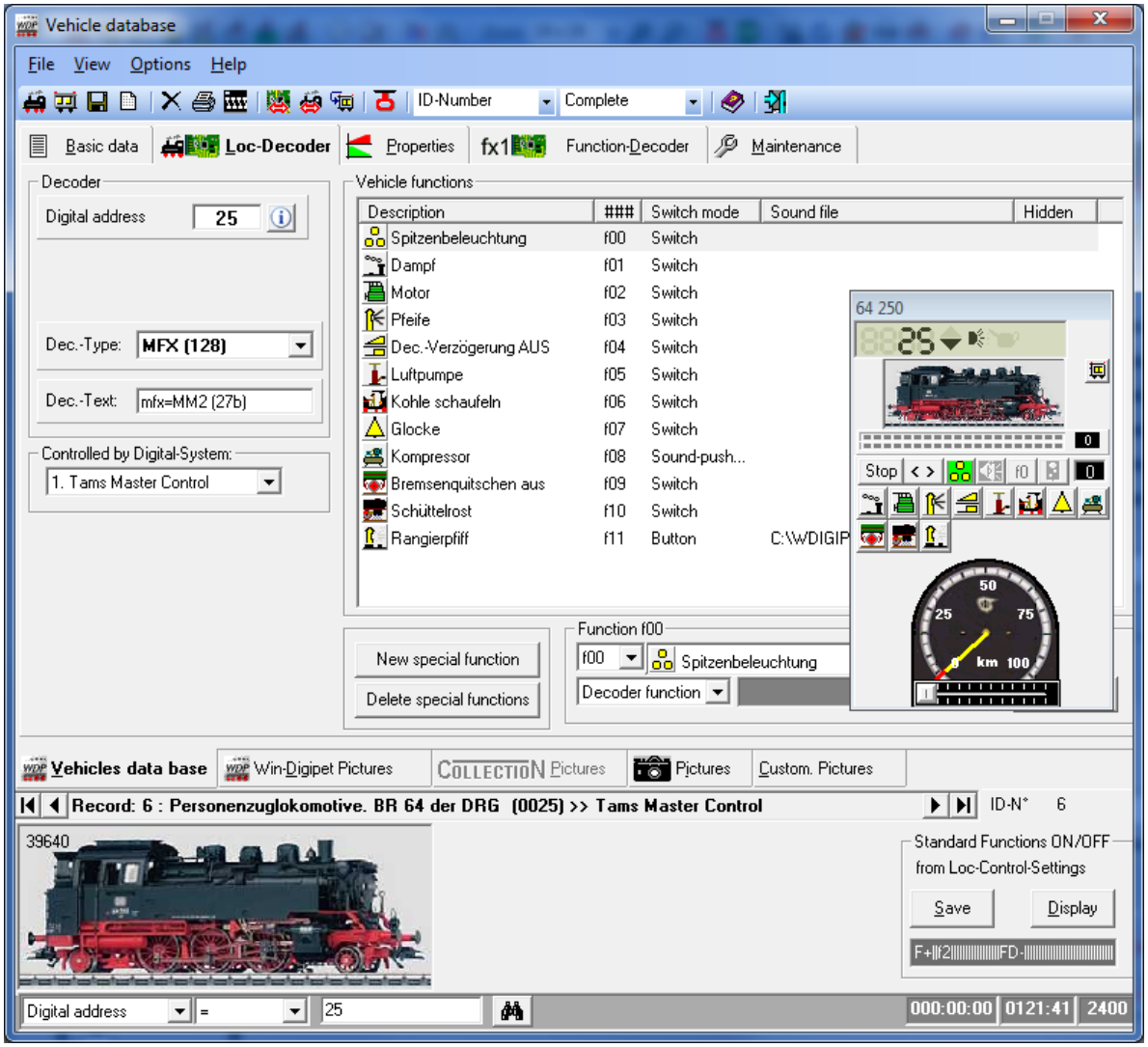
5.4.4 Standard functions ON/OFF

When registering contact events in the profiles and timetable editor automatically, also data from the locomotive data base is used.

In the input box „Standard functions ON/OFF" you can select which functions of the locomotive should be activated by default when registering contact events automatically. For example this will be very useful if you want your train to activate the interior lighting every time.

In our example we suggest to activate the train interior lighting in every contact event line containing driving commands. For this purpose, switch the interior lighting at the locomotive control on (**BLUE** circle) and **'*Save*'** the current state of the locomotive control as default.
If you navigate through your vehicle database you re-display the standard functions on the locomotive control using the button **'*Display*'**.

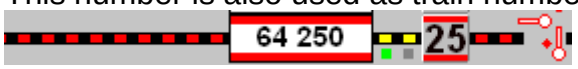
5.5 Index card „Locomotive-Database – Vehicle-Decoder“



5.5.1 Digital-Address

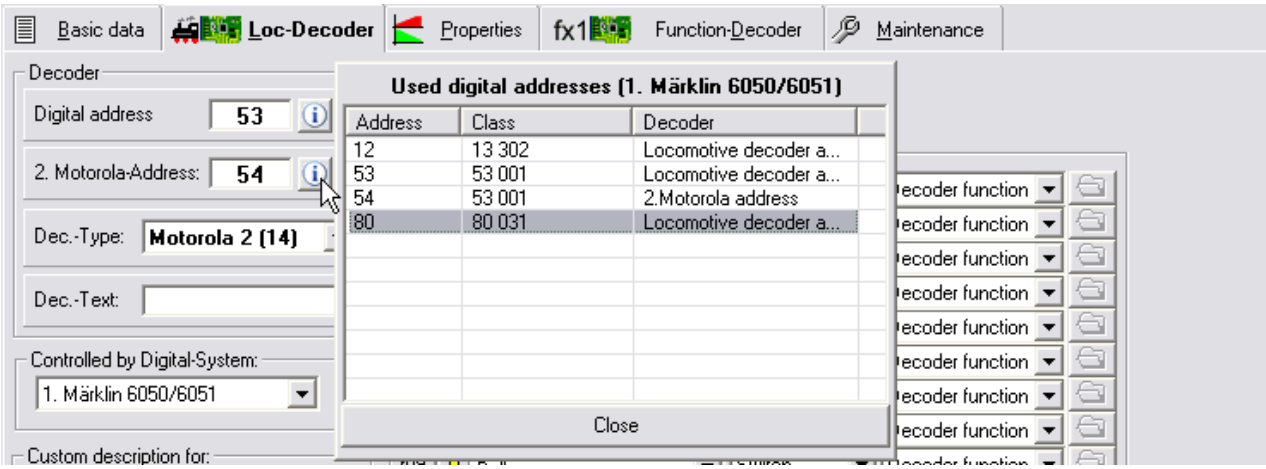
In the input field “*Digital-Address*“ you have to enter the digital address of the locomotive.

This number is also used as train number by **WIN-DIGIPET 2012**.



The maximum address is different for each digital system. In the German Win-Digipet Forum there is a list with all capabilities for each digital system: http://www.windigipet.de/foren/index.php?board=29.0.

The button with the small “i” can be used to list already used addresses.



Important – only for Märklin Digital-System 6050/51:

Digital-Address **68** is reserved for internal use of the program and could not be used as a locomotive address.

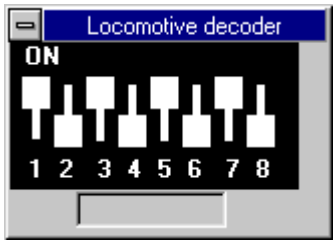
Tip for DCC users:

For controlling analogue locomotives the following systems use a fix address:

- Märklin Digital= : Address „80“
- Lenz Digital-Plus : Address „0“.

5.5.2 Micro switch settings for older Märklin decoders

After giving a decoder address, you can take a look to the settings of the 8 dip-switches in formerly Märklin decoders. To do this, open the window “locomotive decoder” in the menu <View> or using the switch in the toolbar by clicking on the address of the locomotive in the loco control.



By clicking on the switches the digital addresses will change in the insert field “decoder address” as in the locomotive control too. You’ get an error message if you try to set an invalid address here.

Only valid addresses of the Märklin-Digital-System (**1 - 80**) are correctly displayed. Addresses greater than 80 – as you could set with the Intellibox – would be ignored!

Double clicking on the title bar or clicking on the close symbol, close the loco decoder window.

5.5.3 Decoder-type, Decoder-Text, Custom description

The precise data about the decoder types is necessary and important for all functions and features of **WIN-DIGIPET 2012:**

Click on the arrow near decoder type and a selection list will open. Select the decoder type which is installed in each of your specific locomotives.

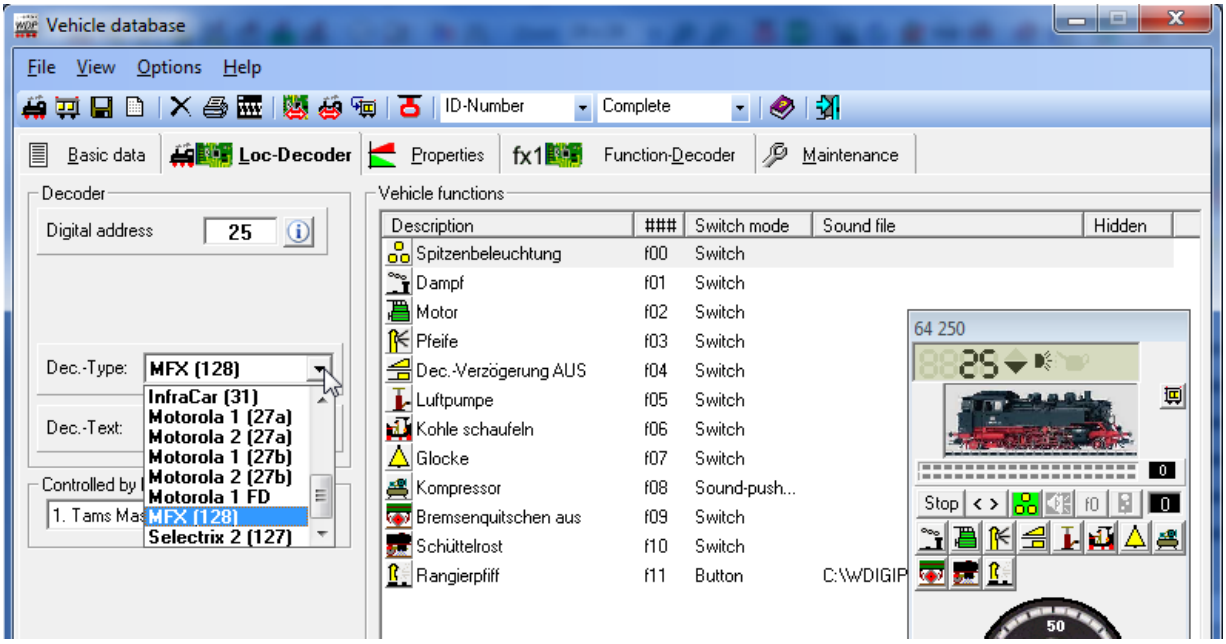
The numbers in the brackets will show you the amount of different speed-steps.

You are able to select “Selectrix“ if you use the Uhlenbrock Intellibox or the “FMZ“ when you are using Fleischmann Twin-Center.

For the Lenz-System you can select DCC (14), DCC (27), DCC (28), DCC (128) and Old (Lenz). The “old” Lenz-Decoders were installed in former Arnold-locomotives for the DCC-System. If you have selected this type of decoder, speed step one will be transmitted if you turn. This decoders need speed-step one, otherwise they will not change their direction.

If you make an upgrade to **WIN-DIGIPET 2012** from a former version 5.0, 7.x or 8.x, you **must** re-enter all types of decoder for all your locomotives.

Important for Märklin CS, ESU ECoS and Tams Master Control!
If you use on of this digital systems it is important to select the correct type of Motorola decoder, because you can get extended driving behaviour by selecting the correct type of decoder..



The input field „*Decoder-Text*“ is for custom use. For example you can enter here the decoder type and manufacturer.

5.5.4 Types of Motorola decoders

Some examples for Motorola decoders are...

- Motorola 1 (14):
  - old Märklin 6080 and delta decoders
  - Tams LD-W1
  - old Uhlenbrock-decoders

- Motorola 2 (14):
  - newer Uhlenbrock decoders,
  - "PIC"-Decoder by Märklin (for example hobby locomotives)

- Motorola 2 (27a) resp. Motorola 2 (27) for Märklin CS/ESU ECoS:
  - Märklin 6090x decoder
  - old Tams LD-W-2

- Motorola 2 (27b) resp. Motorola 2 (28) for Märklin CS/ESU ECoS:
  - Kühn-Decoder,
  - ESU Lopi/Loksound 2/3-Dekoder

- Motorola 1 FD:
  - Some Märklin wagons with FD-Decoder of older type e.g. dancing wagon

- MFX(128):
  - Märklin MFX-Decoder, this decoder type acts for non-MFX-digital system the same way as Motorola 2 (27b/28)

Important for Märklin CS, ESU ECoS and Tams Master Control!
If you use on of this digital systems it is important to select the correct type of Motorola decoder, because you can get extended driving behaviour by selecting the correct type of decoder. It is also important to use the same decoder type selection in your digital system and in Win-Digipet.

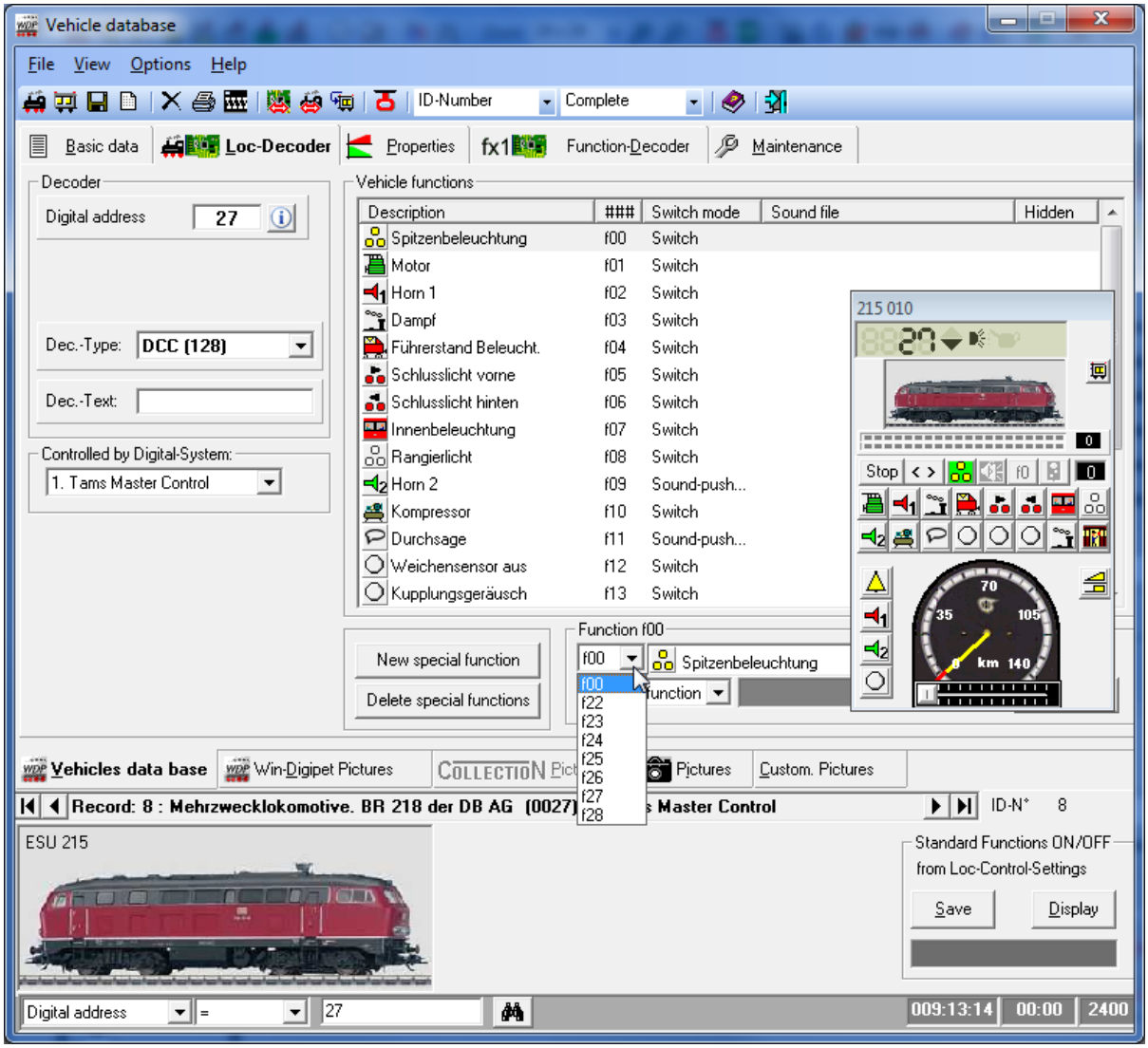
5.5.5 Functions F1-F28, Sound definitions

This part of the index card gives the possibility to assign descriptive texts, icons and additional sound functions to the function (f0) and f1-f28 of the locomotive control.

During the conversion of the old vehicle database the descriptions are transferred for functions (f0-f16) and are assigned to the icon for "Miscellaneous". Only activated functions are converted.

After the conversion you should select the proper icons for the function and the special functions f1-f28.

The following image shows the new tab "vehicle-decoder" with functions f1-f21 of a locomotive with an ESU decoder with 21 functions.



In **Win-Digipet 2012** we support function f0-f28, but this not supported by every digital command station.

The maximum function number is different for each digital system. In the German Win-Digipet Forum there is a list with all capabilities for each digital system: http://www.windigipet.de/foren/index.php?board=29.0.

For a newly registered locomotive the locomotive function f0 has been set to default function “Headlight”. This can be changed in the combo box showing the text “Headlights”.

The changes have to be confirmed later using the button ***‘Take over’***. The changes will be shown afterwards in the function list.

If you want to register additional special functions just press **'*New special function*'**.

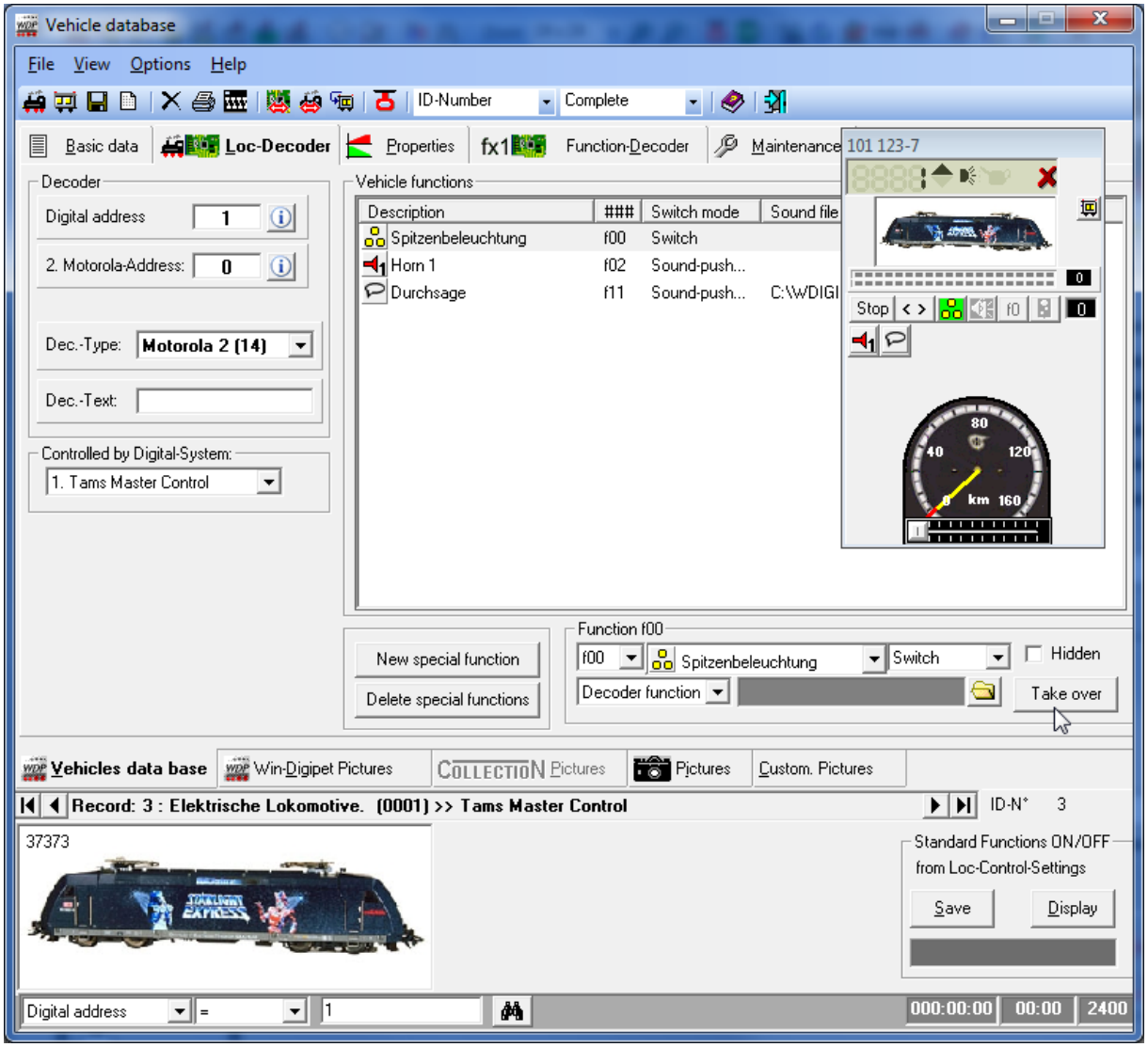
Win-Digipet now suggest to use the next free special function number, you can change this default value of course. Now you have to select a symbol for the special function from the list. You should also select if the function is switching (permanent) or button (short time) function.

For all special functions you can choose between the options „Switch/Push-button/Sound-Push-Button“

Let's explain Switch/Push-button/Sound-Push-button:

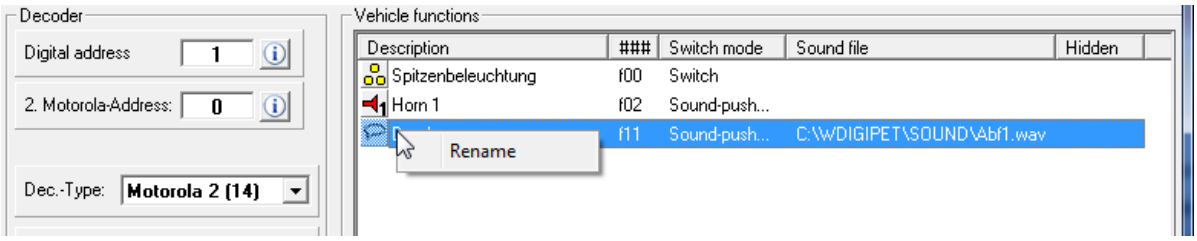
- With a **Switch** you switch the function with a first click on and with a second click off.
- A **Push-button** is used to switch the function with one click on and it is automatically switched off after a predefined time (see **4.6.3**) e.g. Telex.
- The **Sound-Push-button** mode is similar to the push-button mode, but with different active time for each button (see **4.6.3**). This mode is necessary for some new sound decoders. These decoders play the sound when switching the function on also when switching off. The only possibility to play the sound only once is to switch the function on and off again for example within 1 second. But this time would be too short for a Telex, which needs usually 3 secs. to work properly. To avoid this dilemma we suggest to setting the push-button time in the system settings for example to 3 sec. and use the Sound-Push-button mode for the new sound decoders' respectively the push-button mode for the Telex.

The changes have to be confirmed now using the button **'*Take over*'**. The changes will be shown afterwards in the function list. This is very important.



Now you will see the new function in the locomotive control of the vehicle database and can test the function immediately.

If you do not like the textual description of the symbol you can change the text. Therefor click with the right mouse button on the function in the function list and select <Rename>.

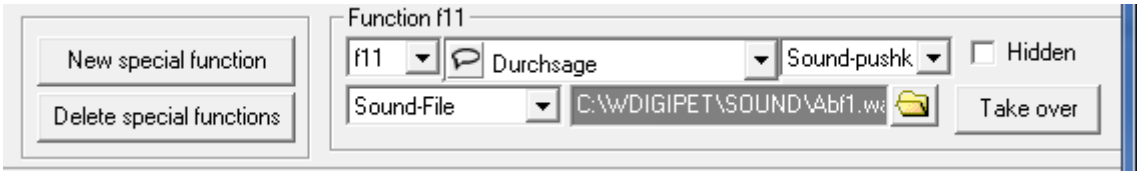


You can reselect the original description by reselecting the function symbol from the list in the lower part of the window.

Furthermore you can assign sound files which can be played using the PC sound system in case the locomotive has no build in sound generator or add additional sound functions to your locomotive (e.g. your locomotive has only sound functions f1-f4).

The list fields in the box “Sound definition” give you the chance to choose whether to switch the functions of the locomotive decoder or play a sound file when activating special functions with the program.

For example: when selecting a sound file for the bell function and the bell function is assigned to f5 (see picture), an activation of f5 would result in playing the sound file using the PC sound system instead of activating f5 of the locomotive decoder.



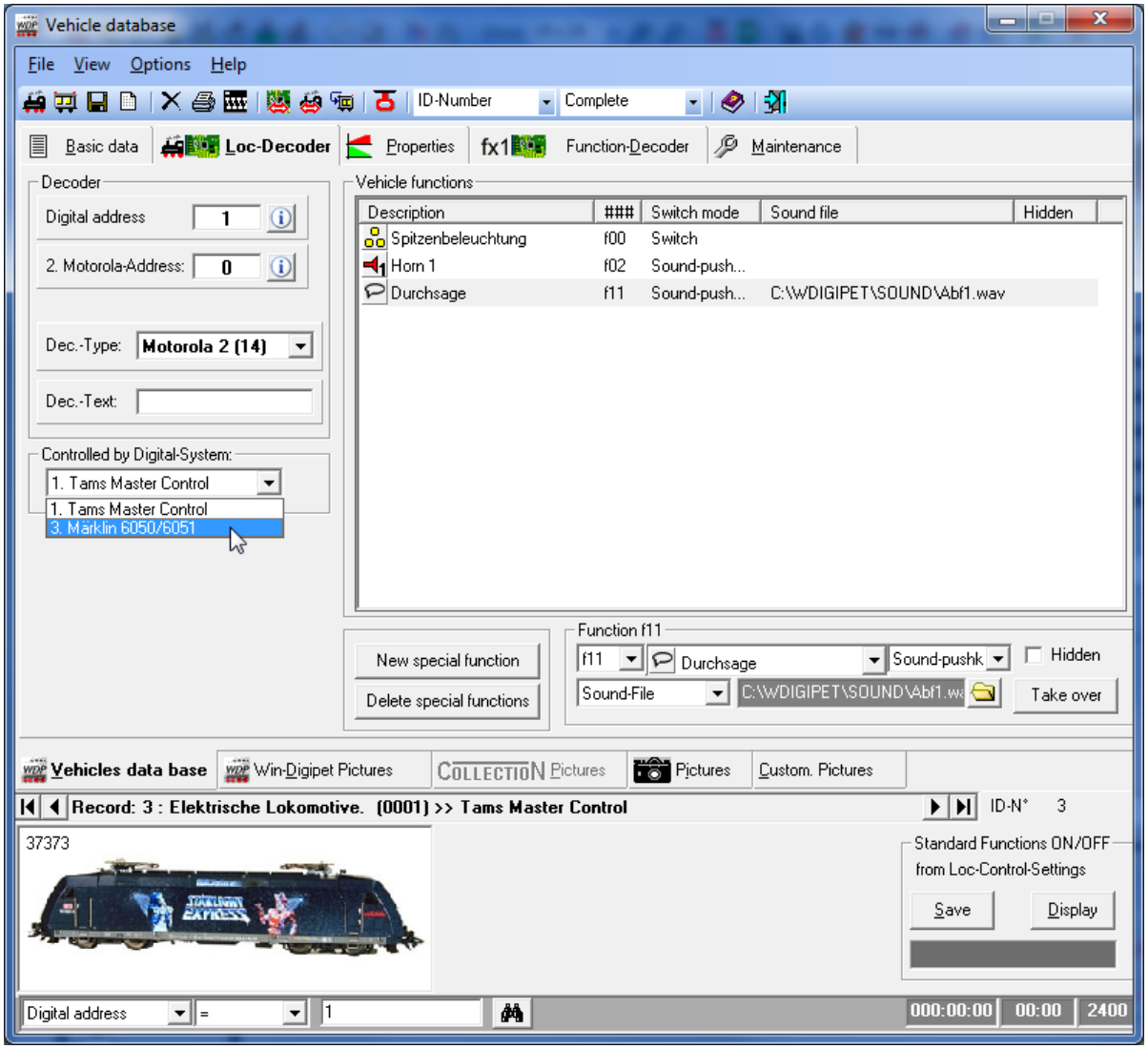
Holding the mouse cursor over the buttons of the locomotive control a tool tip will show you the description of this function. Unused functions are displayed with grey text.

In contrast to former versions the special functions are ordered dynamically on the locomotive control. This means an unused function will not result in a blocked/unused button any more. This is important because vehicle and function decoder can now have together 56 functions (f1-f28 each), but the locomotive control has only 32 button places. You can even hide function buttons from your locomotive controls using the “Hidden”-option which is available for each special function. This is useful if you have special functions in your locomotive you will never use.

5.5.6 Digital system for a locomotive

In **Win-Digipet 2012** have the possibility control your model railroad layout with up to 8 digital systems.

If you use multiple digital-systems for your model railroad you can easily change the digital system, which controls your locomotive using the selection box „*Controlled by Digital-System*“.

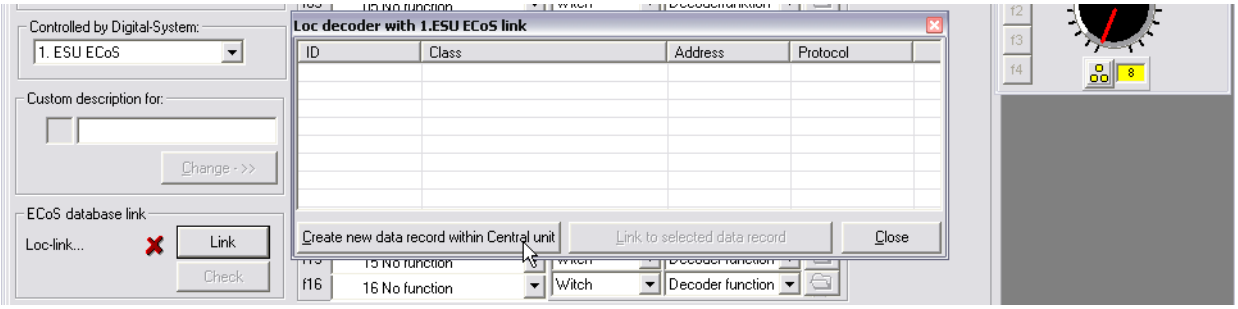


Important!

By default the first digital system will be assigned for new locomotives.

5.5.7 Linking a single locomotive to your digital system

If you use the ESU ECoS or a Märklin Central Station (Märklin Central Station 2 only for mfx-locomotive) for controlling your locomotives you have to link the data records of the digital system and the data record in Win-Digipet.



The red ✘ indicates that a locomotive is not linked to your digital system. Start the link process press the ***'Link'*** button.

A new window appears showing you the locomotives registered in your digital system. You can now choose whether you want to create a new data record in your digital system (not for Märklin Central Station 2) or want to link the locomotive to an existing data record of your digital system.

5.5.8 Linking a single mfx-locomotive to a Märklin Central Station 2

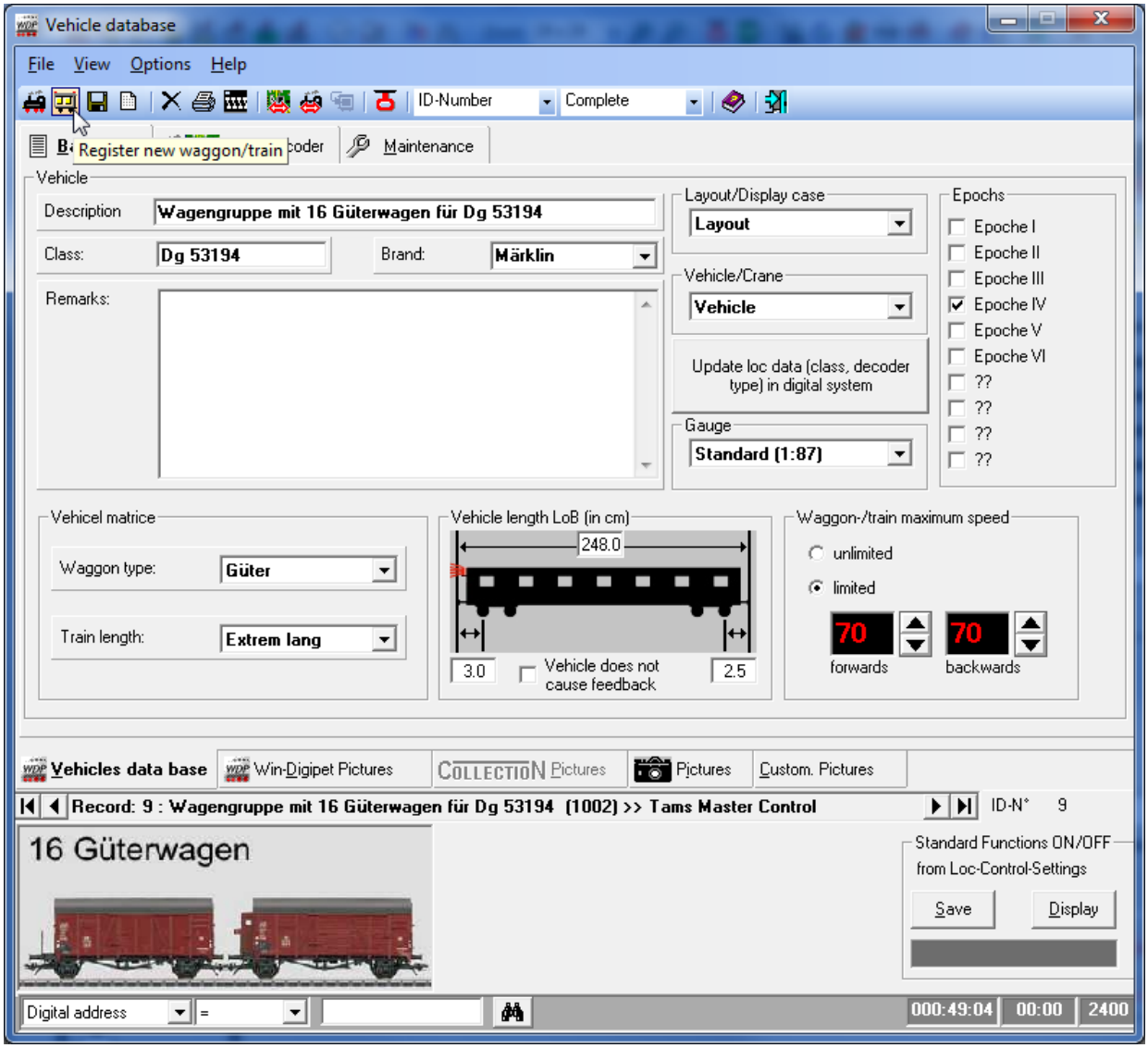
See **5.5.7**.

5.6 Registering a new waggon or group of waggon

As described in chapter **5.1** you can now register waggons or groups of waggons in the vehicle database.

Why do we list single waggons and a group of waggons? If a group of waggons is always coupled to a composition, then you should register this group as one dataset and not each individual waggon, because this will bring no additional information and will only result increased system power usage.

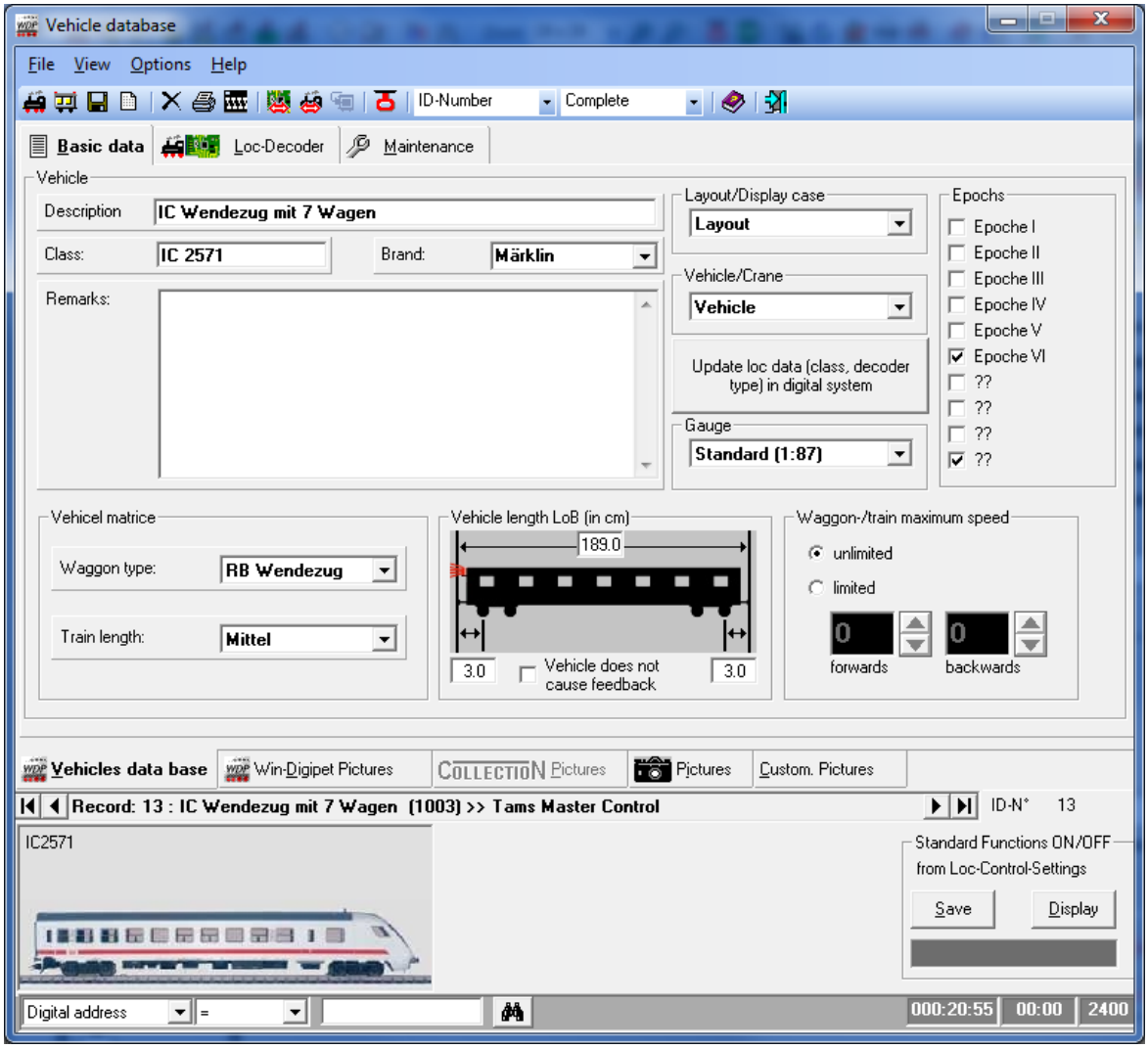
Therefor click on the waggon symbol in the toolbar.



The registration of waggons is very similar to locomotive therefor we will only describe the differences.

Compared to locomotives the first index card looks a bit different. First of all the selection of a locomotive type vanished, the reason should be quite obvious. The picture in the registration field for the vehicle length LoB changed to a waggon and

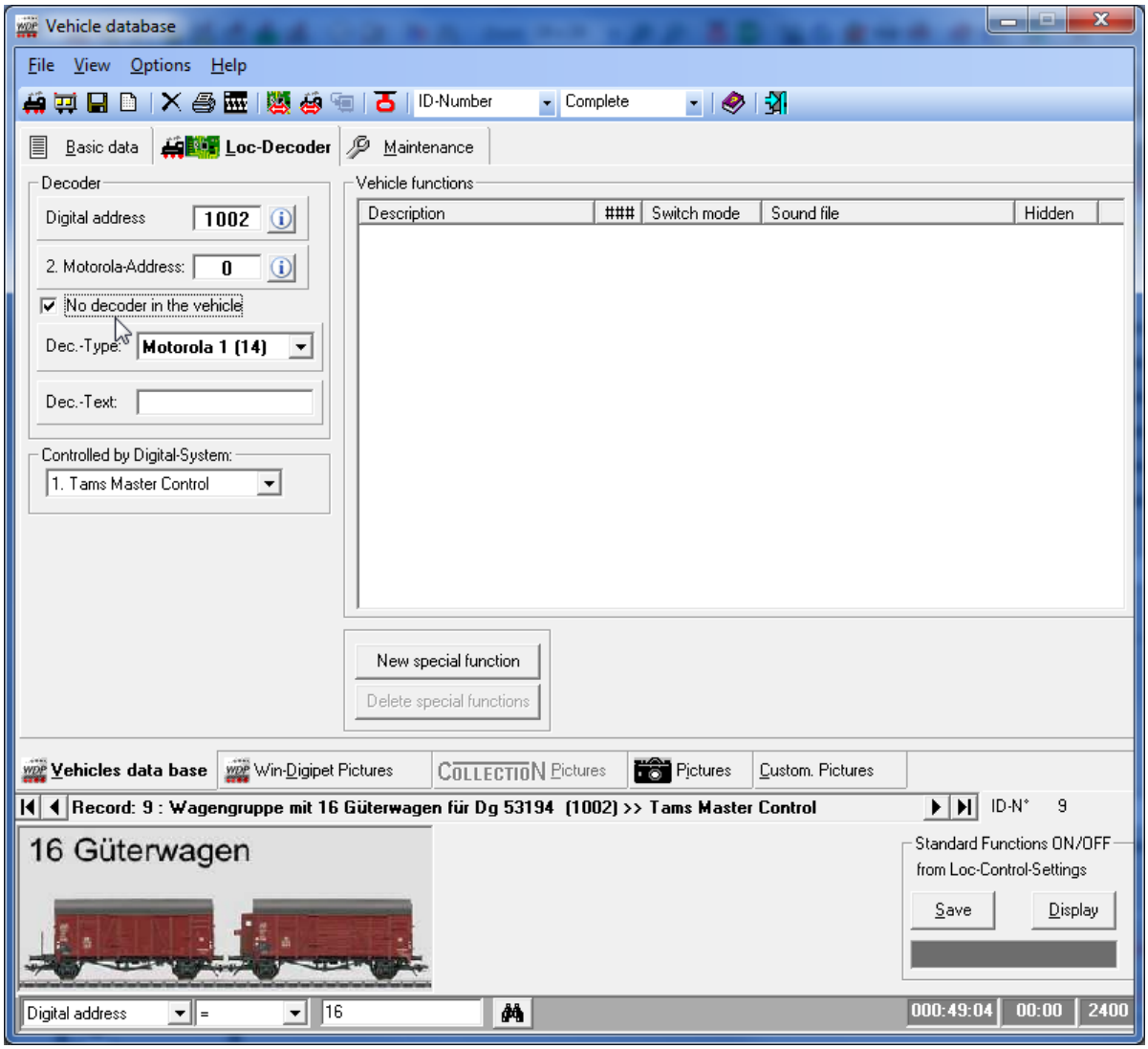
indicates with its red back light on the left side, that the pictures for waggons should also be registered with the driving direction left to right (so back of train to the left). The direction of the waggon in the picture can be changed using the mirror command in the menu <File>. For example:



->

For waggons it is also interesting to limit their speed to a maximum speed. By this option the maximum speed of the whole train containing this waggon can be limited. This is interesting if you couple low speed heavy weight waggons to a high speed universal locomotive. Even if this high speed locomotive has a higher maximum speed than the waggon, it will never drive faster than the maximum speed of the waggon.

On the index card „vehicle-Decoder“ it is advisable to give the waggon a virtual decoder address (and to check “No decoder in vehicle”, of course only for waggons without function decoder). This makes a search or sorting of waggons easier.

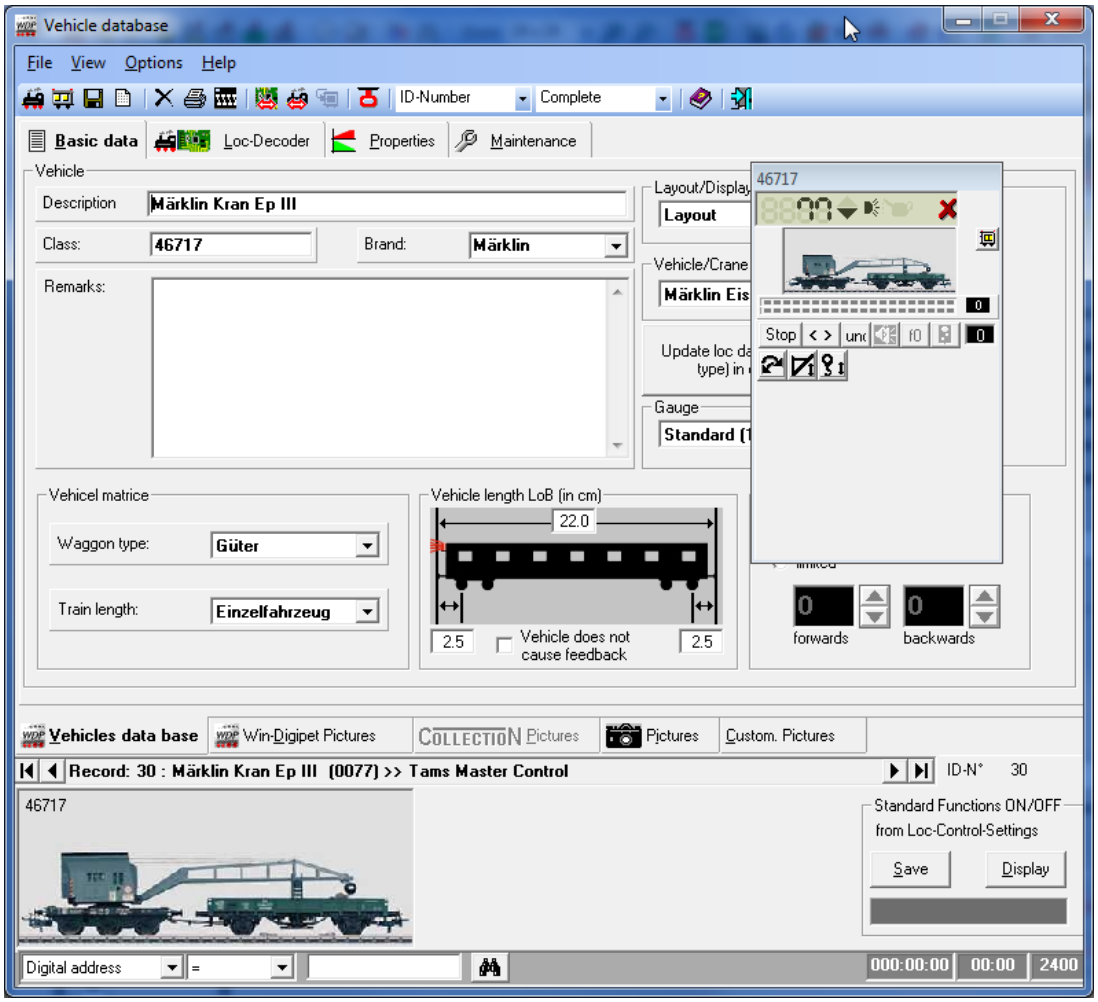


If a function decoder is installed please register all special functions in the same way as for a locomotive (see **5.5.5**).

When creating images for groups of wagons you should not add all vehicles in the picture. The picture should only show one wagon and you should add a text to the picture saying e.g. “16x”.

5.6.1 Registering cranes

Cranes have to be registered as waggons in the vehicle database.



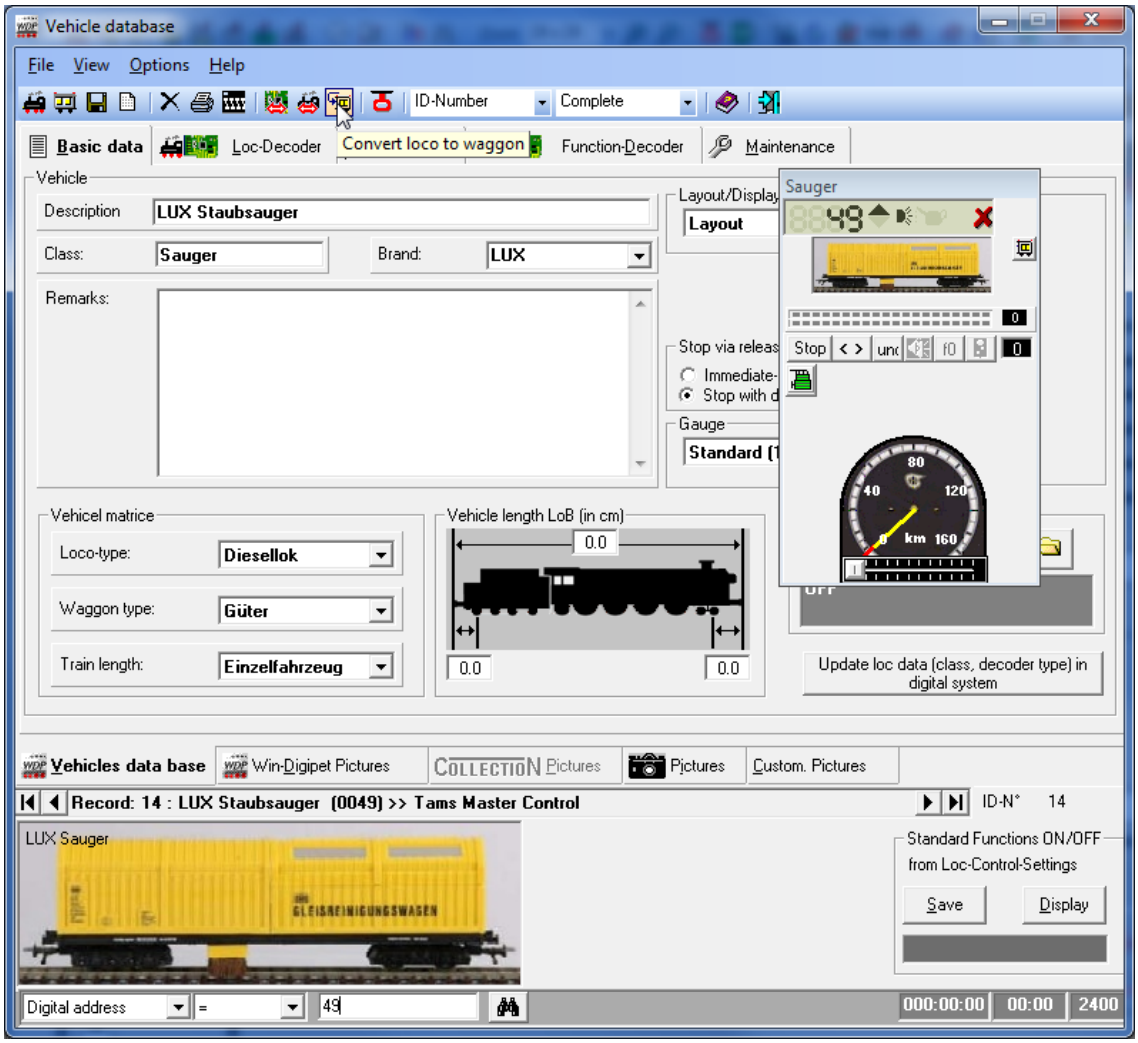
In the combo box „*Vehicle/Crane*“ you can select whether the wagon is a normal wagon or a crane.

Win-Digipet supports the following cranes:

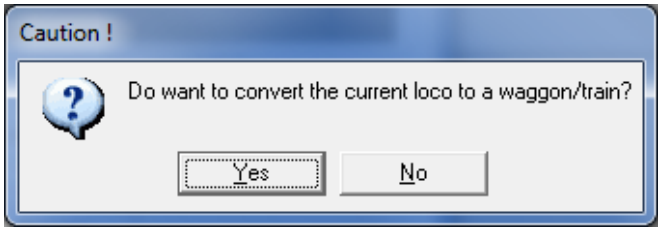
- Märklin…
  - Goliath
  - Crane 7651
  - Portal crane 76500
  - Coaling facility 76515
  - Small waggon crane 46715, 46716 or 46717
  - Tower motor car.
- Trix
  - Portal crane 66105 (similar to Märklin 76500).
- Roco
  - Portal crane
  - Waggon crane.
- Uhlenbrock
  - Gantry crane 80000

5.7 Converting locomotives to wagons

If you used wagons in former versions (as locomotive dataset) or cranes you have to/should convert them to waggon datasets. Therefor select the according button from the toolbar.



After a security question...



...the ex-locomotive dataset will be converted to a waggon dataset. Afterwards you should make the waggon specific registrations described in chapter **5.6**.

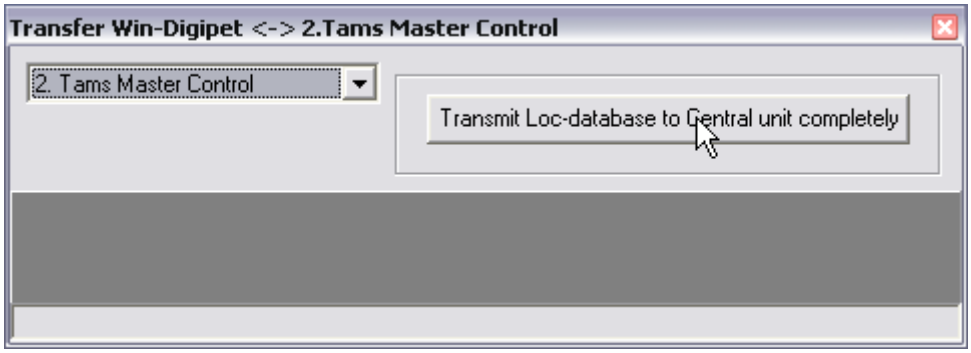
The conversion of a locomotive to a waggon cannot be undone! So take care only to convert real wagons…

5.8 Transferring/Linking all locomotives to your digital system

For some newer digital systems Win-Digipet offers to transfer its complete locomotive data base (or parts of it) to the digital system (e.g. Tams, Ct, Rautenhaus RMX). For systems with the need to link locomotives (ESU ECoS and Märklin Central Station) also the links can be created block wise.

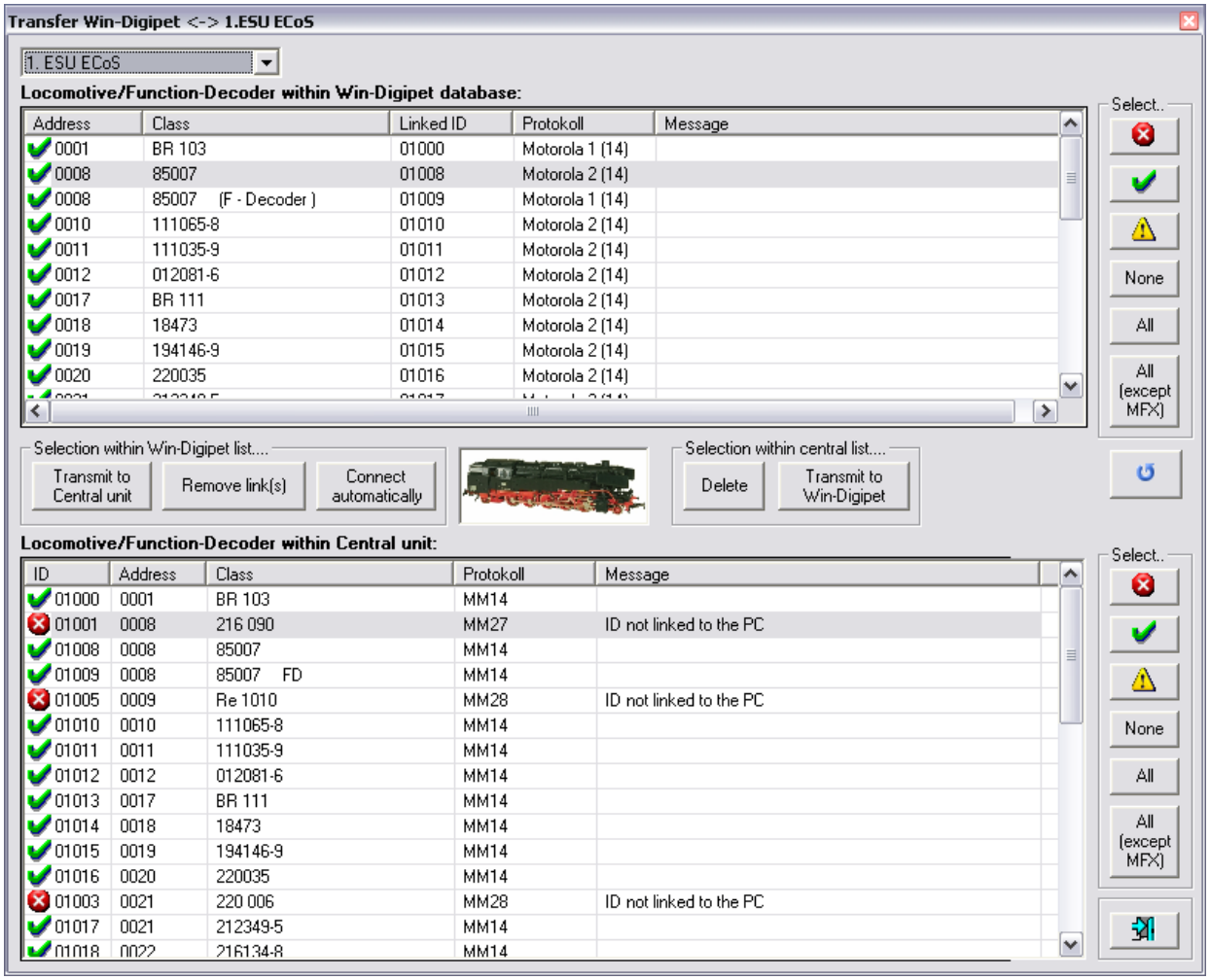
Just press the button in the toolbar of the vehicle database.

A new window will appear. Its size and functions are dependent to the chosen digital system and its capabilities.



For example when choosing Tams MC, Ct ZF5 or Rautenhaus RMX 952 you have only the possibility to transfer your complete database to your digital system.

When choosing ESU ECoS or Märklin Central Station (1) the window will enlarge and you will see two lists. The first in the upper part showing you the locomotives registered in Win-Digipet, that are assigned to the selected digital system. The second list contains the locomotives registered in the digital system itself. For Märklin Central Station 2 the minimum firmware version for using this function is 2.0.1.



In the right part of the window you will find several buttons to make automatic selections in the list, they are self-explanatory. In the middle row of the window between the lists you will find buttons to transfer the selected locomotives either in the direction Win-Digipet->Digital system or the other way round.

5.8.1 Deleting or restoring links (automatic linking)

In the window explained in section **5.8** you also have the choice to delete or restore links to the database of the ESU ECoS or the Märklin Central Station. Just select the locomotives in the upper list with the links that shall be deleted or restored. When using the restoring function (automatic linking) Win-Digipet tries to find suitable link partners in the digital systems database by comparing digital addresses and protocols. If suitable matches would be found the links would be created automatically.

5.8.2 Deleting locomotives in your digital system

In case of the ESU ECoS or Märklin Central Station 1 you can also delete locomotives within your digital system the window showing to you in section **5.8**. This might be useful if you want to transfer your complete vehicle database from Win-Digipet to your digital system

5.8.3 Globally change digital system for several locomotives

If you use multiple digital systems for your model railroad you can easily change the digital system, which controls several of your locomotives.

Click in the vehicle database on the menu <Options> <Changing digital-system of locs globally> or to the button in the toolbar.

A new window to change digital systems globally is coming up.

In the upper selection box you can choose the current digital system for controlling your locomotives and in the lower selection box you decide the new digital system for controlling your locomotives.

With a click on **'*OK*'** you can change now the digital-systems for the locomotive of the old digital system after confirming a security query.

5.8.4 Modifying pictograms for the locomotive data base

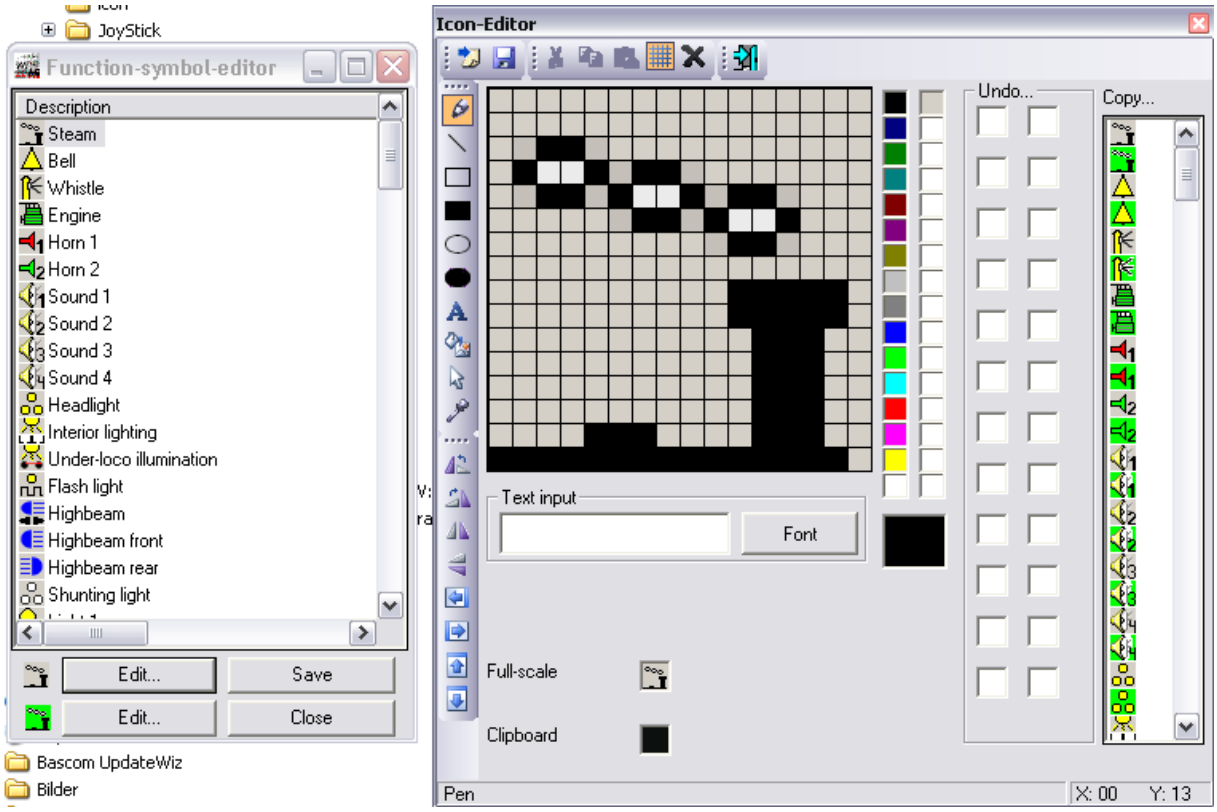
In the following you will see a port of the file **FuncIcons.bmp**, which can be found in the directory C:\WDIGIPET\Symbole.

In this file all pictograms for (locomotive) decoder functions can be found and modified with a graphics program or the new Win-Digipet-Function-Symbol-Editor.

In **Win-Digipet 2012** 240 different symbols are supported...

Tip!
Please make sure to create a backup copy of the original file **FuncIcons.bmp** before doing any changes to this file.

The new „Function-symbol-Editor“ will be opened with a double click on the according symbol of your desktop or via a double click on „WDFuncSymEditor.exe, in the main directory of **Win-Digipet 2012**.



After the program start you will see a list where you are able to select the symbol that you might like to change. With the edit buttons beside the on- or off symbol you can start the icon editor for the displayed symbol.

With this editor you may edit the predefined symbols or create new ones of course, too. To make changes undone there is a box in the editor helping you to do this by double clicks on one of the last 24 undo-stages.

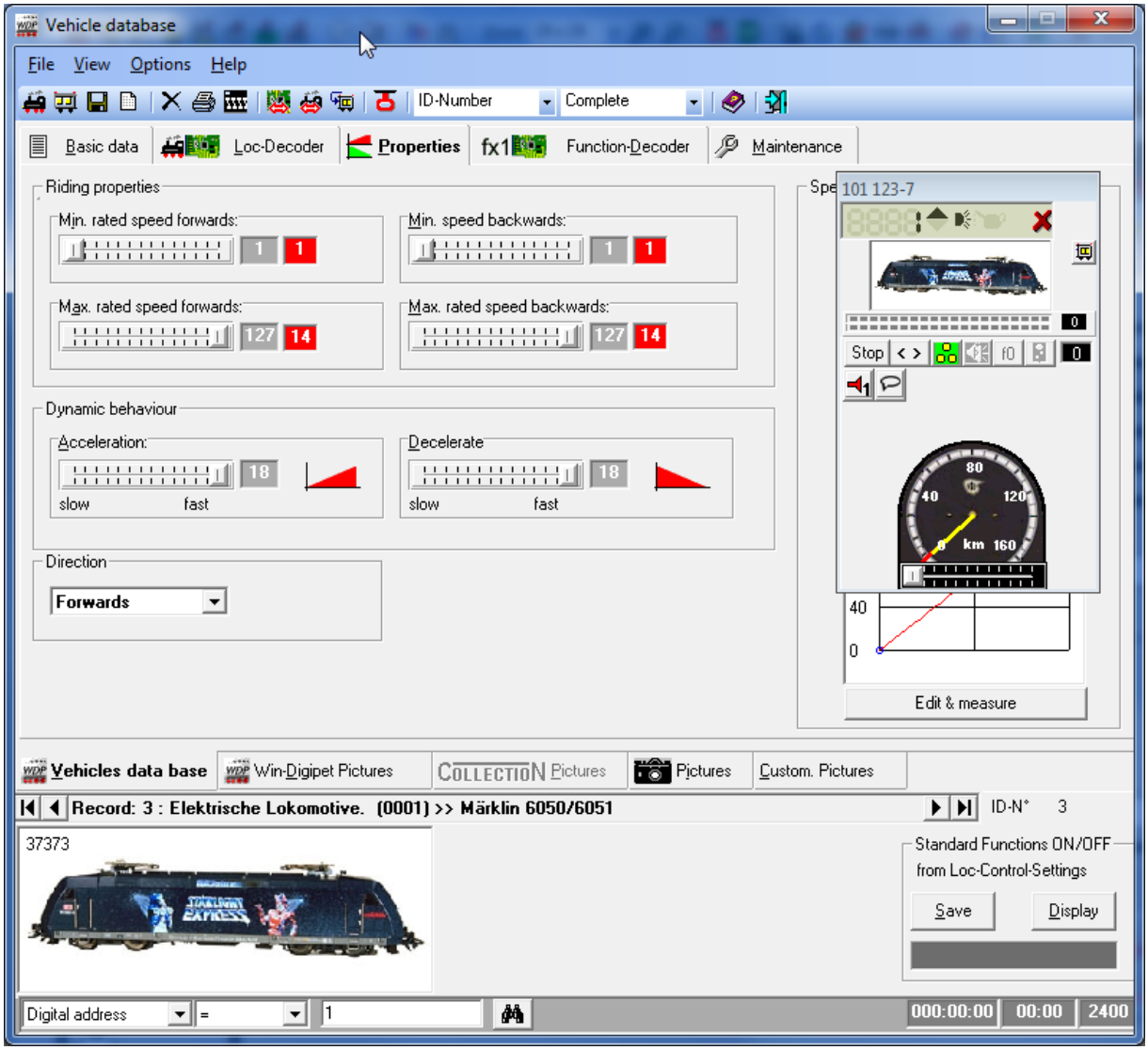
Save each symbol after you've done your work by clicking the save symbol and close the icon editor window.

With a right click you can open the context menu in the symbol list and select <Edit text> to change a symbol's description. Afterwards you should save your changes via **'*Save*'**.

You can close the editor via **'Close'** or the button ☒ in the upper right corner.

5.9 Index card „Vehicle-Database – Riding Properties“

On this index card you register the important data of the locomotive. These are the settings for minimum/maximum rated speed forward and backwards, the deceleration and acceleration rate as well as the starting speed and the current direction.



If you have upgraded from a former version 5.0 or 7.x or 8.x to **WIN-DIGIPET 2012** you have to check or register completely new all explained functions in this section for all locomotives.

When updating from version 8.x all settings are transferred and you can adjust the new feature of differing between “forward/backwards” and “acceleration/deceleration” if you want.

You can adjust the running properties of the locomotive with the sliding switches.

All speed-adjust-ranges are divided in **128** steps. However the amount of speed-steps is depending on the type of decoder, which you have selected (see **5.5.3**, numbers in brackets).

5.9.1 Riding properties

Under “Running properties” you register the amount of steps for “min. rated speed” and “max. rated speed”; in the red panel on the right hand side, you will find the ordinal number to the related speed-step.

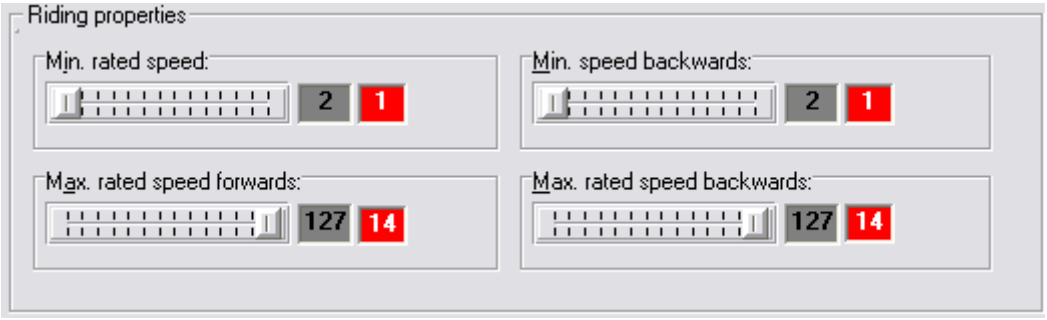
You can differ between back- and forward direction for the speed settings.

In this example, we have a view on a decoder for Märklin-locomotives with the new Motorola-data format. This decoder has 28 speed-steps, which are – like for all decoder-types – divided into 128 steps. In this example the values for forwards and backwards are the same.

For the “min. rated speed” we have selected the amount of steps “2”, for the “max. rated speed 127”. On the right hand side, you will find the speed steps “2” respectively “28”. These numbers will be automatically calculated by **WIN-DIGIPET 2012** and will be represented like in this example.

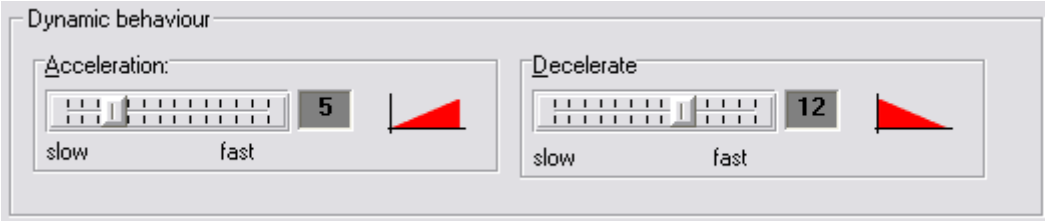
Minimum rated speed determines at which speed the locomotive just moves at lowest speed without any interrupts, e.g. step „2“ for easy moving, step „4“ for „stiffer“ moving locomotives.

Maximum rated speed determines up to which speed the locomotive may be accelerated without derailing in curves, e.g. „11“ = top speed.



5.9.2 Dynamic behaviour

You can differ between the acceleration and deceleration rate.



Acceleration: The acceleration rate determines whether the locomotive is accelerated fast or slow.

Deceleration: The deceleration rate determines whether the locomotive is decelerated fast or slow.

It is recommended that you test your locomotives on your layout to find the best values of minimum/maximum rated speed and acceleration rate.

5.9.3 Driving direction

The option “Direction” is only available to users of 6050/6051 because all other systems support absolute driving directions. **WIN-DIGIPET 2012** stores the “direction of travel” of the locomotive. At the panel “Direction“ enter the present direction of travel, i.e. forward or reverse. You have to do this once only: after a direction test of the locomotive. The program “remembers“ the direction of travel, displays direction changes and saving it by leaving the program.
In the top line of the locomotive control panel, the direction of travel of the locomotive is displayed next to the digital address: red/black arrow to the top = forward, red/black arrow to the bottom = backwards.

If this indication is wrong, pick up the loco with 6080-decoder from the track, use the reversal command and put the loco back on the track again.

5.9.4 Driving with kilometres per hour (km/h)

If you want to control the speed by using a scaled real world speed (km/h), you have to calibrate your locomotive using one of the speed measurement functions in the program.

The speed measurement can be made in **Win-Digipet** using...

- a special measurement track
- or a roller dynamometer Speed-Cat of KPF-Zeller (http://www.kpf-zeller.de)
- or a roller dynamometer MAX of Marion Zeller (http://www.marion-zeller.de)

The measurement process is completely automated.

When using km/h-mode in Win-Digipet you should calibrate the decoder settings (via potentiometer for some older decoders or decoder programming) in such a way, that

the highest available running step shall result in a scaled real world speed, that is in the range of the real world's locomotive maximum speed.

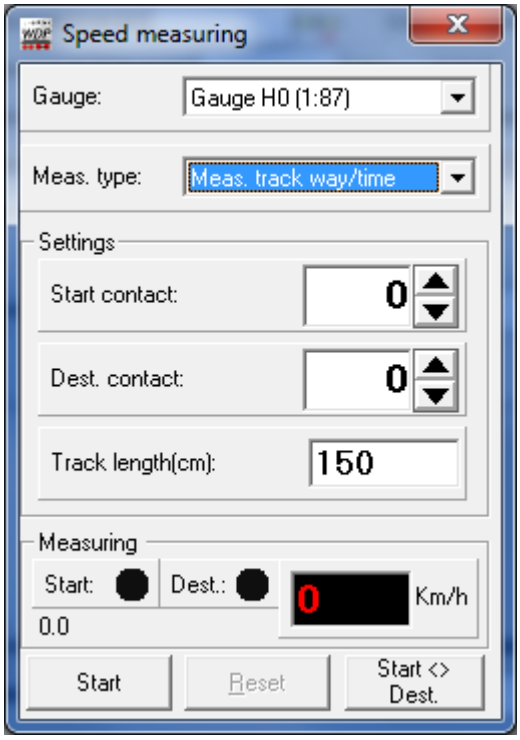
This is important, because otherwise you would lose precision in the regulation of the locomotive. For example; if the real world maximum speed of a locomotive is 200 km/h and the decoder support 14 speed steps, then a decoder setting resulting in an equivalent of e.g. 200 km/h already for speed step 6 would just use 6 speed steps for selecting intermediate speeds instead of the possible 14 speed steps.

5.9.5 Speed measurements using a measurement track

When using a measurement track, the length of the measurement track is the most important detail when having the aim of getting the best possible measurement results. To receive good results at gauge H0 a track should have a minimum length of 150cm.

A simple speed measurement tool for e.g. just measuring a locomotive maximum speed can be reached via the button in the toolbar.

In the window just select the way over time method and enter the start and destination contact and the distance from start to end.



Now you can measure e.g. the locomotives maximum speed by driving the measurement track using your digital system with the highest available speed step. When comparing now the measurement e.g. with the real world speed of the locomotive (information can be found e.g. in Wikipedia) you can reconfigure your decoder (see also **5.9.4**) to achieve the locomotive maximum at the highest available speed step.

Now we will come to the speed measurement/calibration of your locomotives. This is quite important, because when using the km/h-mode Win-Digipet has to know which scaled real world speed matches to which decoder speed step.

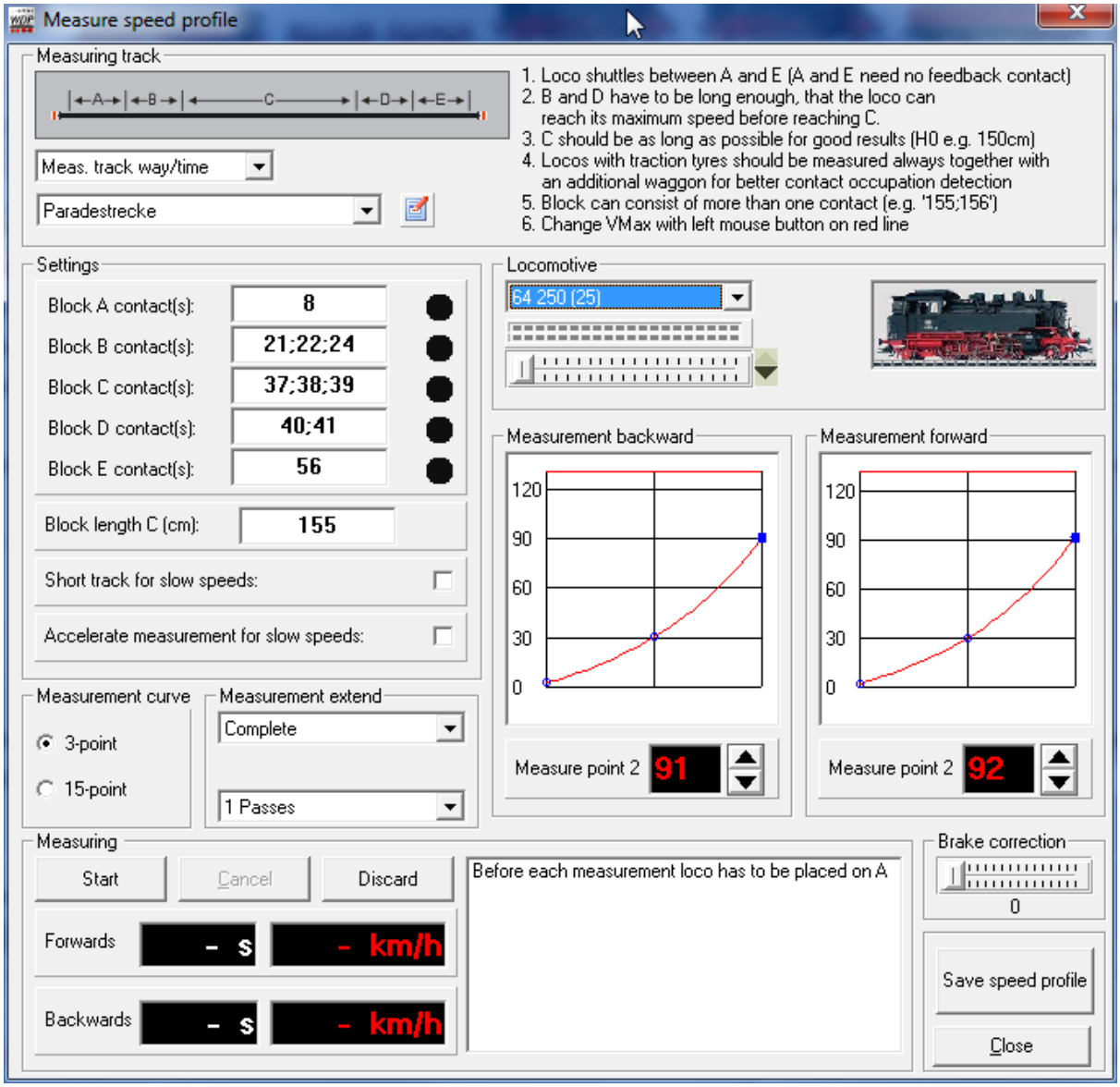
5 – VEHICLE-DATA BASE

Using the button in the toolbar of Win-Digipet you can open the ‘Measure speed profile’ window. Within this dialogue you can handle the whole speed measurement process.

For the automated measurement Win-Digipet does need a “5-part” track. We call the 5 parts Block A to E. The blocks have the following purposes:

- Block A: Here starts the locomotive and the locomotive will return here after each measurement cycle
- Block B: This block is used for the acceleration process while forward measurement and the braking while the backward measurement, the block has to be long enough, that a locomotive starting at A can accelerate to its maximum speed before reaching C (accordingly long enough for deceleration for the backward measurement)
- Block C: This is the real measurement block. When measuring forward the clock starts when reaching C and stops when reaching D (backwards when reaching B). This block should be as long as possible for accurate results. For H0 gauge we suggest a minimum length of 150cm
- Block D: This block is used for the deceleration process while forward measurement and the acceleration while the backward measurement, the block has the same requirements for its length as block B
- Block E: Here the locomotive stops when measuring forward speed and this is also the starting point for backward measurement.

We do know, that it is quite impossible to find such a 5-part-measurement on an existing model railroad layout, which meets all requirements, so Win-Digipet offers the possibilities to combine several real feedback contacts to one virtual block contact. The contacts can be entered into the window separated by a semicolon. Please take also a look at the picture below.



For the measurement there are some options available.

First of all you have to decide whether you want just to measure just the starting speed, the half speed and full speed of a locomotive (3-Point-method) or 15 different speed steps (evenly spread from speed step 0 to the maximum speed step). In most cases the 3-Point measurement will give good results, because this methods takes linear speed profiles as well as exponential speed profiles into account (see picture above).

Next you have to decide whether you want a complete measurement for all selected speed points (3- or 15-point) or just for one of them (e.g. if you like to re-measure one speed step).

The question to answer is; how many repetitions of a measurement you want. This is a possibility to achieve a higher accuracy because measurement errors can be averaged out of the measured values.

Place the locomotive for measurement on block A now. The direction of the locomotive becomes very important now, you have to place the locomotive driving forward for

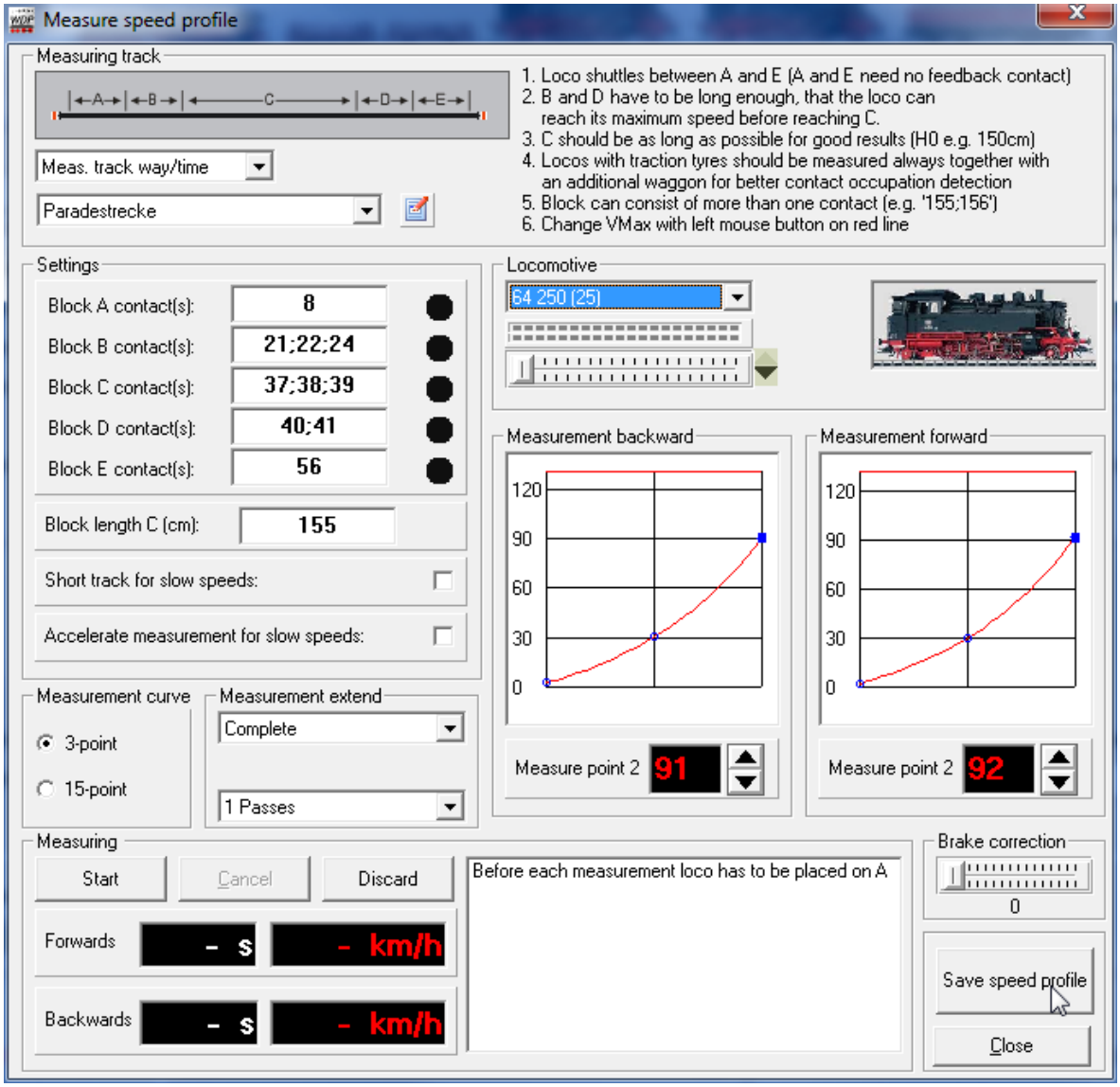
travelling from block A to block B and so on. After positioning the locomotive on block A, the blocks B to E have to be free.

Feel free to press **'*Start*' now**.

The locomotive will now start to drive along the measurement track and when reaching block C the clock will start to run and stop when reaching block D, simultaneously the speed of the locomotive will be reduced if necessary to a speed of maximal 50% (of available speed steps). The locomotive will stop after block D is free again (and so the locomotive is standing completely on block E). Then the direction of travelling will be reversed the opposite measurement in direction from block E to block A will be done.

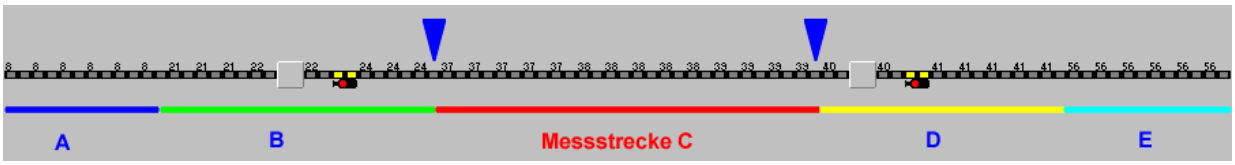
After travelling with one speed measurement point forward and backward the graphs will be updated and if necessary the next speed measurement point will be measured. This will be repeated until all speed measurement points selected (3- or 14 point, single point or all points) have been measured.

After the complete measurement cycle you should save the measured profile. The measured speed profile will be stored in the vehicle database.



Important information concerning the measurement track!

It is quite important, that block B to D border each other because otherwise we would have different measurement lengths for forward (beginning of C to beginning of D, seen from left to right) and forward (beginning of C to beginning of B, seen from right to left).



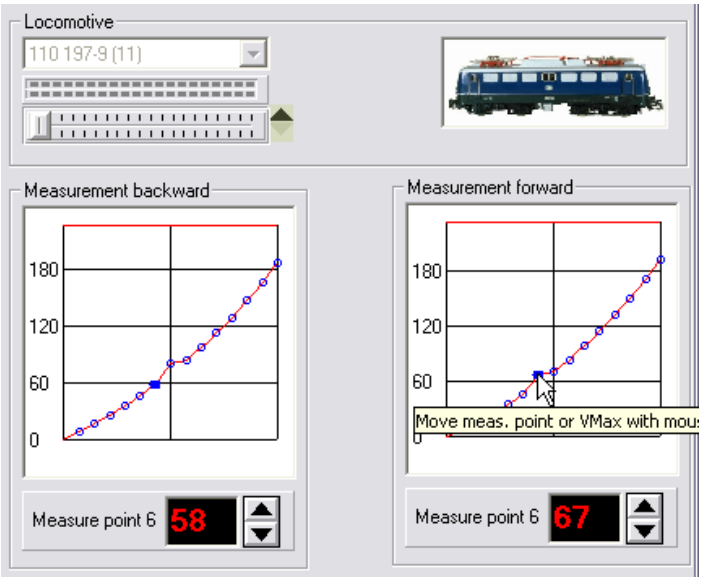
The measurement track shall always be a clean track with good contact. If your locomotive has traction tires on the first or last axle you shall couple on the affected side an additional wagon (which is able to case of an occupation message).

If you have measured your locomotive already with Win-Digipet 2009 should consider to complete the measurement with the measurement of speed step 1. This is important for the intelligent train number display.

5.9.6 Changing measurement points and maximum speed (Vmax)

Single measurement points can be moved with the mouse.

Just select the point to change and drag it to the desired value while holding down the left mouse button.



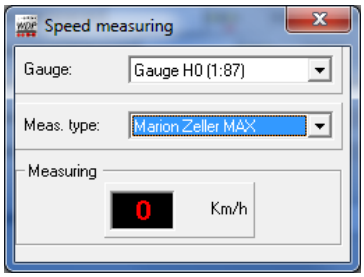
If you have a locomotive which is riding to fast at its max speed step and you cannot reduce the speed with your decoder directly, you directly limit its maximum speed to a several speed value (in km/h) by dragging the red line from the top of each graph down (see left graph above). Then the locomotive will never run more than the selected speed value (except during measurement process). But remember: this will cause a loss of speed steps, because you are just cutting some of the upper speed

steps. Therefore you should always prefer to change the maximum speed if possible in the decoder itself.

5.9.7 Speed measurements using a roller dynamometer

Beside the measurement with a measurement track you can do your measurement also with a roller dynamometer 'MAX' of Marion Zeller or 'Speed-Cat' of KPF-Zeller. This device has to be connected to the USB port of your computer before opening one of the measurement windows. Before using the device with Win-Digipet you should check its function using the software provided by Marion or KPF-Zeller. This software has to be closed before the usage of the roller dynamometer in Win-Digipet.

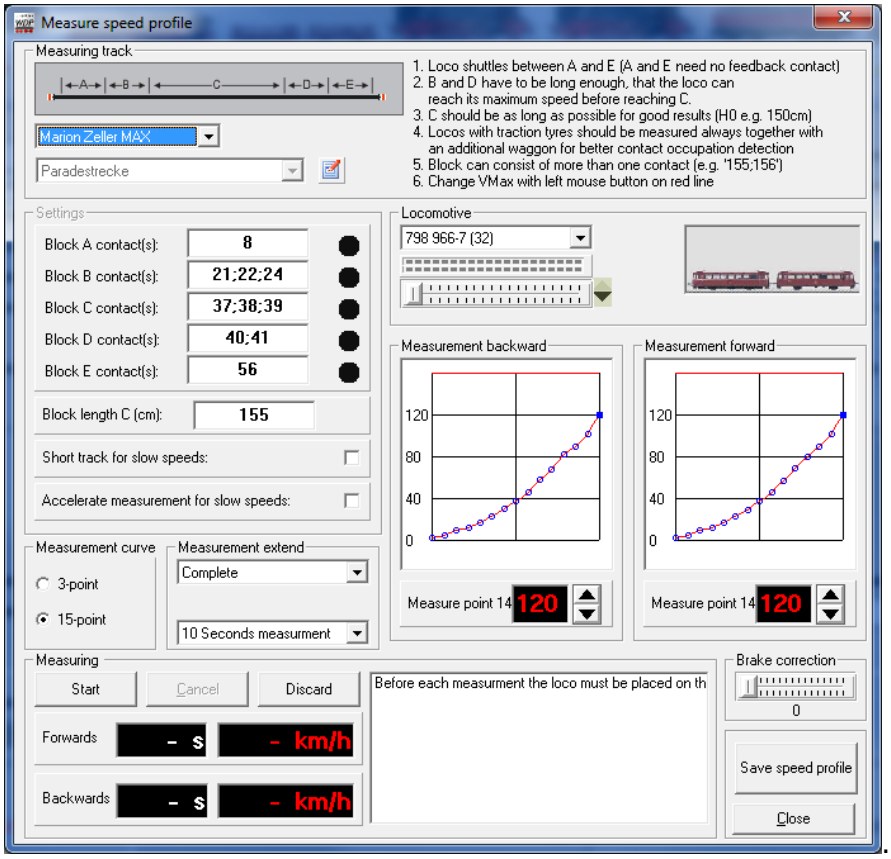
Below you see the normal measurement window with selected "Speed-Cat option". The speed measured with the Speed-Cat will be displayed online. Due to a short averring time of the measurement wheel rotations of just 1 second the measured speed is varying a little bit.



The Speed-Cat can also be used for measured the locomotive speed profile as described in section **5.9.5**.

The handling of the measurement window is very similar to the measurement with a measurement track. Instead of selecting the numbers of measurement repetitions you can change now the measurement time. A higher measurement time will result in more accurate measurement results because the measurement wheel rotations in the Speed-Cat will be counted for a longer time.

Just place the locomotive on the roller dynamometer and press **'*Start*'**. Now Win-Digipet will measure all selected speed steps (due to the selected measurement extent) forward and afterward backwards. After measurement you proceed in the same way as described in **5.9.5** and **5.9.6**.



5.9.8 Speed measurements on a combined measurement track

Speed measurements for lower speed steps usually last very long. Because of the dilemma that you want a speed measurement for many speed steps and the long time for lower speed steps on the other side, Win-Digipet 2012 now includes a combined measurement track for low speeds.

What does this mean?

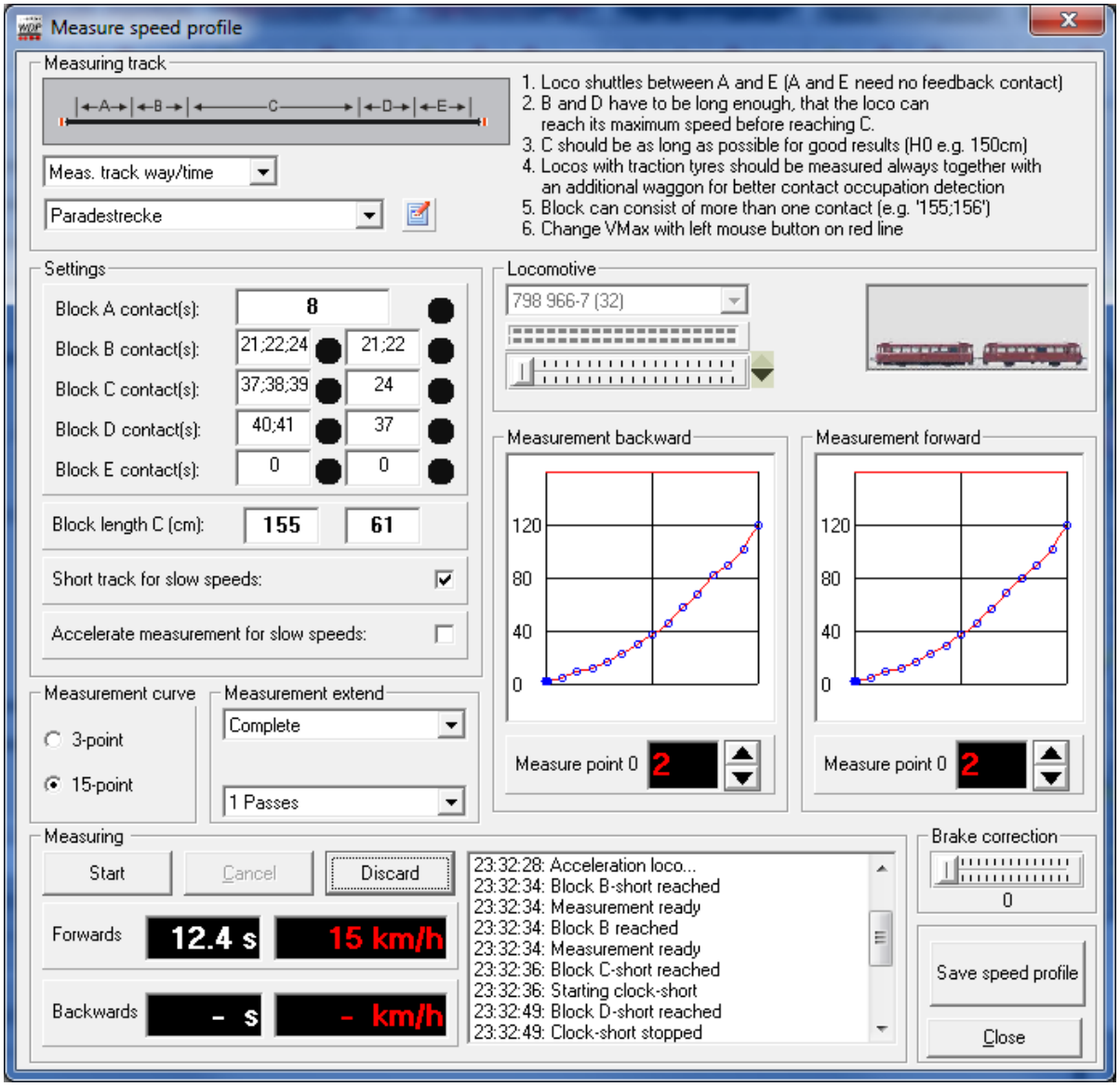
You can register for each measurement track a second combination which shall be a shorter sub-set of your original measurement track.

Therefor check “Short track for slow speed”. Now you can register additional contacts B-short to E-short and the length of C-Short. During each measurement the program decides after passing the shorter measurement track C-short if the measured speed is exact enough or if the longer track shall be used to get an exacter result (speeds up to 20 km/h are considered as exact for the short track).

In the following example the short track consists of...

- Starting point A with feedback contact 8 (not needed necessarily)
- the acceleration track B with feedback contacts 21 and 22
- the measurement track C with feedback contact 24
- the deceleration track D with feedback contact 37
- and the destination contact E (not needed necessarily)

...with a length of 61cm for C.



The data of the test runs are listed in the window and we scrolled them back here in the picture after the end of the test runs to show you the speed measurement with speed step 1. The measurement on the short route begins and ends before reaching the test section C for the long test section. By these new options the duration of the speed measurement can be shortened significantly.

Track B of the short-range must always be so long that the engine can accelerate from zero to half the number of speed steps before the test section C of the short-range is achieved.

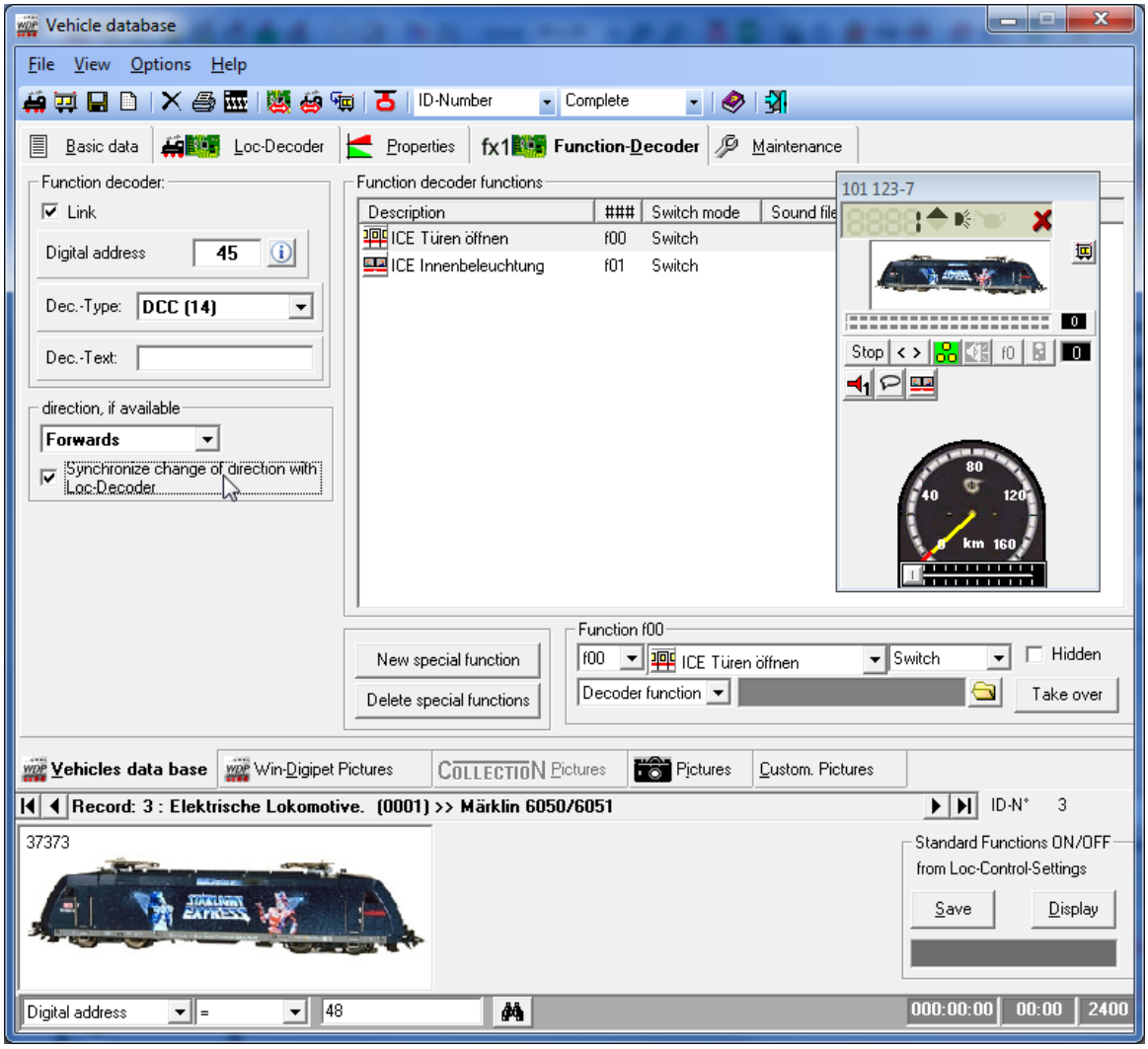
The length D of the short distance on the other hand can be quite short, because the engine has to accelerate from a standing to a maximum of only 20 km / h.

5.9.9 Different measurement tracks

The program supports up to 5 different measurement tracks per layout which can be chosen from a combo box. You can give each measurement track an individual name using the button .

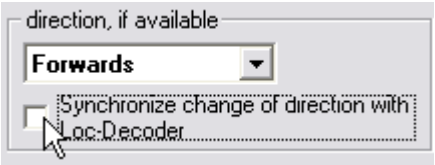
5.10 Index card „Vehicle-Database – Function-Decoder“

This index card is used to define all relevant data for function decoder which can be assigned to the locomotive.



All data can be entered similar to the normal vehicle decoder and will not be explained in detail again.
Just enter the „*Digital-Address*“ of the function decoder, check „*Combine*“ to activate the function decoder.

TIP!
If you don’t have a function decoder installed in your locomotive but want to assign some additional sound files to your locomotive, just check *“Combine”* and enter “0” as digital address. Now this function decoder can be used as “sound-file-only-decoder”.



An interesting function is the synchronisation of direction changes between the locomotive decoder and the function decoder. This is for example important when using push-pull-trains with a function decoder in the control cab coach.

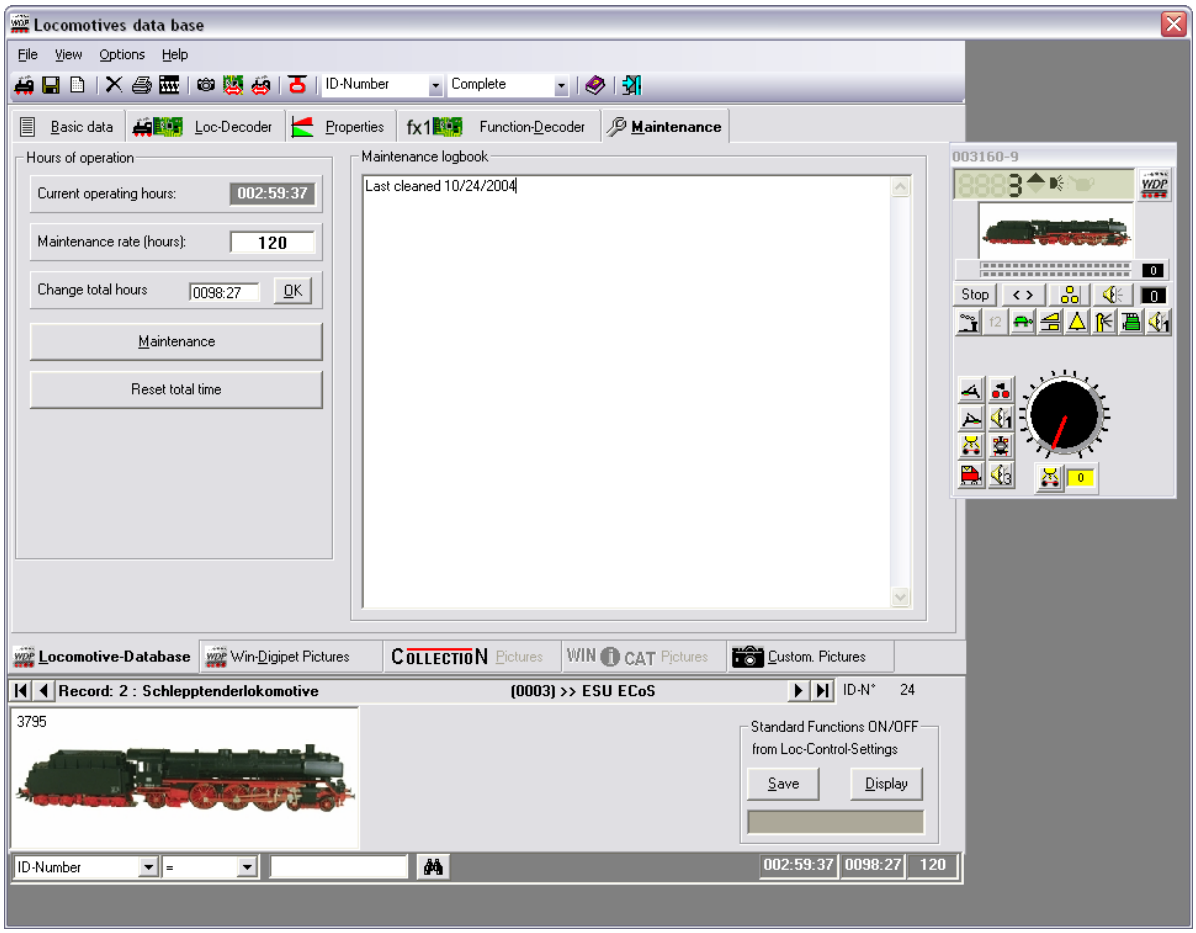
Information!
This function can**not** be used for Selectrix-System.

In the panel “Direction“ enter the present direction of travel, i.e. forward or reverse. You have to do this once only: after a direction test of the function decoder. The program “remembers“ the direction of travel, changes this if checked every time the locomotive changes its direction and saves it by leaving the program.

If this indication is wrong, pick up the loco with 6080-decoder from the track, use the reversal command and put the loco back on the track again.

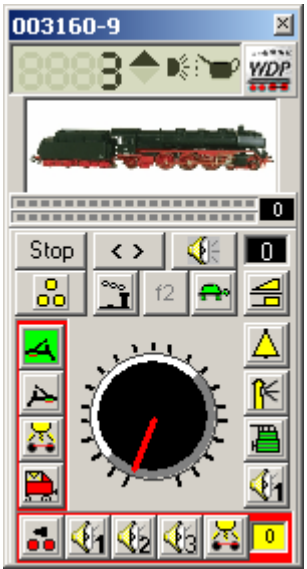
5.11 Index card „Vehicle-Database – Maintenance“

This index card can be used to register all maintenance data for your locomotive.



Current operating hours

If the hours of operation (display = hours: minutes: seconds) exceeds the pre-set maintenance interval, a **small oil can** or appears in the big Loco-Control to the right of the speed control. The locomotive is also displayed in the bar “Loco selection“ and the locomotive monitor of the main program. **A yellow marking** alerts you.



Maintenance rate

Here, you can also adjust the maintenance interval; the range is between 1 up to 100 hours.

Change total hours

In this field you can change the operating hours. This is e.g. useful if you know the number of hours from other recordings and register the locomotive for the first time **in WIN-DIGIPET 2012** and like to take over this value.

Reset operating-/total hours

After maintenance (lubrication) of the locomotive, use the button „Reset operating hours“, to reset the counter to **000:00:00**. The hours of operation since the last maintenance are added to the total hours of operation = „Live expectancy of locomotive added to the field “Total hours“ (Display = hours: minutes).

With a click on “Reset total time” you can reset the display back to **0000:00**.

Maintenance logbook

Here you can enter all data and remarks concerning the service of the locomotive. It would be conceivable here e.g. to enter the data of a general overhaul, repairs of the locomotive etc..

Display of operating hours, total hours and maintenance rate

These three values are also always displayed in the lower left corner of the “Vehicle database” window.

Train detection

The assignment of a locomotive to a train detection system has to be done here.

5.12 Save

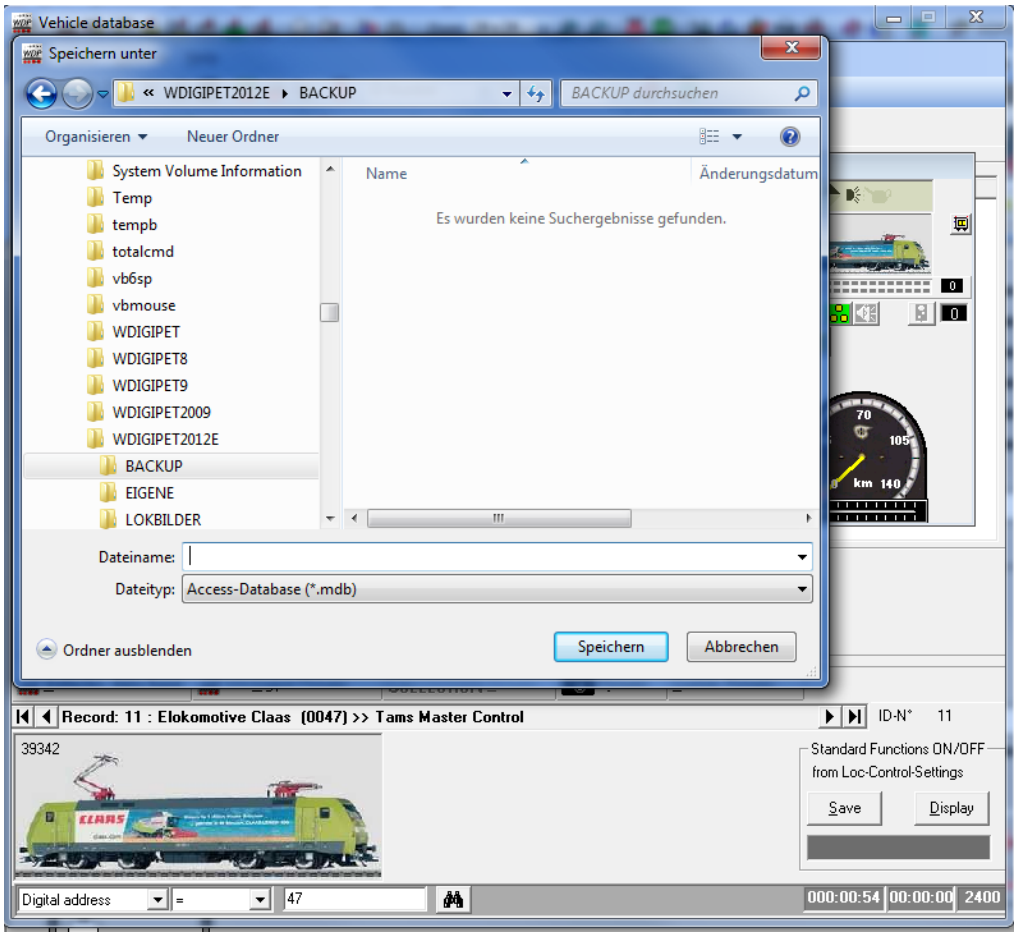
Finally click on <File> and <Save> or in the toolbar on the switch . The locomotive, its picture and the above done settings will be saved in the WIN-DIGIPET-database.

After saving the command <File> <New> and the button are activated again and you can register the next locomotive.

5.13 Exporting vehicle

With this function you can export single vehicle from your locomotive database and take this dataset with you e.g. when visiting a friend or a model railroad meeting.

Therefor use the command <File> <Export vehicle>.



Now you can enter a file name and a saving location for your export.

When opening the selected destination directory you will see...

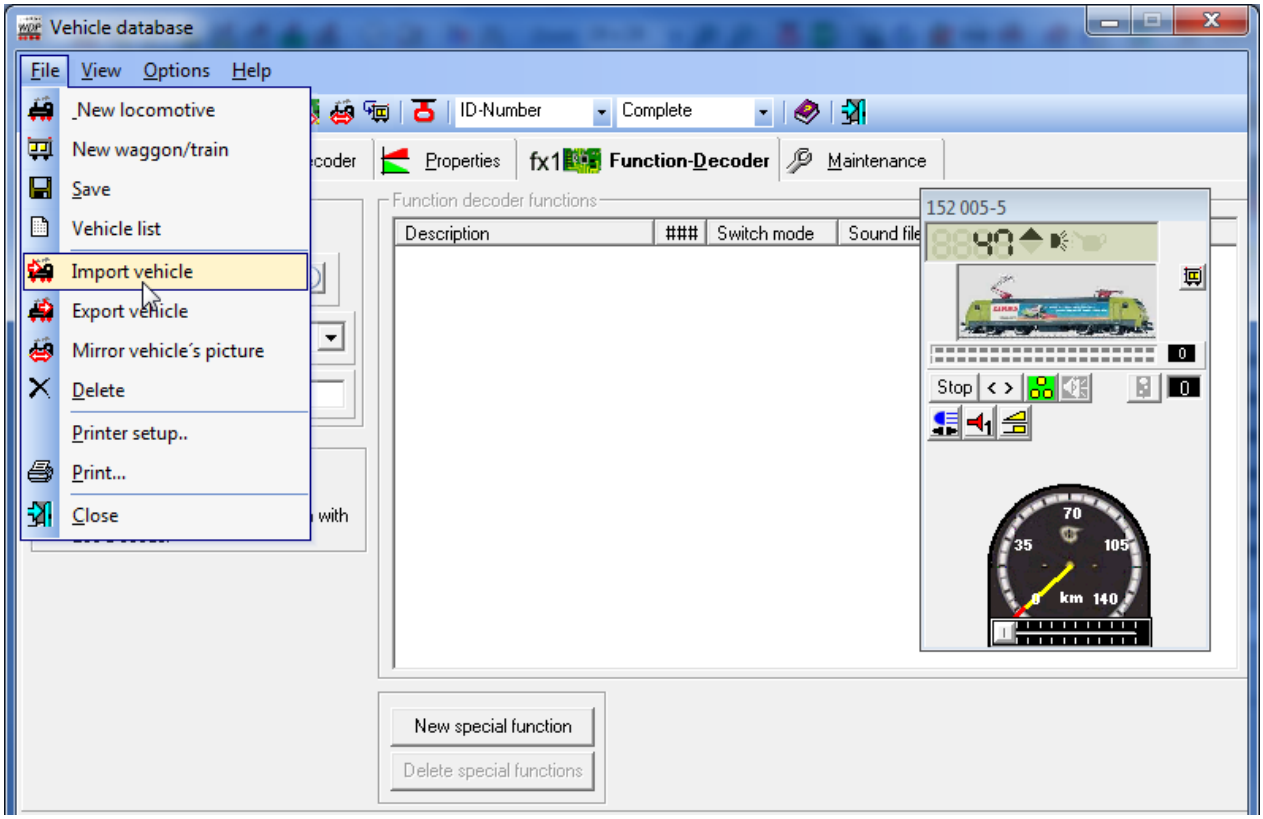
Name	Größe	Typ	Geändert am
152 005-5.jpg	13 KB	JPEG-Bild	30.11.2011 19:21
152 005-5.mdb	52 KB	Microsoft Access-Anwendung	06.12.2011 17:44
215 010.jpg	22 KB	JPEG-Bild	28.11.2011 11:39
215 010.mdb	52 KB	Microsoft Access-Anwendung	06.12.2011 17:43
4998.bmp	146 KB	Bitmap	15.08.1999 11:41
4999.bmp	146 KB	Bitmap	15.08.1999 11:41

...two files containing the selected file name. One mdb-Acccess-File containing the locomotive data one JPG-picture of the locomotive. For transfer and import you will always need both files (so copy both files to your USB-stick for taking the data with you).

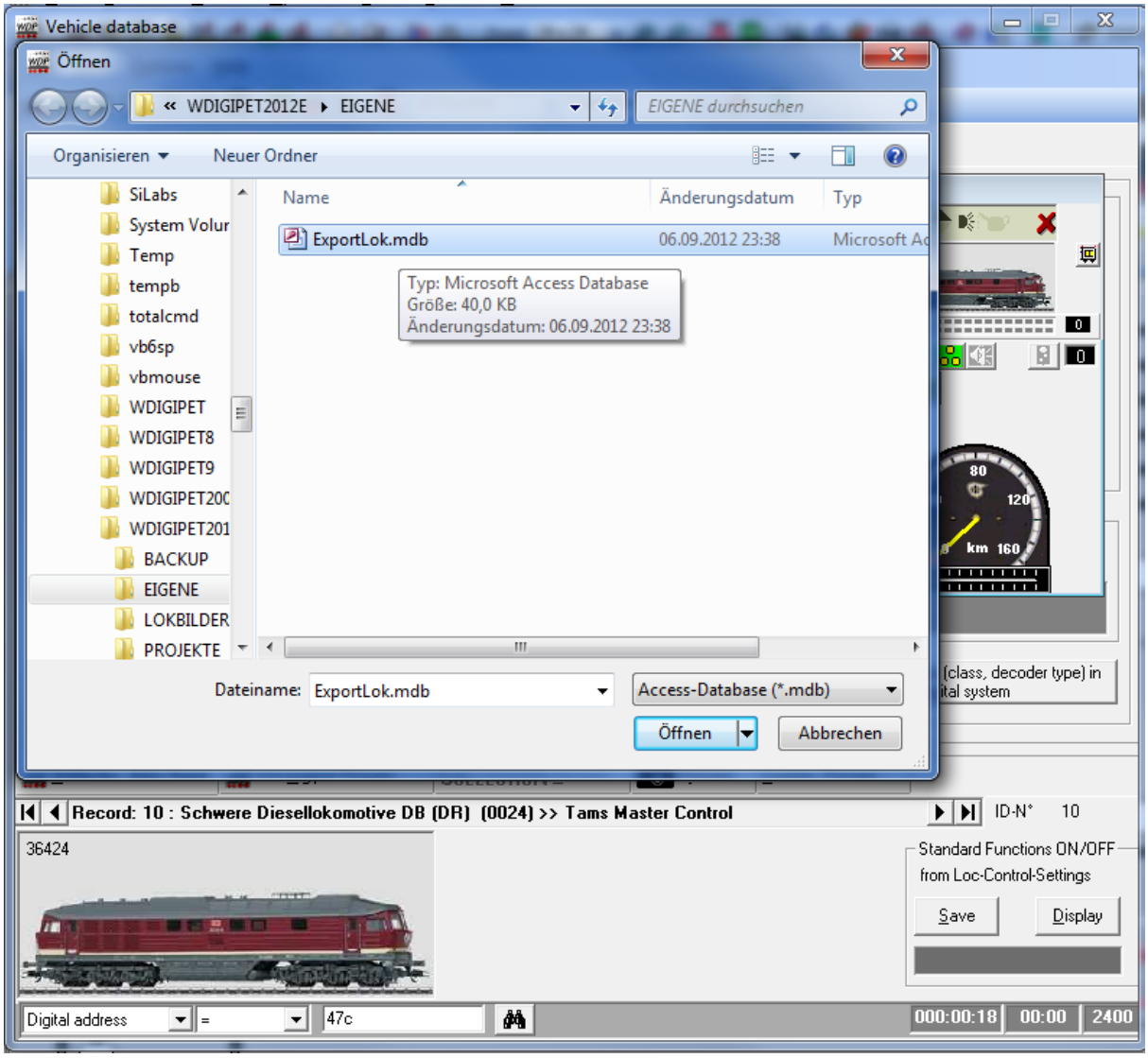
5.14 Import vehicle

With this function you can import the previously exported vehicle into another layout.

Therefor use the command <File> <Import vehicle>.



After selecting the previously exported dataset (the MDB-Access-File) you have to select <Open>.



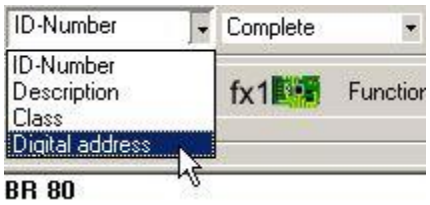
Now you will be asked if you want to override the current dataset with imported data (e.g. useful when the destination dataset already contains your locomotive and you want just to update the dataset with changed data e.g. new speed measurement) or if you want to create a new dataset.

Please read the question described above carefully before making your decision, because a wrong decision could result in a loss of data because of overwriting...

5.15 Delete data records

Click on <File> - <Delete> or on the switch in the toolbar if you want to delete a locomotive from the database. The record displayed in the window is deleted. A security query is displayed prior to deletion.

5.16 Sort data records

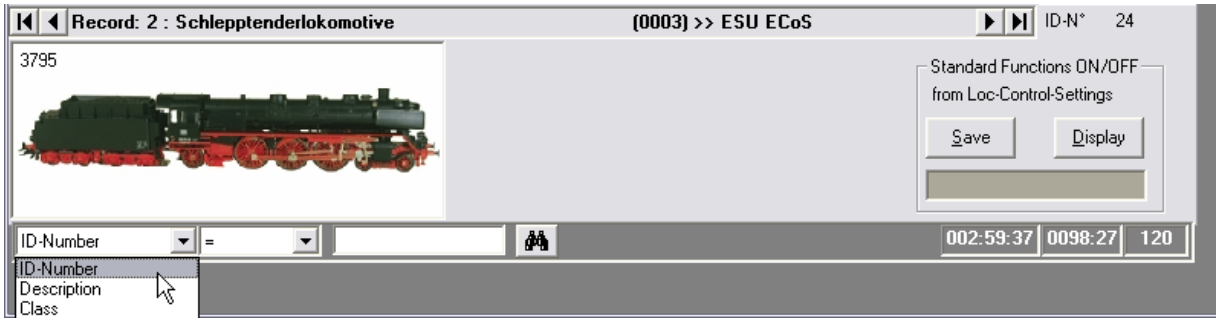


In the upper menu-bar you have the opportunity to sort by “ID-number”, “Description”, “Class” or “Digital-address” via the list arrow. This kind of sort will also be taken to consideration within the loco-panel in the main program. Furthermore you can limit in the field *"Complete"* located on the right of it the assortment to the locomotives with the location *"Layout"* or *"Display case"*.

After changing of the sorting all locomotive tractions will be deleted automatically and have to be reassigned.

5.17 Searching records

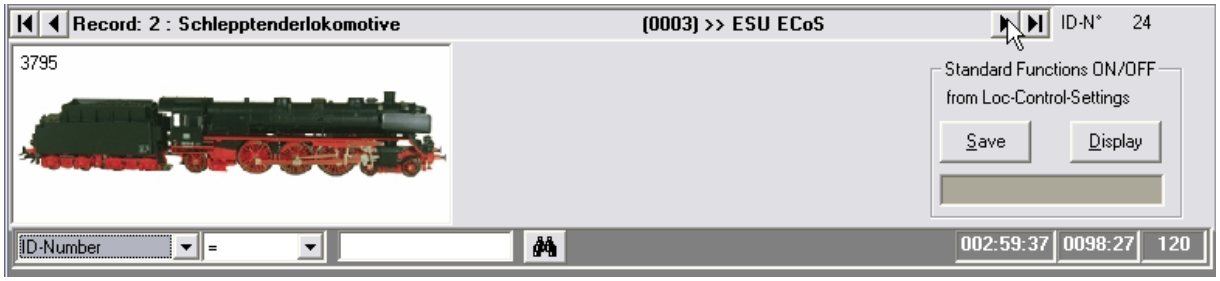
In **Win-Digipet 2012** a new filter function was integrated for **direct** navigation to a locomotive within the database.



With this filter function you be able to find a locomotive in a very fast way.
You can select whether to search for ID-number, digital address etc. and you can also select different search options like “Starting with…“ etc..

With a click on you start/continue the search process.

5.18 Browse, Vehicle-List, change data files



The “Browse“ - function in the lower screen allows you to browse through data files using mouse clicks:

= Back to the first record

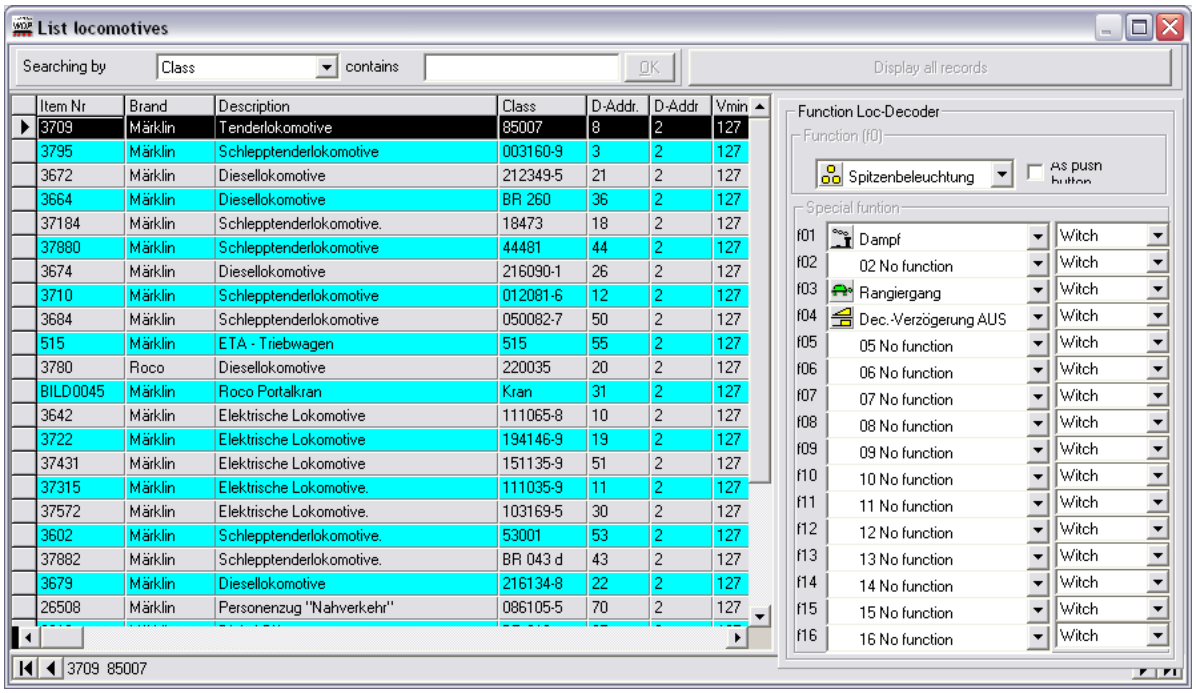
= One record backwards

= One record forwards

= Forwards to the last record.

A **list** of all recorded **locomotives** is available via <File>, followed by a click on <List> or in the toolbar using the switch .

Here you can **edit the records**.



Item Nr	Brand	Description	Class	D-Addr.	D-Addr	Vmin
3709	Märklin	Tenderlokomotive	85007	8	2	127
3795	Märklin	Schlepptenderlokomotive	003160-9	3	2	127
3672	Märklin	Diesellokomotive	212349-5	21	2	127
3664	Märklin	Diesellokomotive	BR 260	36	2	127
37184	Märklin	Schlepptenderlokomotive.	18473	18	2	127
37880	Märklin	Schlepptenderlokomotive	44481	44	2	127
3674	Märklin	Diesellokomotive	216090-1	26	2	127
3710	Märklin	Schlepptenderlokomotive	012081-6	12	2	127
3684	Märklin	Schlepptenderlokomotive	050082-7	50	2	127
515	Märklin	ETA - Triebwagen	515	55	2	127
3780	Roco	Diesellokomotive	220035	20	2	127
BILD0045	Märklin	Roco Portalkran	Kran	31	2	127
3642	Märklin	Elektrische Lokomotive	111065-8	10	2	127
3722	Märklin	Elektrische Lokomotive	194146-9	19	2	127
37431	Märklin	Elektrische Lokomotive	151135-9	51	2	127
37315	Märklin	Elektrische Lokomotive.	111035-9	11	2	127
37572	Märklin	Elektrische Lokomotive.	103169-5	30	2	127
3602	Märklin	Schlepptenderlokomotive.	53001	53	2	127
37882	Märklin	Schlepptenderlokomotive.	BR 043 d	43	2	127
3679	Märklin	Diesellokomotive	216134-8	22	2	127
26508	Märklin	Personenzug "Nahverkehr"	086105-5	70	2	127

You can search in the “List of all locomotives“ in the following categories...

- ID-Number
- Class
- Description and
- Digital number

Enter the search-text, click on ***‘OK’*** or push the return-key on your keyboard. You will get a message, if no locomotive has been found after the search has been performed.

To display all data after a search function, click on ***‘Display all records’***.

With a click on a line of this list, this locomotive will be shown immediately in the locomotive-database and its data will be indicated as well.

In the "List of all locomotives“ you can edit the data in the suitable rows of the list. Click on the desired column. In order to edit **WIN-DIGIPET 2012** offers two possibilities which depend on the respective column.

- First click in the column - column is selected. If you click again, an input cursor appears for overwriting.
- First click in the column - a choice arrow appears and after a click on this a small list box in which you can choose the options appears.

Important!
Not every column of the list can be edited. To change this data please use the normal editing possibilities in the locomotives database .

To save changes, click on a different line.

A “Browse“ function is available at the bottom of the locomotive list, containing the same functions as explained above.

To close the list, double click on the WDP-Symbol to the left of the window header.

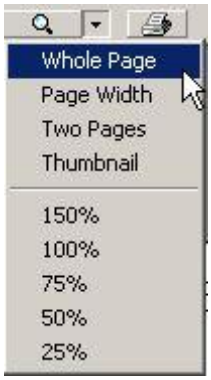
5.19 Printing locomotive data base

Via <File> - <Printer> you’ll reach the window to input your printer data. Acknowledge with ***‘OK’***.

Click on <File> - <Print> or on the switch in the toolbar to print a record. The window “Print locomotive data base“ appears.

The possible functions are self-explanatory. All commands will be entered by mouse. In the beginning, all locomotives will be shown – depending on how you sorted them – as single pictures on forms in portrait format.

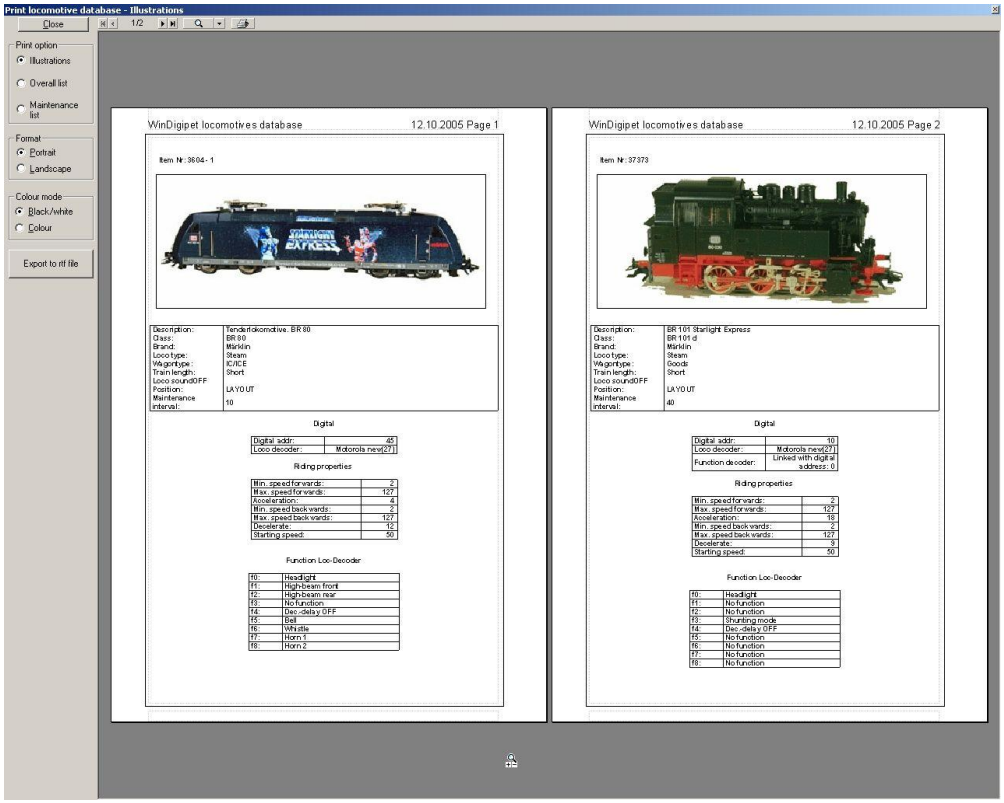
You may also arrange these single pictures on forms in landscape format.



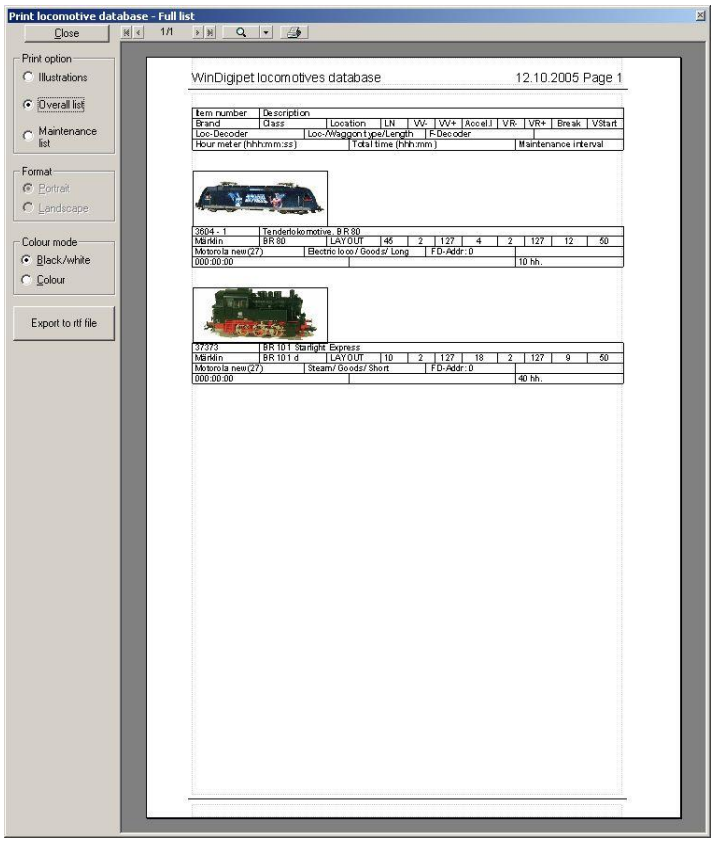
At the top edge of the screen, you will find a list arrow next to the magnifying glass for several options to view the printout.

These options are self-explanatory.

If you make no changes **WIN-DIGIPET 2012** uses automatically the option <Two Pages>.



You will get an overall list with all locomotives and all illustrations, when you click on ***'Overall list'***.



The switch ‘Maintenance list’ will print a complete list of all locomotives which are in a queue for maintenance.

With a click on the symbol at the top of the screen, you will start the printout.

‘Close’ quits the printout.

5.20 Closing vehicle data base

Close the vehicle database either via ‘File’ - ‘Exit’ or click on the ‘Close’ symbol in the top right hand side or double click on the WIN-DIGIPET symbol in the top left-hand side or on the switch .

The program updates the “Vehicle select“ bar in the main program and the train number display in the track diagram. The displays “Update vehicles“ and “Update train number display“ keeps you informed about the process.

When you close the locomotive-database, all changes within the vehicle-database will be corrected in the main program.

The locomotive selection bar in the main program will also be updated, if you have put some locomotives into the “showcase” or if you have changed the sorting of the locomotives.

Furthermore all train number displays in the main program will be automatically updated and corrected even in case of changes.

6 – TRACK DIAGRAM EDITOR

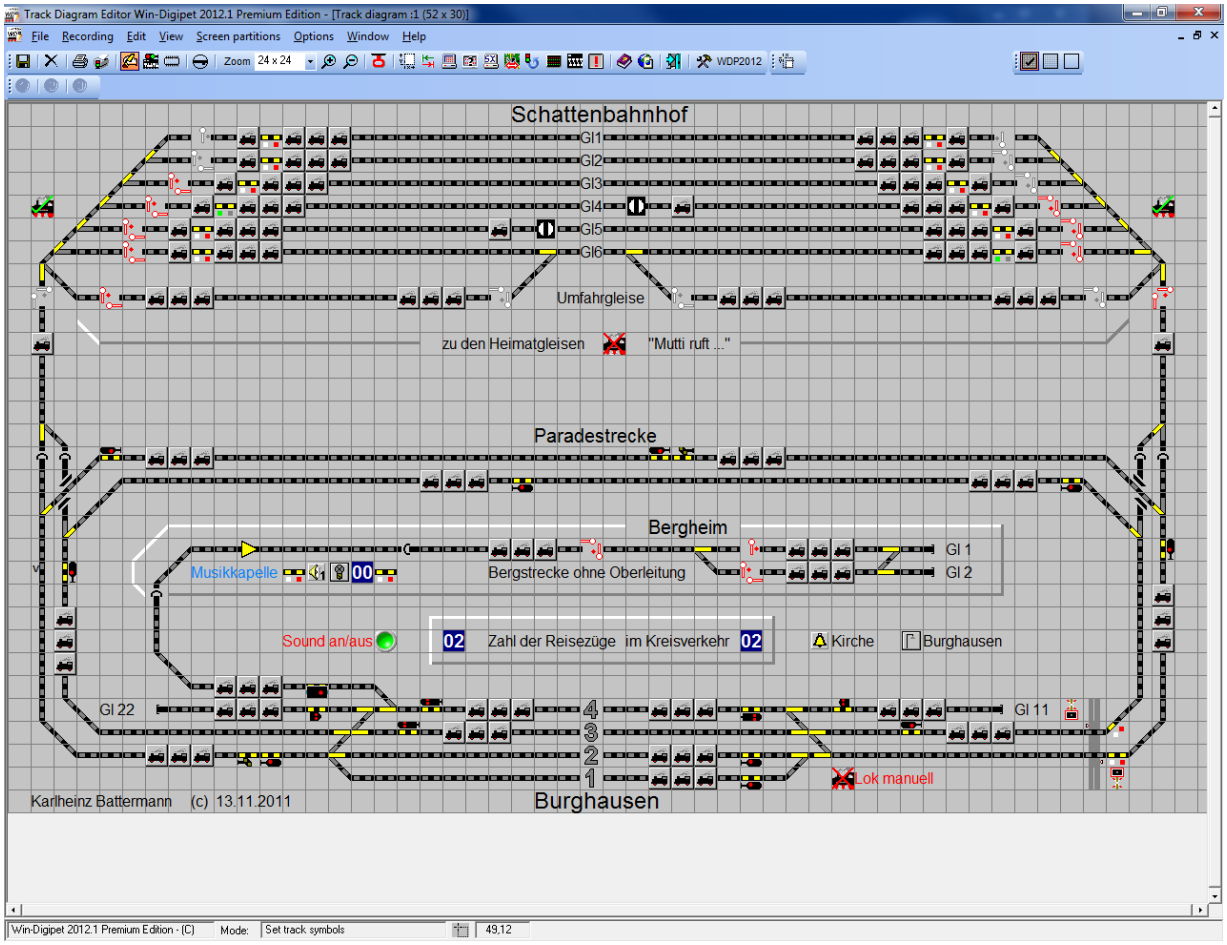
6.1 General

In the track diagram's editor you create an image of your railway tracks and this must not be scale.

You should take care about the following...

- your track diagram should be as small as possible and as large as necessary
- you should place signals everywhere where you plan a route to start or stop, even if this signals do not exist in reality because **Win-Digipet** needs them at least for secure functionality
- each used feedback contact should also be assigned to a minimum of one track symbol
- you should place train number displays everywhere where you plan a route to start or stop
- if you plan several stop positions within a station track you have to place train number displays at every stop position.

For many explanations and pictures in this manual the following track diagram was used...



6 – TRACK DIAGRAM EDITOR

On the first look the track diagram might look impressive, but it´s structure is quite simple...

- in the lower part you can see the 4-track-station Burghausen
- with the branch line connection to Bergheim
- a 2-track-show-route for circular traffic
- in the upper part a 6-track hidden station which can be used in two directions
- and two tracks for driving around the hidden station

...for changing the trains direction.

> With Win-Digipet 2012 the project **WDP2012** has been delivered too. Please do not delete this project.

After you have registered your system configuration and locomotives, now you are ready to create your track diagram.

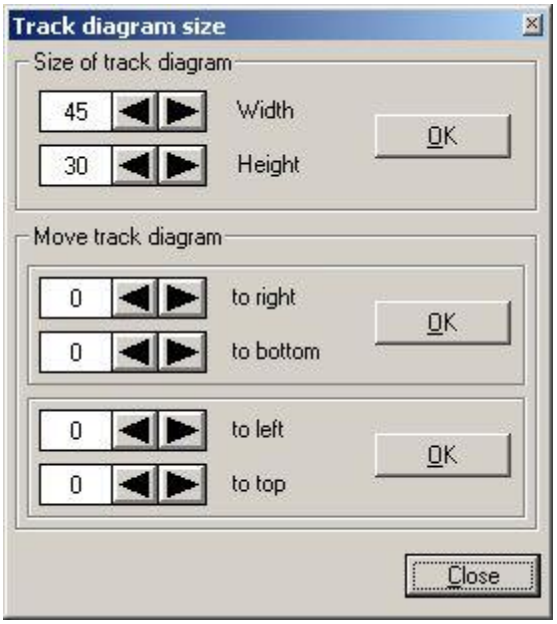
Therefore click on the menu command <File> <Track diagram editor> or on the symbol in the toolbar.

6.2 Track diagram window

At the first start of the track diagram editor an empty track diagram appears.

A track diagram size of **50** symbol panels horizontally and **30** symbols vertically = 1500 symbol panels in total is set as default.

With the menu command <Options><Track diagram dimensions> or with a click on the switch in the toolbar, you can define how large your track diagram should be.



Under "Track diagram size" you can vary between **20** and **250** symbol panels in horizontal and **20** to **250** in vertical arrangement.

Confirm with **'*OK*'**.

Under "Move track diagram" you can move a complete recorded diagram to all directions in dual steps. Already registered routes will automatically be corrected after movement. However **"add-on-switching"** and **"switching conditions"** have to be adjusted manually.

Confirm with **'*OK*'.**

After moving the track diagram a security query will occur before you save.

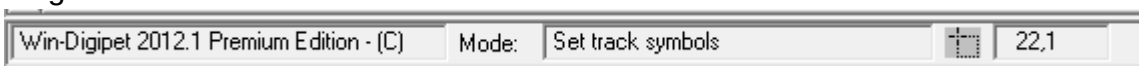
If you have already registered a track diagram, it will be automatically displayed after starting **WIN-DIGIPET 2012**.

6.2.1 Toolbars, status bar

Below the menu bar the **toolbar** of the track **diagram editor** appears. It is similar to the toolbar of the main program (see **18.9**) with one exception: toolbars cannot be customised in this program part.

Via the menu 'View' you can (de-)activate the toolbars of the track diagram editor

In the **status bar** at the bottom of the screen edge you see the mode in which you are at present, next to it the x- and y-co-ordinates of the mouse pointer in the track diagram.



6.2.2 Selecting different grids

Three different type of grids are available: <Lines> (a network), <Dots> and <No grid>. With the option "Lines" it would take some time to display the track diagram as the program has to do a lot of drawing.

You reach the grid setting via <View> - <Grid> or by the right mouse button through the short menu <Grid> or via the toolbar <Grid settings>  .

6.2.3 Splitting the track diagram window

Click on <Window> - <Split> in the menu bar. First you see two identical track diagram halves on the screen. You can now place track symbols into various positions and work on sections.

If you want to return to the normal track diagram mode, click again on <Window> and again on <Split>.

6.2.4 Enlarge and Reduce(„Zoom”)

Four steps are available:

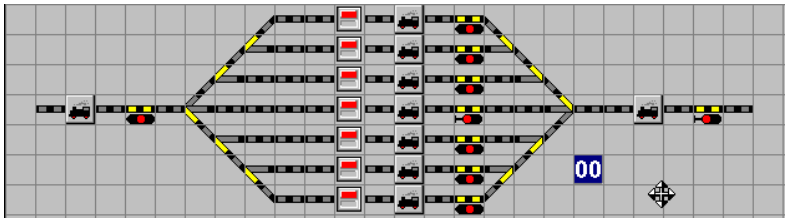
- 12 x 12 pixel (small)
- 16 x 16 pixel
- 20 x 20 pixel
- 24 x 24 pixel
- and 28 x 28 pixel (large).

You will reach the zoom setting of the track diagram via <View> - <Zoom plus/minus> or by the right mouse button through the short menu <Zoom plus/minus> or the magnifying glass symbols in the toolbar.

You can also select the zoom factor by clicking on the arrow next to the text display of the zoom size. 16 x 16.

6.2.5 Scrolling with the middle mouse button

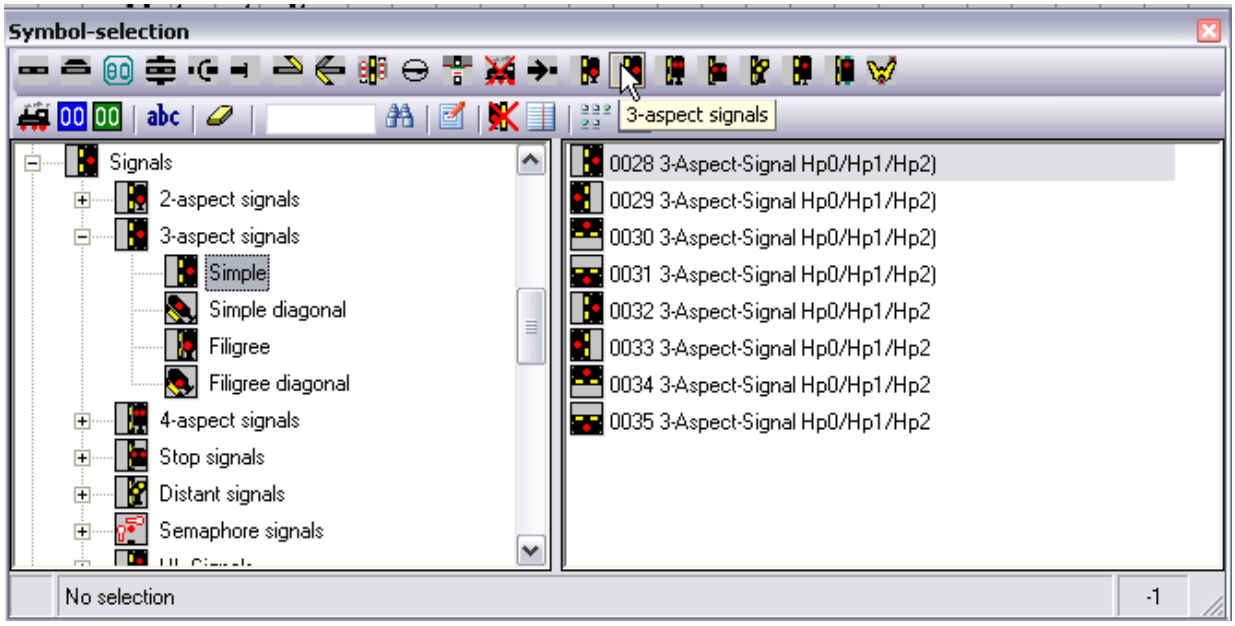
As addition to the scroll bars you can also scroll within the track diagram by pressing the middle mouse button at a free track diagram section and then scroll by moving the mouse.



6.3 Symbol selection

The symbol selection in Win-Digipet 2012 has a split design. In the left part of the window the symbol families (e.g. signals, track symbols) can be found and in the right part the symbols belonging to the symbol family selected on the left side.

The upper row of the toolbar can also be used for direct jumping to several symbol families. In the lower row you can select some special symbols like train number displays, counter displays, SX-displays, text labels and the rubber for the deleting symbols in the track diagram. You have also the possibility to search for symbol numbers, edit symbols descriptions and placement, hide left hand symbols and change the windows appearance. Tooltips for each symbol will describe its function.



You can limit the symbol selection via <Window> <Window track symbols>.

The following options are available...

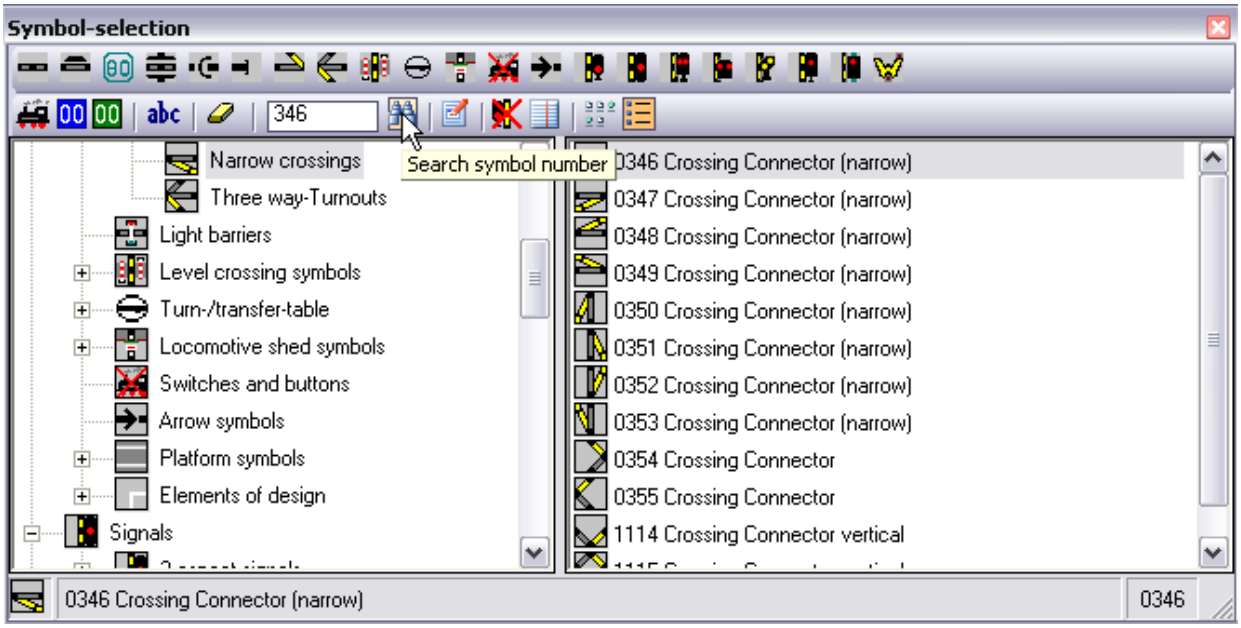
- Hide symbols for left hand traffic
- Close groups
- Show small symbols (Zoom-Size 16, normally Zoom-Size 20).

The complete selection contains **1380** different symbols. Available are beside the rail tracks, turnouts, buffer stops, tunnels, bridges, turntable icons, switches and push-buttons also the signals for right- and left-hand traffic as mechanical signals or light signals.

Icons for the train number tracking on long distances, icons for level crossings, locomotive shed gates, direction arrows, different icons for the representation of a locomotive shed or the signal icons for the model railroad user in Switzerland, the Netherlands, Spain and Belgium etc. are available also.

For better viewing, you can **mask** the track symbols window (Symbol ☒ on the right side of the title bar). To **bring it back**, use menu <View> - <Track symbols> or with the right mouse button: short menu <Track symbols>.

Besides, the view of the icon choice also depends on your choice from the 16 symbol tables.



Only the symbol tables A, B, C, DB and 3D are 100% compatible to each other. The other tables contain several special symbols.

For example...

- Signal symbols for...
  - Belgium
  - Switzerland
  - The Netherlands
  - Spain
- The symbols for combined car and train operation
- And the alternative symbols Sym_SP, Sym_SP2 and Sym_SP3.

6.3.1 Changing/Creating symbol tables (Sym_U)

In WIN-DIGIPET 2012 you have the possibility for the first time to create your own symbol tables. With an image program you can change the desired symbols or design also new ones and insert them in the symbol table. Nevertheless you should never change **the predefined symbol tables** for compatibility reasons, you should always use the user's symbols (\Sym_U) to do this.

If you want to create “your icons “, you have to take care concerning the following.

- The symbols must be created at first for the symbol table Sym_U20.bmp. This table is loaded always by the track diagram's editor to make the symbols available for selecting purposes.
- The symbols must be placed in the suitable category (e. g. K83 / 84, two aspect symbols, three aspect symbols, four aspect signals, track symbols with feedback contacts etc.). This is important because otherwise the symbols don't work with correct functionality **in WIN-DIGIPET 2012**.
- You should place the symbols, hence, always on the track fields with red background, so that the function of the standard icons is not changed.
- The symbols must fit in the icon fields limited by the black lines.

The symbols must be created also in the zoom steps 12, 16, 24 and 28 after the production of the file Sym_U20.bmp if you want use these zoom steps.

If you send track diagrams with your symbols to other users, you must send also your file Sym_U20.bmp. Otherwise the other user or beta tester cannot see your track diagram in your version, because quite different symbols could be displayed in the track diagram.

6.3.2 Changing the symbol selection

In **Win-Digipet 2009** you can also change the ordering and grouping of the symbols in the symbol selection window. By clicking on you can activate the edit mode. In the edit mode symbol groups or single symbols can be moved, deleted and renamed using your mouse. Several commands are available in a context menu by pressing the right mouse button on a symbol or a symbol group, the menu options are quite self-explanatory. After editing press again and your changes will be saved. The symbol placements and descriptions are saved for each symbol table separately. This is quite important to give an optimal symbol selection for each different symbol table (e.g. the Suisse symbol tables needs other ordering than the one for combined train and car operation).

6.4 Creating your track diagram

The **WIN-DIGIPET 2012 Track diagram editor** is particularly easy and comfortable to handle. However, it is recommended that you draw up plan of your track diagram beforehand; a simple sketch will suffice, an engineer-like drawing is never necessary.

In contrast to a scale track diagram your track diagram must not reproduce the exact spatial situation of all rails on your model railroad layout. You should pay attention on a suitable representation of the block systems to be controlled (e .g. Railway station or turntable).

Create your track diagram not bigger than necessary; this prevents you from much work.

You have to draw your track diagram **two-dimensional**, i.e. multi-level areas (shadow railway stations, rail spiral etc.) are displayed in the **WIN-DIGIPET 2012** track diagram **side by side**.

Click on the toolbar of the track symbols window at the group to which the individual symbol belongs. Select the symbol, which you want to place into your track diagram. Click on this individual symbol, and the mouse pointer changes to an arrow with the selected symbol.

Example:
You want to select the icon of a horizontal, four aspect light signal for left transport for placing.

Select ***‚Four aspect signals'*** in the toolbar and select afterwards the desired symbol in the selection area.

Now place the symbol by clicking on the desired position in the track diagram.

If you **hold the shift key pushed** and click with the mouse repeatedly, you can place the symbols also in different directions. This function is only available for some symbols.

Nevertheless, the advanced icons cannot be rotated with pushed shift key.

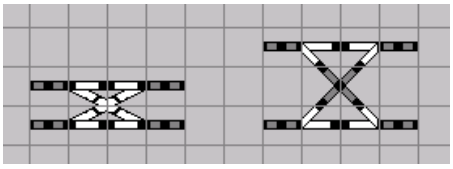
Press the right mouse button: The actual symbol is deactivated, the mouse pointer changes to an arrow, and you can select and place the next symbol. Thus, you proceed quickly through the grid panels gaining experience. You will quickly be able to place a symbol within seconds into the track diagram.
Wherever a symbol is needed several times, e.g. " a straight horizontal track" (six straight track pieces), to represent a long track section, press the left mouse button once in six consecutive grid panels, or drag the mouse pointer with the left mouse button pressed over six grid panels.

If you double click on an already placed symbol, it will immediately be attached at the mouse pointer, and you can place it- without having to return to the track symbols window.

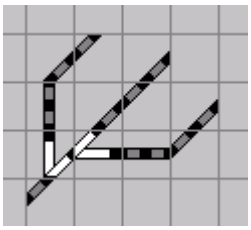
6.4.1 Tips for track diagram creation

- **Double- slip turnouts and crossings** are composed of two symbols of normal turnouts displayed side by side as pairs in the track symbols window.

- For the representation of an **"X-crossing"** you have the choice between the narrow one and the normal X-crossing. The narrow variant can be used in order to save space, because here only **4!** different symbols are necessary. For the normal variant at least 6 symbols would be necessary.



- **Three-way turnouts** (slanted) are composed of one vertical and one horizontal normal turnout.

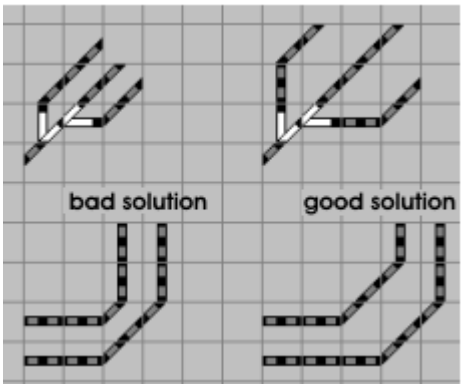


- In the type field  you find many single symbols. You should use them if you need so-called virtual switches in your track diagram, e.g. for using as an execution condition for a route or tour in an automatic operation.

  You can also choose many different switches e.g. switches for house lighting etc. Thus you can switch e.g. the lights very comfortably and you know always which switch in the track diagram is used for this purpose.

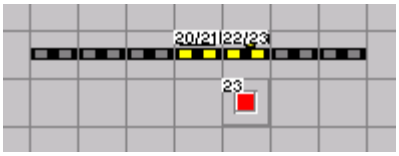
  The switch  can be used controlling of a single line rail.

- **diagonal** should be drawn in the way shown on the right side of the picture. These will make manual route recordings much more easy.



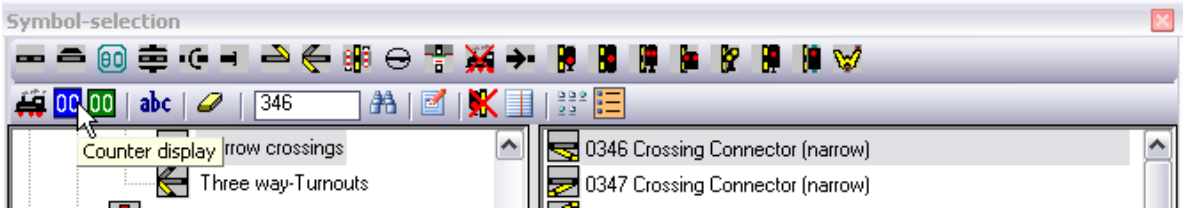
- If you use **the light signal decoders** (e.g. LS-DEC-DB) from LDT, you can also use a pushbutton for the activation of the blanking of the distant signal at the mast of the main signal.

  Moreover an example shows the right picture.

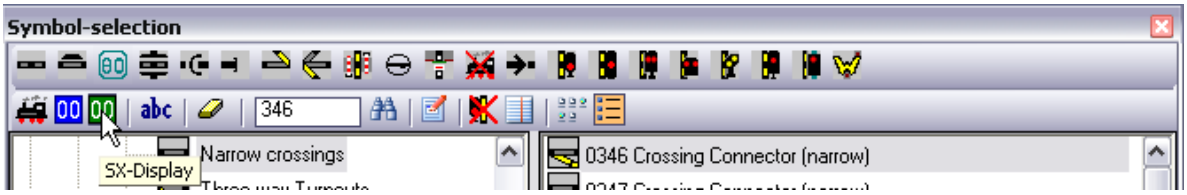
  The addresses 22 (green / red) and 23 (green) are assigned to the distant signal, now the pushbutton is assigned to address 23 (red) for switching of the distant signal's blanking (by clicks on the pushbutton the blanking is (de)activated).

- If you want to integrate counting-functions to your routes or automatics you can select the **blue counter symbol** and place it in your track diagram.

  The counter symbol does not need any feedback contact number or digital address.

- If you use a **Selectrix** digital system you can select the green **SX-Display**-Symbol to show the current state of SX-addresses. You can assign an SX-address to the display in the same way as you assign solenoid device addresses.

- For the numbering of track some numbers with feedback function are available. They will be coloured red if the assigned feedback contact is occupied.

- You **delete icons** from the track diagram with the type field "Rubber" and a cross with a rubber is attached to the mouse pointer.

  Move the cross to the symbols of the track diagram which you want to remove and click on it. By dragging of the cross - with pushed left mouse button - about several track diagram-symbols you can delete a whole track diagram area.

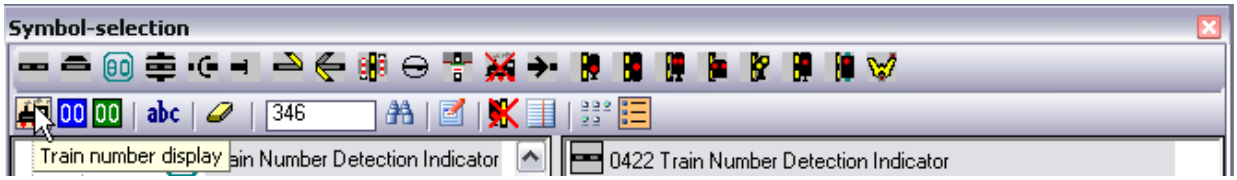
  You can continue your normal drawing after pressing the right mouse button.

Important!

Do never paint over symbols with addresses (feedback contacts, solenoid devises) by other symbols. Please delete the old symbols with the rubber before. In some cases the track diagram must be closed (save first!) after deleting of symbols once and be opened again, before the new symbols can be drawn.

6.4.2 Placing train number display

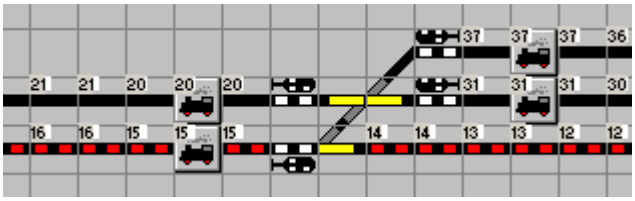
For the **train number display** click on the type field "Train number display". Now a little locomotive is attached to the mouse pointer.



Place this train number display, in each case beside a signal's symbol, at the start and destination of the routes, but leave a normal track symbol between the train number symbol and the signal as shown in the following picture.

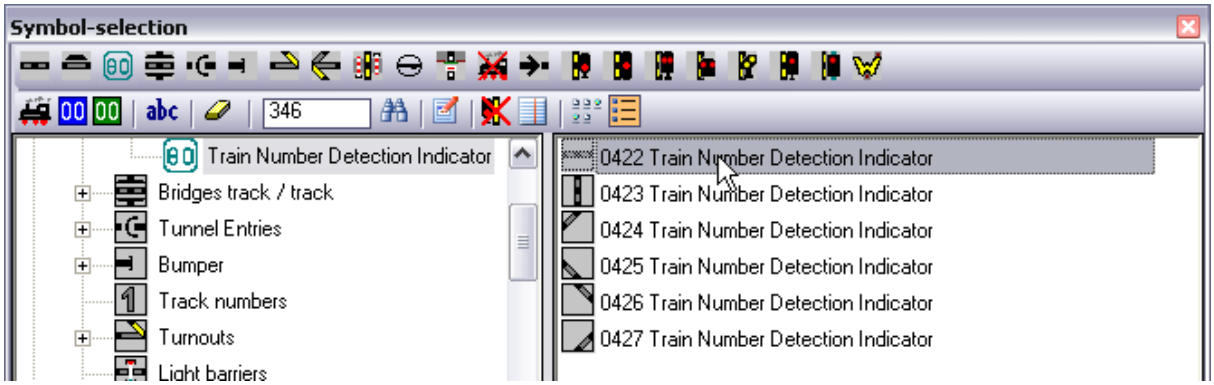
Thus you can register right and left of the train number symbol the necessary feedback contacts.

You **have to** assign to every train number display a feedback contact number mandatory.



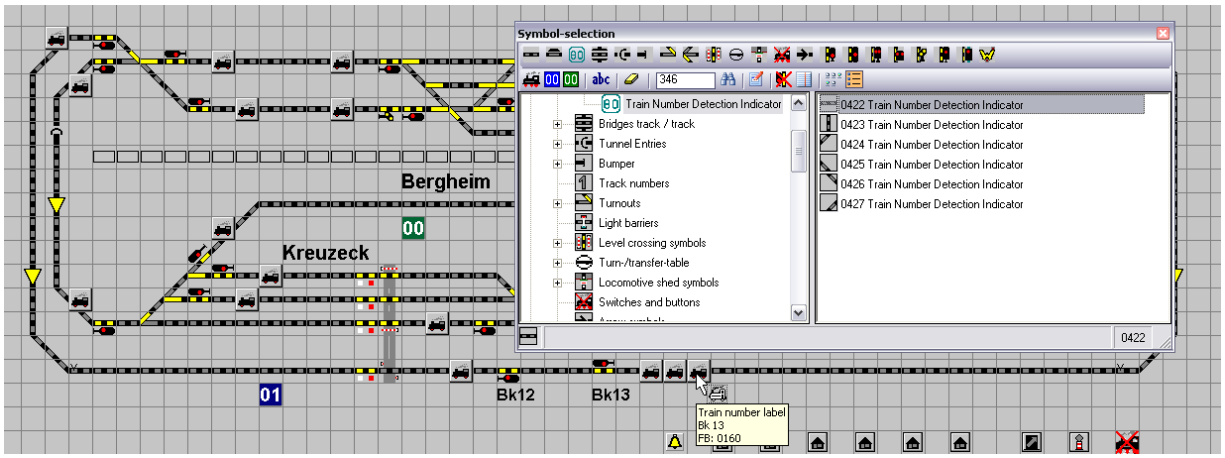
You can use **train number tracking symbols** on long rail distances of your track diagram. By this you have the possibility to watch the run of the train on the track diagram even better. This is very useful on long distances without a train number display.

Select in the symbol's choice the symbols beginning with the number **422**. They look like quite normal rail pieces. After placing them into the track diagram you see a small "V" in addition. You must assign to this symbol one feedback contact number, so the train number can be displayed while the contact is occupied by the train.


Symbol-selection
346
Train Number Detection Indicator
Bridges track / track
Tunnel Entries
Bumper
Track numbers
Turnouts
Light barriers
0422 Train Number Detection Indicator
0423 Train Number Detection Indicator
0424 Train Number Detection Indicator
0425 Train Number Detection Indicator
0426 Train Number Detection Indicator
0427 Train Number Detection Indicator

6.4.3 Large train number displays for displaying the locomotive's class

In addition to the train number display described in the last section you can also draw larger train number displays to your track diagram to display the class of your locomotive instead of its address.



Therefore just place three normal train number displays side by side (horizontal or vertical) and assign the same feedback contact number to all of them. In the main program the three single display fields will be combined to one large one.

Below you see examples showing you a small and a large train number display (one time with a locomotive in the train number display, the other time without a locomotive).

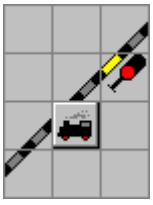
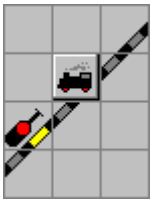
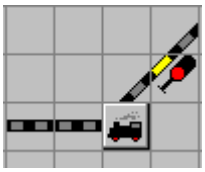
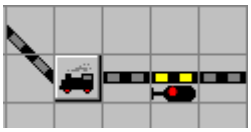
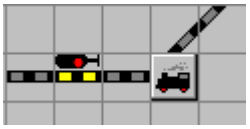
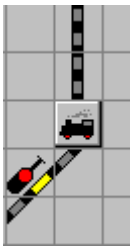
6.4.4 Important information concerning train number displays

If you have created train number displays in you track diagram please read the following information.

For the (semi-)automatic route creation according to section **8.5 Win-Digipet 2012** using the program internal routing information for the used symbol (e.g. Sym_A_V11_KOOR.dat). The train number displays have no routing information because theoretically the support eight (8!) different way.

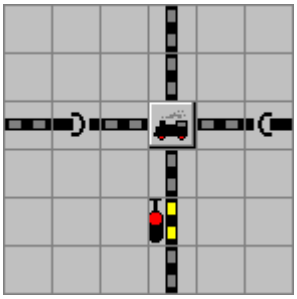
When reaching a train number display during automatic route creation the program will search clockwise (W-N-S-O), for an exit (except direction of arrival).

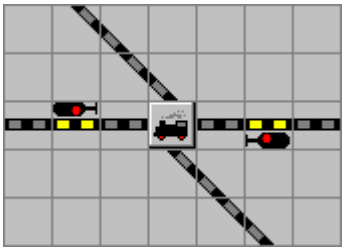
Examples:

-  coming from West going to the East,
-  coming from East going to the West,
-  coming from West going to the North,
-  coming from South going to the East.
-  coming from West going to the North,
-  coming from West going to the East,
-  coming from North going to the West,
-  coming from North going to the South.

The list could be continued....

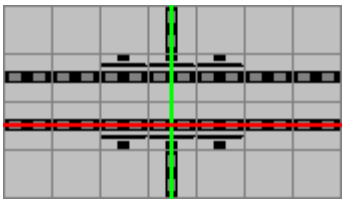
Win-Digipet 2012 would get problems for the following examples:

-  North<->South and West<->East cannot be separated from North<->West respectively South<-> East and so on

-  North<->South and West<->East cannot be separated from North<->West resp. South<-> East and so on

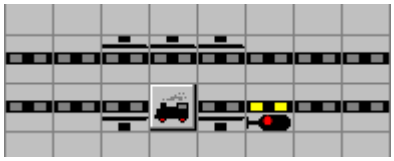
As a consequence of this you should place the train number displays always in unmistakable manner.

For bridges two possible ways are stored within the navigation tables: 



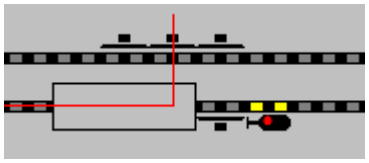
This helps the automatic route recording system to distinguish between the green way North<->South and the red way West<->East.

Because of these two navigation ways the following example would cause problems:



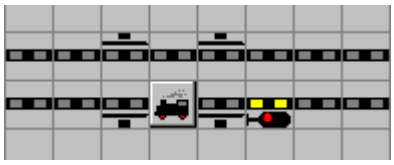
A recording coming from the north would result in the following way:

The same would happen for the extended train number displays:



If you want to use such symbol combinations have to create jump labels before and behind the critical sections according to section **6.6**.

Or you change the track diagram this way:



...this would result just to the way West<->East.

Please remember these things when creating your track diagram.

6.4.5 Insert text in the track diagram

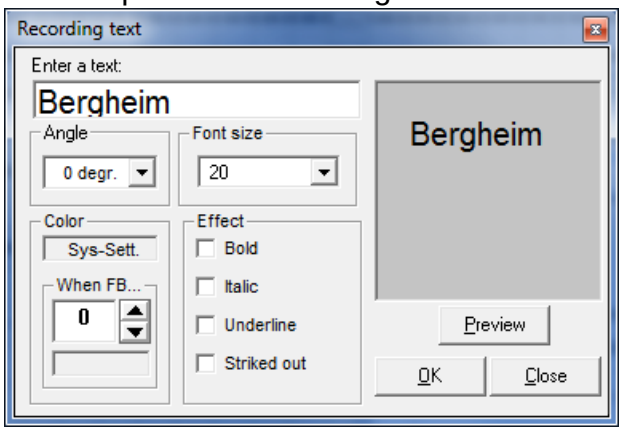
Use the group panel 'abc' abc in the symbols bar of the track symbols window for this option. Click on it and drag the mouse pointer away from the track symbols window: A cross with „abc" is attached to the mouse pointer.

Move the cross to the grid panel where you want the text to begin: it will be framed by a rectangle, and the window "Text input" appears.

Enter your text in the upper panel, e.g. track numbers, station names etc., with a maximum up to 29 characters. With longer text, attach the subsequent text parts in groups of not more than 29 characters each.

Four font sizes are available-following the zoom steps of the track diagram.

- You can have the text positioned horizontally („0 degree."),
- vertically („90 degree."),
- diagonally slanting upwards („+45 degree.") standard or bold text,
- or diagonally right slanting downwards („-45 degree."), standard or bold text.



If you want to pre-check your text input, click on **'Preview'**. Your text will be placed into your track diagram. Should you be satisfied, click ***'OK'***, otherwise ***'Cancel'***.

You can now enter more text or deactivate "Text input" through the right mouse button.

Text can be modified overwriting it in the window "Text input", and deleted in that window with "eraser".

The beginning of the text has to be found in both cases.

Tip!

A text may never begin with a blank character, otherwise the text is not saved.

Win-Digipet 2012 did introduce some new functions for the text function. First of all you can set a text colour your text by left-clicking on the text box in the colour frame (see picture). If you press the middle mouse button the colour will be set to transparent and with the right mouse button you can return to the standard colour.

Additionally you can also register a feedback contact which will force (when occupied) the text label to change its colour. The colour selection method is the same as the described above. Use therefor the text box below the contact number selection.

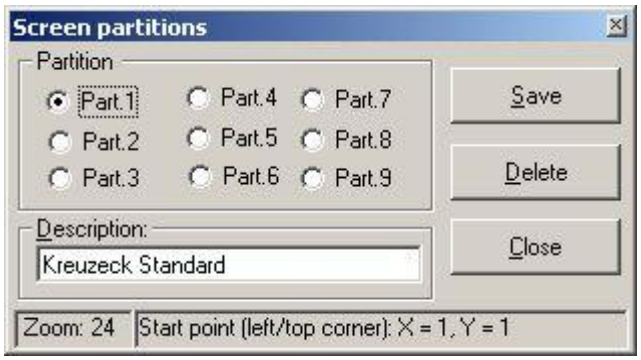
The use of e.g. the transparent colour for a text label in combination with another colour while feedback-occupation can be used to show/hide messages in the track diagram.

Also some additional format styles are now available like bold, italic, underline and stroke-out.

6.5 Track diagram sections

WIN-DIGIPET 2012 makes it possible to define up to nine sections of the track diagram, in various zoom sizes. The sections can also be called from the main program. Sections can be loaded to the screen through a mouse click, e.g. central station, branch line, main line, hidden yard1, hidden yard2, etc.

Such sections of the track diagram have to be determined beforehand.



Click on the menu bar <Screen partitions>, then on <Determine> or on <Screen partitions> in the symbols bar on the switch .

A new window "Screen partitions" appears.

Set the zoom factor first.

Select the first partition "picture1".

In the "Description" panel you name the section e.g. central station (up to 20 chars.).

Next define the track diagram section: This is the part of the track diagram section that you see on the screen. Browse through the whole track diagram, using the scroll bars on the right and bottom until the part you see on the screen corresponds to your idea. As a reference point, the upper left-hand corner of the section is marked with the co-ordinates "X" and "Y".

If you are satisfied with your selection, click on **'*Save*'**.

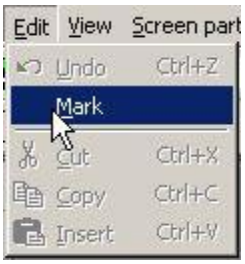
In the symbols bar you see the first of nine section symbols marked in black and its name on a yellow bar next to it.

In the same manner you can define further track diagram sections. Through a click on the relevant symbol in the toolbar you load a section to the screen.

To delete a track diagram section click on <Screen partitions> <Determine>, select the section concerned in the window "Screen partitions" window and click on ***'Cancel'***

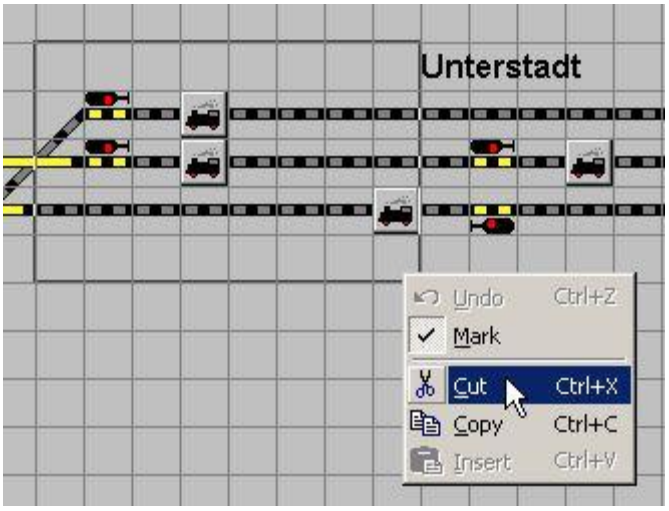
6.6 Cut, copy, paste track diagram

Click on <Process> in the menu bar and then on <Mark>. The mouse pointer changes to a cross. Keep the left mouse button pressed and move the cross along the edges of the track diagram part you want to work on: It will be enclosed by a frame.



Press the right mouse button and select in the short menu <Cut> or <Copy>.

<Cut> removes the marked track diagram part.



Press again the right mouse button and select <**Insert>**; the mouse pointer changes to an arrow with a rectangle.

Use it to select the position where you want to insert the cut part and press the left mouse button there: The cut part will be inserted at this position. You can undo the insertion only once

If you are satisfied with the inserting, perform an **intermediate saving**.

You can also delete the cut out part by returning to the menu after <Cut> instead of pressing the right mouse button.

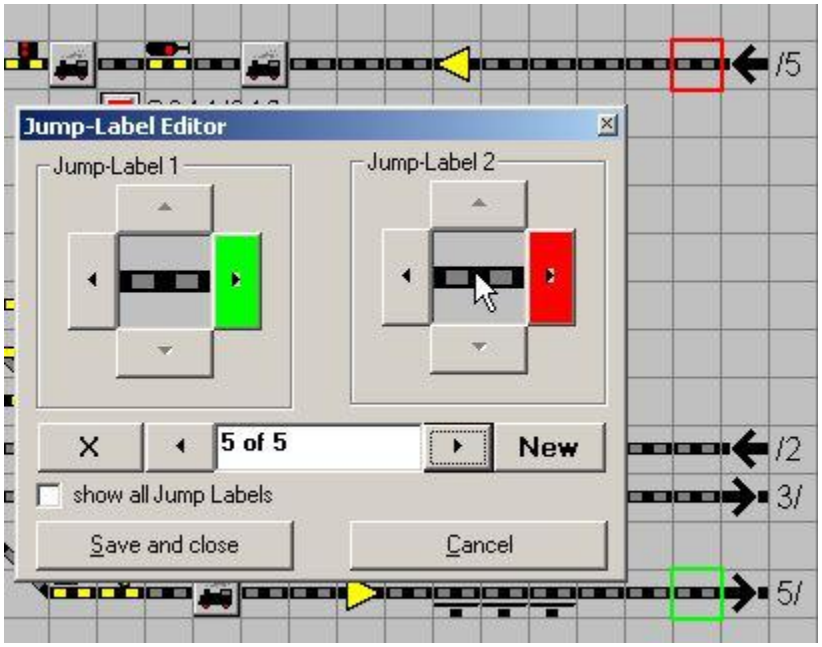
Copy: Press the right mouse button and select <Insert>; the mouse pointer changes to an arrow with a rectangle. Determine the area into which you want to copy the marked area and press the left mouse button for copying.

Already registered routes have to be rerecorded or corrected after this. Further information about correcting routes can be found in chapter **8**.

To leave the 'Process' mode, uncheck the ticks in the sub menus mentioned above.

6.7 Jump-label editor

In **WIN-DIGIPET 2012** routes can be recorded also automatically according to **8.5**. As additional help for this function a jump-label editor was created in the track diagram's editor. This is necessary if you have a track diagram in which the rail distances are interrupted by texts or similar things.



You open the jump-label editor with the menu command <Options> <Set jump label> or with a click on the symbol in the toolbar of the track diagram's editor. The window "jump-label editor" opens. In order to register a new jump-label in your track diagram click on the button ***'New'***

Now you drag with pushed left mouse button the last track symbol before the jump place (here framed in green) in the box "Jump label 1" and select with a click on an activated direction arrow the direction to the jump. After the click the button gets green.

You have to add the second jump label in the same manner.

It is important to select always the arrow in direction of the jump (death end). The jump label have a bidirectional function: a jump can be performed from label 1 to 2 or from label 2 to 1.

After registering all desired jump labels, press ***'Save and Close'***. The jump labels will be saved in the file **JUMP.DAT**.

You can navigate between different jump labels with the two arrows in the lower part of the window. 

When moving the mouse over the pictures of the jump labels in the editor, the according symbols in the track diagram are framed in green and red (as shown in the picture above). By checking „*Show all jump labels*“ all jump labels are displayed immediately in the track diagram. This function also helps you finding jump labels with errors in the track diagram by framing them in yellow or magenta. When showing all jump labels in the track diagram you can quickly navigate to the according dataset by pressing the right mouse button over one of the framed symbols.

With the button 

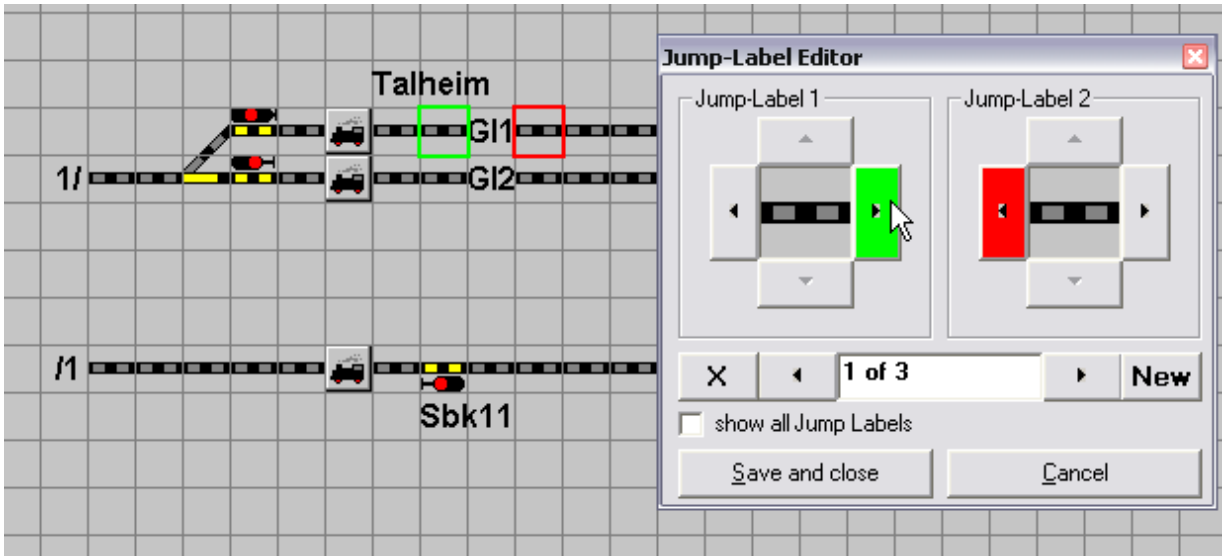
you can the delete the current jump label.

Important!

Nearly all track symbols can be used as jump labels, excepted are buffer stops, turntable and moving table symbols, push-buttons, switches and locomotive shed symbols. These symbols can't be registered for a jump label.

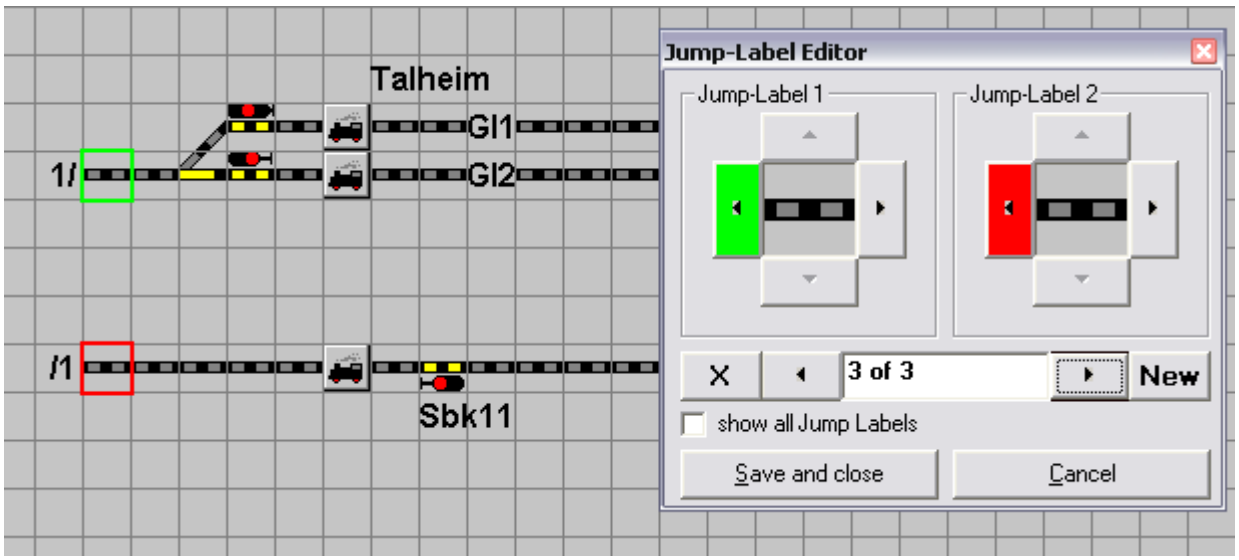
6.7.1 Examples for jump labels

When installing jump labels remember the following....

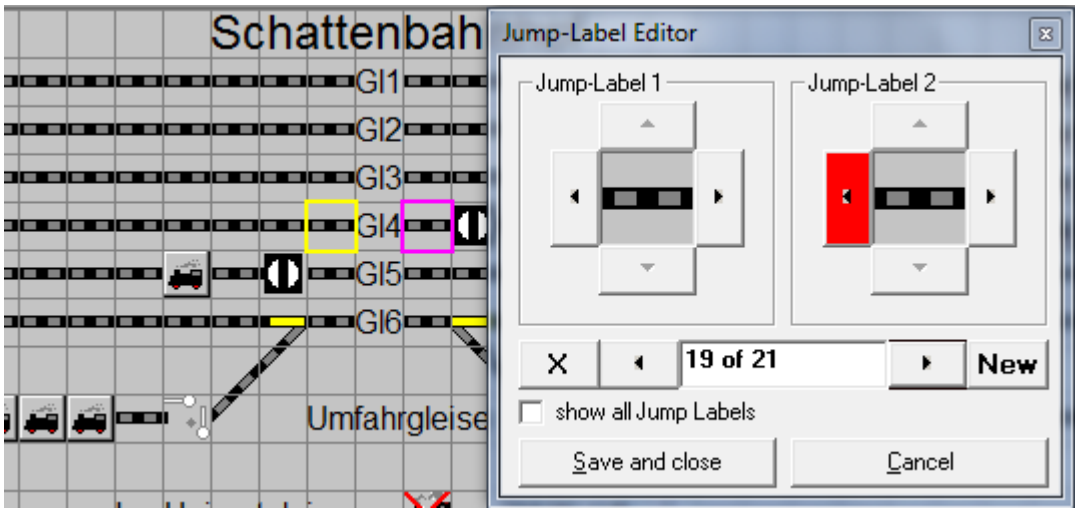


The picture above shows a correct jump label, the red and green arrows have also point into the direction of the jump.

The picture below also shows a valid jump label registration.



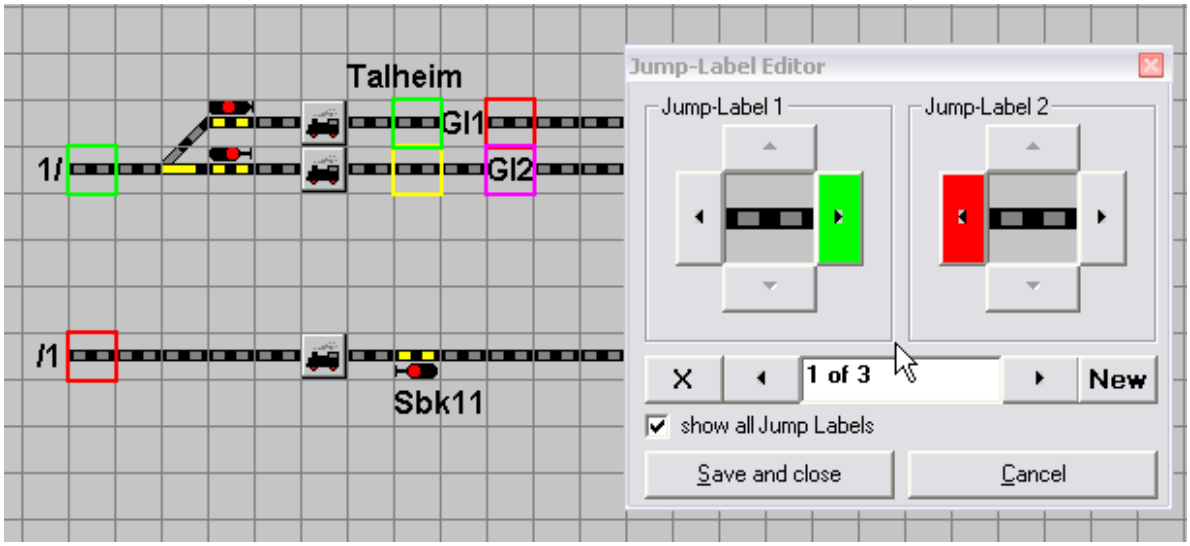
The red and green symbol frames in the track show always the current jump label symbols. If now direction information has been assigned to the two symbols, they will be framed in yellow and magenta. This indicates the missing direction information.



6.7.2 Indication of jump labels with errors

When changing your track diagram you might have to change your jump labels also.

In the picture below one track name has been shifted one symbol to the right and the jump label became invalid with this. Such errors can be found by selecting the option to show all jump labels and if all jump labels are valid there you should appear no yellow or magenta framed symbols.



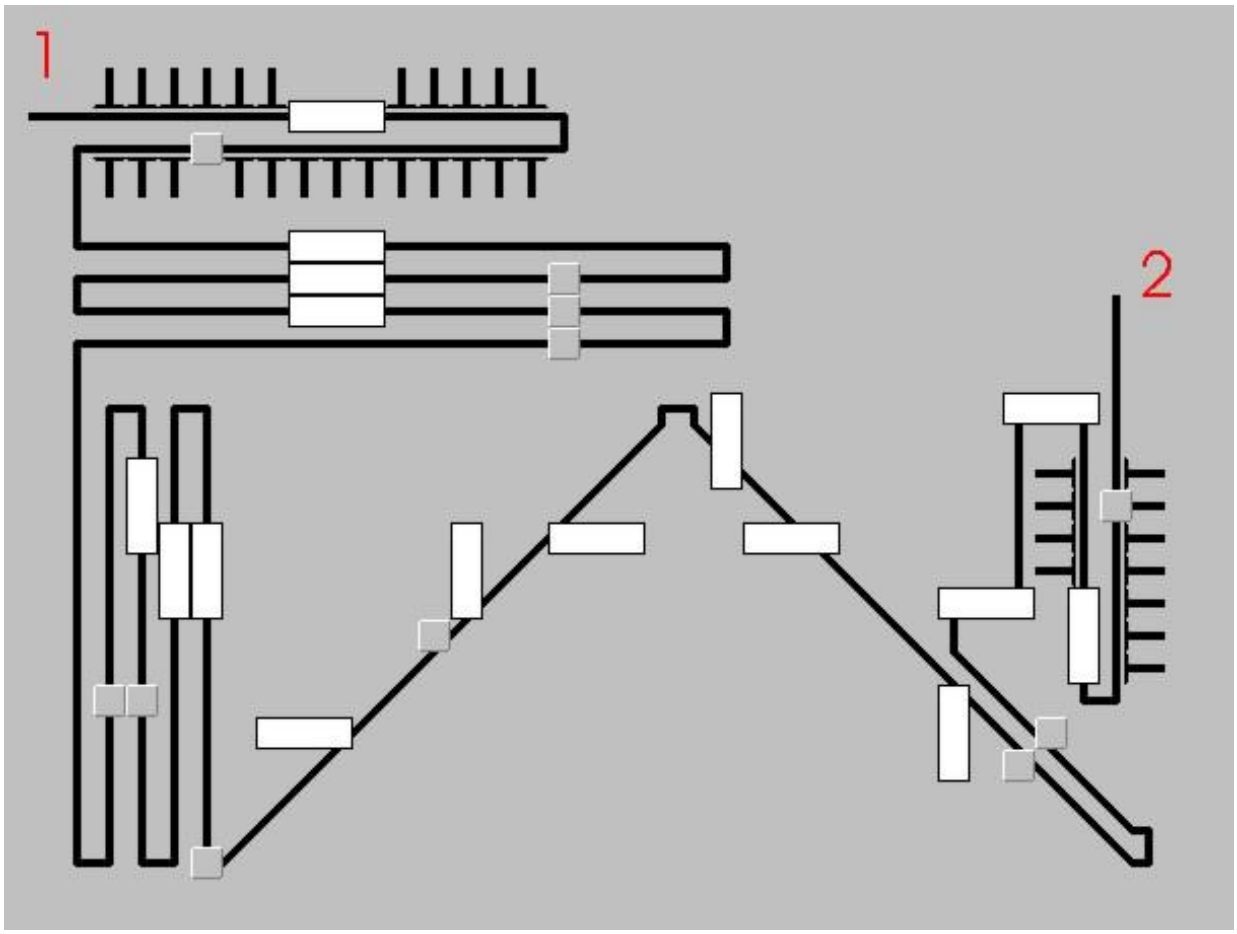
Important!

While the option to show all jump labels is activated you directly get access to the according data record by pressing with the right mouse button on one of the colour framed symbol in the track diagram.

6.7.3 Jump labels for train number displays

In most cases the route wizard or semi-automatic route recording has no problem with train number display, placed into the tracks. All possible (wizard-conform) placements of train number displayed are displayed in the following picture.

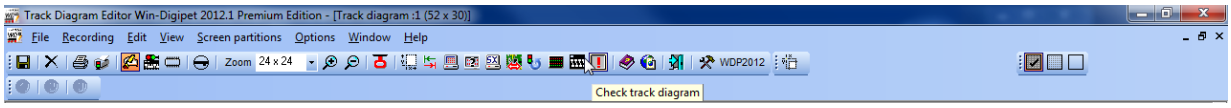
For these possibilities no jump labels are needed.



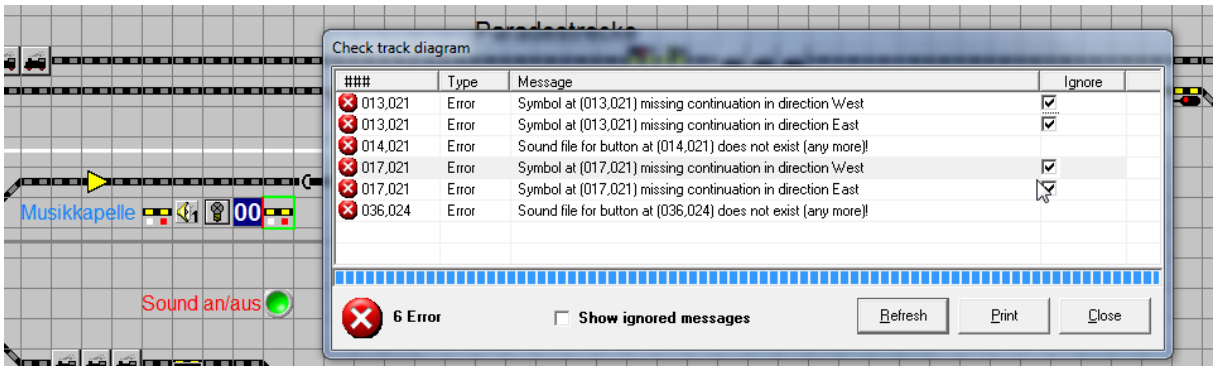
6.8 Checking the track diagram

The track diagram editor contains a check routine which is able to inform you about possible problems in your track diagram.

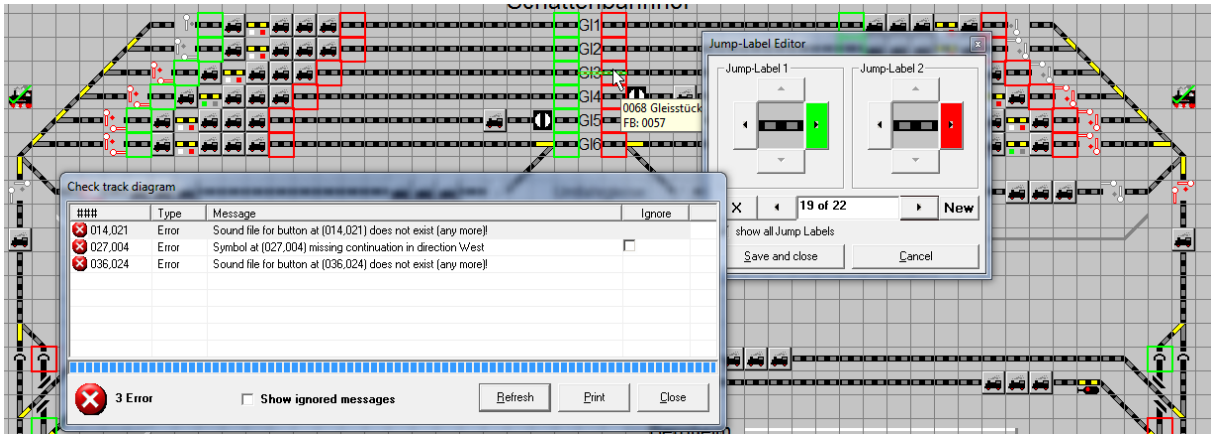
The check routine can be called by pressing the button in the toolbar of the track diagram editor.



The first, which will be checked by the routine is if every used track diagram symbol is connected to further symbols at all its connections. In the example picture you can see a track symbol which isn´t connected to a valid symbol on its left (West) and right (East) side.



In some cases the situation described is intended by you. For these cases you can set a checkbox per message to ignore the selected messages. Afterwards press **'*Refresh*'**.



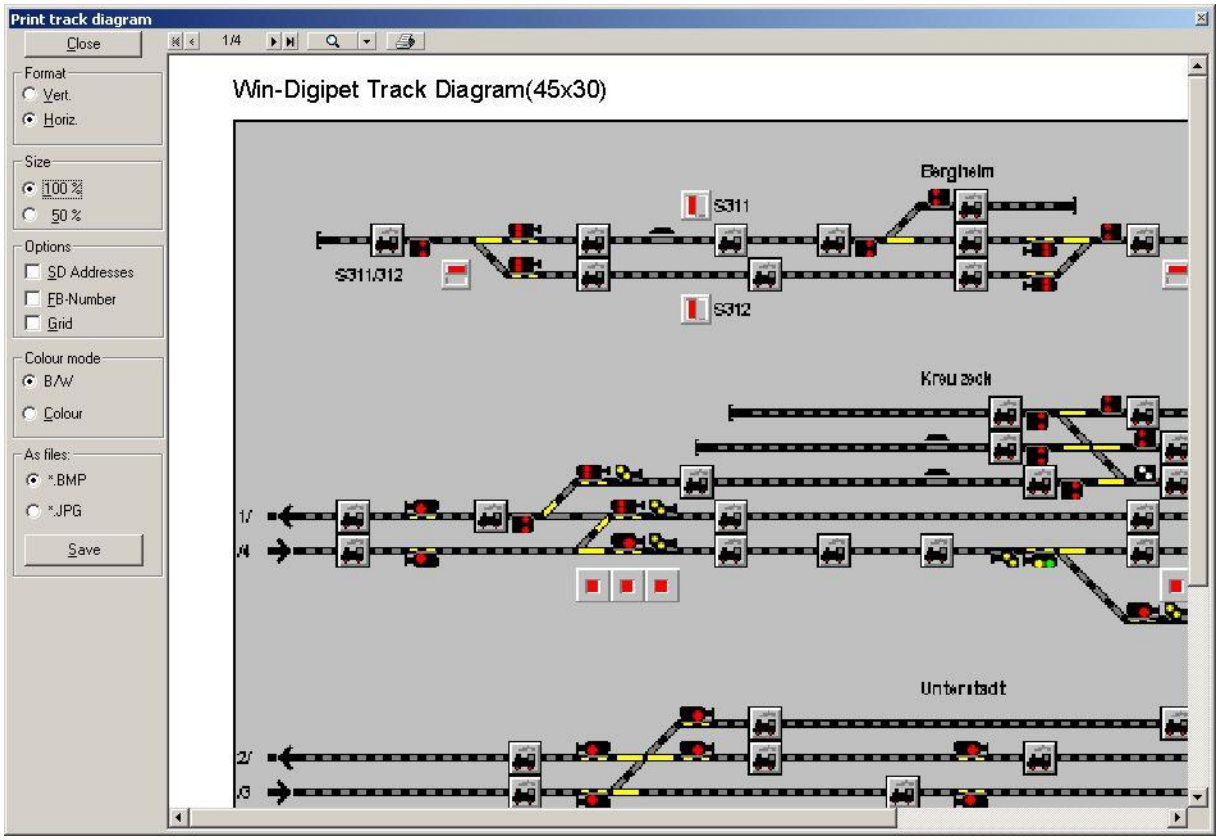
The picture above shows another very common error, the symbol at the left is quite OK, because for this symbol the jump was defined at the right open end of the track symbol. But at the right symbol the jump label has not been set for the left open end, but for the right end where the symbol is already well connected to another track symbol.

After opening the jump label editor and clicking with the <u>right mouse button</u> on the selected symbol, the jump label editor will directly jump to the according dataset and you can directly correct the jump label. Afterwards press **'*Refresh*'**.

You should use this check routine after every track diagram change.

6.9 Print track diagram

Select this function via <File> <Print> or the switch in the toolbar in the window “Print Track Diagram“. The window has the same structure as “Print locomotive data base“ (see chapter **5**); the possible functions are self-explanatory.



Print size: usually 50% is sufficient.

The “Options“ ‘Solenoid device addresses and ‘Feedback contact number’ will be checked by you as soon as you read chapter **7**.

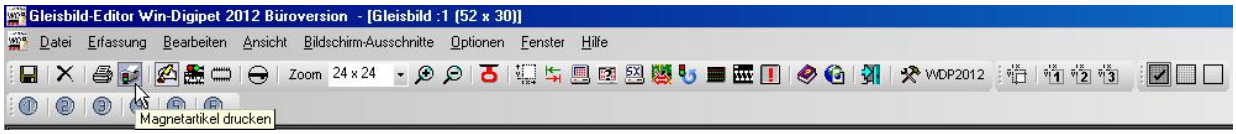
You have the choice to save the track diagram on the Hard Disk **as files**, using the space saving JPG format or the non-space saving BMP format.

Click on ‘As files’ on a format (*.BMP or *.JPG) followed by ***‘Save’***.

You are able to save up to four files in your Win Digipet directory, called track1.bmp **(.jpg)** to **track4.bmp (.jpg)**. You can use any graphics program to make changes or to scale the track diagram to the required size before printing it.

6.10 Printing solenoid device

By clicking on in the toolbar of the track diagram editor you will get a window similar to the “Print track diagram” window where you can now print a list of your solenoid devices.



6.11 Save Track Diagram

Click on <File> in the menu bar, followed by <Save> or on the switch in the toolbar. It is recommended to perform this function several times during the generation/ modification of a track diagram. This prevents you from losing changes in your track layout.

6.12 Deleting track diagram

The complete track diagram will be deleted if you click on <File> and <Delete> or on the switch in the toolbar. A secure warning query is issued before the delete process.

After the delete, an empty track diagram will be found.

The old track diagram is saved as **GPLAN.BAK** and could be re-activated by re-naming it as **GPLAN.DAT**.

Until Win-Digipet Pro X.3 the track diagram file was named GBILD.DAT.

6.13 Display and print the system settings

Via <Help> at the menu bar of the track layout editor or by a click at the symbol e.g. Anlage with the name of your project, you will get to <Print project status>: In the following document you’ll see the system settings of your actual project in a clearly arranged list. You can print this list – or you can convert this list via two buttons (upper left side of the window) into a RTF or HTM file. Therefore you can easily forward your actual system settings as part of an email for further problem discussions.

6.14 Task-switching between main program and track editor

This is not allowed and the following message in the main program will appear...

6.15 Exit Track Diagram Editor

Click on <File> in the menu bar and <Close> or on the switch in the toolbar: You are returned to the main program **WIN-DIGIPET 2012** after a security query if you have changed your track layout without saving .

7 – SOLENOID DEVICES AND FEEDBACK CONTACTS

7.1 General

After recording, maintenance and testing of the data is done in the track diagram, thus you have comprehensive control.

It is advisable that you have an exact list of the solenoid devices on your layout with relevant decoder addresses prepared before you start to enter the data.

A list of the feedback contacts is also helpful for quick, correct data recording.

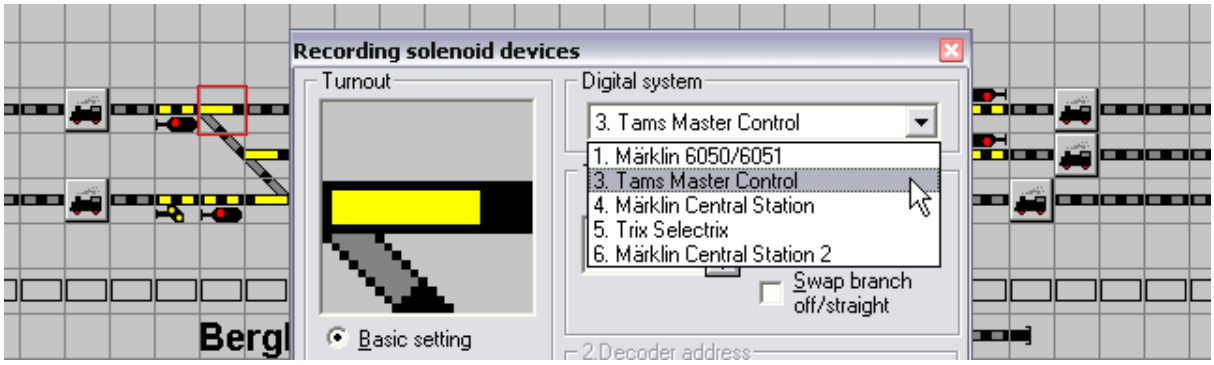
If you use more than one digital system for your railroad you should also note in your list which components are controlled by the several digital systems.

7.2 Recording solenoid device data and test, address display

Click on the menu 'Record' and 'Solenoid device address' or on the switch in the toolbar of the track layout editor. The track symbol window disappears and the mouse pointer changes to an arrow with micro switches.

Point to the solenoid device you want to record: It will be framed by a red square. Click on it: A window "Recording solenoid devices" will be opened. At the upper left the solenoid device is displayed as a large symbol, and its type is indicated, e.g. "Turnout…".

If you use **more than one** digital system for controlling solenoid devices, please select the digital system the solenoid device is connected to.



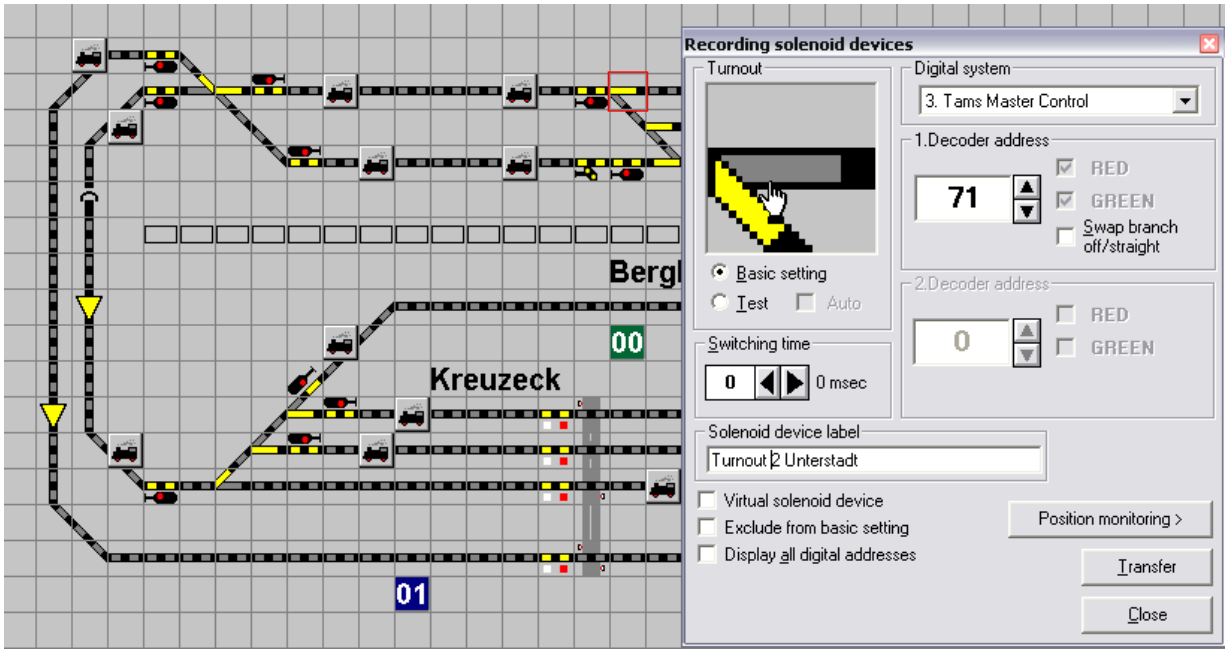
If you select an address above 256 for the Märklin digital system "*Virtual solenoid device*" will be set and cannot be changed

7.2.1 Solenoid device address and description

Enter the address and if needed the second address of the solenoid device.

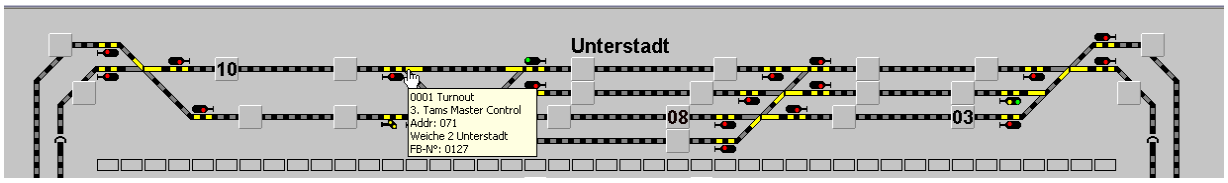
The program has already checked / unchecked the connections „RED" and „GREEN" for most of the solenoid devices.

If you use **more than one** digital system for controlling solenoid devices, select the digital system the solenoid device is connected to.



For a simple turnout you need to register just a first address.

In the box "*Solenoid device label*" you define an optional device label to describe the solenoid device's function. This is especially useful for virtual solenoid devices.



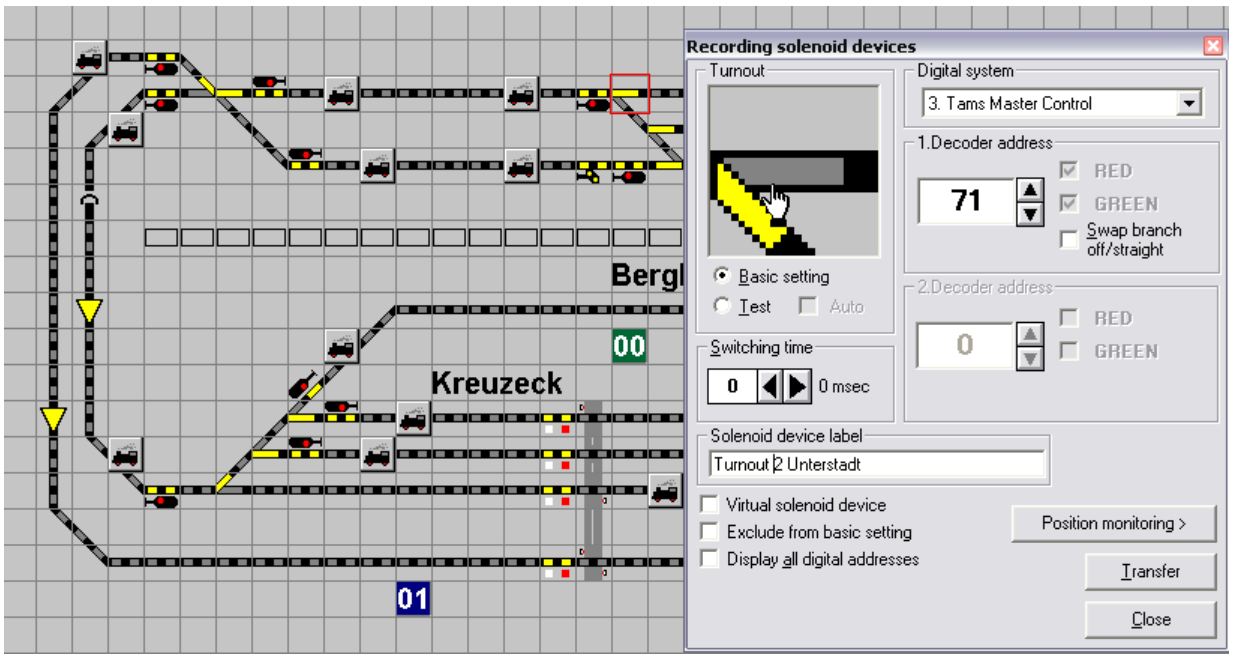
This information will be e.g. displayed when moving the mouse over a solenoid device symbol in your track diagram (with activated tooltip option in the menu).

All solenoid devices are highlighted in red in the track diagram, if you have checked 'Display all addresses'. It can be reversed by un-checking 'Display all addresses'.

7.2.2 Testing solenoid devices

To check your entries, test the solenoid device: select 'Test' and click repeatedly on the large symbol.

The solenoid device will switch continually – in 1 sec. intervals- if 'Test' with the checkbox 'Auto' is activated.



This function enables you to check the function of the solenoid devices – away from the computer- for correctly operation on the layout.

You should be especially careful with the turnouts with 2 drives (crossings and three-way turnouts). Here it is advisable to test one turnout drive always first and only when it functions properly continue to test the second turnout drive.

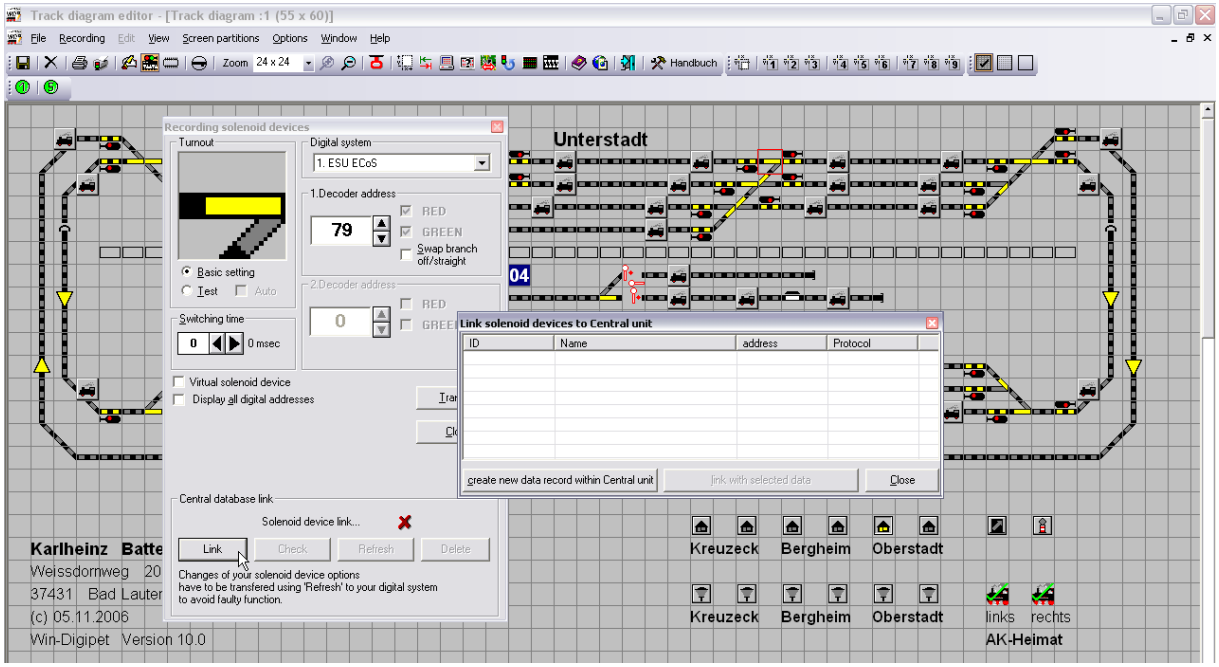
All solenoid devices with two aspects, three way turnouts and crossing offer the possibility **to exchange the connectors**. This function is very useful because you exchange the two decoder connectors without the need to exchange a cable e.g. your signal is in red state in the track diagram, but on your model railroad it is green at the same time. This new function prevents you from a lot of work on your hardware.

7.2.3 Linking single solenoid devices with the CS/ECoS (2)

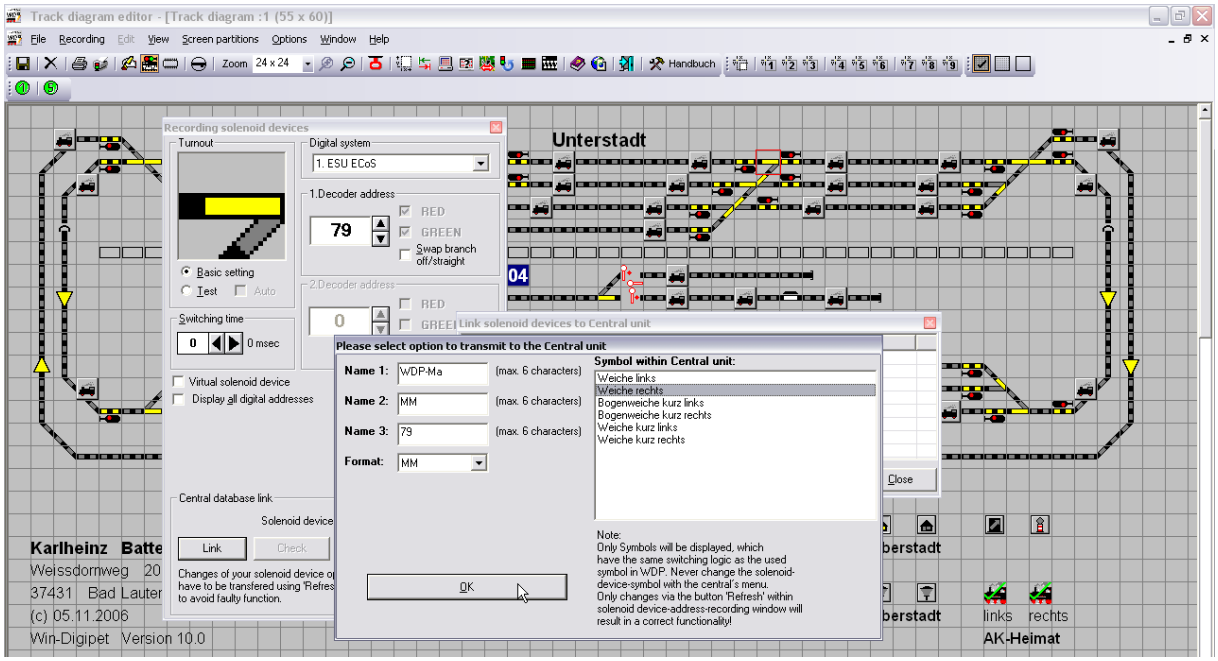
The registration of solenoid device data has to be done according to section **7.2.1**.

Now click on the ‘Link’-Button within the solenoid address registration window.

In the following window you can decide whether to create a new solenoid device in the CS/ECoS database or select an already existing solenoid device in the CS/ECoS database to link this with the solenoid device within Win-Digipet. This is necessary because the WDP and the CS/ECoS don’t communicate using solenoid device addresses, but using database IDs of the CS/ECoS afterwards.



You are able to select some options for the solenoid device transfer into the CS/ECoS.

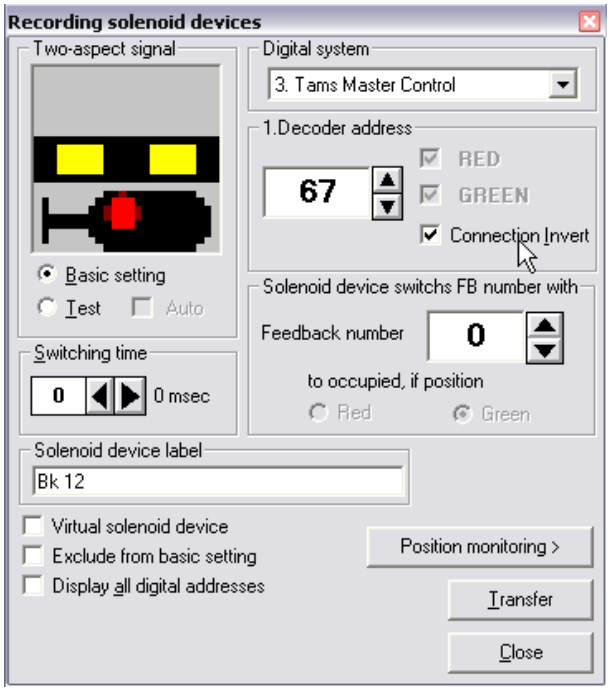


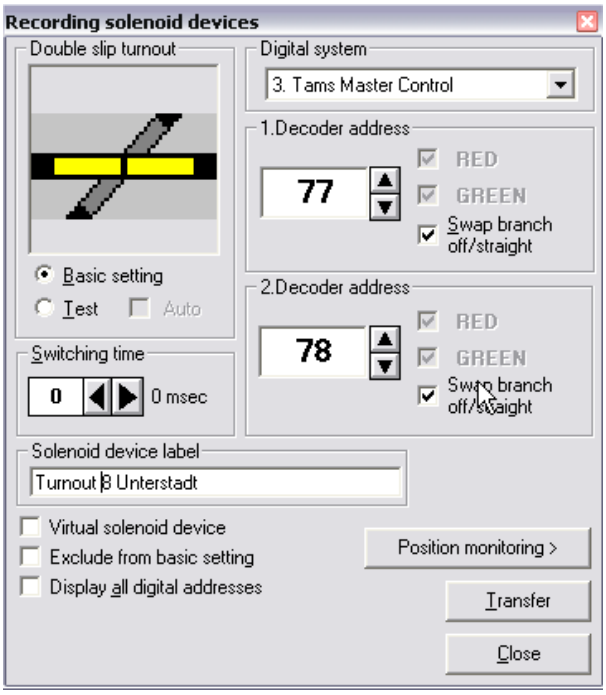
Every time you change solenoid device data e.g. switching direction you also have to update this data within the CS/ECoS using the *'Refresh'* button within the solenoid device registration window.

7.2.4 Updating solenoid device data within the CS/ECoS

Every time you change solenoid device data e.g. switching direction you also have to update this data within the CS/ECoS using the *'Refresh'* button within the solenoid device registration window.

7.2.5 Exchanging connectors

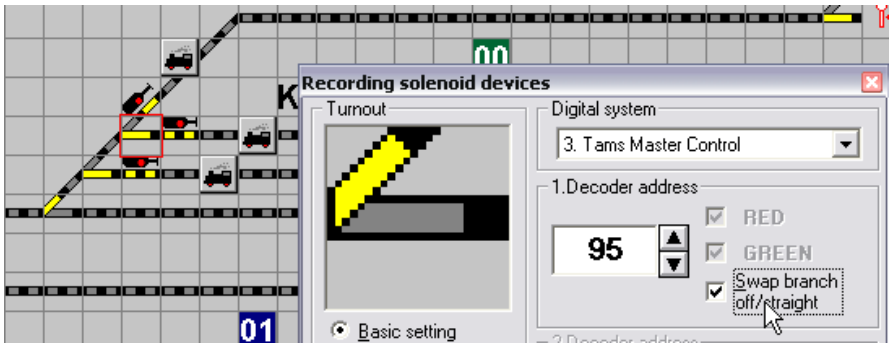




All solenoid devices with two aspects, three way turnouts and crossings offer the possibility **to exchange the connectors**. This function is very useful because you exchange the two decoder connectors without the need to exchange a cable e.g. your signal is in red state in the track diagram, but on your model railroad it is green at the same time. This new function saves you a lot of work.

7.2.6 Slanted turnouts

With **normal turnouts in slanted position**, activate the checkbox 'Swap branch off/straight'. This produces the correct symbol display in the program.

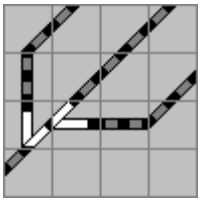


7.2.7 Crossings and double slip turnouts

When talking about double slip turnouts we have to differ between the ones with 1 solenoid drive and these with 2 solenoid drives.

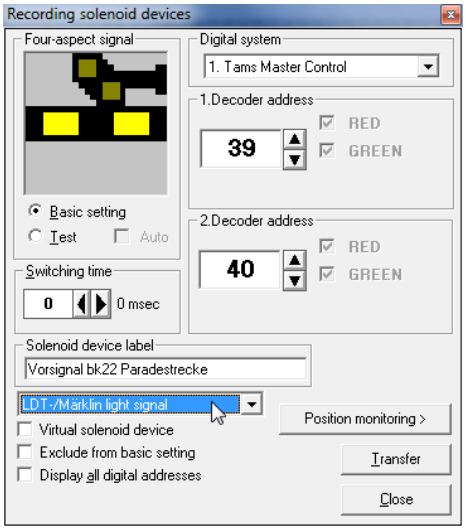
- **Double slip turnouts** with **1** solenoid drive:
  Enter the decoder address as first one and set the second on to **0**.
  Address **0** deactivates the symbol, basic setting and testing of the solenoid device.
- **Double slip turnouts** with **2** solenoids:
  First and second decoder address have to be entered. If you have difference between the switching of the crossings on your display and your layout you may have to exchange the address (1<->2) or change switching directions for one or both of the addresses.
- **Double slip turnouts** with **no** solenoid:
  Enter virtual first decoder address and set the second on to **0**. This is important for securing the locking functionality in the program.

7.2.8 Three way turnout in slanted position



Ensure that both turnouts are switched to “straight” prior to any “branch” switching if you have represented three **way turnout in slanted position** in the track diagram by a vertical and horizontal normal turnout. Each one must have its own address.

7.2.9 Three- and four aspect signals



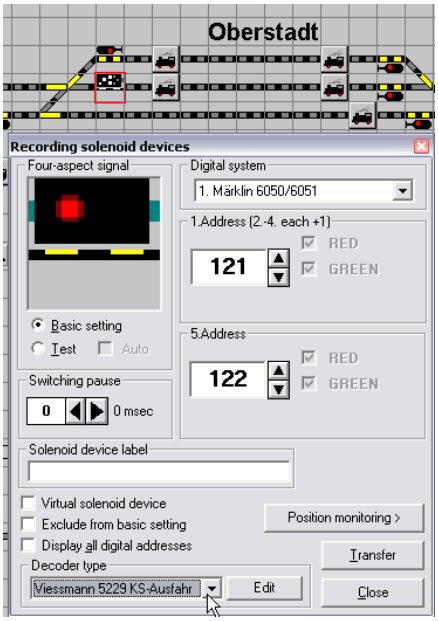
- Enter the connection for a three-aspect signal i.e. RED or GREEN as well as the second decoder address.
  If it is a Märklin signal, check 'Märklin three aspect signal'. If it is a non-Märklin signal, uncheck the switch. If you use for this type of signals LDT-light-signal-decoders activate the corresponding check box.

  If you use the light signal decoder from LDT in connection with three aspect light signals you should check the new box „LDT three aspect signal" in the "Recording solenoid devices" window. This improves the blanking function when using distant and main signal on the same post. But you have to be still careful in your routes not send any solenoid device commands to this decoder during blanking time.

- If you use four aspects signals via a switching decoder (e.g. k84), this decoders can now also be integrated in **Win-Digipet 2009**.
  This function can be activated by checking the corresponding option in the "Recording solenoid devices window".

  For the different signal aspects the following command are used:
  Hp00 → 100 red + 101 red
  Hp1 → 100 green + 101 red
  Hp2 → 100 green + 101 green
  Hp0/Sh1 → 100 red + 101 green.

7.2.10 Multi-aspect signals



The model railroad industry offers nowadays also some kinds of multi-aspect signals e.g. HL- and KS-signals with up to 18 aspects.

The control of this signal is very complex, therefore we included some decoder type templates in the program.

Included are...

- LDT LS-DEC-DR
- Viessmann 5229 KS-Home and
- Viessmann 5229 KS-Departure signal

...with predefined switching sequences with can be changed via the button **'*Edit*'**, but this is a complex task.

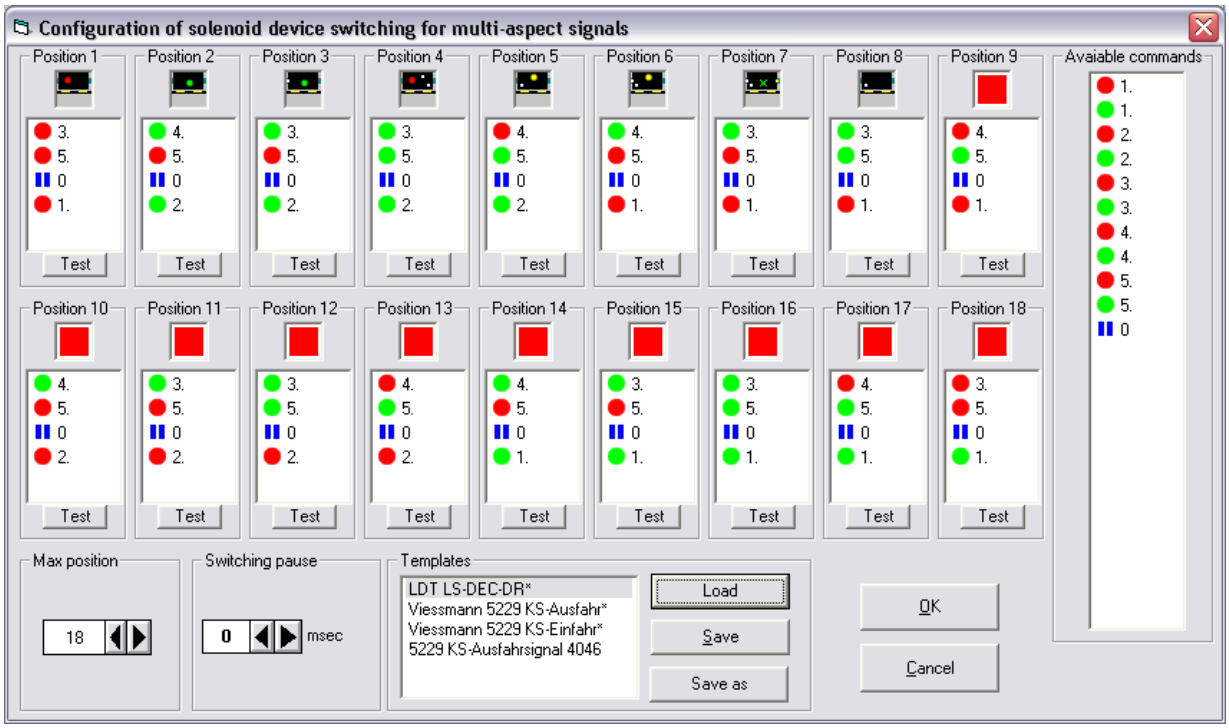
As signal symbols you can use in your track diagram...

- symbols starting at No 1316 for the Viessmann KS-Home signals 4043 or 4046
- symbols starting at No 1324 for the Viessmann KS-Departure signals 4042 or 4045

For these kinds of signals no link to the ESU ECoS or Märklin Central Station is necessary.

7.2.11 Configuration table for multi aspect signals

In this table the switching sequences for the particular aspects can be defined. Up to 18 aspects are supported. In the list below to each aspect symbol you can see the according switching sequence.



In the right column you see all possible commands, that can be transferred using ”drag&drop“ to the switching sequence lists and could also be removed the same way.

In the list the available command are e.g....

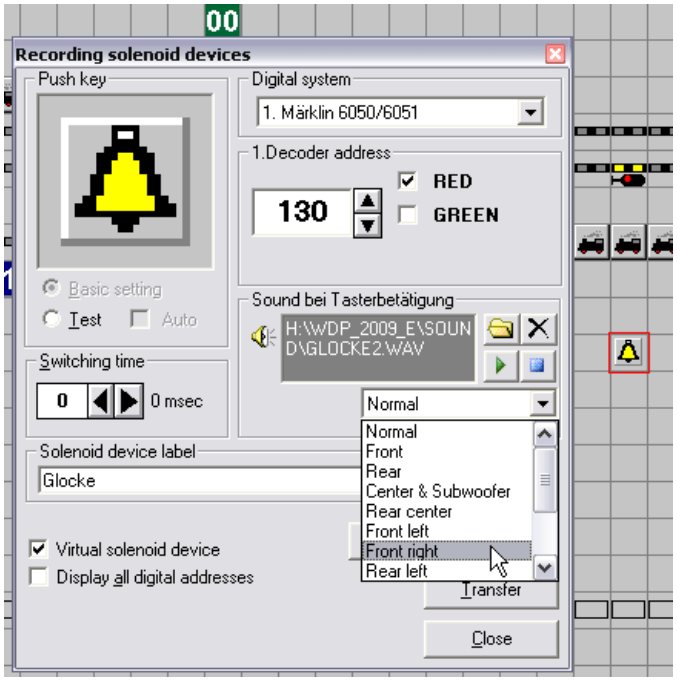
- 1. red → send digital address red to the decoder
- 2. red → send digital address +1 red to the decoder
- 3. red → send digital address +2 red to the decoder
- 4. green → send digital address +3 green to the decoder
- 5. green → send the fifth digital address green to the decoder

...the blue pause symbols (blue double line) are used to include switching breaks into the particular switching sequences. The switching pause value can be defined in the lower part of the window.

Via **‘*Load*’**, **‘*Save*’** and **‘*Save as*’** you can save new decoder template. The already existing one can be modified and saved using a new name, but not overwritten. These self-defined templates can be deleted using the “Del“-key on your computer’s keyboard.

7.2.12 Sound via push-button

For every push-button in your track diagram (e.g. symbol 0628 Sound 1) you can assign a sound to play when pressing this button. Supported file types are wav and mp3.



Using the button  you can search for a sound on your hard disk and assign it to the edited button.

The other three buttons are used for sound playback, stop and deleting the registered sound.

This function can be used for real-existing and virtual push-buttons.

You can also choose the volume of the sound and the speaker (in case of multi-speaker system), that shall be used for playback. In some cases you might be asked, if WDP may convert the sound file, because not all kinds of Wave-Files are supported by the WDP multi-speaker-sound-system.

7.2.13 Switching time

You can determine the **“Switching time**“ (0 to 3000 msec) individually for each solenoid device. This may be an advantage with uncoupler tracks and older model turnouts.

We suggest choosing a minimal switching time (0 msec) because during the switching time **Win-Digipet 2009** will be blocked to send other commands by some of the supported digital systems.

7.2.14 Virtual solenoid devices

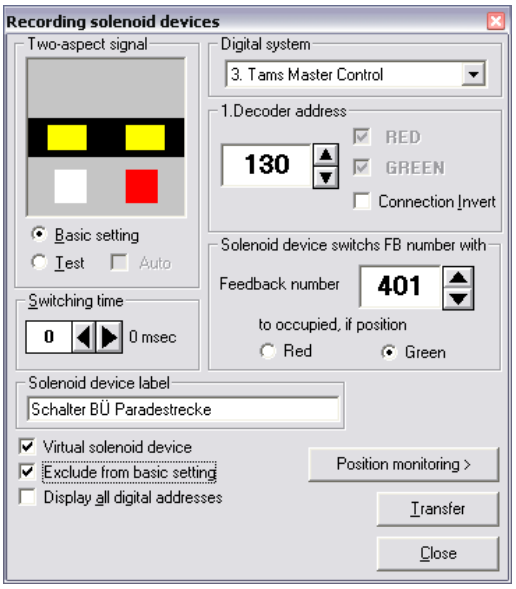
If you have a big model railroad layout with a lot of signals, turnouts, uncoupling tracks, solenoid device decoders and switch decoders, you rather fast reach the limits (for Märklin e.g. 256) of the available digital addresses.

In this case you assign a digital address only to the solenoid devices which are really available (physical) on the layout. For not really (actually) existing magnet articles you don’t assign an address if you don’t have to control the solenoid device with the mouse, e.g. to switch the signal von Stop or Go in order to fulfil a switching condition.

If you need two switch such virtual signals, switches and push-buttons with the mouse, you should assign **a virtual addresses** which can also be above the limits (for Märklin e.g. 256) of the available digital addresses. Nevertheless, in this case you check "*Virtual solenoid device*“.

Solenoid devices, that are not present on your model railroad, but in your track diagram can receive **a virtual address**. Just check "Virtual solenoid device".

For this solenoid device no data is sent **from WIN-DIGIPET 2012** any longer to the digital system and the data stream is very much reduced. The virtual address may also be **above** of the normal address range of the digital system.



7.2.15 Solenoid device switches feedback contact

If you use two aspect signals you can also assign an unassigned feedback contact number (not assigned to any digital system), that shall be switched on or off corresponding to the current signal state.

This e.g. useful for simulating feedback contact occupation for controlling/blocking the executing of several routes and so on.

7.2.16 Basic setting of solenoid device

Clicking on the large symbol in the solenoid device address dialog you determine the basic setting of the solenoid device (make sure the according radio button is set). In

the main program you find the button in the toolbar to switch all solenoid devices to their basic setting. For example this might be helpful e.g. to set the condition red for all signals at the start of operation.

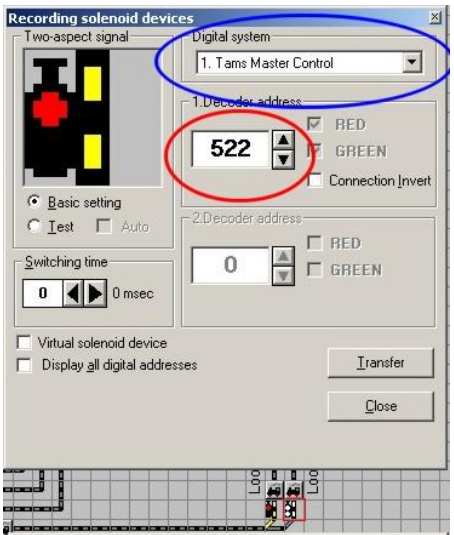
7.2.17 Exclude from basic setting

Normally when pressing the button in the toolbar of the main program all solenoid devices will be switched to their basic setting. But sometimes there is no sense to do this for all of your solenoid devices. Imagine you use a virtual solenoid device as condition in the automatic operation, then it might be no good idea to change its state by the basic setting function, because then your automatic operation would be modified.

7.2.18 Recording solenoid device data with the help of the test keyboard

In **Win-Digipet 2009** the recording of solenoid device data has been improved / simplified. Now the virtual test keyboard in the track diagram editor can also be used to register solenoid devices.

For this purpose open the test keyboard and click on the menu 'Record' and 'Solenoid device address' or on the switch in the toolbar. Due to the multiple digital system support in this version the keyboards has been changed slightly (red and blue marking). For recording a solenoid device address in the track diagram, point to the desired solenoid device address in the keyboard and drag it with pressed middle mouse button (or left mouse button + Shift) to intended solenoid device within your track diagram.

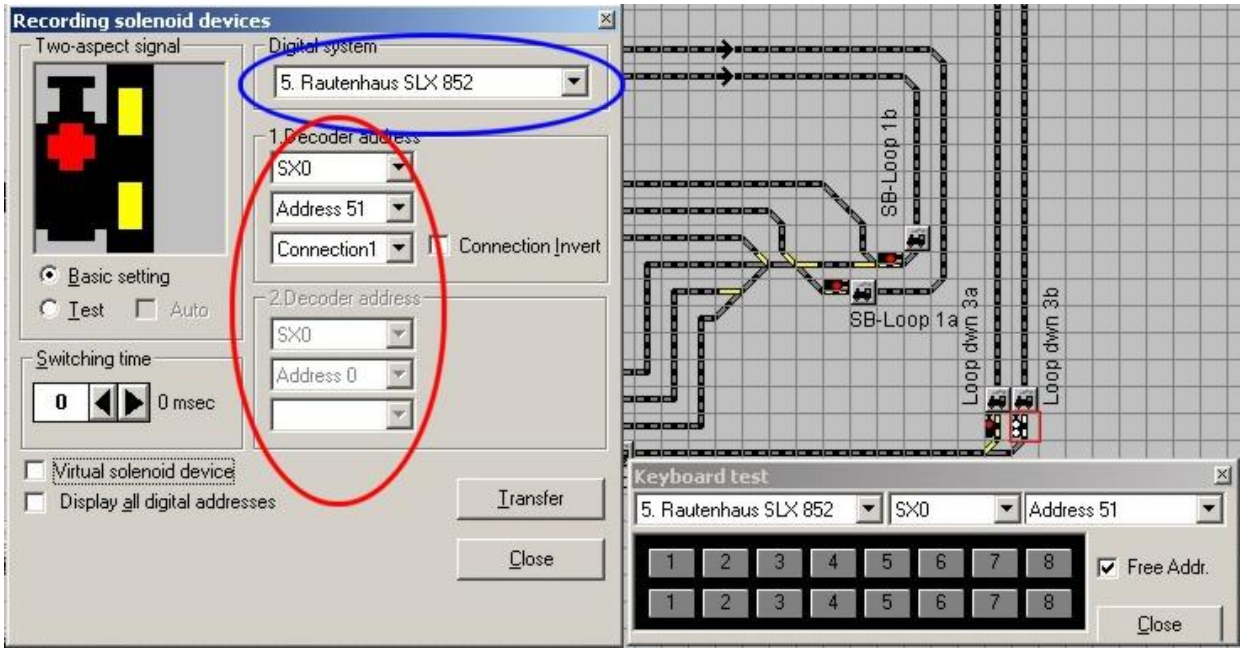


The solenoid device will be framed by a red square and the window "Recording solenoid devices" will be opened after releasing the mouse button. In this window the selected digital system and solenoid device address from the test keyboard will appear automatically.

Afterwards you can make all settings in this window as usual.

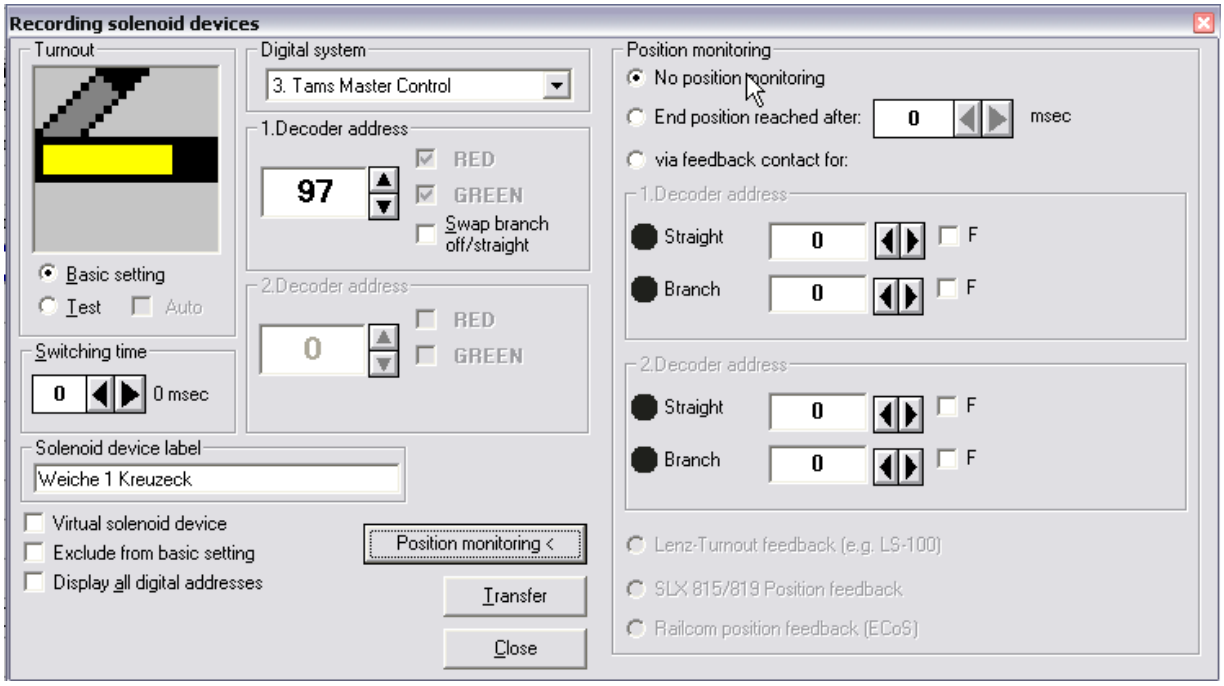
7.2.19 Recording solenoid device data with the help of the test keyboard (Selectrix)

The mode of operation is the same as described before but the windows will have a different appearance depending on the precautions of the Selectrix protocol.



7.2.20 Position monitoring

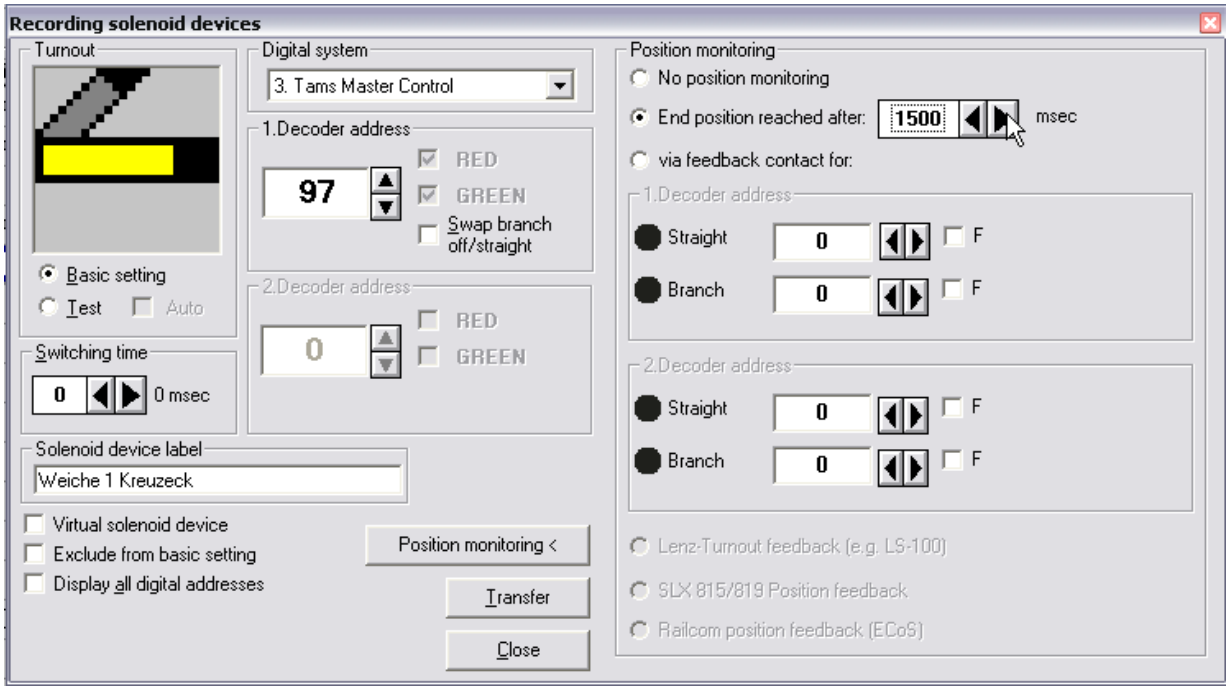
Due to problems with sometimes bad switching turnouts **Win-Digipet** does support some types of position monitoring for the current turnout position.



If you click on **'*Position monitoring*'** the window for the address assignment will enlarge and some different position monitoring options will be displayed.

7.2.21 Position monitoring via time constant

The first possibility to ensure a turnout has reached its end position before being occupied by a train is a simple time constant. This e.g. useful for turnouts with motor drives without any real position monitoring possibility. But this is no real position feedback a failure of solenoid device power would never be recognised for example.



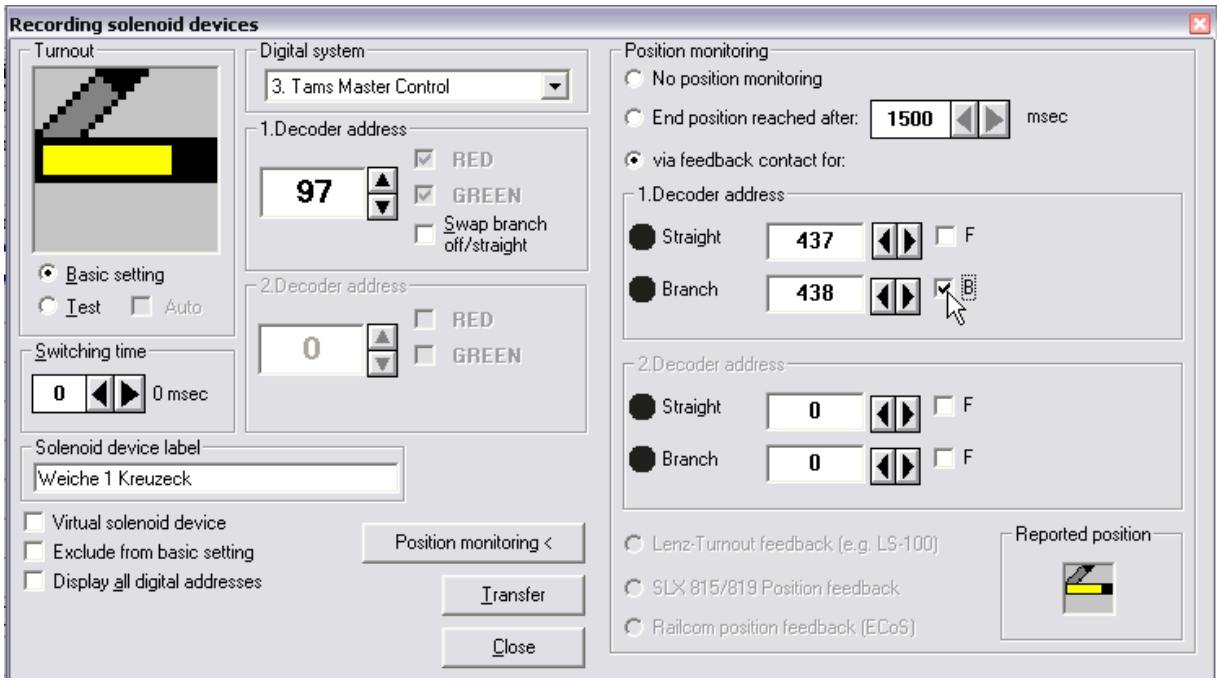
You can select a time constant between 0 and 10000msec.

What is the effect of this position monitoring in **Win-Digipet**?

Using this option the train won't start its ride until the selected time(s) has/have expired after switching the routes itinerary (the route will be highlighted immediately but no drive command will be issued before the end of the selected waiting time).

7.2.22 Real position monitoring/feedback

For real position monitoring the program offers different options. Depending of the usage of a SX or non-SX system you can enter SX-monitor channels (see decoder manuals) or feedback contacts for determining the position of the turnout. When using some kinds of Lenz decoders or the ESU ECoS with Railcom (at moment only with ESU Switchpilot) or the turnout decoders of Rautenhaus also their feedback possibilities are supported when selecting the according option.



When using the feedback contacts or SX-monitor channels you have to enter the according feedback contact numbers/addresses into the input boxes and you have also select if contact x means “straight” when the contact/address is occupied or not and so on.

For decoders support immediate real feedback the currently monitored position will appear in the following box...

A red question mark would indicate no or no correct position feedback. By using this picture and the test function for solenoid devices in the same window, you can directly check the functionality of your position monitoring system.

What is the effect of this position monitoring in **Win-Digipet**?

Using this option the train won’t start its ride until the selected time(s) has/have expired after switching the routes itinerary (the route will be highlighted immediately but not drive command will be issued before the end of the selected waiting time).

7.2.23 Transfer settings

Finally after making all solenoid device settings for a symbol you transfer the recorded solenoid device data by ***'Transfer'*** to the track diagram; you will see the basic setting there.

7.2.24 Changing digital-systems of solenoid devices globally

If you use multiple digital-systems for model railroad you can easily change the digital system, which controls your solenoid devices.

Click in the track diagram editor on the menu <Options> <Changing digital-system of solenoid device> or on the button in the toolbar.

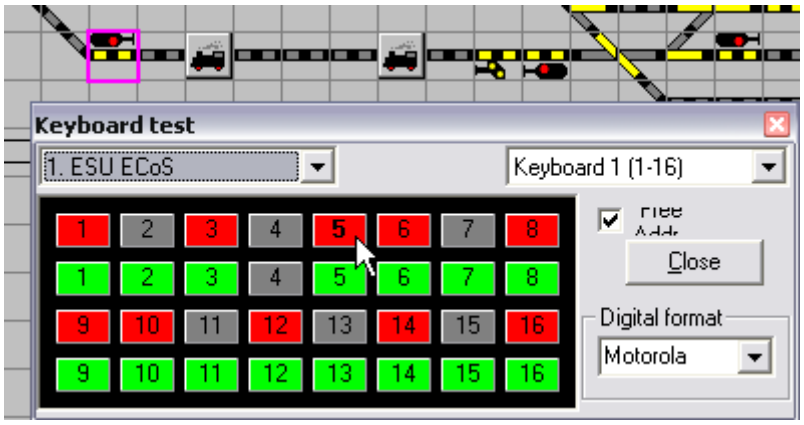
Now you will see a window for changing digital systems globally.

In the upper selection box you can choose the current digital-system for controlling your solenoid device and in the lower selection box you can choose the new digital-system for controlling your solenoid devices.

With a click on **'*OK*'** you can change now the digital-systems for the solenoid device of the old digital system after confirming a security query.

7.3 Virtual Keyboard to test all Solenoid Devices

The Märklin keyboard can be emulated via <Options> - <Keyboard Solenoid Device Test> or using switch in the toolbar. The following window opens.



You have to select in the combo-boxes the used digital-system and the used keyboard (resp. SX-address for Selectrix)

This window offers three functions:

- All inactive solenoid devices are not shown in the track diagram, if you checked the switch next to 'Free Addresses'. This will bring up to you the non-allocated

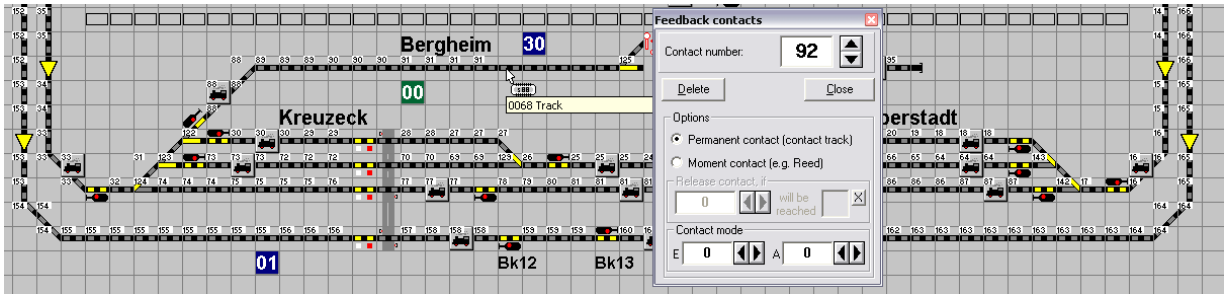
addresses (or solenoid device which are not working because of an electrical or mechanical malfunction).

- Also, with a click on the address of the solenoid device, you can check the correct functioning: top key „Red“, bottom key „Green“. The solenoid device is displayed on the screen, framed in red, and its actual position is indicated.
- Solenoid device address assignment according to **7.2.18** and **7.2.19**.

7.4 Recording feedback contacts, display numbers

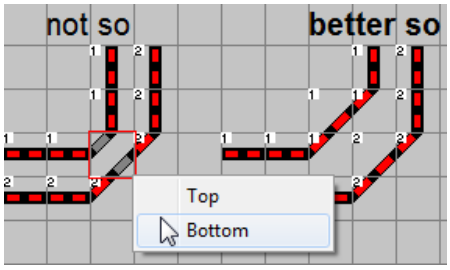
Click on the menu <Record> and then on <Feedback contacts> or on the switch in the toolbar. The window “Feedback contacts“ appears, and all feedback contacts recorded so far are displayed.

In the *“Contact number“* panel enter the item number of the contact, either through mouse clicks on the arrows or via the keyboard.



Move the mouse pointer to the track symbol to which you want to assign the item number of this contact and press the left mouse button. The contact number you entered appears immediately. You can place it in the track diagram as often as you like by pressing the left mouse button repeatedly or by dragging the mouse pointer with the left mouse button depressed.

If you want to delete a contact number click on ***‘Delete’*** and proceed as described above. If you click on ***‘Erase’***, the contact number will be set to "0".



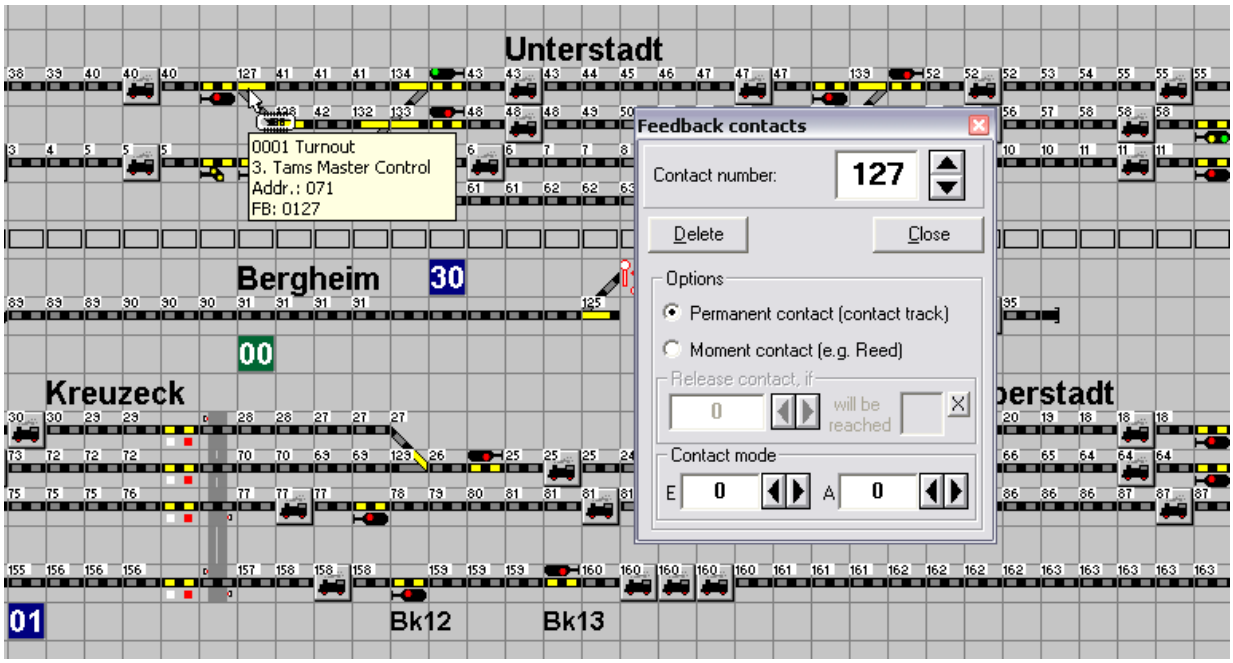
There are two track symbol panels with two itineraries each: Two diagonal track sections in one symbol panel. If you want to insert a feedback contact into each panel, a short menu <Top> - <Bottom> is opened.

Determine by clicking on <Top> or <Bottom> to which track section you want to assign the contact number. But it in most cases it is better not use this double diagonal symbols, the picture above shows you a better solutions in the right half of the picture. This solution will make manual route recordings easier.

7.4.1 Permanent contact and according options

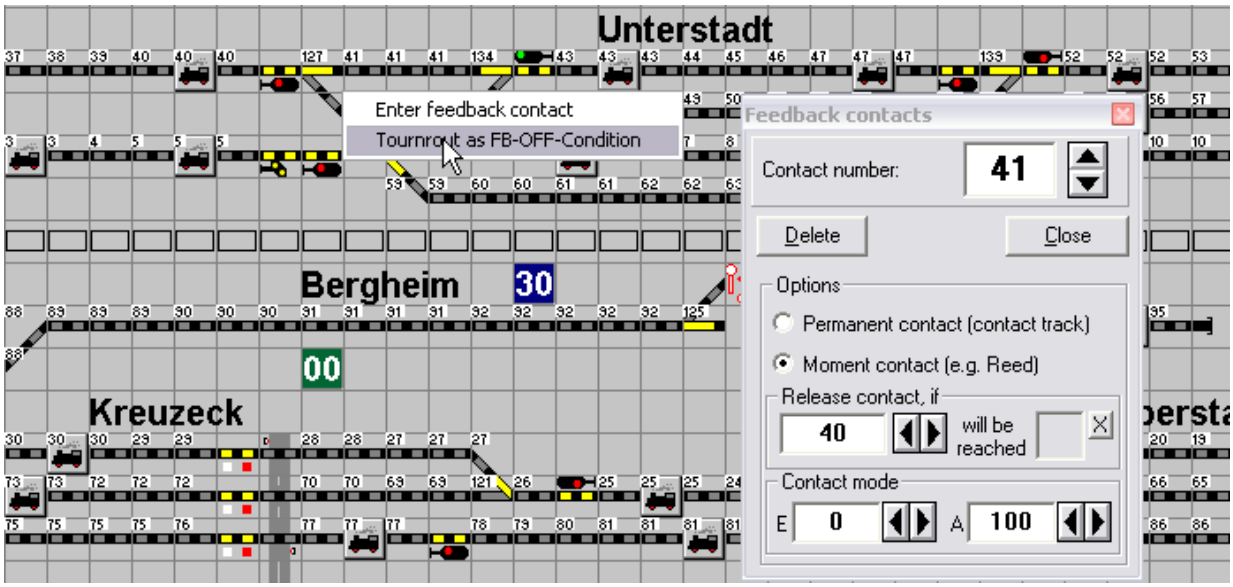
When using permanent contact you might have the problem, that short contact message won't be recognised correctly. Therefore you can select an "Off delay" for the contacts. For problems with flickering contacts also an "On delay" is available".

But be careful with this options because a 'power on delay' has direct influence to the position where a locomotive might stop and the 'power off delay' might result also in later stopping when using functions such as "Stop when contact x is occupied and y is free again".



7.4.2 Moment contacts

When using reed contacts or momentary contacts normally their short occupation should result in a permanent occupation of the according track until the track is free again. In most cases the “free”-messages will come from the next moment contact.



In Win-Digipet you can select one or more contacts to set the track occupation back from occupied to free. If you need to use more than contact (e.g. when a turnout follows directly after the first momentary), you can enter different contact numbers separated by “;”-signs in the input box.

In some cases you might also want to use a solenoid device position as “must have” second condition for a valid “free” message. A good example is the case when linking two station tracks to one track behind the station. Then seems to be wise just to set the occupation of the track back to free by a contact behind the station only for the track the train is coming from. And this “coming from” is always indicated by the turnout where both station tracks come together.

In moment contact mode clicking on a turnout (as for normal feedback contact number assignment) would result in the question if you want to assign the current feedback contact number to this turnout or if you want to using this turnout as free/off-condition.

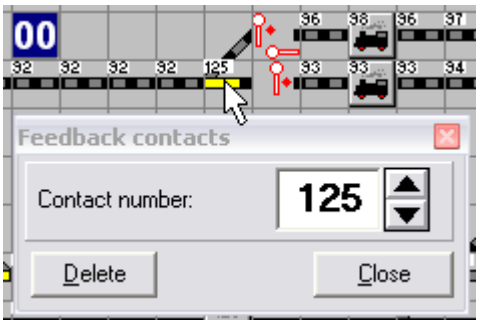
Registered condition turnouts can be deleted via ☒.

Also power-on/delays for moment contacts are available.

7.4.3 Turnouts with feedback contacts

With this type of symbols **WIN-DIGIPET 2012** offers the possibility to associate turnouts and turntable connectors with feedback contacts.

If you have equipped turnouts or turntable connectors with feedback contacts you can save space in the track diagram thereby.



For crossings you can assign up to 2 feedback contact numbers per turnout as shown in the picture if this is supported by your crossings. For all other turnouts only one contact number is possible. In general you will also use only one feedback contact for crossings which indicates **the occupation of the crossing**. In this case you register the same contact number to both parts of the crossing.

The feedback is meant to be used **for track occupation feedback** and not as switching position feedback. If you have changed the track diagram after the recording of routes, you must record the routes once again or correct them!

7.4.4 Length of feedback contacts

Section **5.1** already informed you about train- and vehicle lengths and according to section **5.4.2** you registered already the vehicle Lengths LoB (in cm) for your vehicles. The counterparts to the lengths of the vehicles are of course the lengths of feedback contacts on your layout.

Now you will ask: „*Do I need to measure the lengths all feedback contact tracks on my layout?*“

The answer is: „*No, only some special ones*!“

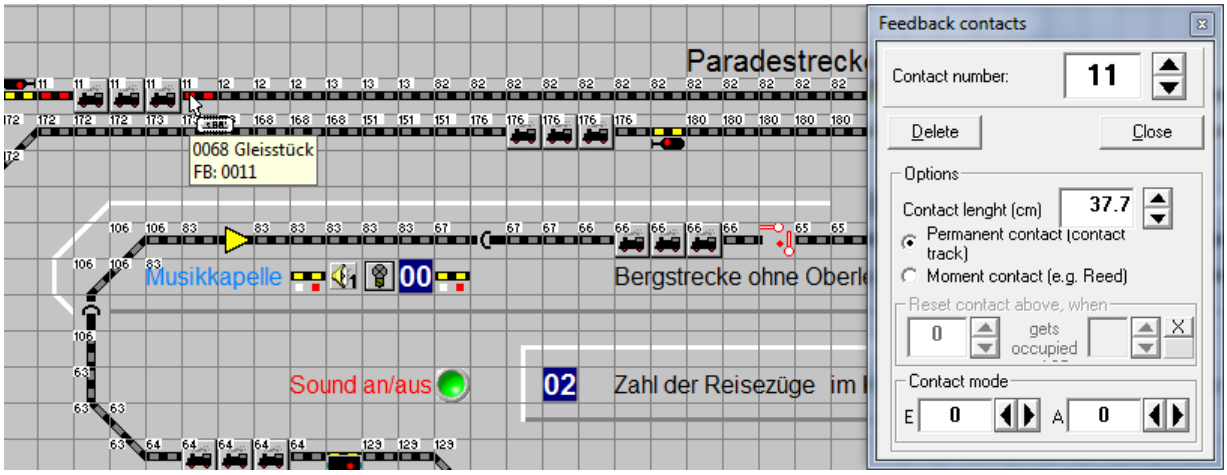
Basically you need only the length of the braking and stopping sections before the signal and the track section at the station´s platforms to perform mid of platform stop for your trains.

But: If you build a new layout then it is advisable to measure all track/feedback contacts length from the beginning on. So you will be prepared if you need them later on!

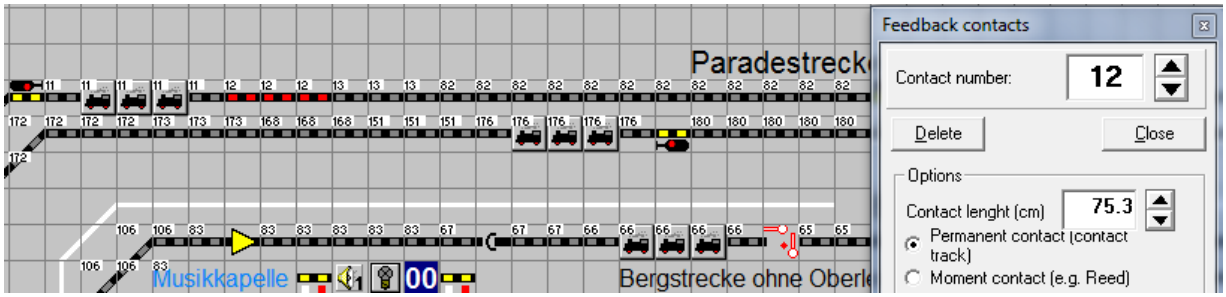
In former version you needed several train number display along your platform to achieve different stop position depending on the train length or train type. In **Win-Digipet 2012** the intelligent train number display now offers you the possibility to do all this with just one train number display, but this will be described later....

The registration of the feedback contacts can be done in the track diagram will registering the feedback contacts as well as in the main program when configuring the intelligent train number display.

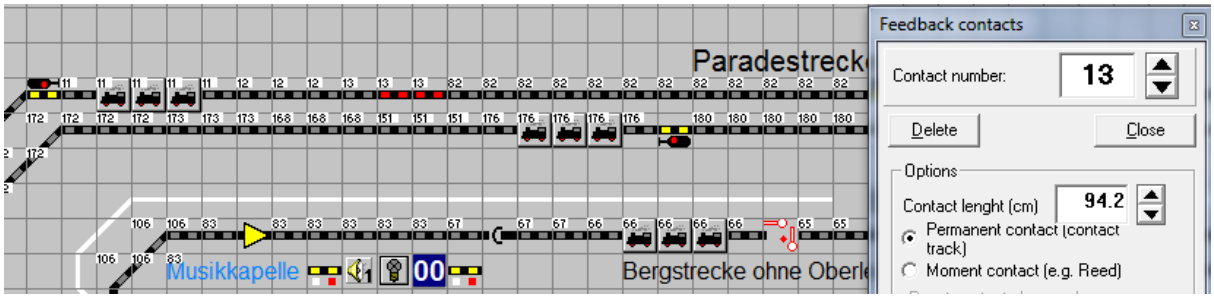
In the feedback contact window you can enter the feedback contact length in cm. Depending on your layout situation and your equipment there are several ways to determine the feedback contact length. First of all you could measure the length with as simple measuring tape or folding yardstick, a second possibility is to use a measurement car and a very good solution is also to calculate the feedback contact lengths using a track planner program (especially if you planned your layout before with such a program).



In the example above we registered 37,7cm for contact 11 right before the signal.



In the example above we registered 75,3cm for contact 12.

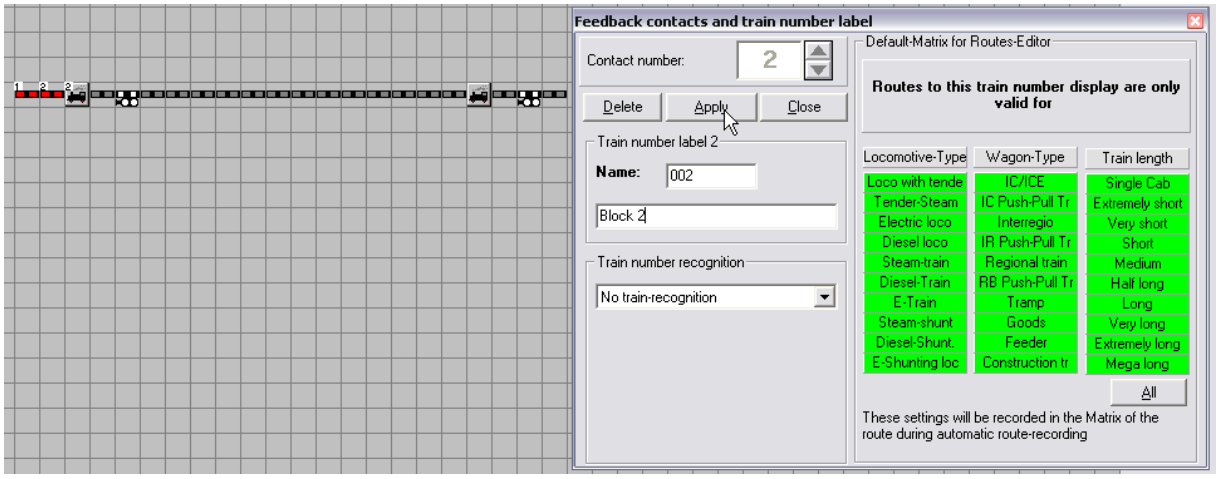


In the example above we registered 94,2cm for contact 13.

We will you use this configuration for the explanation of the intelligent train number display later on. We have summed up a total length of 207,2 cm for these 3 contacts and so we can achieve a very smooth braking manoeuvre before the signal.

7.4.5 Train number display

You can also determine a short and longer name to this train number displays, you can reopen this window by clicking with the right mouse button on train number displays that already have a feedback contact number.



To save the train display's name you have to press, **'*Transfer*'**, otherwise the name would be lost.

These short and long names will be used for automatic route naming in chapter **8**. Because of this the text fields are limited to 7 characters for the short name and up to 24 characters for the full name.

In this window you can also assign a matrix setting to this train number display. This matrix is used for new routes which use this train number display as destination. The matrix will be then transferred to the new route (if you change the matrix here later, you will have to change the route manually).

7.4.6 Train number tracking

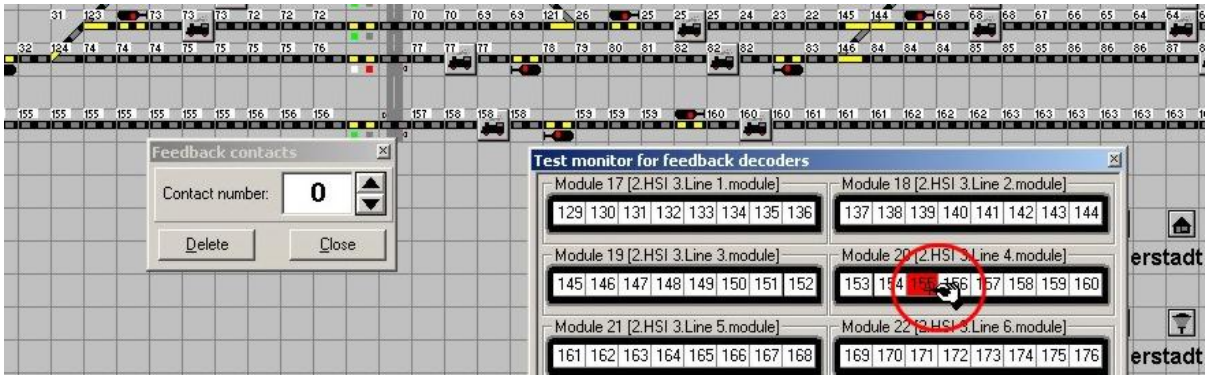
If you are using train number tracking symbols in your track diagram, you have to assign to these symbols indicated by a small "V" also a feedback contact number.

After a click on the symbol  in the toolbar of the track diagram's editor the small "V" disappears in the track diagram, the symbol now looks the same way as a normal piece of rail. Only when moving the mouse over the symbol, a tool tip will tell you, that this symbol is a train number tracking symbol.

Assign a feedback contact number to the train number tracking symbol with a mouse click on it.

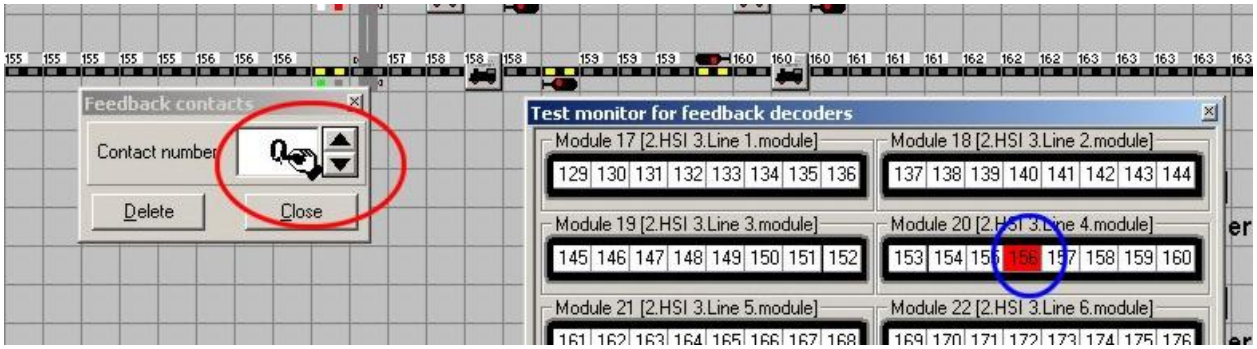
7.4.7 Recording feedback contacts via feedback monitor

You can also easily select the feedback contact number for the recording of feedback contacts directly from the feedback monitor. For example this is very useful if you don't remember your exact wiring of feedback contacts and search the corresponding feedback contact number for a track part via the feedback monitor.



Click on the menu <Record> and then on <Feedback contacts> or on the switch in the toolbar. The window "Feedback contacts" appears, and all feedback contacts recorded so far are displayed. After a click with the middle mouse button (or with the left mouse-button + Shift) on a feedback contact number in the window "Test monitor for feedback decoders" the mouse cursor will change to a hand (**RED** circle).

Now drag with pressed mouse button the mouse cursor to the white input box in the window "*Feedback contacts*" (**RED** circle).



7.5 Feedback monitors

This display allows you to check the correct functioning of the feedback contacts from within the track diagram editor and which contacts are unused until now.

If you click on a number of an already registered FB-contact, its position will be indicated in the track layout diagram. All symbols which belong to this FB-contact will be framed in **RED**. If you click with the right mouse button the track diagram will also be scrolled if the according feedback contact is outside the displayed track section.

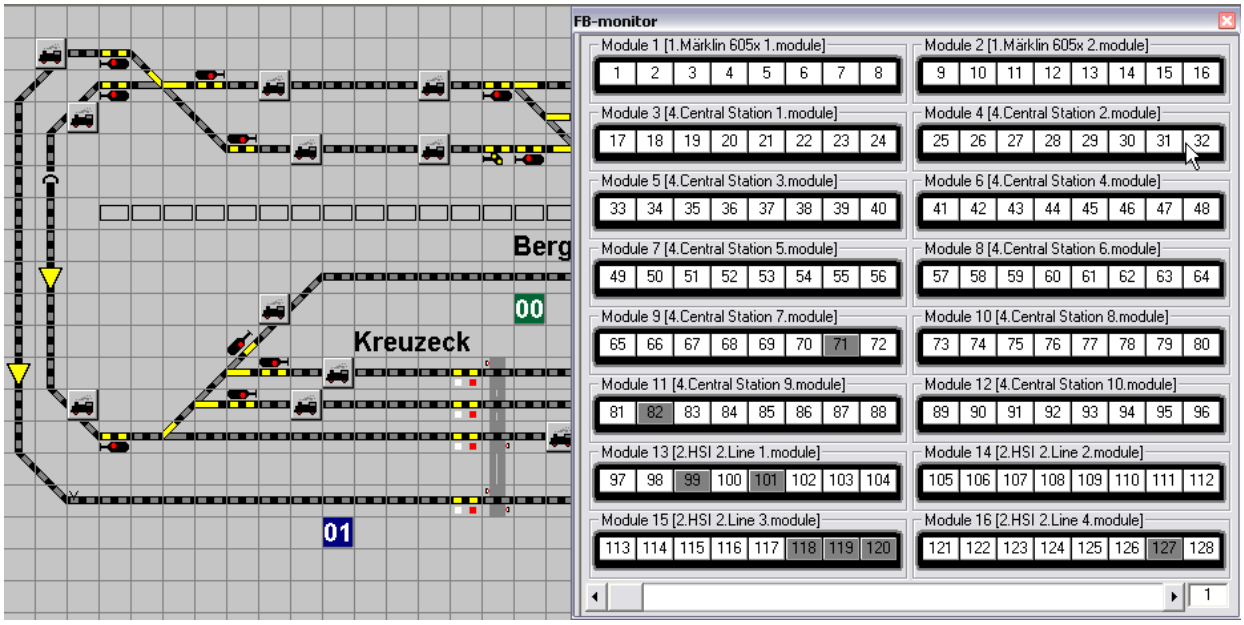
7.5.1 FB-Monitor with already recorded contacts

Click on the switch in the toolbar.

The appearing window display the feedback modules recorded in the system settings before with their appropriate feedback contact numbers. A maximum of 16 feedback modules are displayed; if there are more than 16, the lower horizontal scroll bar lets you scroll to further feedback modules.

The advantage of this monitor is, all available feedback contacts, which are not registered, respectively not used in the track layout diagram, will be blanked out in **grey**. This will help you to identify which contacts regarding which feedback modules are still available for further expansion.

If you click to a number of an already registered FB-contact, its position will be indicated in the track layout diagram. All symbols belonging to this FB-contact will be framed in **RED**. If you click with the right mouse button the track diagram will also be scrolled if the according feedback contact is outside the displayed track section.



7.5.2 Test Monitor of all feedback decoders

Click on the button in the toolbar.

During the construction of a track layout, this monitor has the advantage to show all FB-modules directly, not only the already recorded ones.

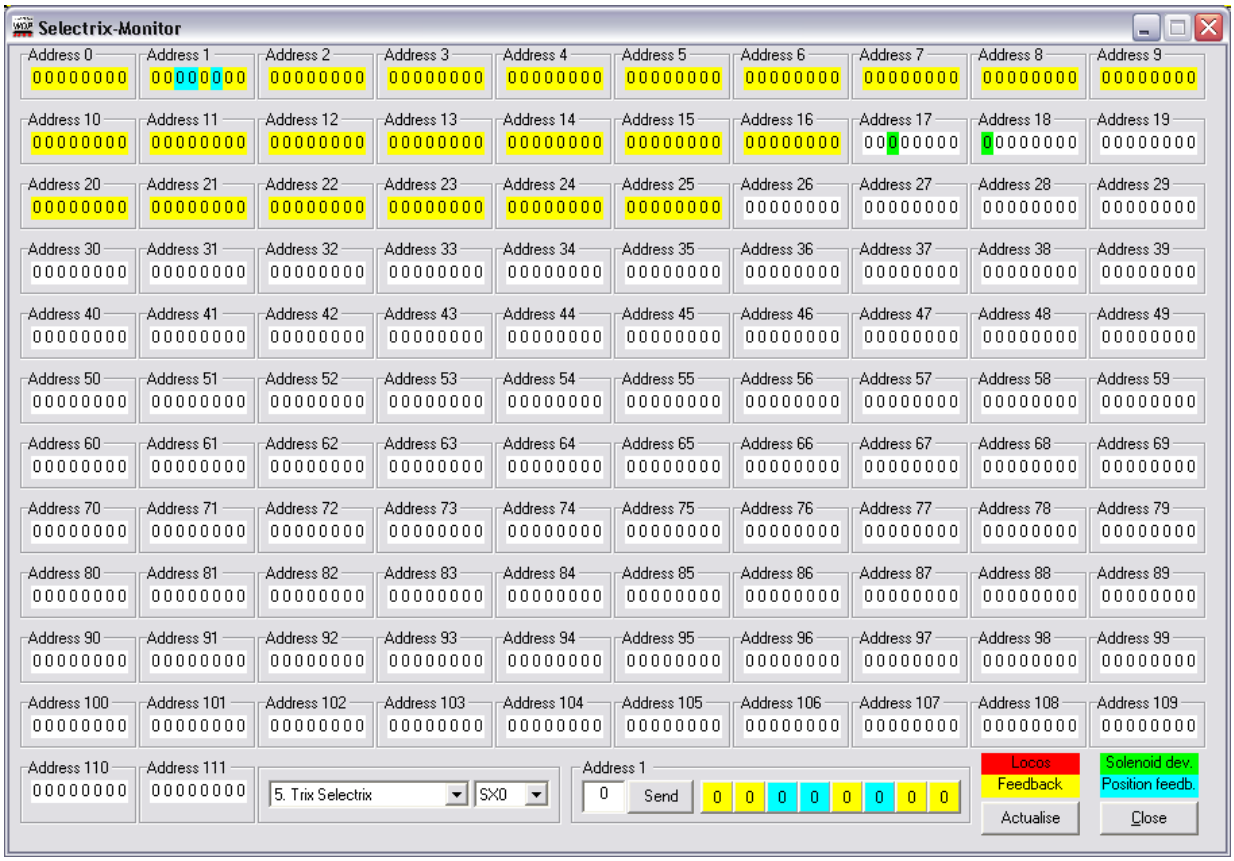
Quite often you don't remember - due to missing documentation - , where particular FB-contacts are situated, to record these into the track layout diagram.

If you now move a wagon or a train along a contact, the rectangular symbol of the corresponding contact will change from white (not occupied) to red (occupied) and you will noticed about the actual position of the train on your model railroad.

If you click on a number of an already registered FB-contact, its position will be indicated in the track layout diagram. All symbols belonging to this FB-contact will be framed in **RED**. If you click with the right mouse button the track diagram will also be scrolled if the according feedback contact is outside the displayed track section.

7.5.3 SX-Monitor

The SX-monitor can be opened using the button in the toolbar of the main program and/or track diagram editor.



The SX-Monitor shows the current states (as bit-states) of all SX-addresses of one SX-buses and the usage of the addresses for several functions.

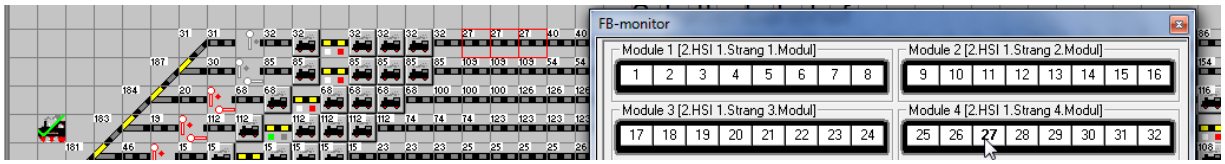
The functions are colour-coded…

- Red for locomotives
- Yellow for feedback contacts
- Green for solenoid devices
- Cyan for position monitoring channels of turnouts

You can also change the value of addresses by clicking to an address box in the upper part of the window, entering a new value for this address in the small input box at the bottom and pressing ***'Send'*** afterwards. With the 8 buttons beside the ***'Send'*** button you can also take influence on the state of singular bits of the selected address.

7.5.4 Finding feedback contacts in your track diagram using the feedback monitors

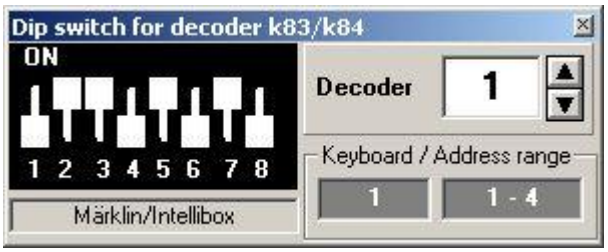
From chapters 7.5.1 and 7.5.2 that you can highlight feedback contacts in the track diagram when clicking on their according contact number in one of feedback monitors. But when the according track diagram symbol or outside of the currently visible track diagram you won´t see them. When pressing the CTRL-key will clicking on of the contact numbers in the feedback monitor the track diagram will moved in a way, that the track diagram symbols belonging to the clicked contact number will get visible.



7.6 Dip switch settings of Decoder k83/84

This section is just valid for Märklin decoders k83/k84.

Via <Options> you get to <Dip-Jumper for decoder k83/k84> or via the symbol in the toolbar.



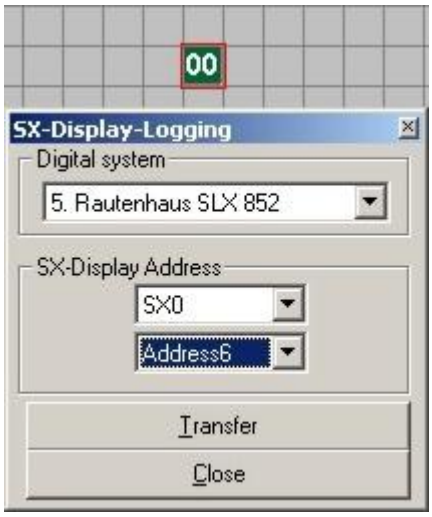
Therefore this information is for your disposal in the track layout editor.

You need not search in any other documentation or manuals of other products.

This dip setting can only be used for normal k83/k84 decoders and not for C-track-turnout decoders of Marlin's, because these have 10 dip switches.

7.7 Selecting the address for a SX-Display

If you use the normal function for recording solenoid devices addresses in connection with a SX-Display you will get a window, where you can choose the desired address data for your SX-Display.

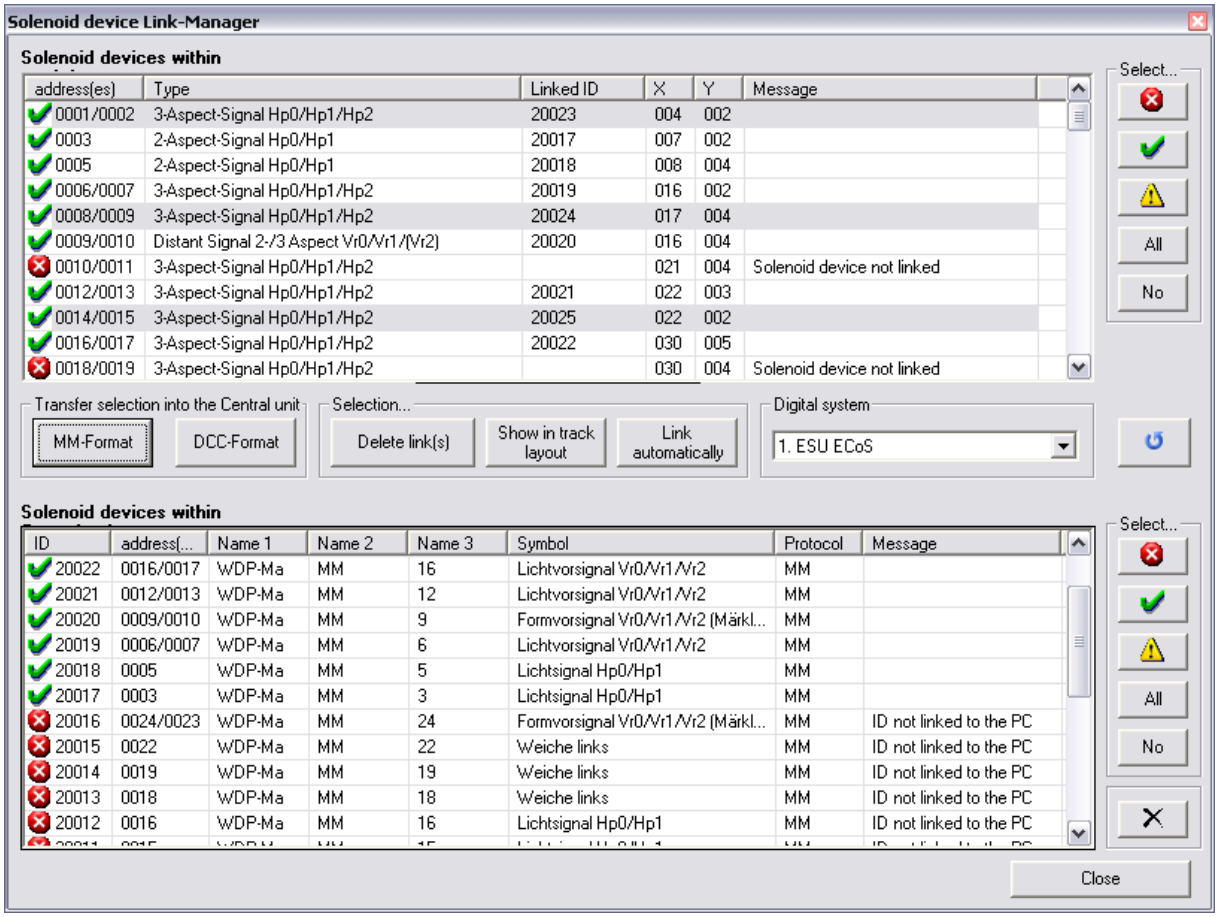


Afterwards this SX-Display will show in the main program the value of recorded SX-address.

7.8 The solenoid device link manager

When using the Märklin CS/ESU ECoS the solenoid device link manager is a very comfortable way to transfer your complete set of solenoid device to the CS/ECoS. It can also be used for checking the status of your linked solenoid devices or to delete links or solenoid devices in/to your CS/ECoS.

The solenoid device link manager can be accessed via the button  in the toolbar of the track diagram editor.



The list in the upper part of window lists all solenoid devices within Win-Digipet, which have been assigned to the selected digital system. In the lower part of window all solenoid devices within your CS/ECoS will be listed.

The icons used in the list:

- Green check: this solenoid device is linked correctly to a solenoid device within your digital system/track diagram
- red cross: this solenoid device is **not** linked to a solenoid device within your digital system/track diagram
- yellow exclamation mark: this solenoid device is not linked correctly to a solenoid device within your digital system/track diagram. This means e.g. the linked device is missing in the digital system or red push-buttons in the track diagram are linked to a green push-button within the CS/ECoS or a signal is linked to a turnout etc.. The detailed explanation for the exclamation mark will be printed in the message column of the list.

With the five selection buttons right of the particular list you can select the 'red/green/yellow' items in the list.

Selected items in the track diagram list…

- can be transferred either in MM or in DCC protocol to the database of your digital system. Using this function you transfer your entire solenoid devices within seconds to the digital system's database. Only the detailed selection of the symbol within the CS/ECoS will not be made. So every turnout will be transferred as left turnout,

because the transfer routine cannot extract from the track diagram of Win-Digipet whether a turnout is a left or right one.

- can be unlinked from their partners within the other list (only for green and yellow items)
- can be highlighted within the track diagram using a magenta frame
- the program can try to link solenoid device automatically if you have created a solenoid device within in the program and your digital system parallel. E.g. the program will search when auto-linking a three-way turnout in the track diagram of Win-Digipet for a three-way turnout using the same addresses in the CS/ECoS.
- using the “X”-button a solenoid device can be deleted within the digital system
- red list items can be directly linked via drag & drop to a link partner within the other list

The track diagram solenoid device list has the following extra function:

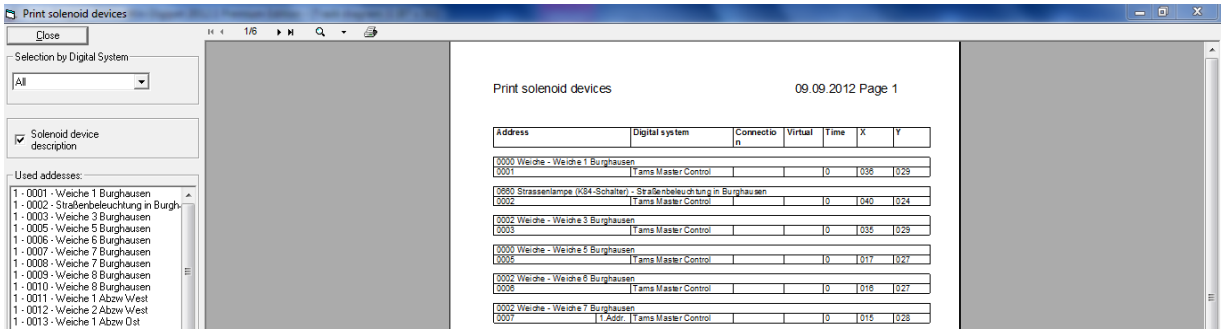
- A double click will open the solenoid device address selection window for the selected item.

7.9 Print solenoid devices

Using the button  in the toolbar of the track diagram editor you can open the print routine for solenoid devices.

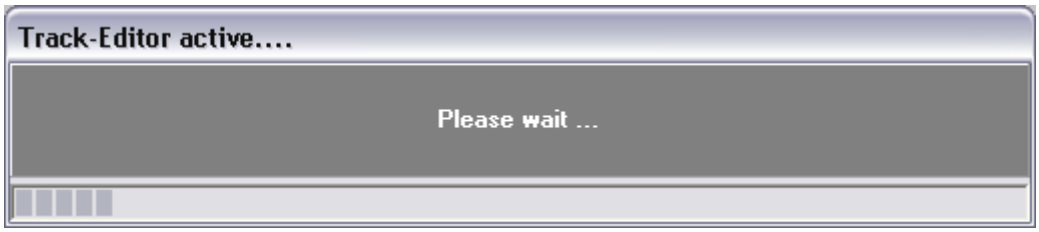
This function offers the possibility to print a list of all solenoid devices.

In the left part of the window you can set various options and right part shows a preview of the list to print.



7.10 Changing between the track diagram editor and the main program

If you do this e.g. with Alt-Tab or via the taskbar the following window will be visible...



...and not be deactivated before you leave the track diagram editor, this is necessary to prevent the loss of data.

7.11 Save data and leaving the track diagram editor

Click on <File> in the menu bar followed by <Save> or on the switch in the toolbar.

Leave the track diagram editor via in the toolbar or via the menu command <File> <Exit>.

8 – ROUTES-EDITOR

8.1 General

Having completed your track diagram and recorded your solenoid devices and your feedback contacts, the next step is to create your routes .

Routes are the foundation for controlling your digital model road with **WIN-DIGIPET 2012**, in the manual as well as in the automatic control. You can define an unlimited number of routes. It is advisable that you consider your routes in more detail beforehand and note them down in outline.

TIP!
First create a route for all of your block systems. These block systems are always the track symbols between two signals. They begin at the train number symbol in front of the start signal and end at the signal behind the train number symbol of the destination contact, as a substitute also behind the train number symbol of the destination if no signal exists.

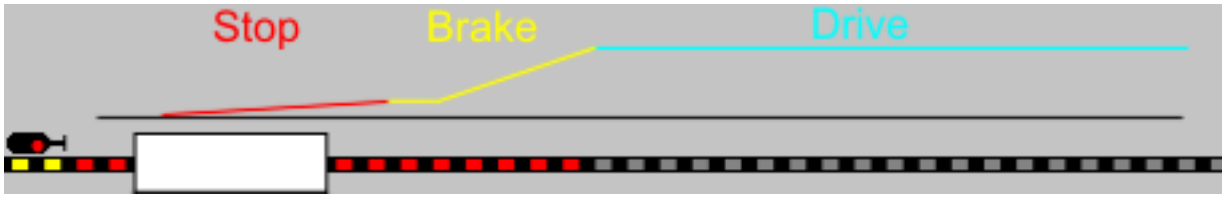
In the routes editor you can easily meet the requirements, to ride your locomotives automatically along up to two partial routes of **ONE** route with several and practice-oriented speeds, for example up- or down a hill, winding tracks or other specific situations (“track related fine adjusting”)..

All following description supposes the usage of the km/h mode. If you updated from a previous version, please reader chapter **8.12** to learn how to convert your routes and data.

The train number displays registered according to section **7.4.5** are mandatory parts of your routes, because they are points where route can start and stop. They are also used for manual route calling and the train number will be transported from one train number display to another by the routes. Win-Digipet distinguishes between normal and intelligent train number display, which have been already mentioned in chapter **7.4.4**.

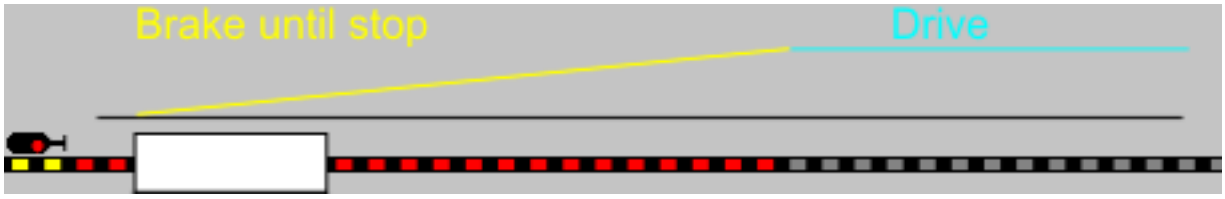
We will explain the differences between normal and intelligent train number display with the following pictures.

1. normal train number display



The route contains a start-, braking- and destination-contact. At the braking contact the train will brake and set to at prefixed braking speed and then continue its journey with the braking speed until he reaches the destination contact where the train will be stopped.

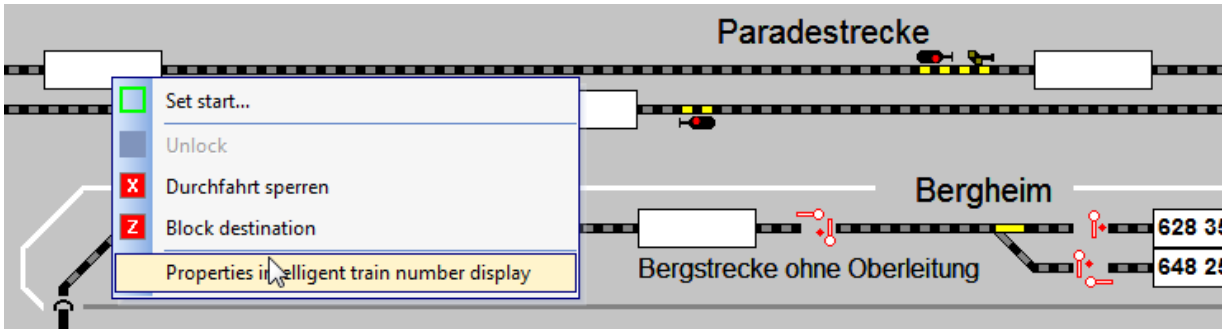
2. intelligent train number display



The route seems to contain only a start- and destination contact. But the destination with its intelligent train number display has been extended by previous contacts. The intelligent uses all these contacts to calculate a smooth braking ramp/process to the final stop position.

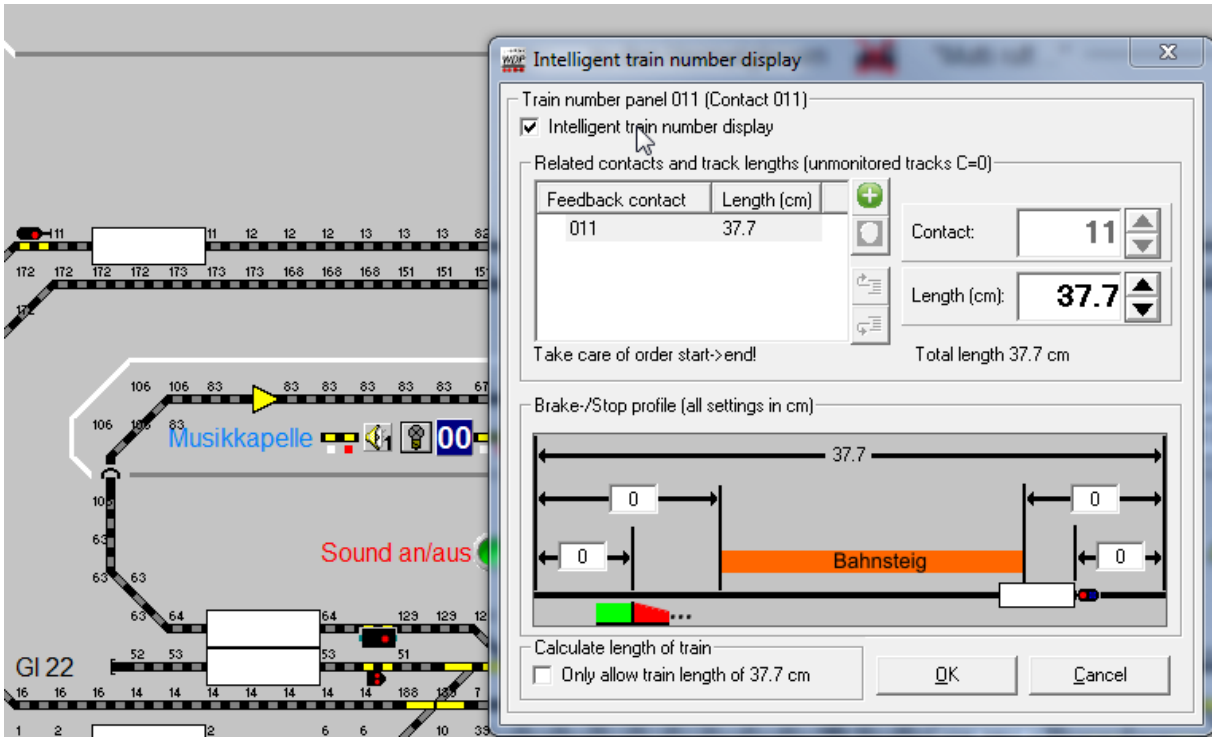
8.2 The intelligent train number display

For using the intelligent train number display you don´t have to draw new track symbols within the track diagram of **Win-Digipet**. Just click with the right mouse button onto an already existing train number display in the main program of **Win-Digipet** and select <Properties intelligent train number display>.



A new window called *"Intelligent train number display"* will open. If you have already registered the length of the contact belonging to the train number display according to chapter **7.4.4** you will see this lengths in the list. In the other case you can register the contacts length later in this window.

First of all you need to check *"Intelligent train number display"* to enable the intelligent functions for this train number display.



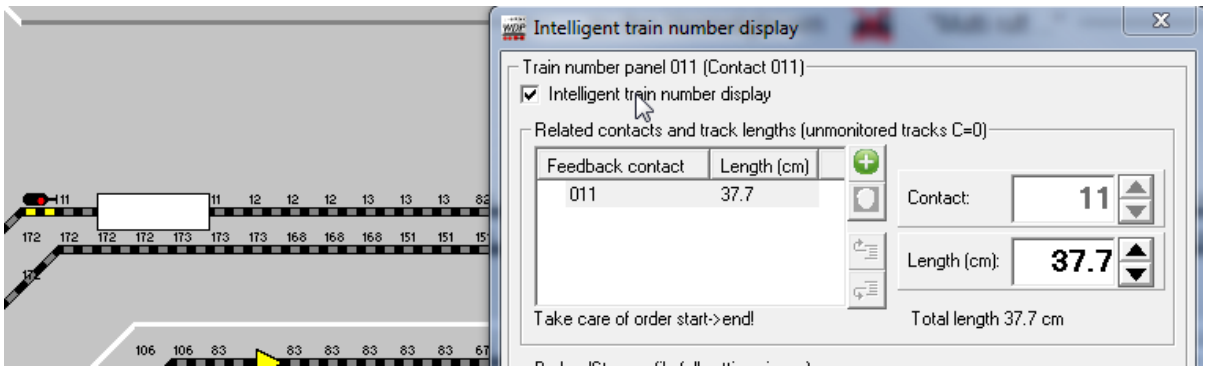
If you have registered the length of contact 11 before you shall do this now. The length can be entered with one decimal place. You can use . or , as decimal point.

In this window you can enter different which will be used for calculation the exact stop position of your train. For example you can distinguish between stopping at a normal signal (e.g. on the show route or in the hidden yard) or stopping at specific platform locations (at the beginning with the end of the train, in the mid or at the end of the platform with the head of the train).

In the next section we will describe all settings in detail.

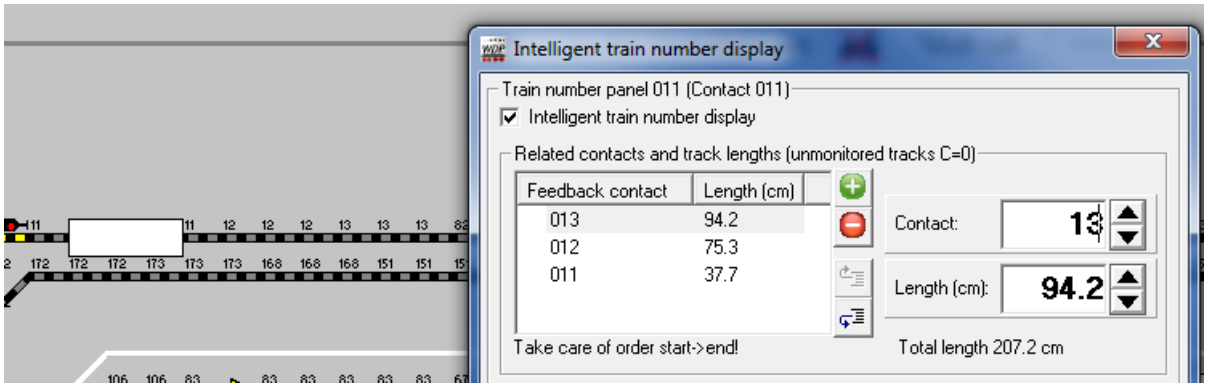
8.2.1 The intelligent train number display with stop at signal

In this example we will show you the stop at signal of your show route. After activating the intelligent train number display you should think about a wise length of the tracks your train will use for braking. In H0 a length of 200cm is a good value. If you use very high or very low speeds you may reduce or increase this length. You should make same tests to determine a good length for your situation.



Until now the intelligent train number display does only contain contact 11 with a length of 37,7cm. This seems to be a little short… In our example we will now add also

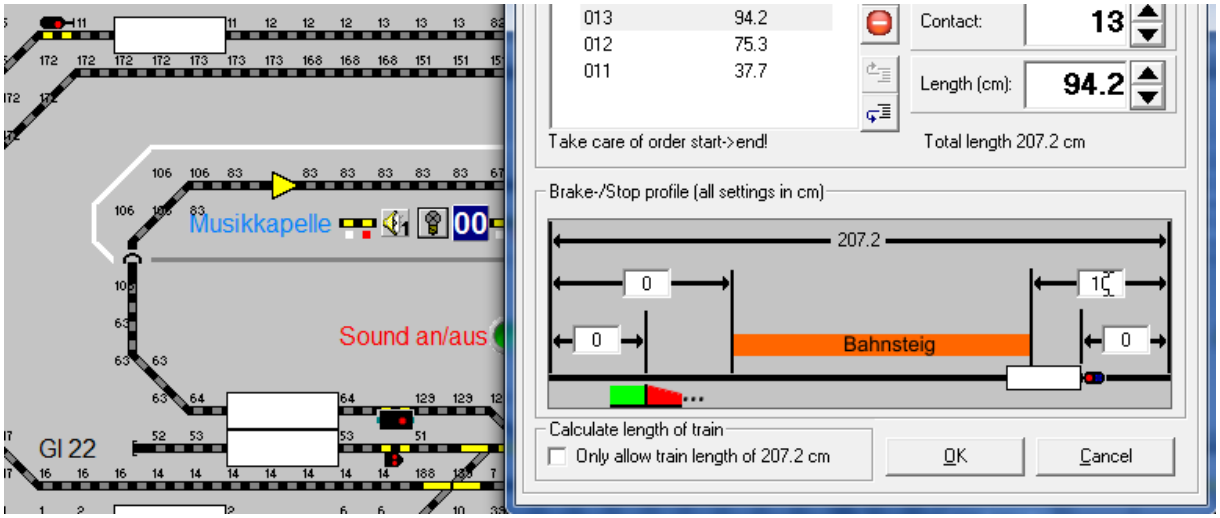
contact 13 and 12 which are settled before contact 11. According to section **7.4.4** we registered their lengths already in the track diagram editor.



The program calculates automatically the length of the complete intelligent train number display, in our case 207,2 cm.

When registering the feedback contacts for the intelligent train number display please remember to enter them in correct, this means the order the train will travel along the contacts. Otherwise the program won´t be able to break the train correct. You can correct the contact order using the buttons right of the contact list.

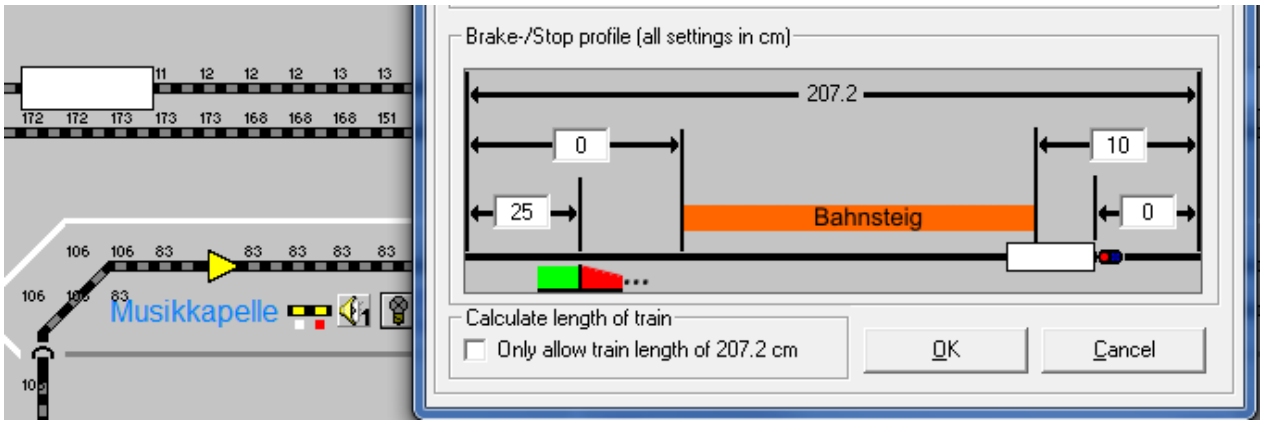
Now you have to define the stop position of the train relatively to end of the last contact of the train number display. In our case this is contact 11 and we enter, that the train shall stop 10cm before the end of the contact/track. You can see the according registration in the following picture:



Let´s make a small calculation: The train shall stop 10cm before the end of the track and the whole track has a length of 207,2. This means the train has a free distance of 197,2 for performing a smooth braking manoeuvre. This means also it makes no sense to use this intelligent train number display with trains longer than 197,2 cm, because otherwise their end would overlap to the contacts before.

If you take a look at the checkbox in the lower left corner of the window you will now see an option where you can select, that only trains up to length of 197,2 cm are allowed to this train number display (of course only if you check this box).

If you think the braking distance of 197,2 cm is too long, then you can move the begin of the braking ramp, in the following example the train will start braking 25cm after the beginning of the first contact of the intelligent train number display:

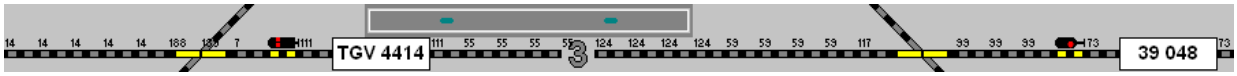


Afterwards you can confirm your settings with ***'OK'***, the settings will be saved automatically and the window will be closed.

8.2.2 The intelligent train number display with stop at the platform (Variant 1)

In the next example we will show you how stop TGV 4414 in the mid of the stations platform. This is a very useful function, because normally the station track is much longer than the platform and often the positions of the contacts and the platform do not correspond.

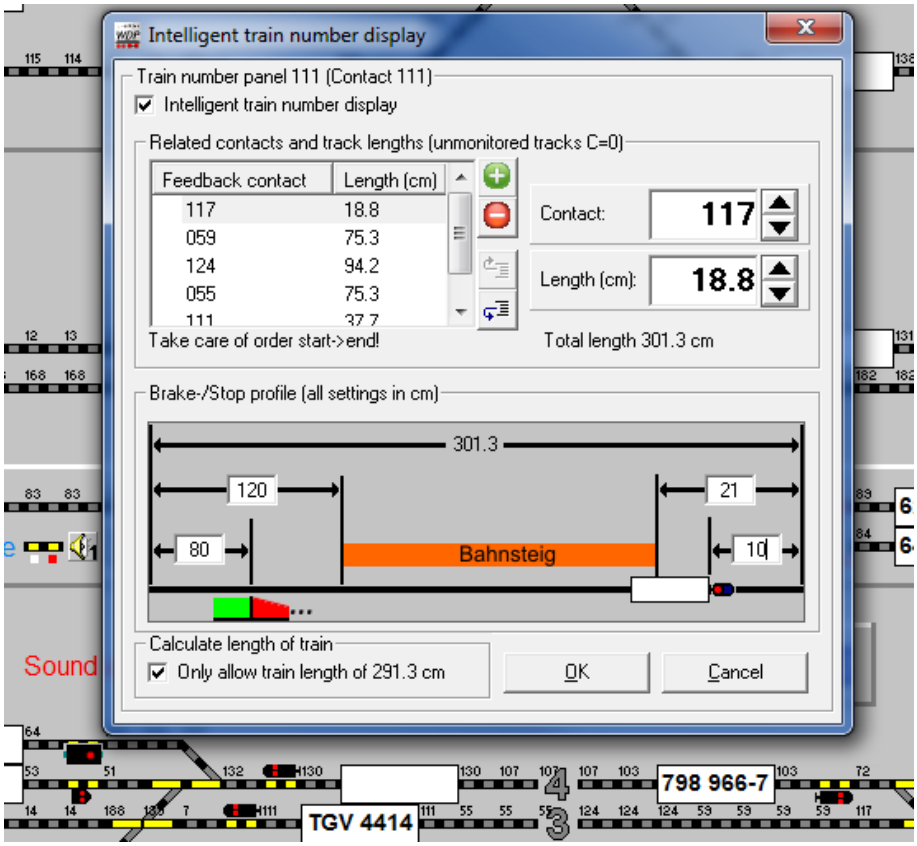
For better understanding take a look at the following picture:



The following values have been measured for the contacts and the platform...

- the complete length of contacts 117 to 111 is 301,3 cm
- the first contact is contact 117 and the last one 111, the lengths of all other contacts have been registered before, you just need to add the contacts belonging to the intelligent train number display
- the platform begins 120 cm after the beginning of contact 117
- the platform ends 21 cm before the end of contact 111
- the signal is placed 10 cm before the end of contact 111

...the according registrations are shown in the following picture:

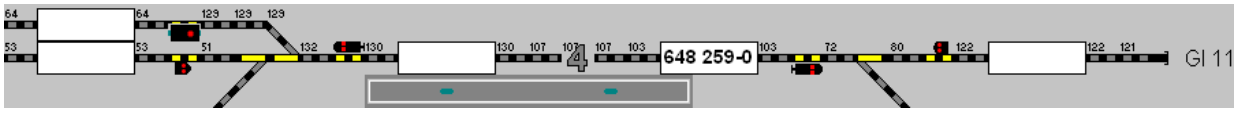


After some thinking we decided in our example that a braking length of 200 shall be sufficient for a smooth braking and therefore we set the beginning of the braking process to 80cm (301,3 - 21,0 - 200,0 = 80,3) after the track begin.

In our example now all trains with a length up to 160cm will stop in the mid of the platform. Longer trains will only drive until reaching the signal with their head.

8.2.3 The intelligent train number display with stop at the platform (Variant 2)

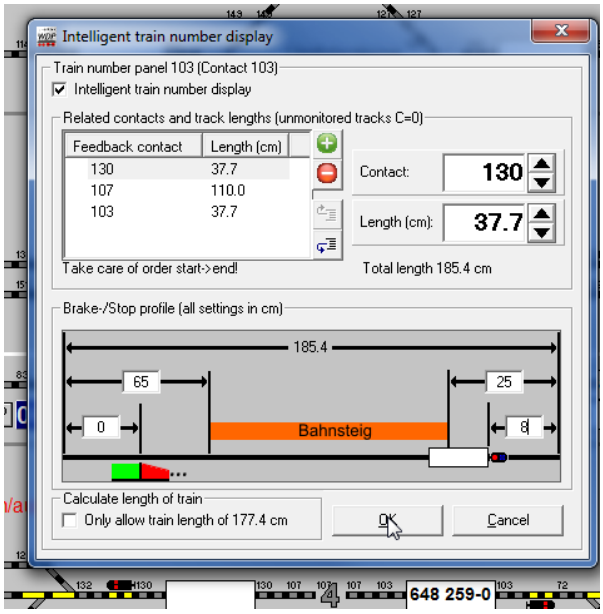
In our next example we will describe a possible stop configuration for train 648 259-0 at our platform. As you can see in the picture the platform starts already at contact 130 but ends long before the right exit signal.



The following values have been measured for the contacts and the platform...

- the complete length of contacts 130 to 103 is 185,4 cm
- the first contact is contact 130 and the last one 103, the lengths of all other contacts have been registered before, you just need to add the contacts belonging to the intelligent train number display
- the platform begins 0 cm after the beginning of contact 130
- the platform ends 25 cm before the end of contact 103
- the signal is placed 8 cm before the end of contact 103

...the according registrations are shown in the following picture:



When entering the station from the left a good braking length would be 180cm. But in this example we do only have a length of ~160cm available for stopping a train with a length of 60cm at the mid of the platform. For a train with a length of 60 cm and a platform length of 160 cm, the train will have to stop with its head 110cm after reaching contact 130.

Here some further example for different train lengths and stop positions for a platform length of 160 cm:

Train length in cm	Length of the braking distance...		
	Begin of platform *	Mid of platform	End of platform *
60	60 cm	110 cm	160 cm
110	110 cm	135 cm	160 cm
160	160 cm	160 cm	160 cm

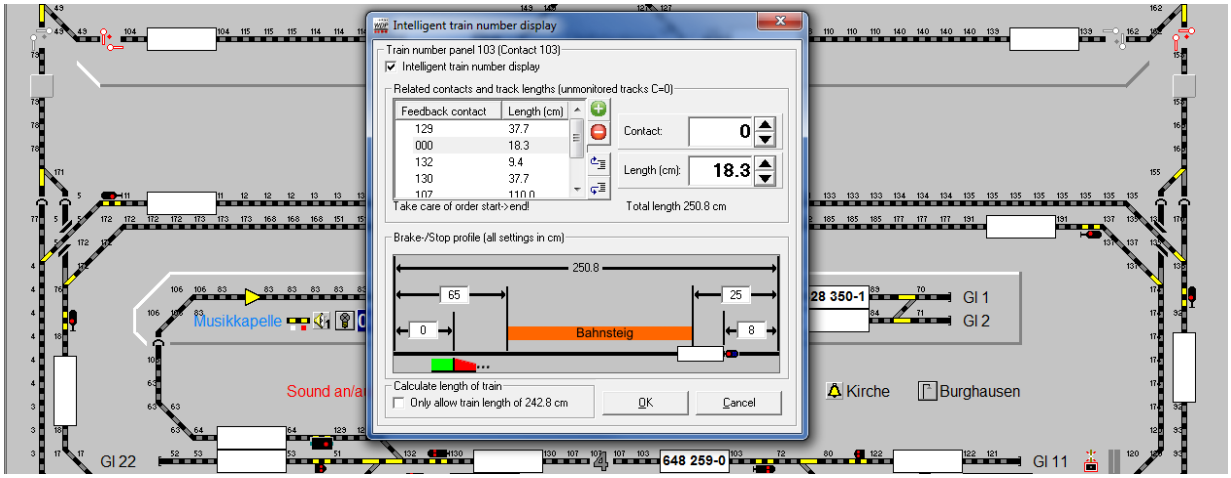
Begin of platform * = End of train stops at beginning of platform
End of platform * = Head of train stops at end of platform

In this case (braking distance 110 cm) it would be a good idea to enhance our configuration.

Therefor we do add three additional contacts before contact 130, these are contacts 129, 000 and 132.

Contact 000 is used for the unmonitored right turnout between contacts 129 and 132 with turnout length of 18,3 cm.

An unmonitored part of the intelligent train number display (contact 000) may never be used at the **begin** of the contact list, because this contact will never cause an occupation message. These type of contacts makes only sense in the mid of the list, because then it can be used for time-distance calculations.



By adding the 3 contacts we extended our intelligent train number display by 65,4 cm. Of course we must enter this value now as distance between the beginning of the intelligent train number display and the beginning of the platform as you can see in the picture above, by this we achieve the old platform length of ~160 cm (250,8 – 25 – 65 = 160,8).

Here some further example for different train lengths and stop positions for a platform length of 160 cm using this new configuration:

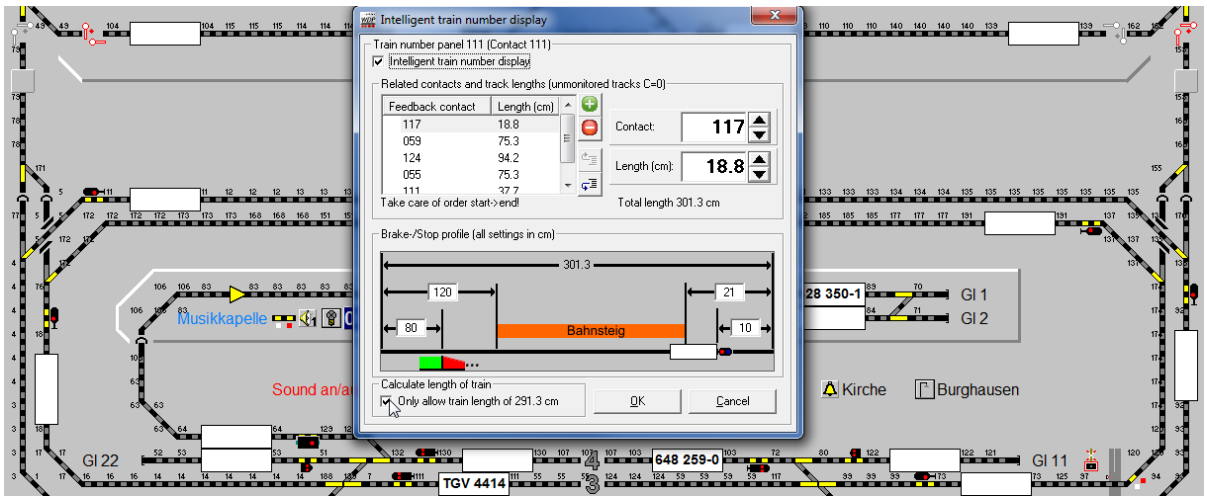
Train length in cm	Length of the braking distance...		
	Begin of platform *	Mid of platform	End of platform *
60	125 cm	175 cm	225 cm
110	175 cm	200 cm	225 cm
160	225 cm	225 cm	225 cm

As you can see we do now have much better braking distances for the different train lengths and stop positions.

Which of the stop positions the train will use in the end, will be configured later.

8.2.4 Limiting the train length LoB for an intelligent train number display

Let's take a look at the following intelligent train number display configuration.



You will agree with us, that it makes no sense to use this intelligent train number display with trains longer than 291,3 cm (301,3 – 10), because otherwise their end would overlap to the contacts before.

If you take a look at the checkbox in the lower left corner of the window you will now see an option where you can select, that only trains up to length of 291,3 cm are allowed to this train number display (of course only if you check this box). The train length itself will be calculated depending on the settings the vehicle database (see **5.4.2**) and the train composition (see **18.13**).

⚠	This setting of course overrules the settings in all routes heading to this train number display. This setting with limit the train length on this train number display to an absolute maximum.

8.2.5 Adding/deleting/moving contacts within the intelligent train number display

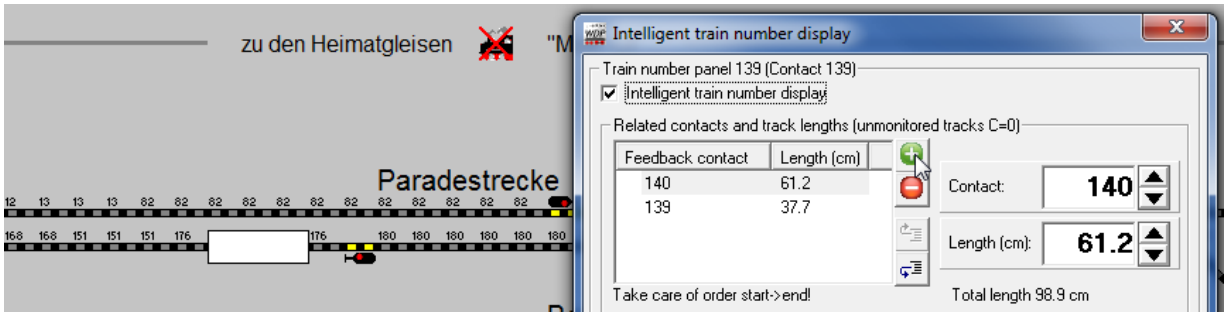
You can edit the intelligent train number display´s contacts anytime.

Use the following buttons...

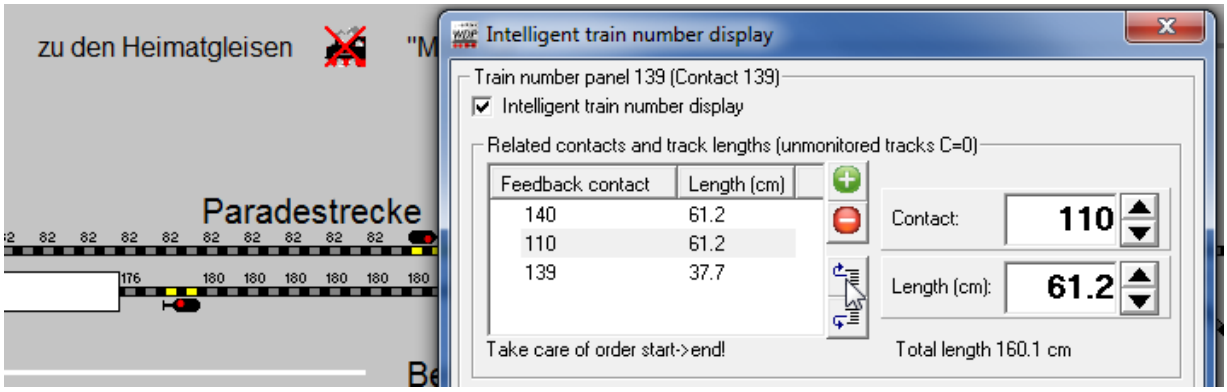
add		delete	
Move up		move down	

Let´s add contact 110 to an existing configuration.

First of all select contact 140 and press . Now you can change the new contact number 000 to 110 and set the length of contact 110 if necessary.



Now use the up-button for moving the contact to its correct position before contact 140.



8.2.6 Intelligent train number display and occupancy detection without interrupt

In the range of the whole intelligent train number display we suggest to install uninterrupted occupancy detection, this will give you best results.

8.2.7 Deactivating an intelligent train number display

For the complete deactivation of an intelligent train number display you have to reopen the intelligent train number display dialog according to chapter **8.2** . Afterwards you have to remove all contacts from the intelligent train number display except the train display contact number itself using the button . After removing all contacts you can uncheck the checkbox “Intelligent train number display”.

8.3 Recording routes

For route creation without any problem using the route wizard you should remember the following points.

These are...

- all feedback contacts have to be registered in your track diagram (see **7.4 to 7.4.7**)
- the train number displays should also be assigned to feedback contact numbers and you have registered a meaningful name for each of you train number displays (see **7.4.5**)
- all solenoid devices (turnouts/signals) should have a virtual or physical solenoid device address (see **7.2** to **7.2.24**)
- all jump labels for track interruptions caused by texts etc. should be set (see section **6.7** to **6.7.3**)
- in the system settings, default values for start- and braking speed should have been set (see **4.7.6**).

All this requirements have to be fulfilled if you want to use the route wizard or navigator.

To the recording of routes you have the following options in **Win-Digipet** ...

- the route navigator
- the new and comfortable routes-wizard
- a semi-automatic recording mode and
- the manual route recording mode.

We start our descriptions with the route navigator.

8.4 The route navigator

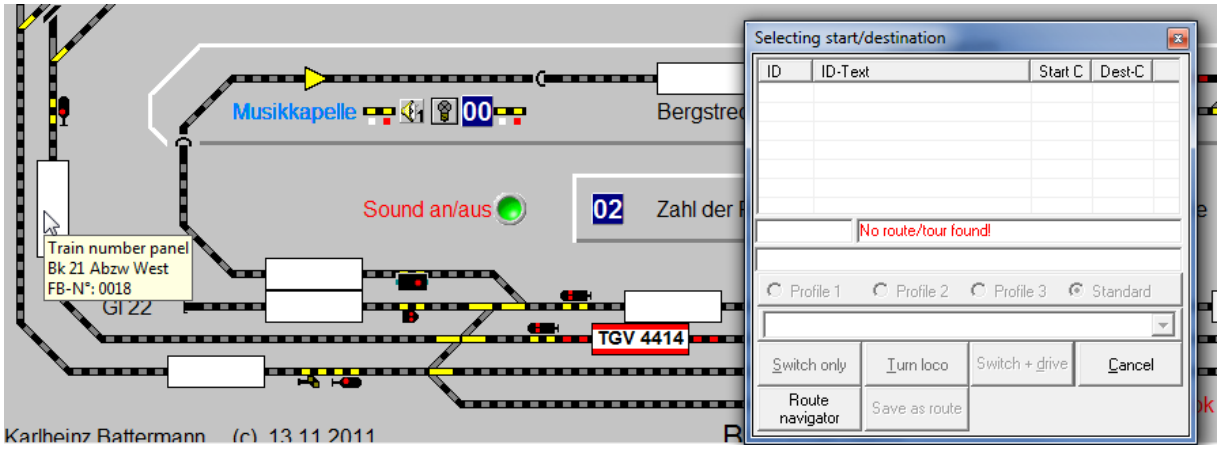
The route navigator is intended for the creation of temporary routes or in other words to drive your locomotives or trains from one place on your layout without the need to use previously defined routes ort tours.

In our following example we want to travel with the TGV 3 from track 3 in Burghausen over the show route. The train number has already been registered to train number display 111 and we started the simulation according to section **8.1**. The track symbols and the train number display should now indicate a virtual occupation state in red.

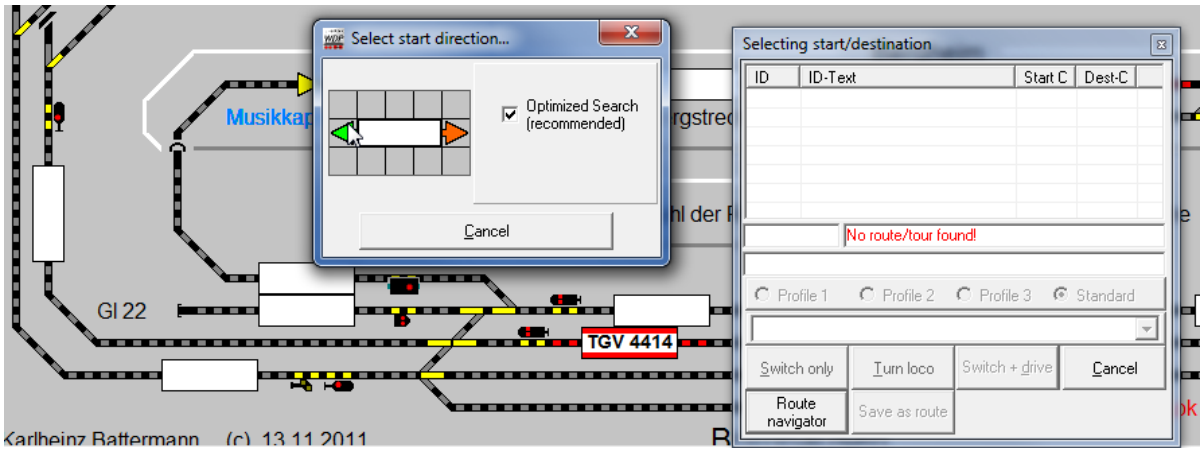
The route can be normally switched using a mouse button with a middle mouse button. If your mouse has no middle mouse button or this middle mouse button has been assigned to a special function, can also use the right mouse button according to the quick entrance to open the context menu of the start and destination train number displays.

Now click with the middle mouse button onto the start train number display currently showing TGV 4414 and then within 10 seconds with the middle mouse onto the left vertical train number display of the show route.

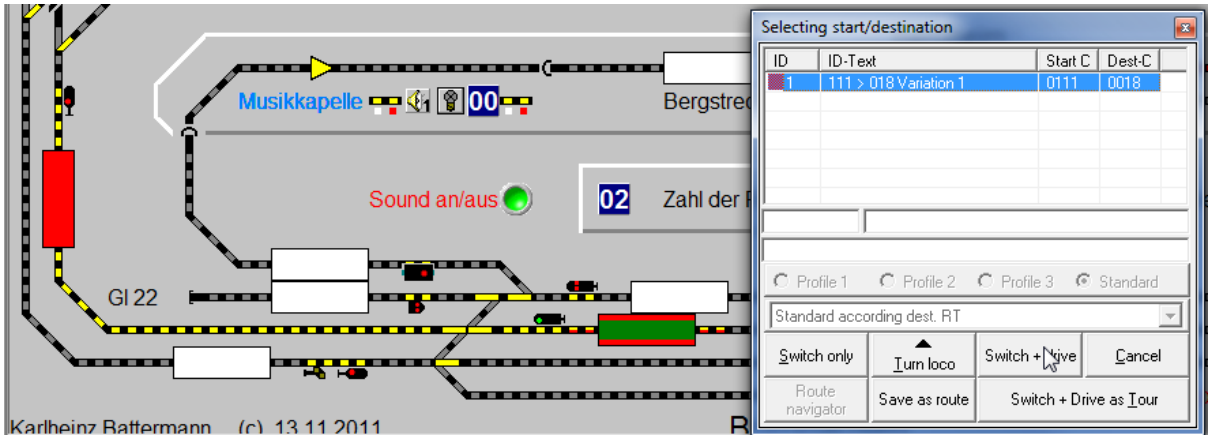
Now the start-destination window will open with the message, that no routes or tours have been found for the desired way.



Now click on the button ***'Route navigator'***. A new will window will opened asking you for the start direction for your train. We want to travel to the left, so click onto the left arrow with the mouse.



After this the direction window will disappear, the start train number display will be coloured green and the destination train number display red and a route supposed by the route navigator will be listed in the start-destination window as Variant 1. The red square in the list indicates, that this route is route from the route navigator.

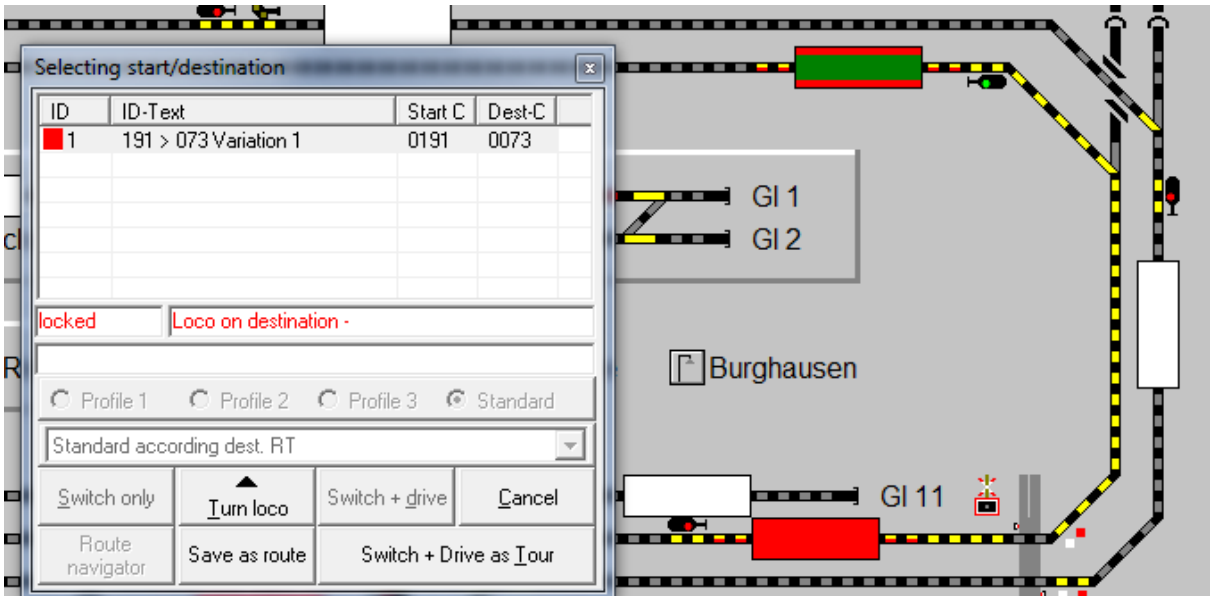


Select this route and click the button **'*Switch + Drive*'**.

The start-destination window will now disappear, the route will be switched and you can now follow the train on its virtual way from its start to its destination.

The journeys to the following two train number displays of the show route can be performed the same way. The last journey to right entry signal of the station Burghausen cannot be performed, because this contact is occupied by locomotive 39 048.

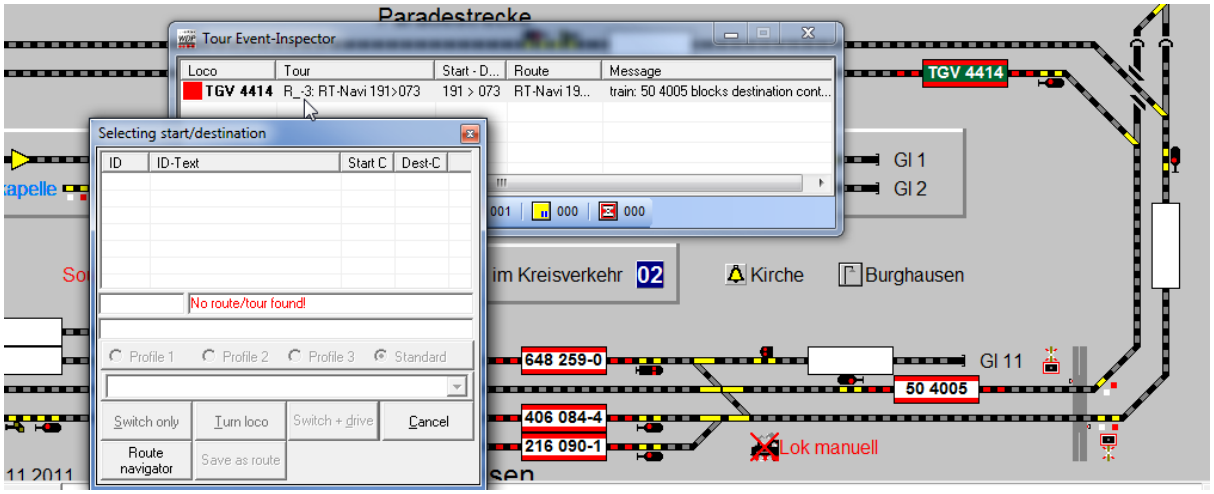
The Button ***'Switch + Drive'*** is disabled, because of the destination occupation by another locomotive. You can only take a decision between **'*Abort*'** and **'*Switch + Drive as tour*'**.

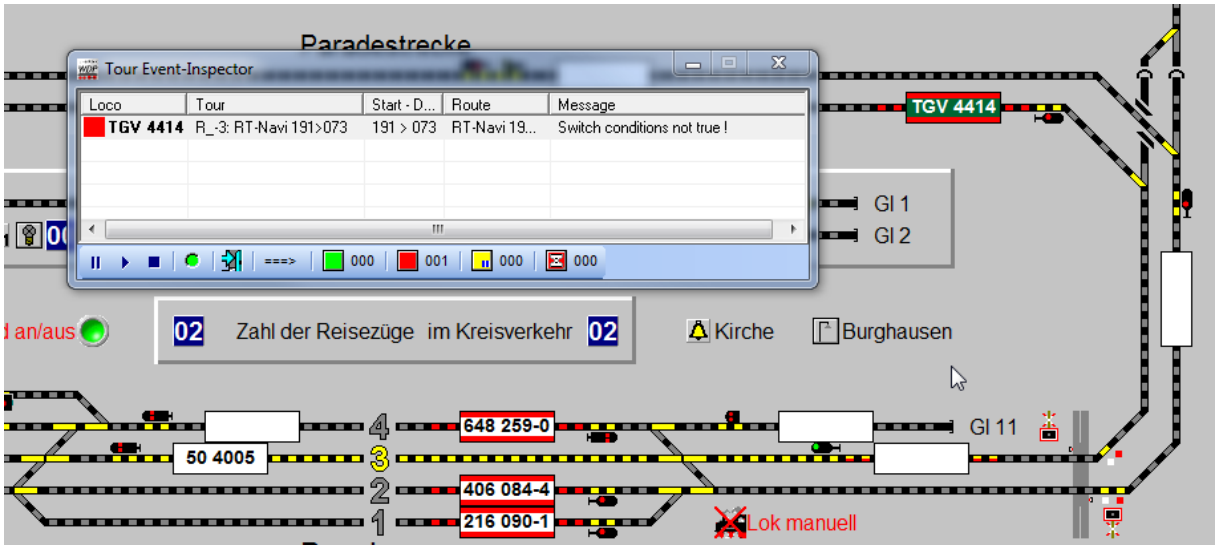


Please select **'*Switch + Drive as tour*'**. Immediately the tour inspector will open showing one route entry for TGV 4414. The train number display showing TGV 4414 will be coloured green to indicate, that this train is now controlled by the tour inspector.

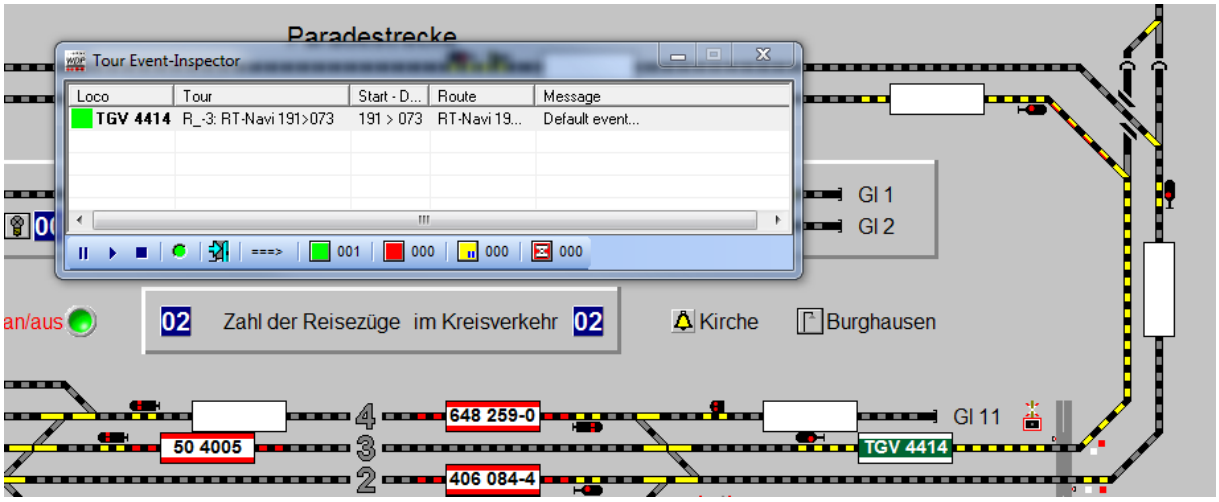
To the make the next journey of TGV 4144 possible you need to drive 50 4005 from the entry signal to track 3 in the station.

For this purpose use the route navigator as explained before. The destination train number display in the station is an intelligent train number display, so you will be asked for the stop position within in the destination track when selecting the start direction.





After the arrival of locomotive 50 4005 at track 3 the already waiting route for TGV 4414 will be switched and the train will continue its journey to the right entry signal of Burghausen.



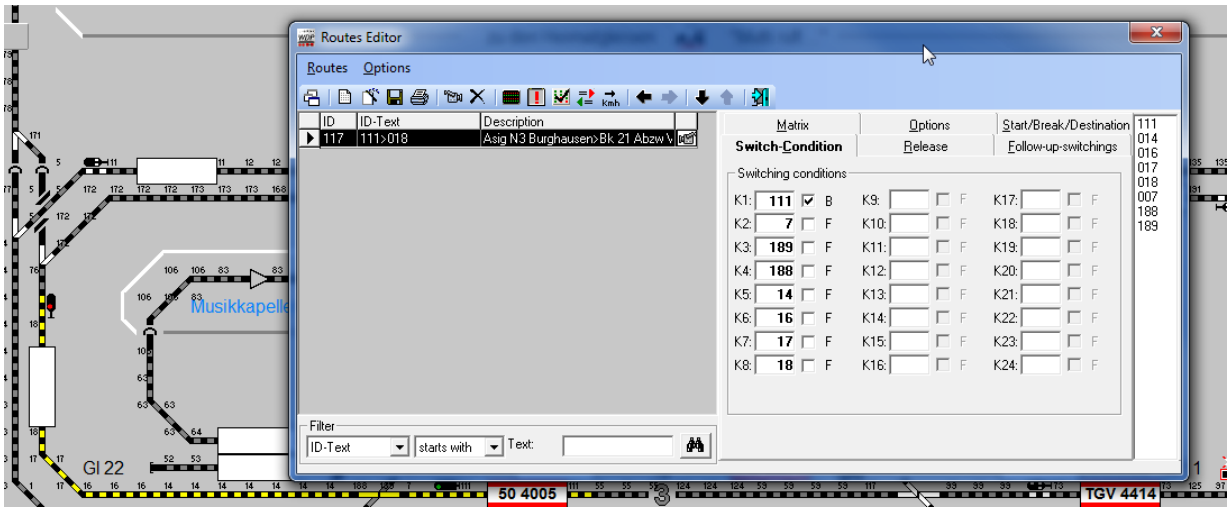
As long as you don`t terminate Win-Digipet all temporarily created routes from the route navigator are still available. Because of this you can travel additional rounds with your train just using the start-destination function. For all previously already with the

route navigator used ways, the start-destination will list you the previously used temporary route with can be used via **'*Switch + Drive*'**.

8.4.1 Saving temporarily routes from the route navigator to the routes database

As mentioned before as long as you don`t terminate Win-Digipet all temporarily created routes from the route navigator are still available. So when opening the start-destination for such a previously used way again you cannot only select to use this route again, but can also select **'*Save as route*'**.

In our example we saved all previously used routes from the route navigator to the routes database. Afterwards all these routes will be listed in the routes editor and can be edited if necessary.

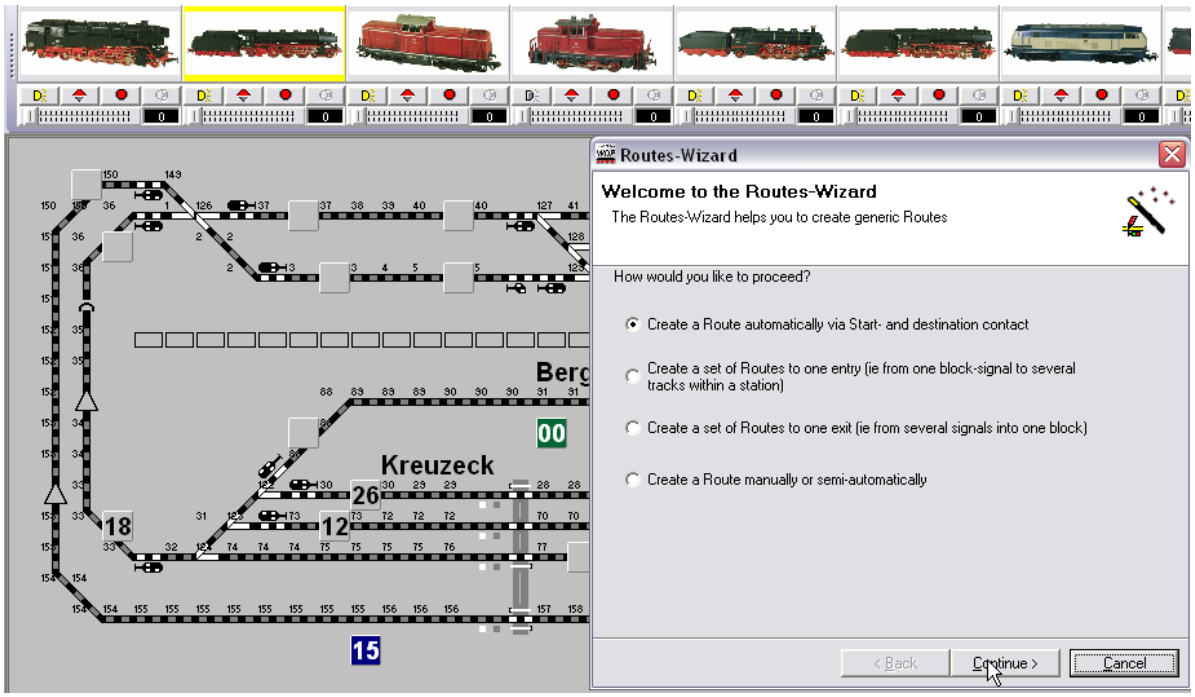


The start- and braking-contacts have been registered with the speeds according to section **4.7.6** of the system settings, these settings are also already used by the route navigator for the temporary routes.

For the last route you can also selected an alternative stop position within the station track if you like.

8.5 The routes-wizard

Now click on the symbol in the toolbar of the routes editor to open the routes wizard.



The routes wizard offers four different options to create routes.

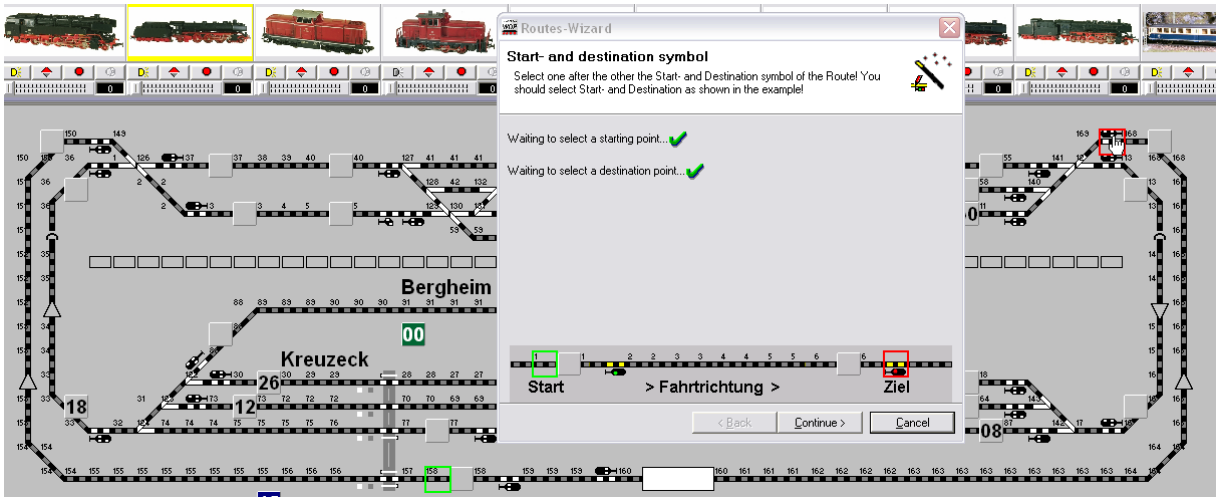
The description of these options is coming up within the following sections.

The routes wizard will prevent you from a lot of work and creates error-free routes, but a little bit tuning has to been done by yourself e.g. if you want to use partial releases, additional track contacts etc..

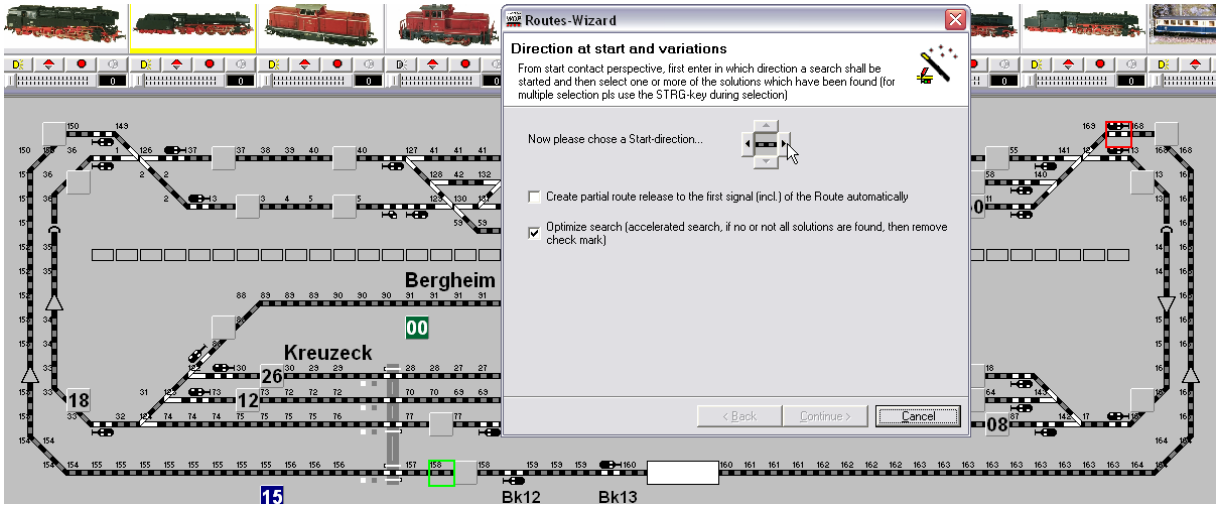
8.5.1 Create a route automatically via start- and destination contact

After pressing **'*Continue*'** you can select the start- and destination symbol for your route. The start symbol will be framed green and the destination symbol red. In our example we suggest to use as start symbol the track symbol left of the start train number display and as destination symbol the signal behind the destination train number display.

Please note, that the drawing in the lower part of the routes wizard window shows only an example how to place the start and destination point of a route. To create a route you have to place these points into your track layout diagram.



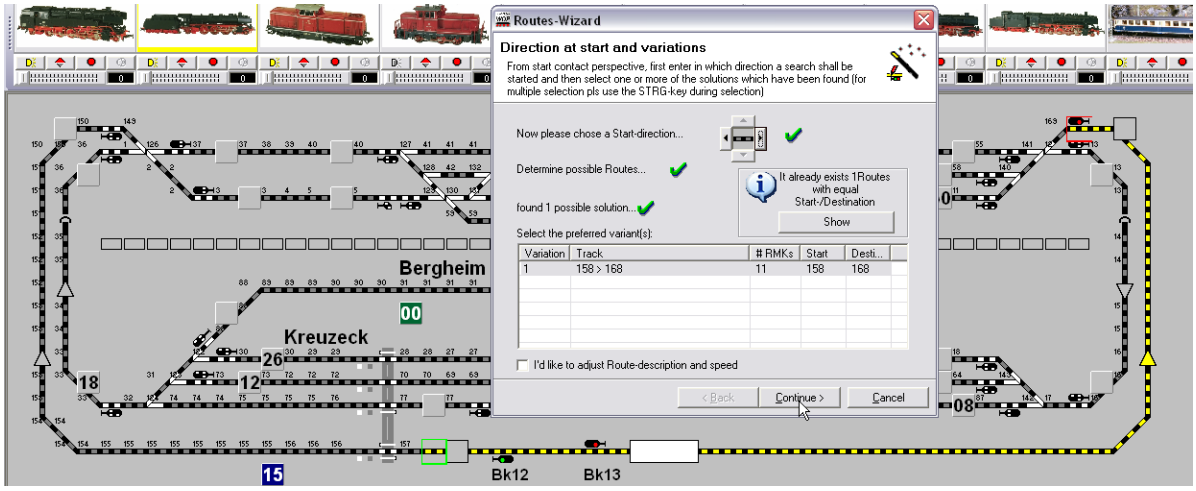
After pressing **'*Continue*'** the routes-wizard wants to know in which direction to start with the search beginning at the start symbol, select the desired direction by pressing the according button. In our example you have to press the right arrow-button.



The option "*Create partial release…*" can be used to create automatically a partial release from the start symbol to the first main signal of the route e.g. to reduce the time a station track is blocked.

Sometimes the routes wizard will not find any solution to your desired route, in this case it might be useful to uncheck "*Optimize search…*" to find more solutions. But please be careful this will also result in an extended search time.

After selection the start direction **Win-Digipet** will search all possible routes and display them in a list.



In our example the program will only find one possibility.

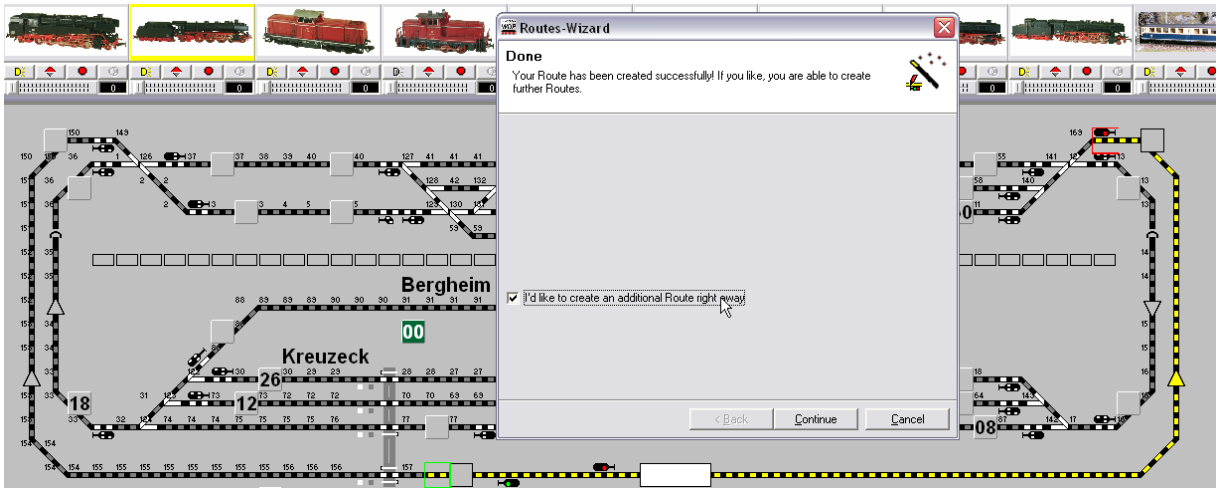
If the list shows more than one variant you can sort the list similar to normal Explorer functionality by mouse clicks on the list's headers. Now choose the route variant to create in the list.

You can also choose to create more than one of the listed route variants at the same time by selecting further variants while pressing the "Ctrl-Key". If none of the found solutions satisfies your wishes you can even unselect all list items.

If you check "*I'd like to adjust…*" you will get the chance to modify the routes description and speed settings.

By pressing **'*Continue*'** you confirm your selection.

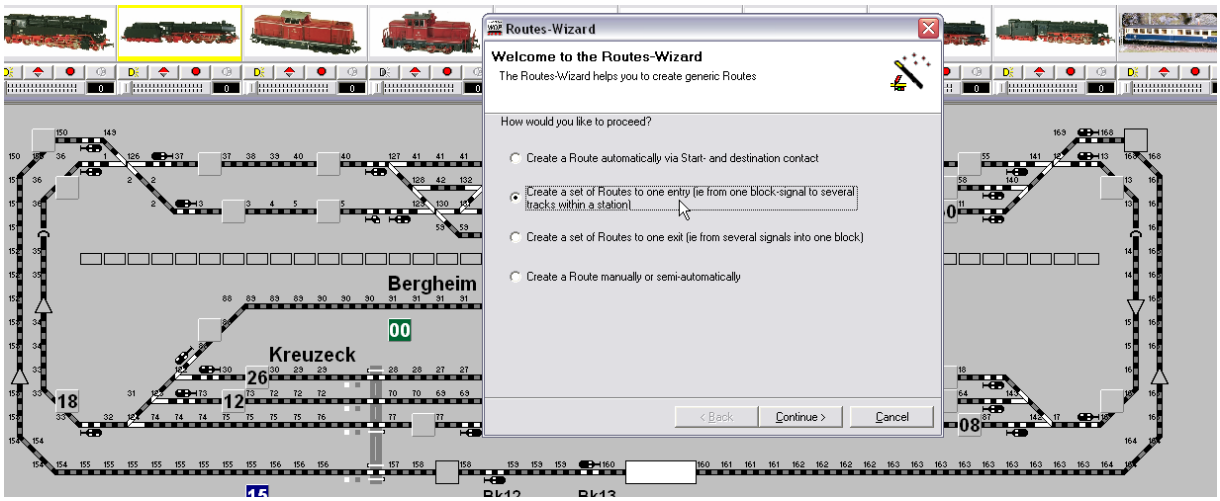
Now **Win-Digipet** creates the route.

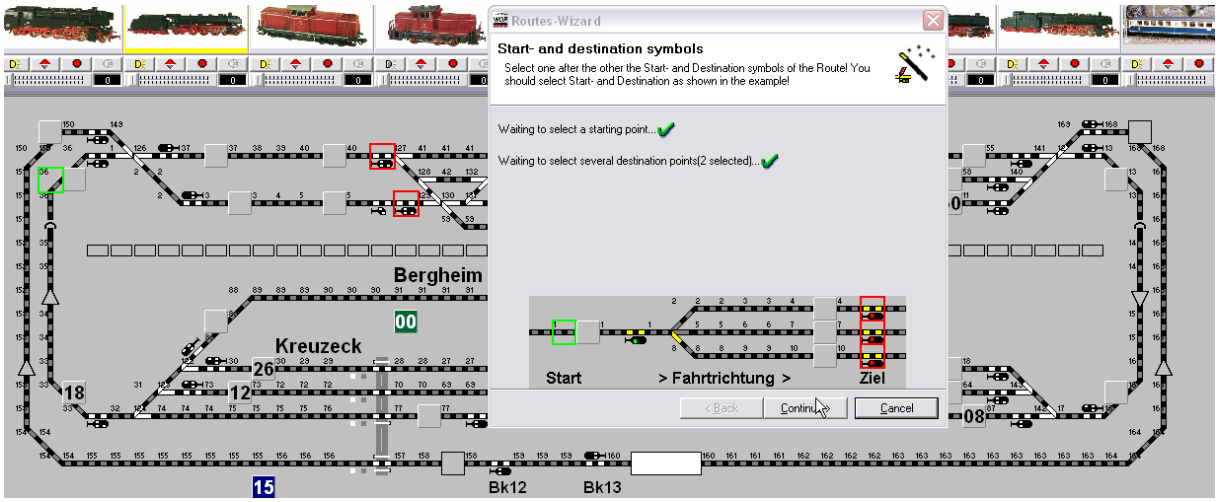


If you want to create an additional route just check „*I'd like to create an additional…*" and press **'*Continue*'.**

8.5.2 Create a set of routes to one entry

This option is very similar to **8.5.1** and can be used if you want to create set of routes from a block signal to several track within your station. The only difference is that you have to select also one start- but several destination symbols.

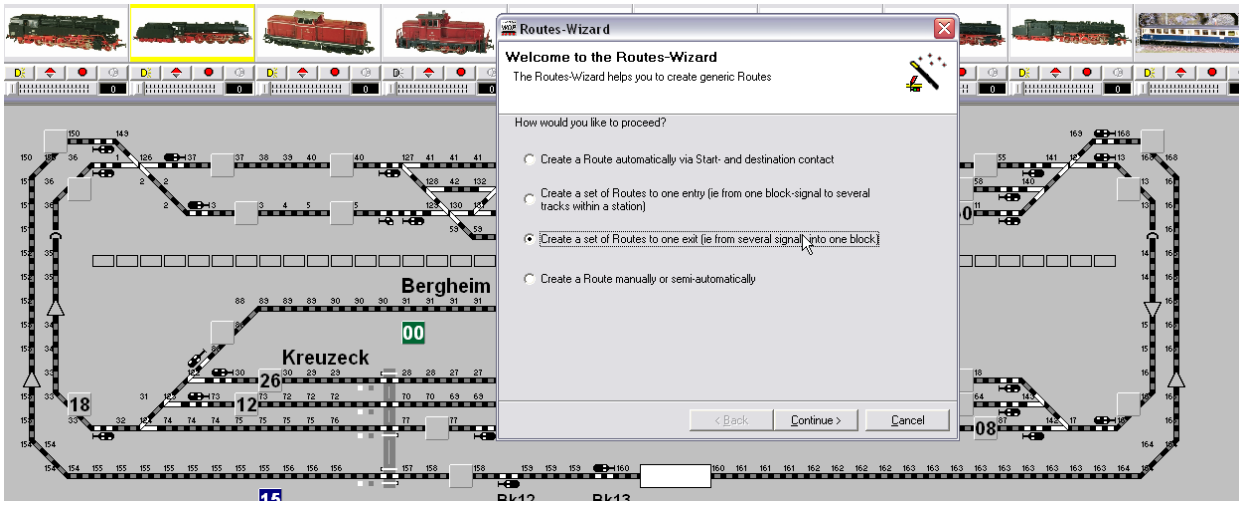


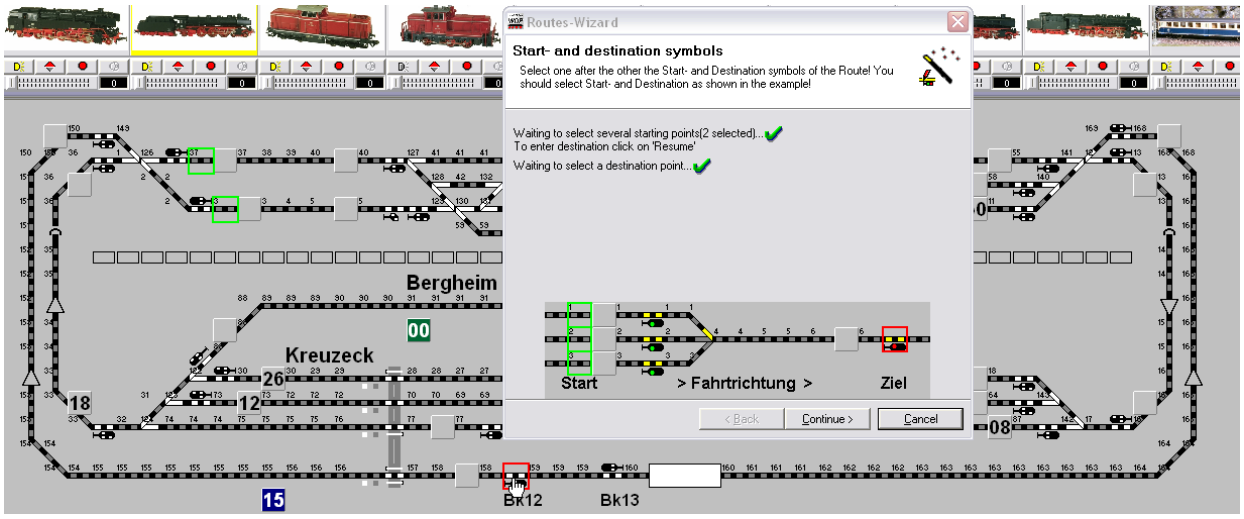


The start symbol will also be framed green and all destination symbols will be framed red. The starting direction will be questioned for each of the start-destination-combinations. The rest is the same as described in section **8.5.1**.

8.5.3 Create a set of routes to one exit

This option is very similar to **8.5.1** and can be used if you want to create set of routes from several tracks within your station to a destination signal behind your station. The only difference is that you have to select several start- and only one destination symbol(s).

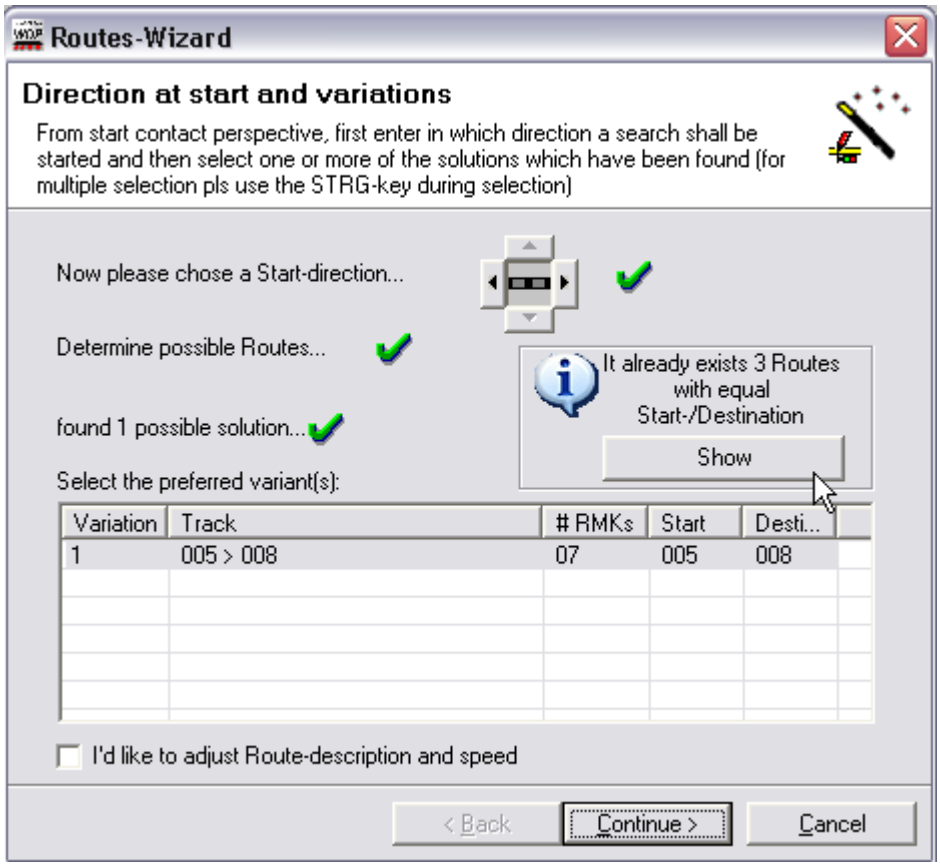




The start symbols will also be framed green and the destination symbol will be framed red. The starting direction will be questioned for each of the start-destination-combinations. The rest is the same as described in section **8.5.1**.

8.5.4 Route wizards reports existing route

If routes with the selected start- and destination contact already exists the route wizard will keep you informed you about this fact. You can get a list of already created routes to decide if you want to create an additional route with the same start- and destination contact. You can then decide to cancel the wizard or you can just deselect the route in the variant-selection list by clicking on the item combined while holding down the Ctrl-button of your keyboard. Pressing **'*Continue*'** will result in the program questions that you don't want to create any route and afterwards you can precede in using the route wizard.



8.5.5 Creating routes with two partial releases automatically

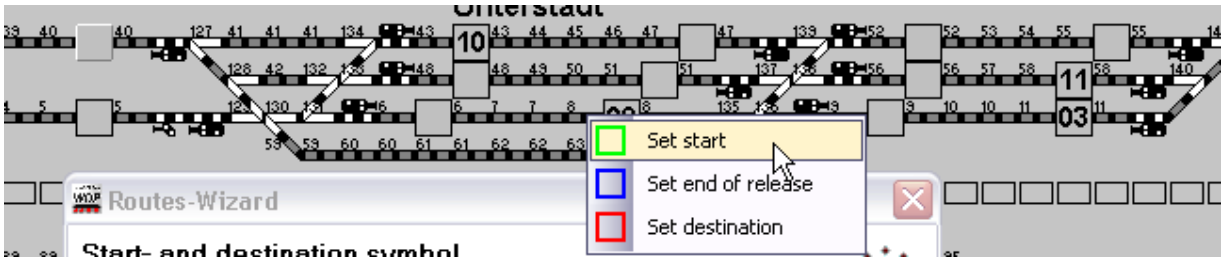
Until version ProX.3 you were only able to create routes with one partial release with the routes wizard.

This function has been enhanced, so you can now create routes containing two partial releases with the route wizard.

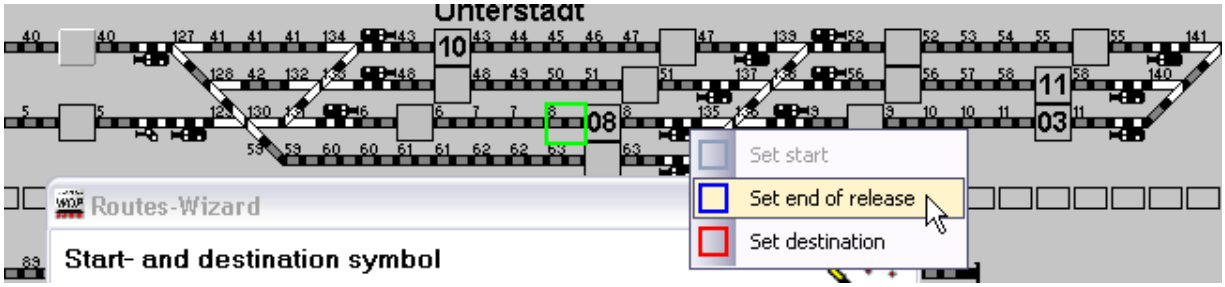
In the following example we want to create a route with...

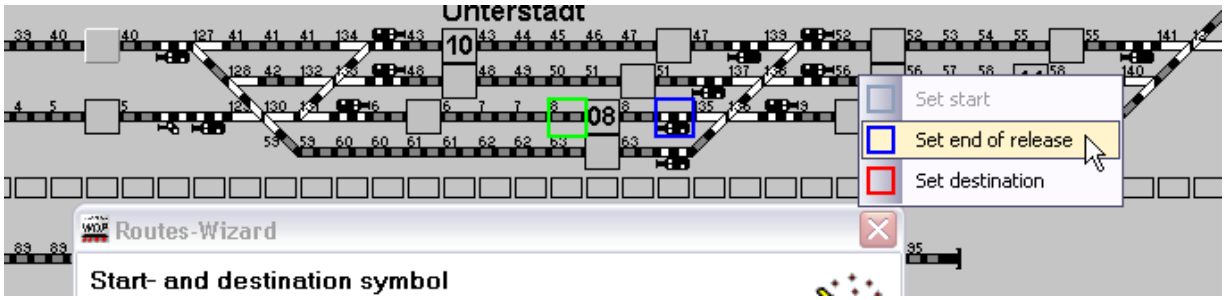
- a first partial release up to the start signal (framed blue),
- a second partial up to the opposite signal (framed blue) and
- and the main release up to the destination signal (framed red).

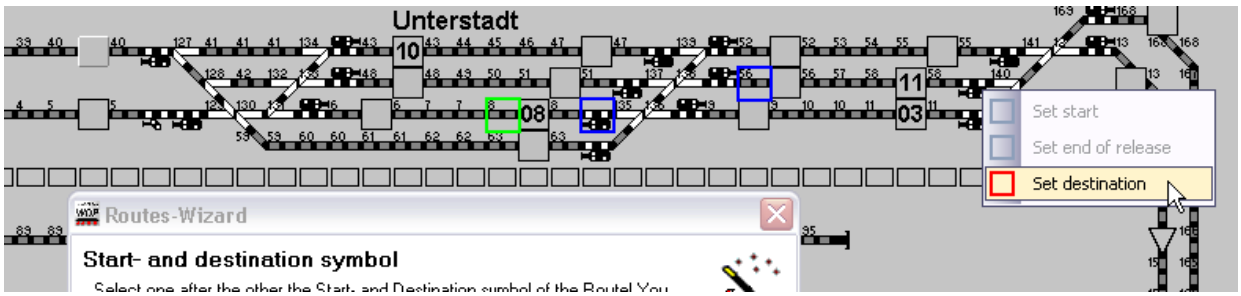
For this task select the first option in the route wizard as described in section **8.3**. For selecting the start and destination contact you can also use the right mouse button instead of the left one.



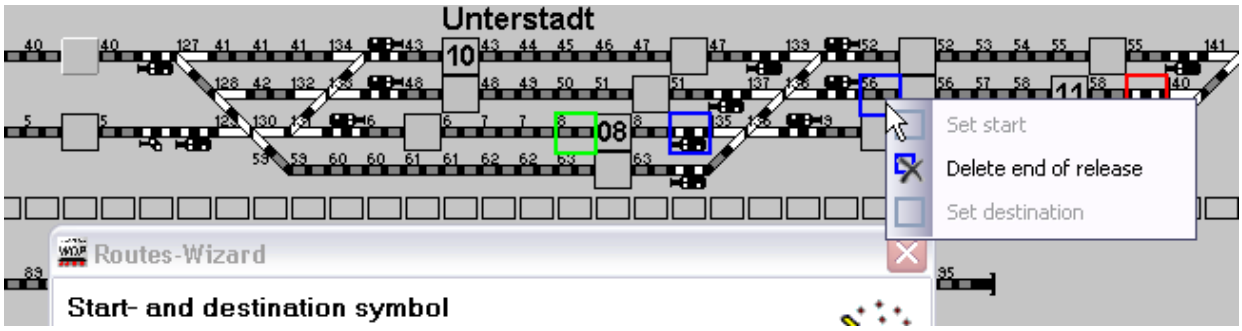
By using the right mouse button you can open a context menu. Within this context menu you select whether the selected track symbol shall be used as start-/partial release or destination position. Now you can select all positions as shown in the pictures below.



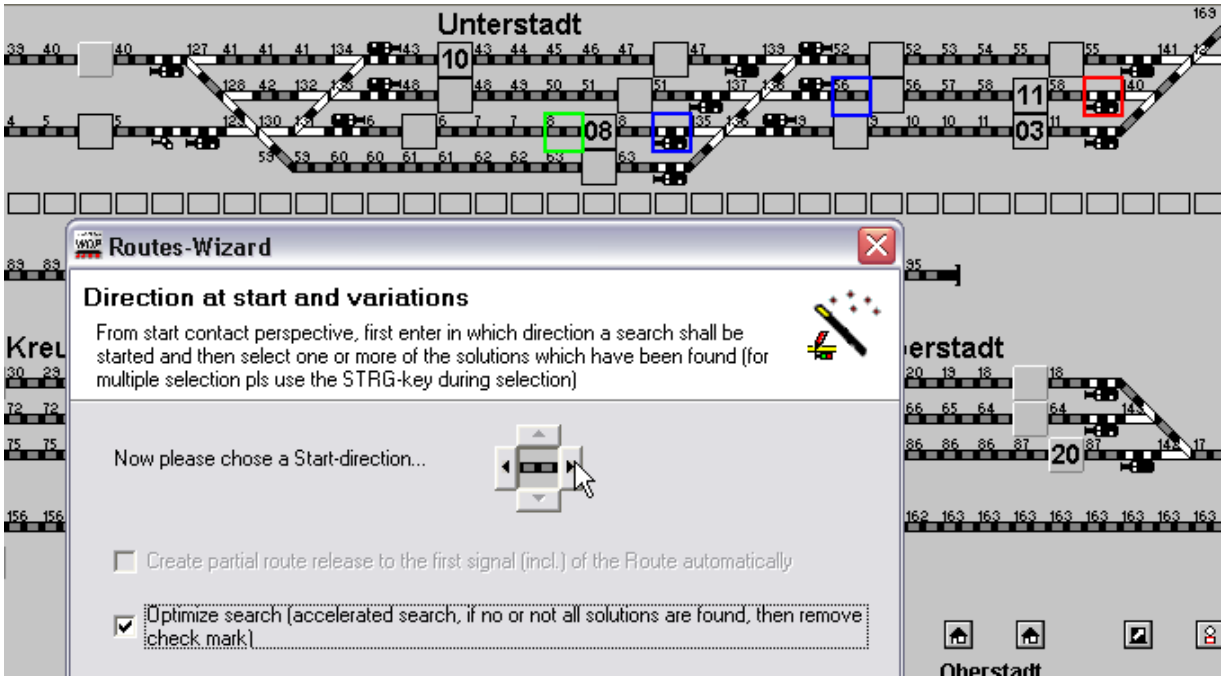




You can also reset your selections by opening the context menu on a framed position again as shown below.

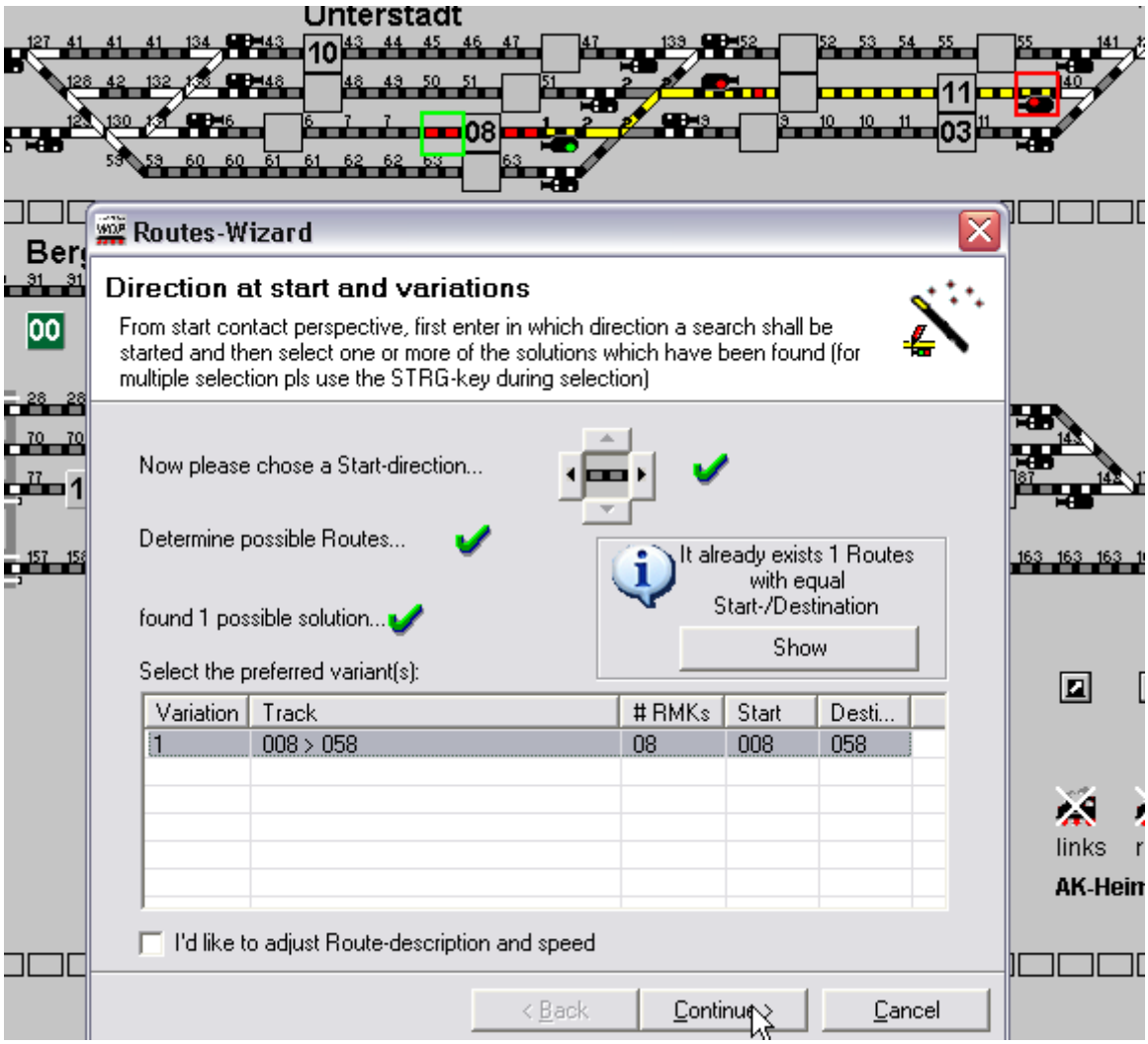


After you have made all selections you can proceed with **'*Next*'** and use the route wizard as explained before.



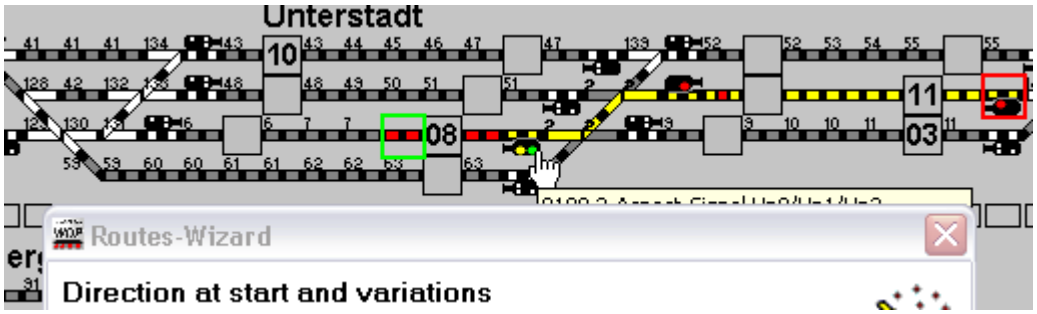
The option for creating a partial release automatically has been disabled because you have selected already two partial release positions.

After selecting the start direction the route wizard will show you all possible itineraries.



The route will be displayed in the track diagram and the solenoid devices of partial releases 1 and 2 will be indicated by small “1”s and “2”s.

You can now also change the state of signal by clicking on them with the left mouse button, in our example the signal before a branch is switched to Hp2 (green/yellow) for low speed travelling.

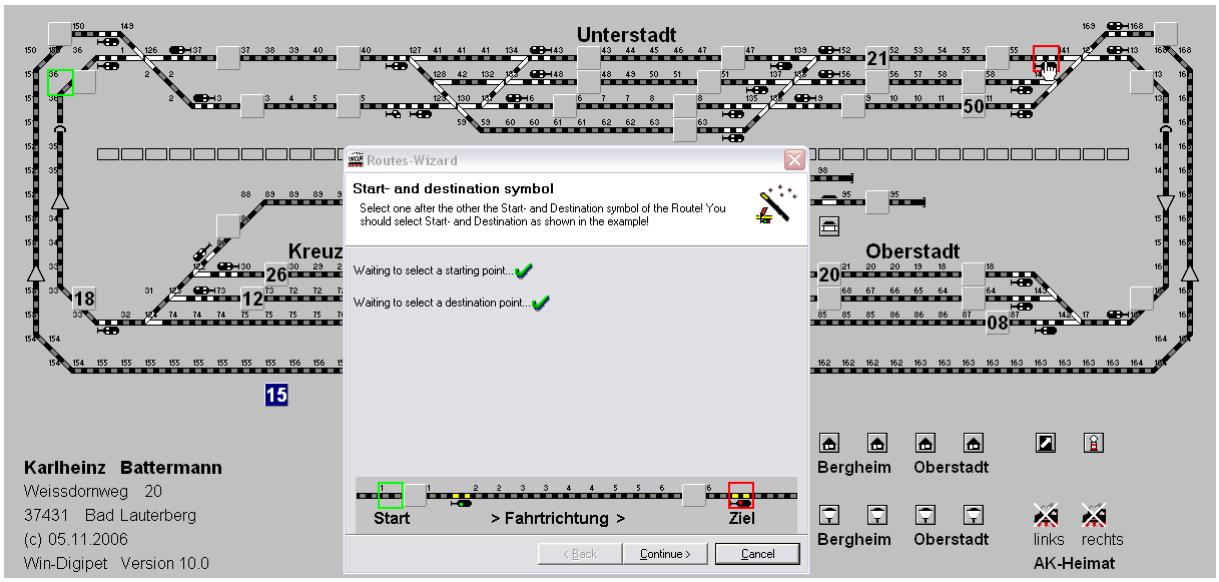


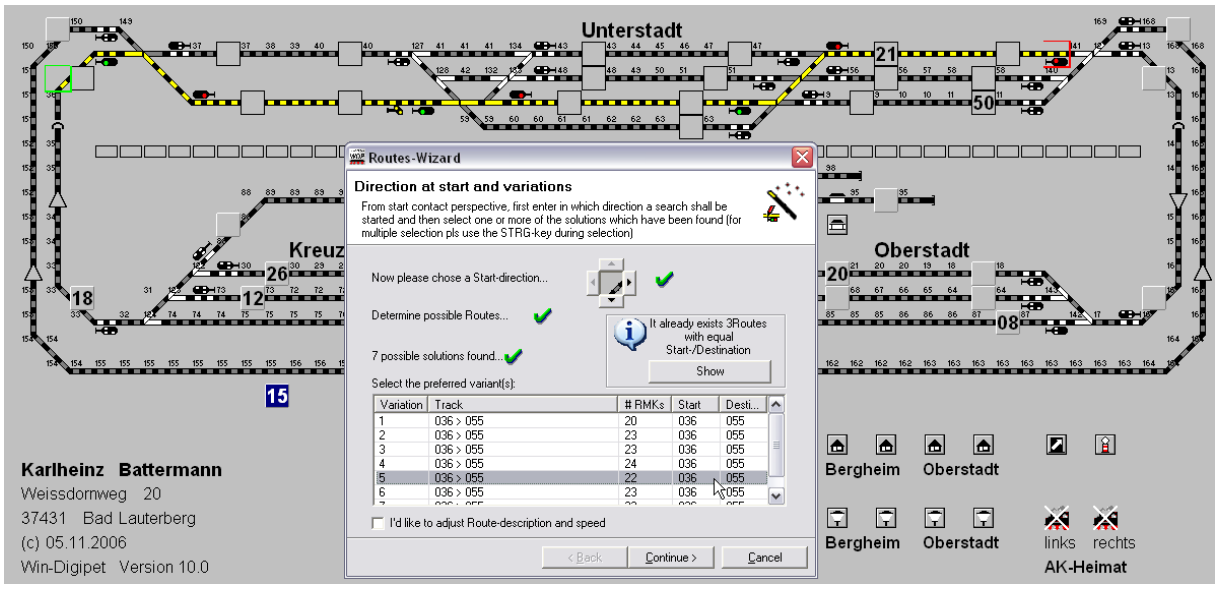
The rest of the route recording can be performed as described in the sections above.

8.5.6 Recording longer routes using the routes wizard (and selecting alternatives)

Until now we only described the creation of shorter routes with the routes wizard, the following illustrated example will show you your choices when the route wizard finds more than one solution for your wished route form start- to destination symbol.

Just follow the pictures...

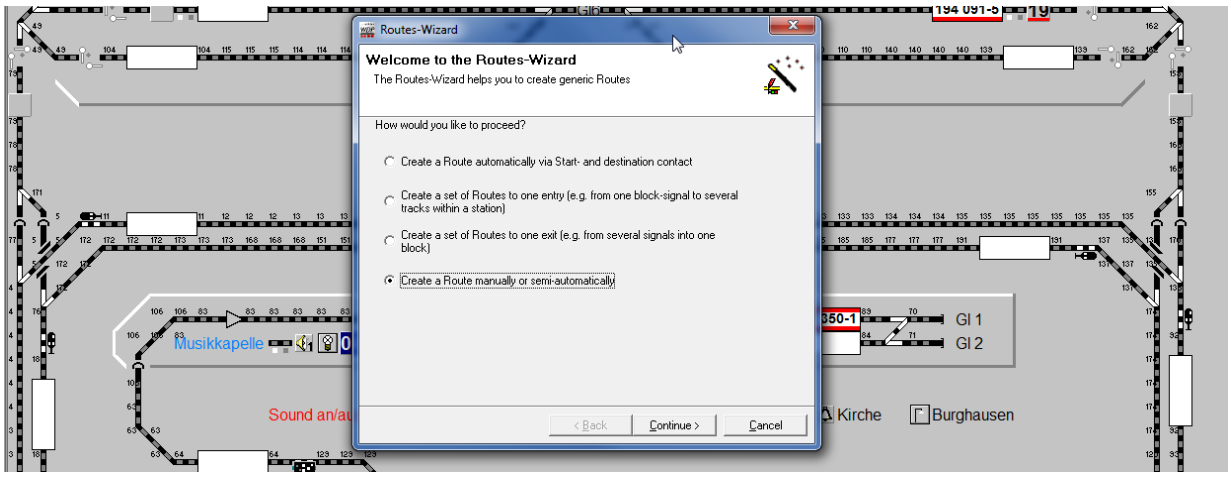




In the selection box showing the several variants you can now select one or more (similar to Windows-Explorer using Shift and Ctrl) variants of the route to be created.

8.5.7 Recording routes without partial releases semi-automatically

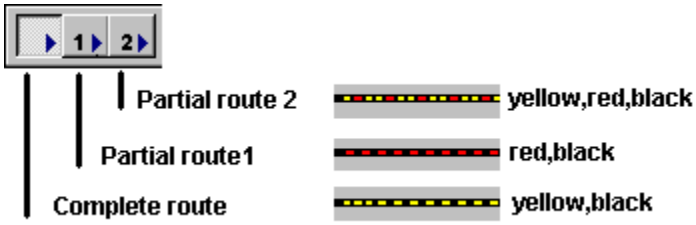
Even the manual and semi-automatically route creation can be started using the route wizard. Therefor select the last option in the initial route wizard window and select ***'Next'***.



A small window "Recording" appears with 6 symbols, easily recognisable through "Quick infos" on yellow strips. The ID text of the route to be recorded is displayed in the bottom line.

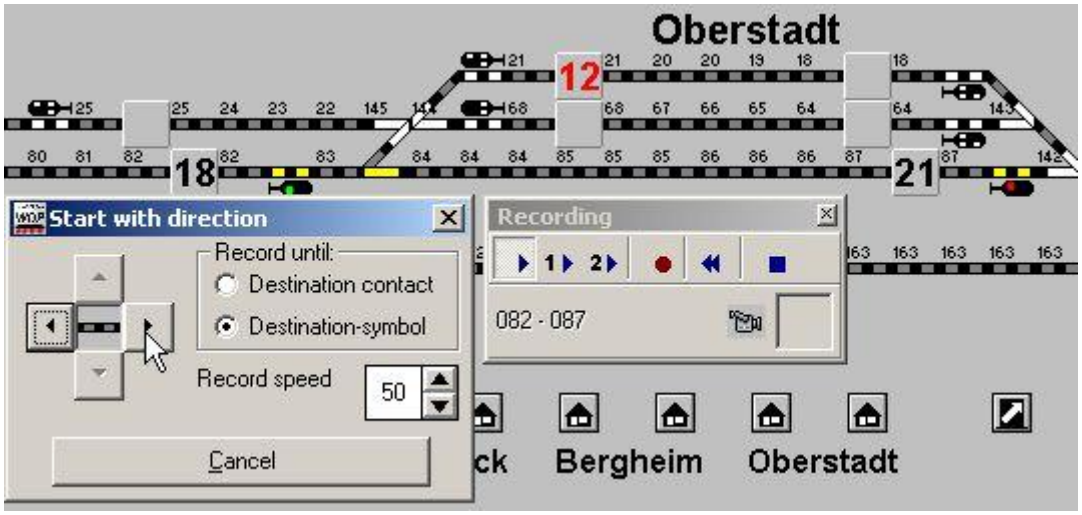
As long as a train travels through a route, all solenoid devices in that route are blocked. A crossover of other trains is not possible. The solenoid devices can only be made available for further train movements, when the train has reached its **Destination** within its route. This is achieved, once the **Destination** contact is activated e.g. "Released".

Probably the system may slow down, if there are very long routes containing many solenoid devices. To prevent this and also to make the train operations on the layout more interesting, two partial routes within the route can be defined and released, before the train has reached its destination contact in its route.

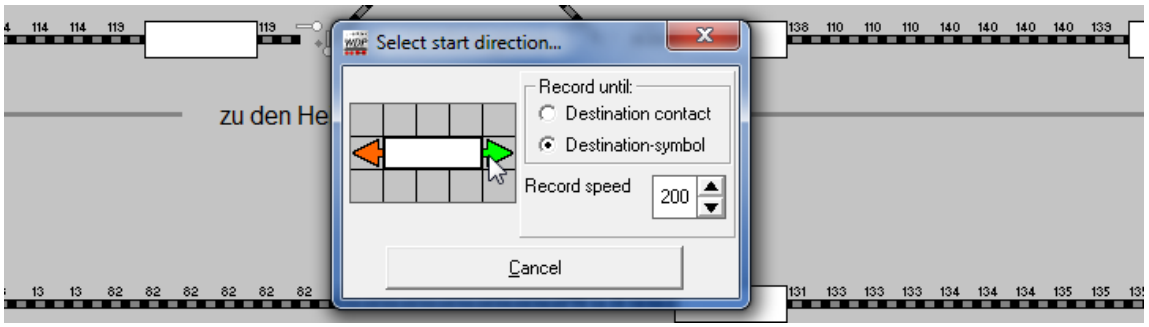


Three switches are available for this , and . Click only on the left switch (main recording), if you create routes **without** partial routes and ignore the other two.

For starting the semi-automatic route recording you click with pushed Shift key with the left mouse button on the start-feedback contact 82 **left** of the starting train number symbol (occupied by locomotive 18 in the picture below) and afterwards with pushed Shift key on the destination-feedback contact 87 **right** of the destination train number symbol (occupied by locomotive 21).



After the mouse click appears a window “Start with direction“ with several options, these are explained by tool tips as usual which are displayed when the mouse stays over the different controls.



You can adjust the recording speed to from 10 to 200 msec.

The radio button "Recording to:“ leave on the default setting *"Destination symbol"*, because you had clicked with the left mouse button already on destination feedback contact.

The difference between both settings is as following:

- Destination feedback contact
  If you have chosen this, **WIN-DIGIPET 2012** records always the route up to the last destination-feedback contact, even if you have clicked only on the first destination-feedback contact.
- Destination symbol
  If you choose this option, **WIN-DIGIPET 2012** records the route always only up to the selected destination symbol. This is important for recording partial routes.

In the box between two start arrows the start symbol of the route is displayed representing the eligible start directions of the automatic route recording, impossibly directions are deactivated. This setting is always dependent to the selected symbol.

If you have carried out all settings, click on the direction arrow (in the example on the arrow to the right) and the automatic route recording starts. The small window “Start with direction“ disappears after the click on the direction arrow. If you have set the recording speed to 200 msec, you can trace the recording on your screen very well.

If the semi-automatic record arrives to a signal or a turnout the program will ask you to choose desired state/aspect of the solenoid device and you have the possibility whether to add and add-on switching to set the signal back to red after passing.

Now the automatic route recording should look like this and with a click on the red button the route recording is stored. You should answer the confirmation request concerning the switch conditions etc. with ***‘Yes’***.

The route wizard now confirms the route creation and you can adjust/correct the suggested route naming and the speeds within the routes. Afterwards click ***‘Next’***.

8.5.8 Recording routes with partial releases semi-automatically

As long as a train travels through a route, all solenoid devices in that route are blocked. A crossover of other trains is not possible. The solenoid devices can only be made available for further train movements, when the train has reached its **Destination** within its route. This is achieved, once the **Destination** contact is activated e.g. “Released“.

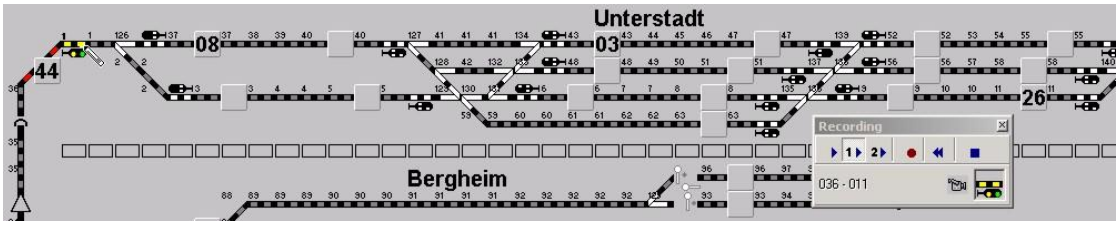
Probably the system may slow down, if there are very long routes containing many solenoid devices. To prevent this and also to make the train operations on the layout more interesting, two partial routes within the route can be defined and released, before the train has reached its destination contact in its route.

To split long routes into partial routes is a commonly used feature of Win-Digipet. We do only describe the difference to the semi-automatically recording without partial releases described in **8.5.7**.

You can record a route with three parts as follows:

- **Recording partial route 1**

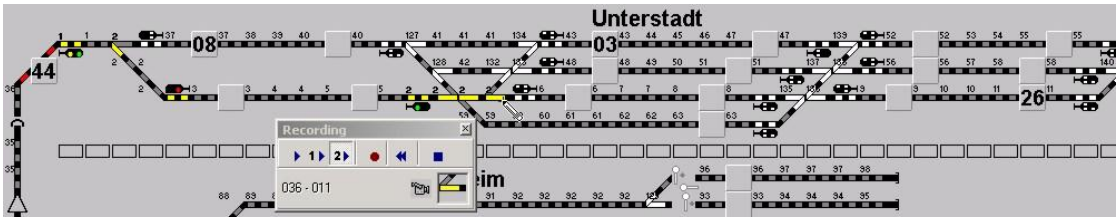
  Click on 1▸, then on a free screen area, until the pencil is attached to the mouse pointer and record the track symbols, which should belong to partial route 1. These are the track symbols with the feedback contact number 36 on the left and on the right of the train number symbol and of course the train number symbol itself; this is quite important. Afterwards you click to the signal right of this train number symbol and select the desired signal state by repeated clicks (green / yellow). Both track symbols are illuminated red and at the signal symbol a small **1** is displayed for the 1st partial release.



  Because here only a few symbols had to be selected for the 1st partial route, the automatic route recording was not used, because it would not have been simpler or faster.

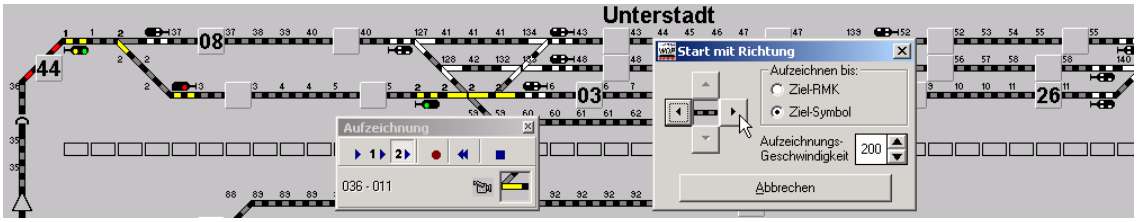
- **Recording partial route 2**

  Click with the left mouse button on the symbol 2▸ and afterwards switch both signals in the track diagram of the itinerary to desired state (red and green). Now you switch with the left mouse button the turnouts for partial release 2 as displayed in the following graphic.



For starting the automatic route recording you click with pushed Shift key and the left mouse button on the starting feedback contact 1 on the right of the starting signal (besides the train number symbol with the locomotive 44) and afterwards with pushed Shift key on the destination-feedback contact 6 left of the train number symbol with the locomotive 03.

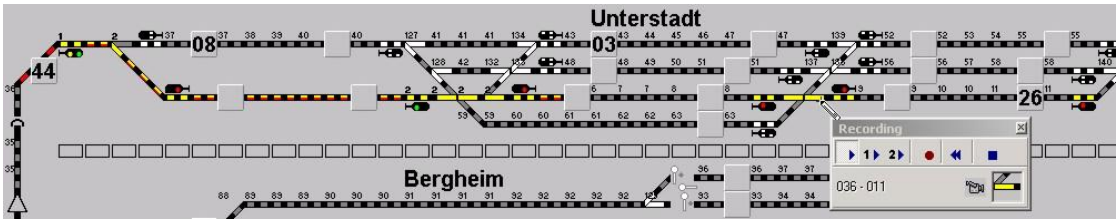
After the click a window „Start with direction“ opens with the selections already explained the previous chapters.



If you have carried out all settings, click on the direction arrow (in the example on the arrow to the right) and the automatic route recording starts. The small window „Start with direction “ disappears after the click on the direction arrow.

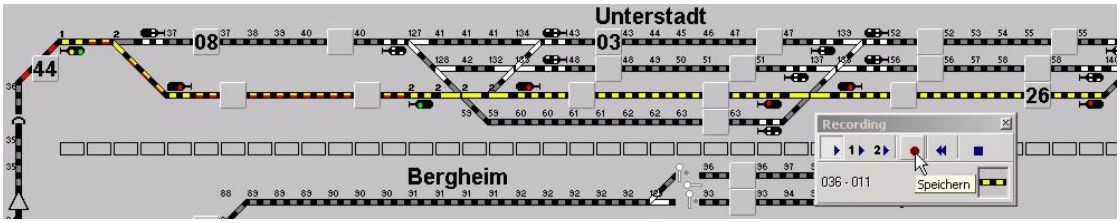
- **Recording the rest of the route**

Click with the left mouse button on the symbol  and afterwards switch the last four signals in the track diagram of the itinerary to red. Now you switch with the left mouse button the two turnouts for the rest of the itinerary as displayed in the following.



For starting the automatic route recording you click with pushed Shift key and the left mouse button on the starting feedback contact 6 and afterwards with pushed Shift key on the destination-feedback contact 11 right of the train number symbol with the locomotive 26.

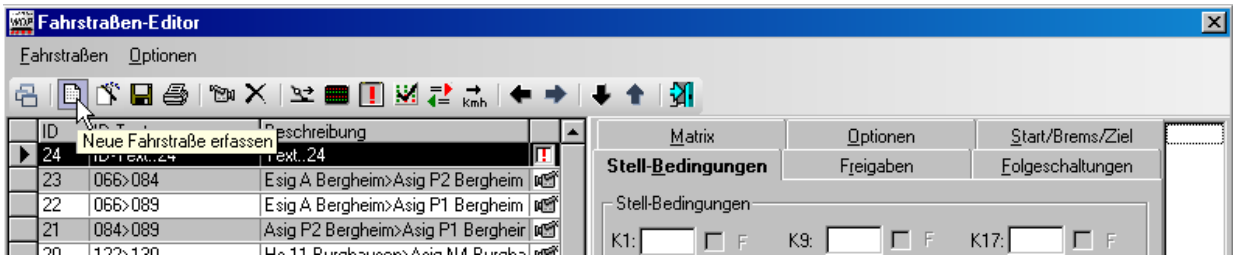
After the click the window “Start with direction“ appears again and the automatic recording starts after a click on the button to the right.



The automatic route recording should look now like this and after clicking on the red record button the recording will be saved.

8.5.9 Creating routes manually without the route wizard

To record a new route manually, click on the menu <Routes> <New> or on the symbol in the toolbar.



In the routes editor a new row with an ID text assigned by the program and a suitable description is inserted.

In the list´s last column you see a red exclamation point, as a distinguishing mark, that the route has not been recorded until now.

To determine the itinerary of the route, activate its line in the list- click on it- and then click on <Routes> in the menu and <Record> or on the switch in the toolbar.

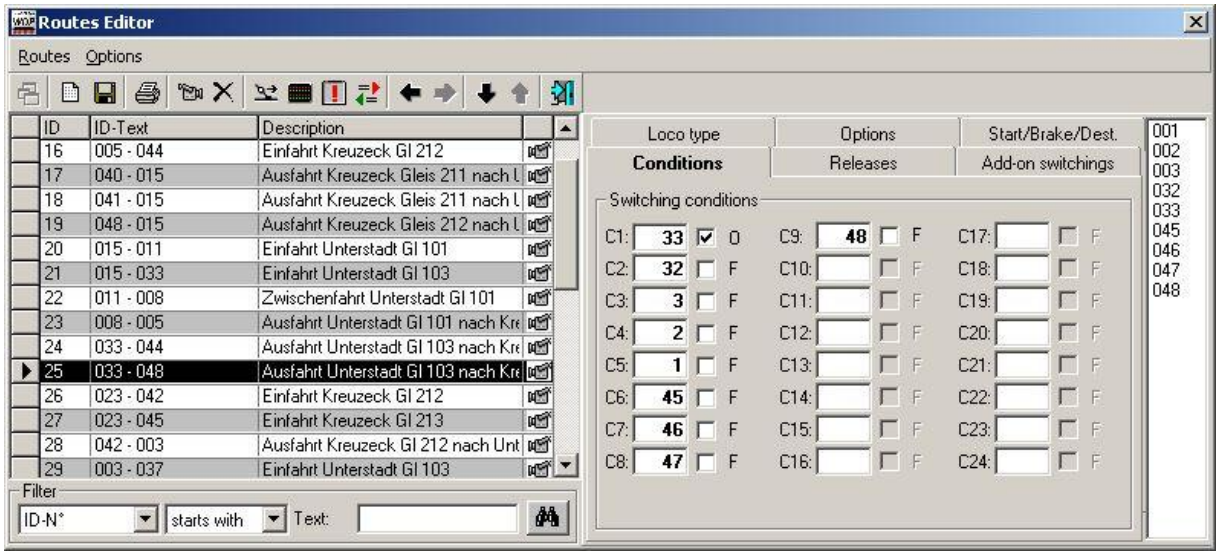
All further recordings steps are the same as described in **8.5.7** and **8.5.8** and will not be described again.

8.6 Manually changing routes created by the route wizard

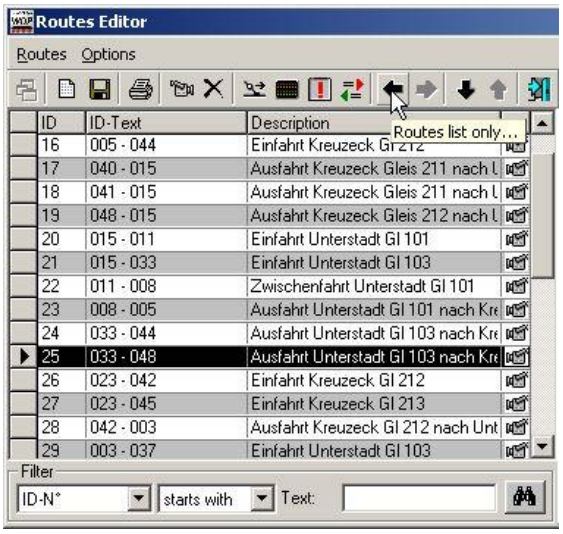
If you have created routes according to section **8.5.1** to **8.5.8** you may want to make some manual changes e.g. change some signal settings etc. . These changes can be made in the same way as you record a route manually according to **8.5.8** and **8.5.9**. Just open the recording window and make your changes. Please take care about the partial releases…

The messages concerning the transfer of switching conditions, the start-/destination-contact and release conditions have to be answered with ***'No'***, otherwise some or all settings made by the route wizard would be lost

8.7 Routes list



In the left part of the window you would find the list of routes, next to it in the right array of the window there are six additional index cards. Here you are going to configure "conditions", "releases", "add-on-switching", "options", "start/braking/destination" and "loco type" for a recorded and tagged route, by clicking on the corresponding index.

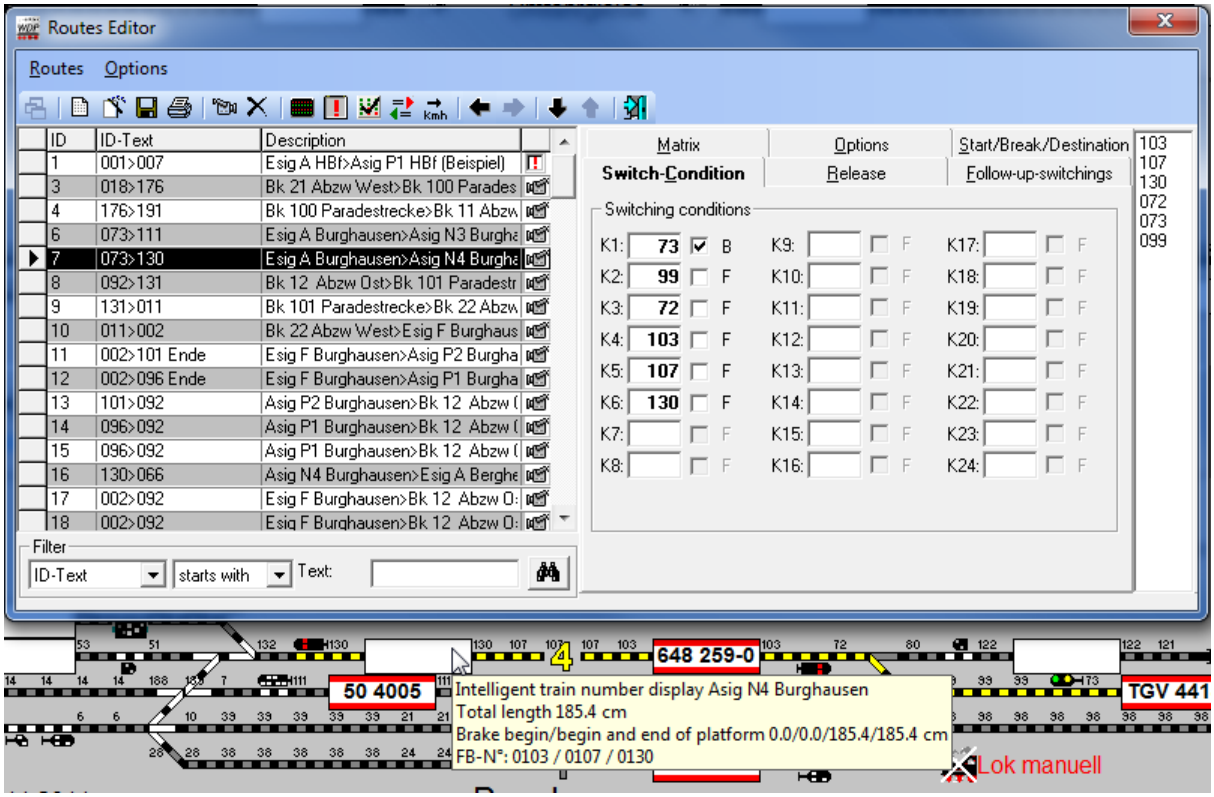


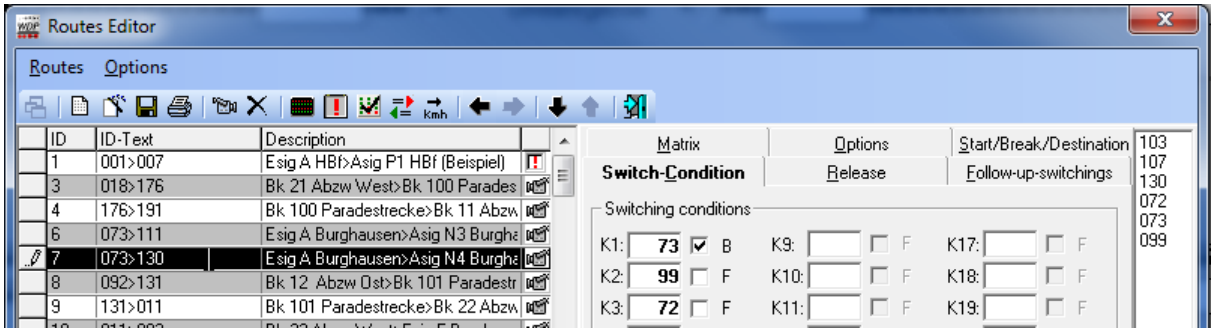
You can fade out the index cards or you can move them to the bottom of the window. To do this, please use the four black direction arrows in the right of the menu bar. Which movement will be done can easily be noticed via the "tool tip-text" at each arrow.

The feature "Fade out of tab-set" will reduce the general view. You can use this to get a better overview about your track layout diagram, if you are looking for a specific route in the routes list.

If you have an extensive route list, repeated clicks with the right mouse button to the start train number symbol and then to the destination train number symbol (start/destination-function) will load the desired route directly.

The route will be yellow highlighted in the track diagram and in the route list only the routes with according start and destination contacts are listed...





You are able to edit this route list in a comfortable way. Select the concerning route by a click on its list row - it will be highlighted in black. After a second click you can edit the text.

In addition, you see a small writing pen left of the ID-No. .

To save your changes simply click to **another** row of the list (a confirmation request appears) or click on the symbol in the toolbar.

8.7.1 Naming routes

Of course, the program has to identify each individual route.

For this purpose it uses the “ID-Text“ (**Identification text**), an entry of not more than 15 chars. of your choice. Enter it here.

TIP!
In the field "ID text" you enter e.g. 033 - 095 (the feedback contact numbers of start and destination). This would been also done in a similar way by the route wizard

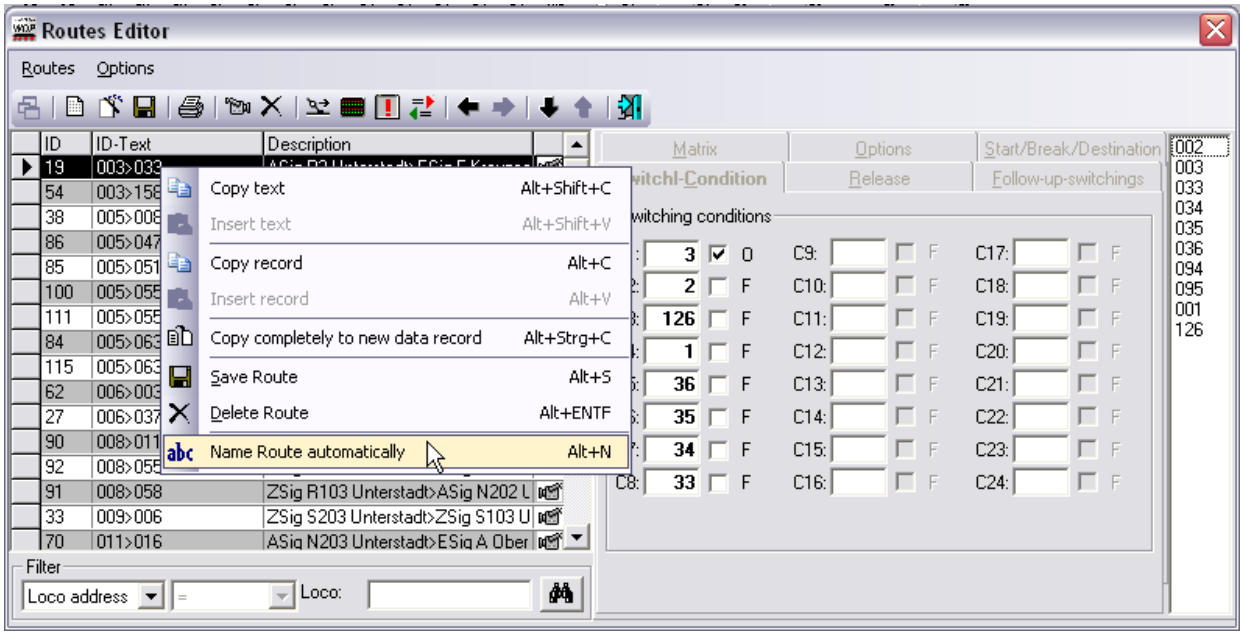
The big advantage to put suggestive ID’s here will be later on, if you will be able to search very straight and fast for routes using different sorting functions.

In the “Description“ panel enter a text with a maximum amount up to 50 characters.

For further identification each route receives an internal ID number which, however, is not displayed in the main program.

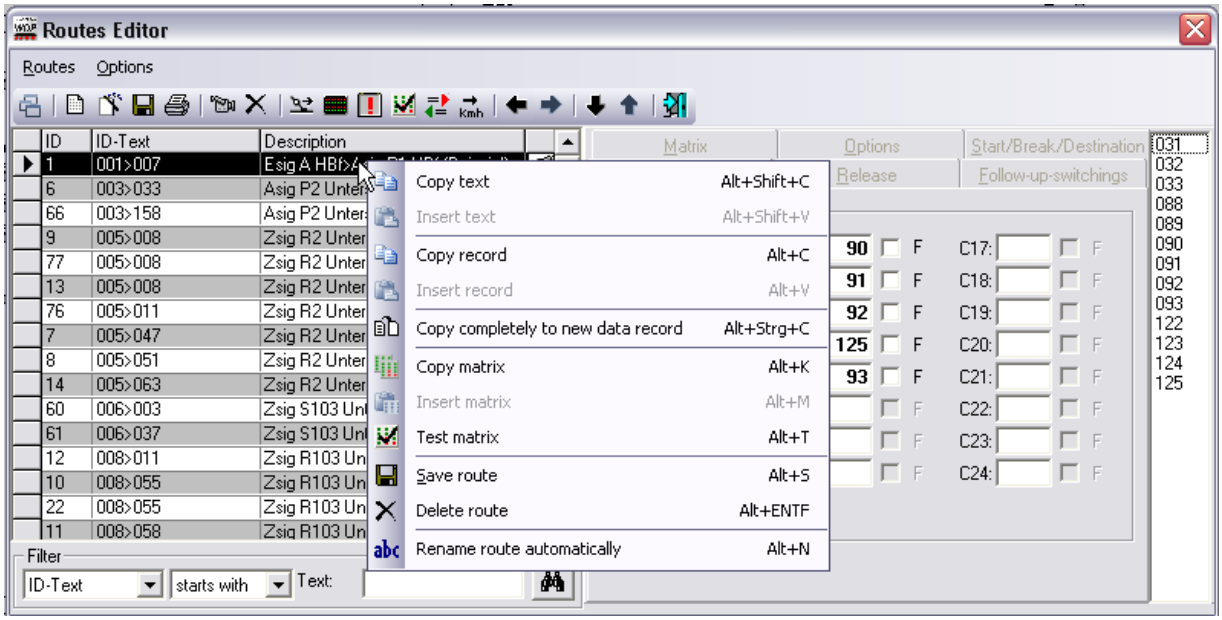
As soon as the ID text and description are entered, the switch appears. Click on it or on the menu <Routes> <Save>: The new route is transferred into the routes list.

If a route was already recorded, a camera symbol appears next to the description. If you see a red exclamation point, as a distinguishing mark, that the route has not been recorded until now



If you want the program to rename the route automatically according to the name of the start and destination train number display press the right mouse button above the list and select the command <Name Route automatically>.

8.7.2 Modifying, copying, inserting routes



If you click on a list row with the right mouse button, a context menu with different commands opens as shown.

Through <Copy text> you can save the text of this line in the list into the memory. Further, you can activate another line in the list and select it through the right mouse button - <Insert text> and copy the text into the other line in the list by clicking on it.

Through <Copy recording> you can save the complete route recording (not the text) of this line in the list into the memory. Further, you can activate another line in the list and select it through the right mouse button - <Insert recording> and copy the complete route recording into the other line in the list by clicking on it.

There is also an option for copying the complete route record into a new one.

You delete a route, or just parts of it, if you click with pushed right mouse button on the rail pieces or solenoid devices to be deleted or move the mouse with pushed right mouse button over several of them.

If you copy routes as described above and change parts of it, you should take care to make the necessary change on all index cards of the route editor. This is very important an error-free operation of **WIN-DIGIPET 2012**.

Please remember to start a route always one track symbol **in front of** the start train number symbol and end it **at** the destination signal.

8.7.3 Deleting routes

At the index card <Routes> or on the index card <Search> mark the route to be deleted with a mouse click. After that click on <Routes> in the menu, followed by <Delete> or on the switch ✕ in the toolbar.

> The first record cannot be deleted but only overwritten.

8.7.4 Always display feedback contacts

Click on the menu <Options> in the routes editor and check 'Display always feedback numbers' to display all the feedback contact numbers in the track diagram at **every** start of the routes editor. ✓ Always display FB numbers

Deactivate this check, if you don't want to use this function.

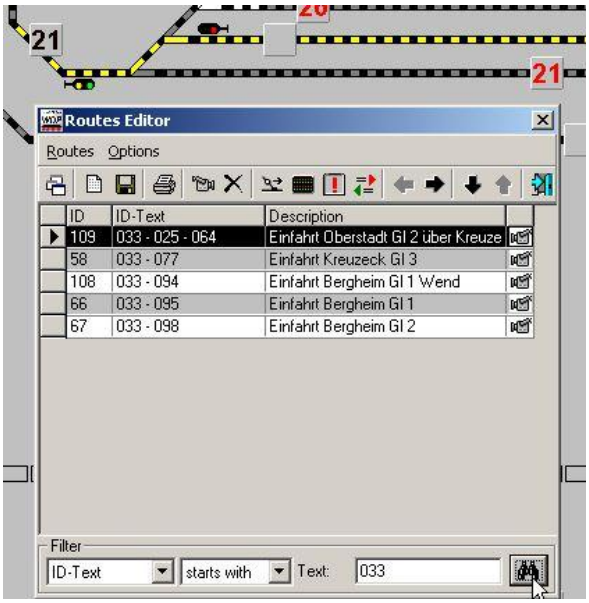
8.7.5 Sorting functions in the routes editor

If you want to sort your routes by criteria, select the menu command <Options> and the desired criteria. You can choose between three different criteria.

You can also change the sorting of the route list by clicking on the column headers of the list (ID, ID-Text or description). Every click on the column headers changes the direction of the sort sequence (up/down).

8.7.6 Filter function in the route editor

Specific routes can be easily found within the routes list by the filter functions at the bottom of the routes editor window.



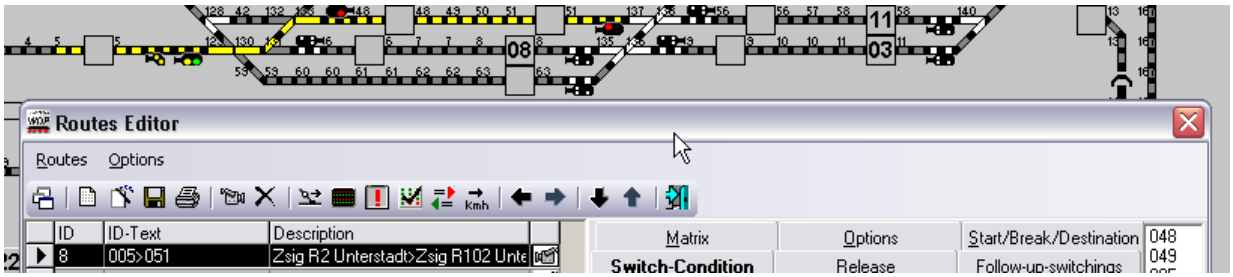
You can refine the "filter" in the left choice window by the criteria in the middle choice window. In the right input field *"Text:"* you may enter the string of characters to search for.

Tip!
If you select the filter choice "ID-No." and "=", you'll get the error message „ No data found ".For this case please try another choice criterion.

After your selection and input you activate the filter function with a click on the symbol . All routes which fulfil one of the searching criteria appear in the list window.

The first route of search result is also highlighted yellow in the track diagram.

Another very fast search function is provided by clicking on the start- and afterwards on the destination train number display with the middle button in the track diagram. The route editor will show automatically **all** routes meet the selected start-destination condition.



For resetting the filter press  in the toolbar, afterwards all routes will be shown again.

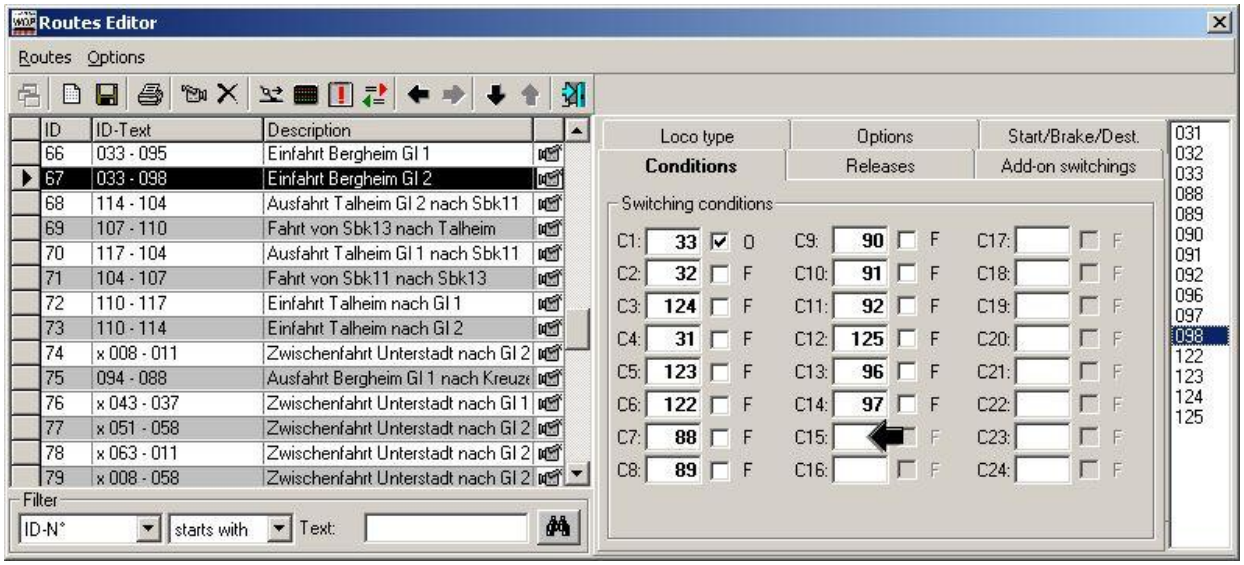
8.8 Recording switching conditions, starting/destination and release contacts

It is mandatory to enter the **switching-conditions**, **start-** and **destination contact** and the **release-conditions** for **every** route, otherwise a smooth operating could **not** be guaranteed. It is optional to enter any **add-on-switching, loco type or options**.

8.8.1 Switching conditions

If you have answered the question about the route recording with ***'Yes'*** or used the route wizard all switching conditions were registered automatically by **WIN-DIGIPET 2012** to the index card "Conditions". On this index card you can see the conditions have to be fulfilled before the route can be switched.
Mostly the conditions for a route will be...

- Start contact "occupied"
- All other contacts of itinerary "free"
- The destination contact also "free".



On the right hand side of the window you see the numbers (sort by number in ascending order) of all contacts recorded in the selected route. This makes it easier to insert the correct numbers into the input fields.

If you have answered the question, if you want to fill in the data automatically, with ***'No'*** you have to register the contacts C1 to a maximum of C24 by yourself. Click on the contact number you want to enter on the left and/or in the middle of the index card. It will be highlighted with a blue bar. Keep the left mouse button pressed, drag the number to the entries panel and release the left mouse button ("drag and drop").

When registering the contacts manually you should remember to register the contacts the same order as in the itinerary due to simulation needs. You can also write the contact number into the entries panel via the keyboard. You can use the TAB-key to jump from one field to the next.

Define the locking of this route.

”Locking“ means: “The route may only be switched if contact X is free (or occupied)“ (possibly continued: „and if also contact Y is free/occupied, and if also contact Z is free/occupied“ ...etc.). You can define up to **24** locking contacts (C1 to C24).

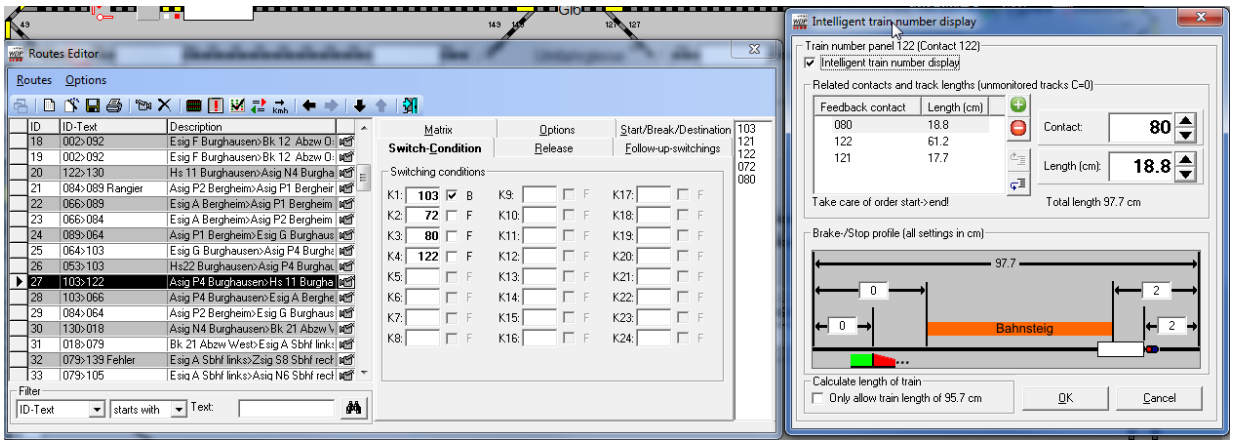
Normally it should be possible to switch a route if all its contacts are free („FREE“, without check), except its starting contact. This is occupied the locomotive which shall travel over this route (“OCCUPIED“, checked).

8.8.2 Editing the switching conditions for a track ending at a bumper

For some routes it is advisable to edit the route record after the route creation. We will show you this using a track ending at a bumper.

The route has been created automatically and begins at the train number display, which has been occupied by train 648 259-0 und ends behind the train number display in the bumper track. Within the intelligent train number display contact 121 with the length of 17,7 cm has been registered right after the destination contact 122 and right before the bumper. The stop position within the intelligent train number display has been set to 2 cm before the bumper. Because of the regular planned usage of contact 121, this you should also be tested for the condition “free” before switching a route into this track.

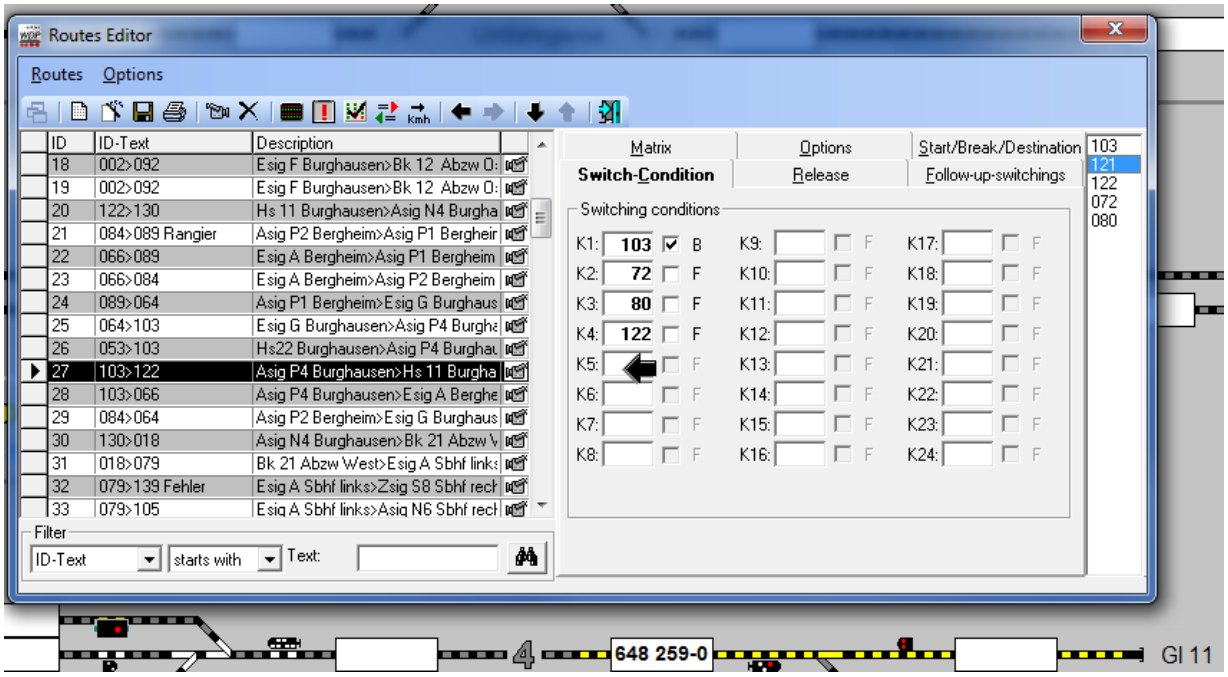
Therefor enter the number 121 to the input box right of the label „*C5*“, the text input box will now be coloured yellow, because this contact is until now not a part of the route.



Now close the intelligent train number display window if still open and reselect the route in the route´s editor list and press afterwards.

The window “Recording” will appear. No click onto all track symbols (in our case just one) using the feedback contact number 121. Afterwards save your change with the button . No it is important to answer the question whether the recorded contacts shall be used automatically for switching conditions and so on with ***'No'***, because otherwise only the recorded contact 121 would be used and not other contacts.

Now contact 121 in the switching contact list should no longer be coloured yellow.



Now save your changes using the button .

8.8.3 Changing switching conditions for a platform track

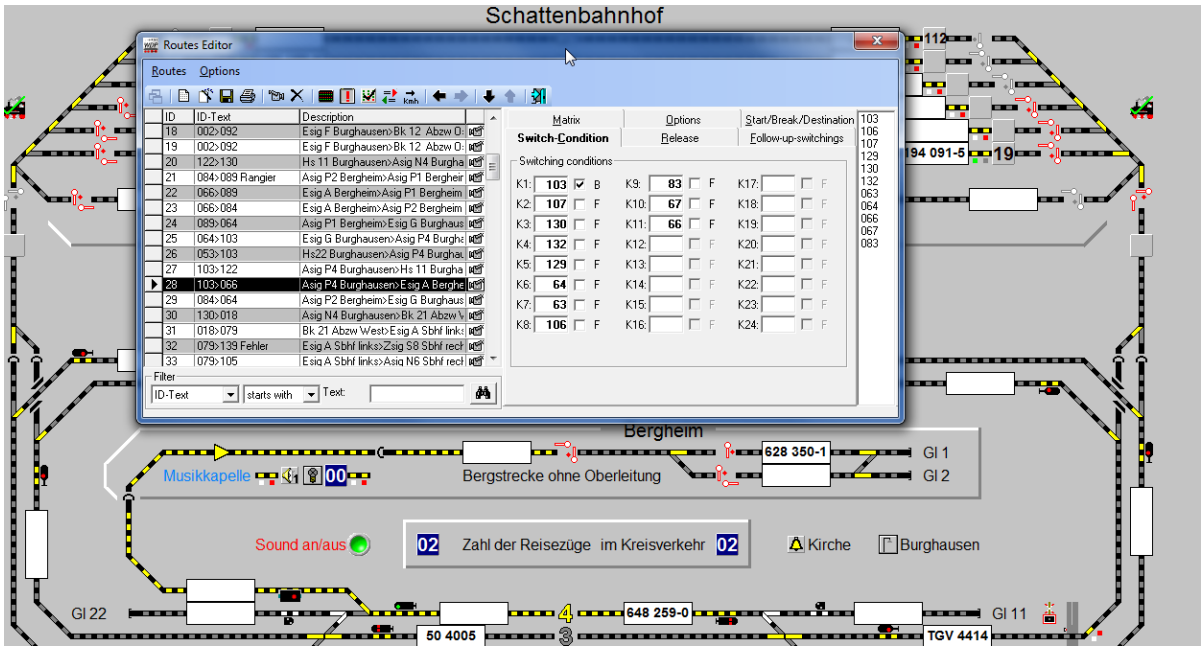
If you intend not to stop your trains in your station and continue their travelling the same direction, but to **turn their direction** and to drive back to where they have come from then you will have to change the automatically recorded switching conditions in the most cases.

Let´s explain this a little bit.

The reason is that for your way back all contact after the start contact would automatically be recorded with the condition “free”. But on the first of this contacts which are part of the station track the last wagons of your train will be standing and will cause an occupation message.

We will explain this in detail using track 4 of Burghausen.

The train has previously reached contact 103 from the left and shall now travel back to the left to contact 66.

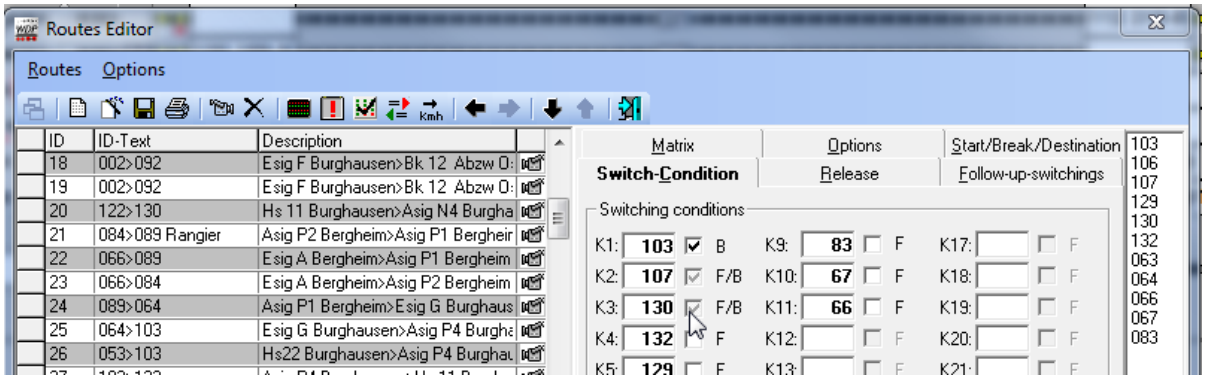


In the switching conditions the start contact 103 has been set to switching condition “occupied” and all other contacts have been registered with the condition “free”. This is normal for a route created with the route wizard.

Depending on the trains length also contacts 107 and/or 130 could also be occupied by the train´s last wagons.

When leaving the station to the left these conditions do not really be tested against the “free-condition”, because this has already be done when the train reached the station. Therefor you could delete the registrations made for contact “C2” and “C3”, but the better solution is to set them to “Free/Occupied” for free or occupied (neutral).

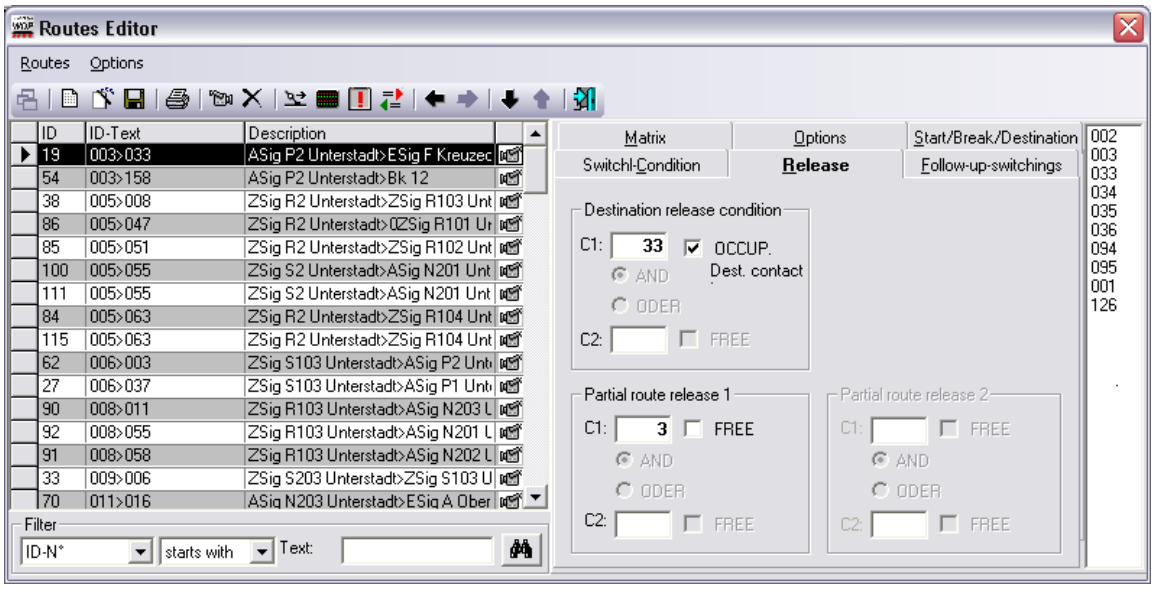
Therefor click with pressed Shift key into the field left of „*F*“, this will result in a shadowed check mark. Take a look at our picture:



If you don´t make these changes the train would never be able to travel to left after coming from the left because the switching conditions would never become true.

8.8.4 Release conditions

Next click on ‘Release’. On this index card you’ll define the exceptions for the locking of routes and the conditions for their cancellation.



“Destination release condition “
If you have answered the question, to fill in the data automatically, with **‘Yes’** or used the route wizard the destination contact has been automatically registered with release condition “occupied”.

<u>Important notice!</u>
It is an absolute must to enter the destination contact number and mark “OCCUP. Dest. Contact” in the upper left panel, otherwise there is a good chance to get in trouble during operations (routes won’t be released).

Here you define under which conditions the locking will be cancelled. “Release“ means: „Solenoid devices can be used elsewhere available from that route, if contact X (C1) free (or occupied)“ (possibly continued: „and when contact Y also free/occupied“). Up to 2 release contacts (C1, C2) can be defined, possibly with AND/OR function.

The release conditions ensure that the solenoid devices in the route are locked after the route has been switched. This could be happen to all solenoid devices or only all signals or turnouts, depending what you had selected in ”Locked are...“.

Another route (or any other itinerary), which contains a locked solenoid device- even if it is only one – of the switched route, can only be switched, if the release conditions are met.

This is the reason, why it is **absolutely necessary**, that each route has its **Release conditions**.

Normally they are: If Destination -“Contact (C...) OCCUPIED“, e.g. the train or locomotive has travelled through the route correctly.

The route is deleted from the screen after the release conditions were met.

„ Partial route release 1 or **2 "**

Recorded partial routes in long routes can be released even though the train has not yet reached the destination release contact**.** Here you decide under which conditions the partial routes are released.

The route is deleted from the screen once the release conditions of the partial route are satisfied. It will be deactivated and all locked solenoid devices in the partial route are released.

In **Win-Digipet 2009** the option "***FREE***" for partial releases means, that this partial released is executed when the contact has been **occupied within the route and it is free again**.

8.8.5 Destination release condition using AND/OR

The destination release condition can be used with AND/OR-condition if needed.

If you have defined an **AND**-condition as release condition, the train will not be stopped and the route not released until both conditions are fulfilled.

This is very useful in the follow situations...

- You use long trains
- And many turnouts in a row
- And you have short piece of rail with a feedback contact after the last turnout

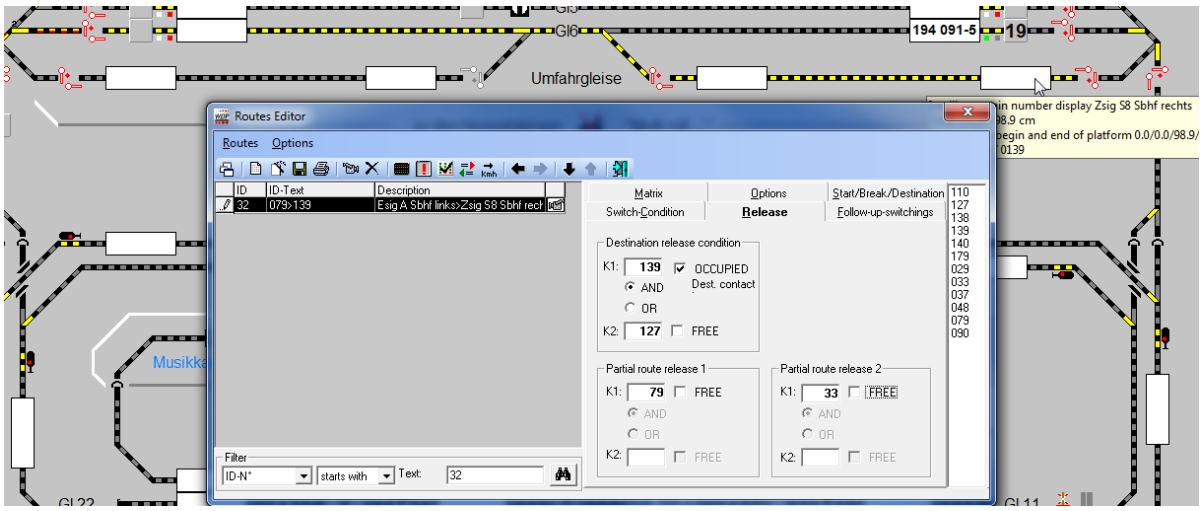
...then the train will not be stopped until the corresponding release condition (destination contact OCCUPIED and rail after the turnout FREE) is fulfilled. The same can be said for the release of the route.

This secures that the last wagon has left the last turnout before the train stops. This is just an example for this very powerful feature. Another example could be a dead end station.

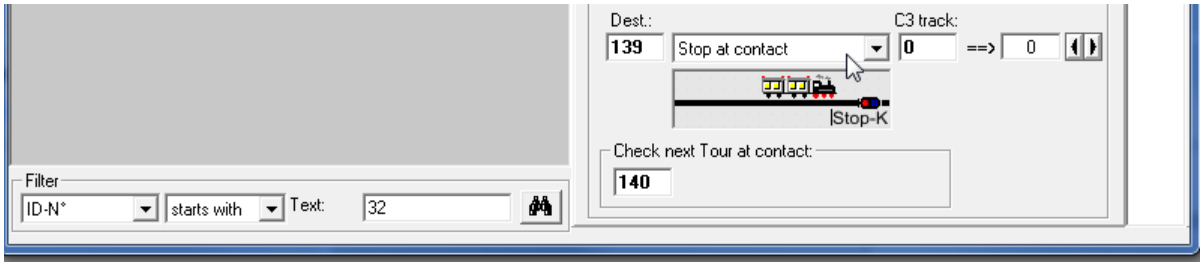
8.8.6 Destination release condition using AND/OR (intelligent train number display)

When using the intelligent train number display according to chapter **8.2** should some things that we will describe in the following paragraphs.

In example you will see a long route with two partial releases and a destination release condition using two contacts combined by "AND", because the **long** train shall not stop before the destination contact has been occupied and contact 127 between the right turnout and the exit signal of the opposite direction (mid of picture) is free again.

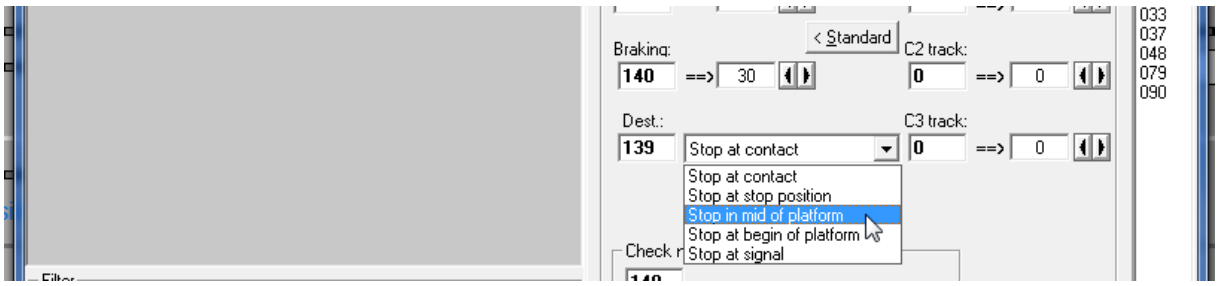


After the route creation (e.g. already created in the previous version on Win-Digipet) you changed the destination train number display to an intelligent one.



After changing to an intelligent train number display you will see the selection “Stop at contact” in the combo box on the start-brake-destination index card. As long as you do not change this selection everything will function in the old way.

If you now **change** to “Stop in mid of platform” or another intelligent stop position, then **the AND-Release condition will be ignored** for stopping the train.



If the train now stops too early within your track, you should maybe correct the stop positions within the intelligent train number display configuration.

8.8.7 Start-, Break- and destination-contact

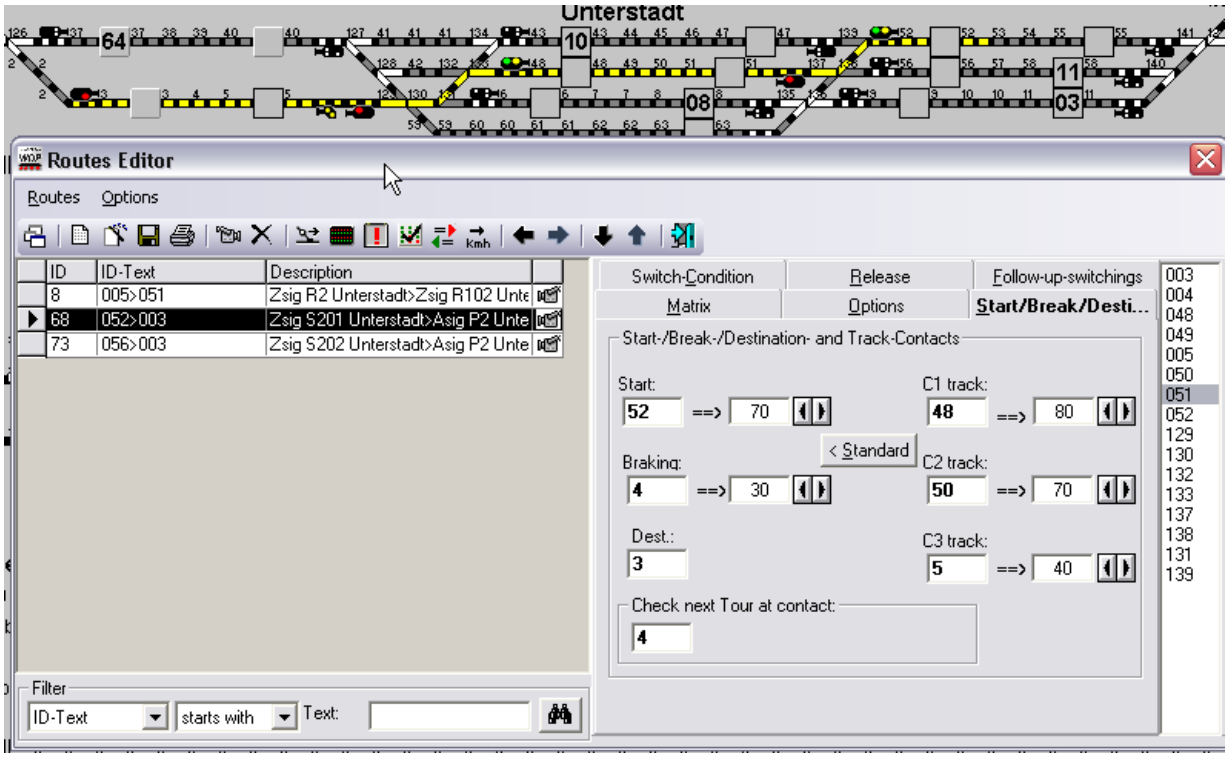
It is **mandatory** to enter the **start**-, **breaking** and **destination contact** numbers of the registered route.

They are important for ...

- the start-destination function,
- the train number displays,
- the timetable operation,
- as well as the tour automatic.

If you have registered default speed values for the start- and break-contact in the system settings, you only have to press the button **'< *Standard*'** in the routes editor and the standard values from the system settings will be transferred to your route. These values are also used within the automatic generation routine of the route wizard.

In the input fields you have to enter the speed in km/h for the start contact, itinerary contacts C1 to C3 and the braking contact.



The three itinerary contacts must be settled before the brake contact because otherwise they will be ignored after the brake contact has been occupied.

When controlling the trains **without profiles** using the start/destination function, the automatic with demand contacts or the tour automatic the order of events would be as follows:

- The train is on its start contact and the loco address (=train number) is entered respectively visible in the train number display.

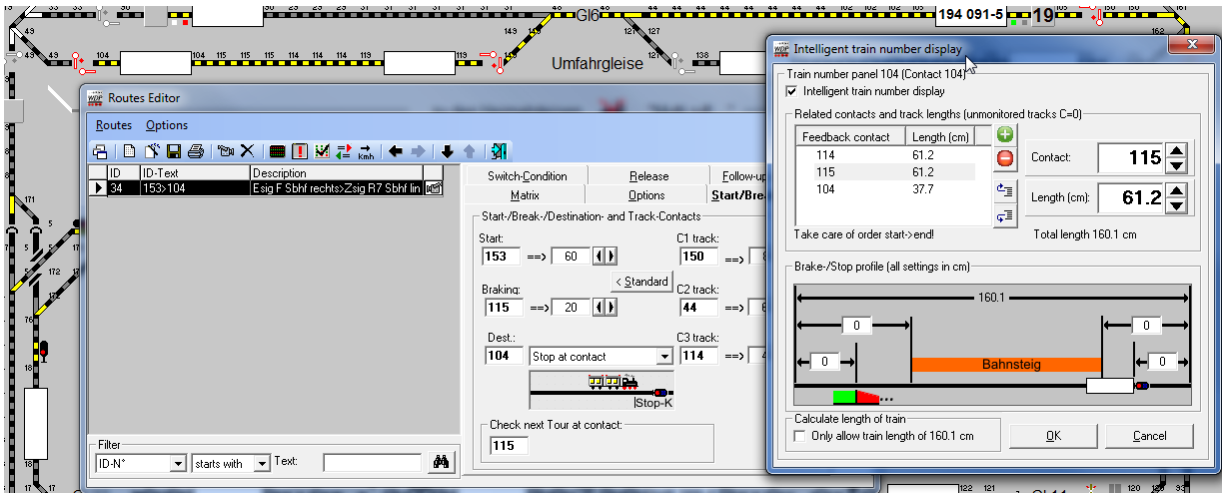
- The loco starts to move with its starting speed registered in km/h
- The **itinerary** contacts C1 to C3 are handled similar: When occupied the locomotive is (de-)accelerated according to the registered speed in km/h
- The **brake** contact is handled similar: When occupied the locomotive is (de-) accelerated according to the registered speed in km/h
- At the **destination**-contact the locomotive will be stopped only if the release condition is fulfilled (see **8.7.2**).

If you have selected “Immediate stop” in the vehicle database according to chapter **5.4.3** the locomotive will be stopped immediately when the release condition is fulfilled. There will not be used any deceleration ramp by the program, only the deceleration parameters of the locomotive decoder will be used.

8.8.8 Start-/braking and destination contacts (intelligent train number display)

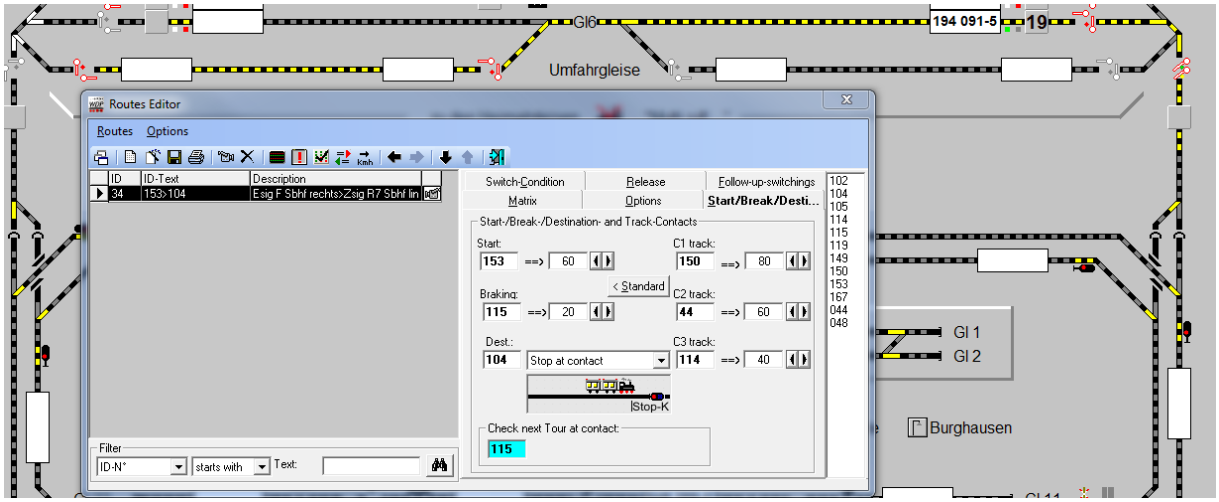
In the following examples we want to show you what you have to do to switch from an older route without intelligent train number display to the intelligent train number display functionality.

In our first picture we you can see the old settings on the start-/brake-/destination index card as from the time without intelligent train number display. Beside you can see the new settings for the intelligent train number display.

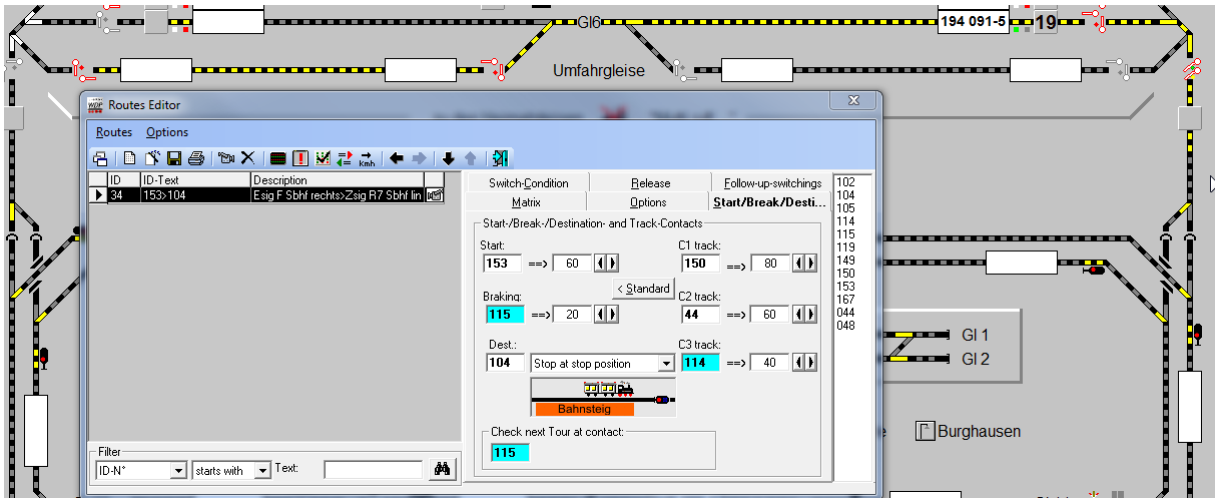


In our example we chose a longer braking distance of 160,1 cm not only covering the destination and the old brake contact, but even the old track contact C3 114.

After confirming the settings for the intelligent train number display in the train number display window with ***‘OK’*** you have to reselect the route in the route editor to make the additional options for the intelligent train number display visible. You can see that the option “Stop at contact” has been selected:



This means, that at the moment the route will behave as before and the train will stop as usual using brake and destination contact. For our first test with the smoother braking features of the intelligent train number display we will now select „*Stop at stop point*“. By this selection the train will be forced to brake smooth beginning at contact 114, pass contact 115 and stop at the end of contact 104, because we selected 0cm from the end in the intelligent train number display configuration.



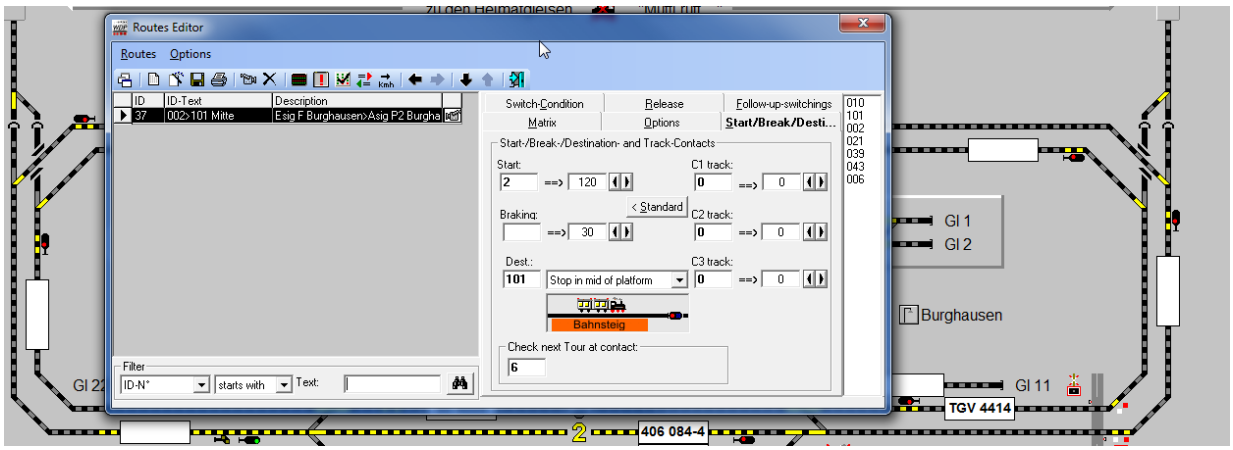
The track contact *“C3”* and the brake contact do now belong to the intelligent train number display and will be therefore coloured blue in the editor. The blue colour does not mean an error, but can be understood as information, that these contacts are ignored as long as an intelligent stop option (every option except *“Stop at contact”*) has been selected.

But you should not remove this contact be can select another stop option when executing the route manually or in the tour automatic. The selection in the route editor is just the default value for this route.

8.8.9 Intelligent train number display using “Stop in mid of platform”

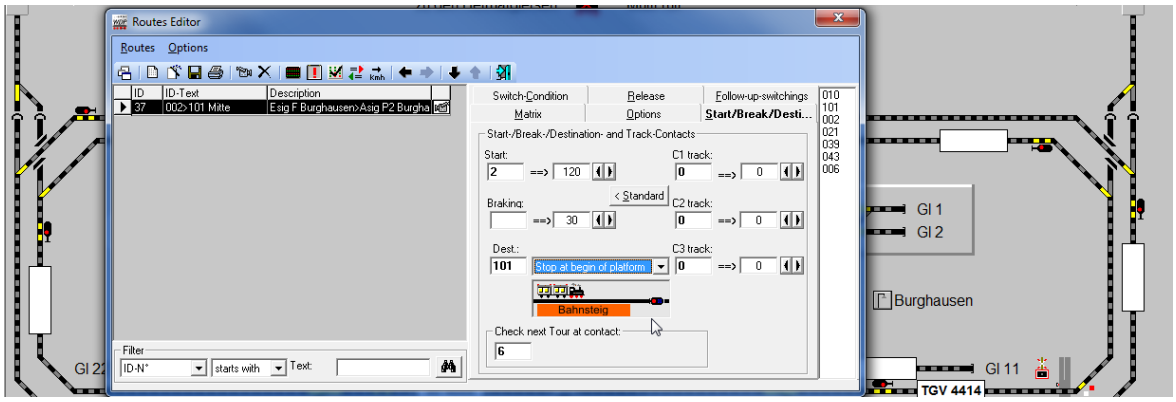
As alternative to the stop option described in the previous section you can use the option *“Stop in mid of platform”*. Using this option the program will stop with the mid of

the train in the mid of the platform as long as the train is short enough to stop in this position without overlapping with its end to the former tracks otherwise the train will “Stop at the stop position” or “Stop at the signal” (depending which one is closer to the intelligent train number displays end).



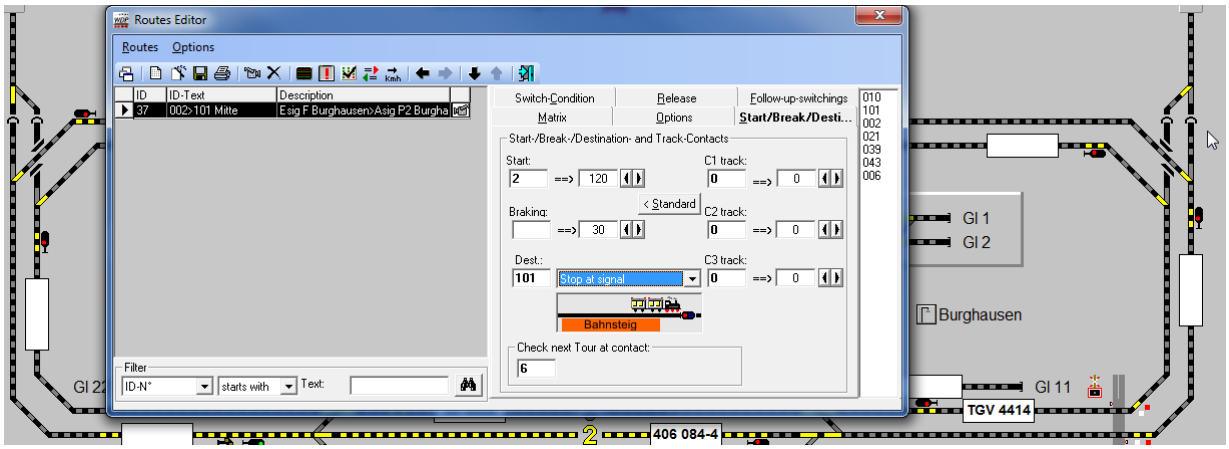
8.8.10 Intelligent train number display using “Stop at begin of platform”

As alternative to the stop options described in the previous sections you can use the option *“Stop at begin of platform”*. Using this option the program will stop with the end of the train at the beginning of the platform as long as the train is short enough to stop in this position without overlapping with its end to the former tracks otherwise the train will “Stop at the stop position” or “Stop at the signal” (depending which one is closer to the intelligent train number displays end).



8.8.11 Intelligent train number display using "Stop at signal"

As alternative to the stop options described in the previous sections you can use the option *"Stop at signal"*. Using this option the program will stop at the signal position assigned in the intelligent train number display configuration. This e.g. interesting for goods trains which usually do not stop at the platform, but stop at the signal.



8.8.12 Hints regarding intelligent train number display for stops at the platform

The examples in the last sections had the intention to explain the different stop options using the intelligent train number display. Now it will depend on your fantasy and the virtual concept for your layout/stations which of these options you prefer.

Especially when using the option *"Stop at begin of platform"* you should try if your braking distance is long enough for all your trains, ever for the shorter ones. Otherwise you should follow the recommendations from chapter **8.2.3** to achieve a sufficient braking characteristic and stop position.

When using the several stops the program will try to use the selected option as long as the train is short enough to stop in this position with overlapping with its end to the former tracks otherwise the train will "Stop at the stop position" or "Stop at the signal" (depending which one is closer to the intelligent train number displays end).

If then the train still overlaps to the former tracks you have to change the settings in the intelligent train number display or consider a train length limitation for this destination.

8.8.13 Check next tour at contact

When using the automatic data registering function **WIN-DIGIPET 2012** will register here the brake contact of the route automatically. You should register this contact also when registering the contacts manually. You can also use any other contact; this will cause some problems in the simulation but not in "real" operations. This contact will be used by the tours as demand contact for the next route.

8.8.14 Saving the route

Having completed all entries on the index cards ‘Conditions’, ‘Start/Break/Destination’ and ‘Releases’, click in the menu <Routes> on <Save> or on the switch in the toolbar.

It is advisable to save from time to time also during the editing process and not only at the end. So you will prevent data loss in case of PC problems etc..

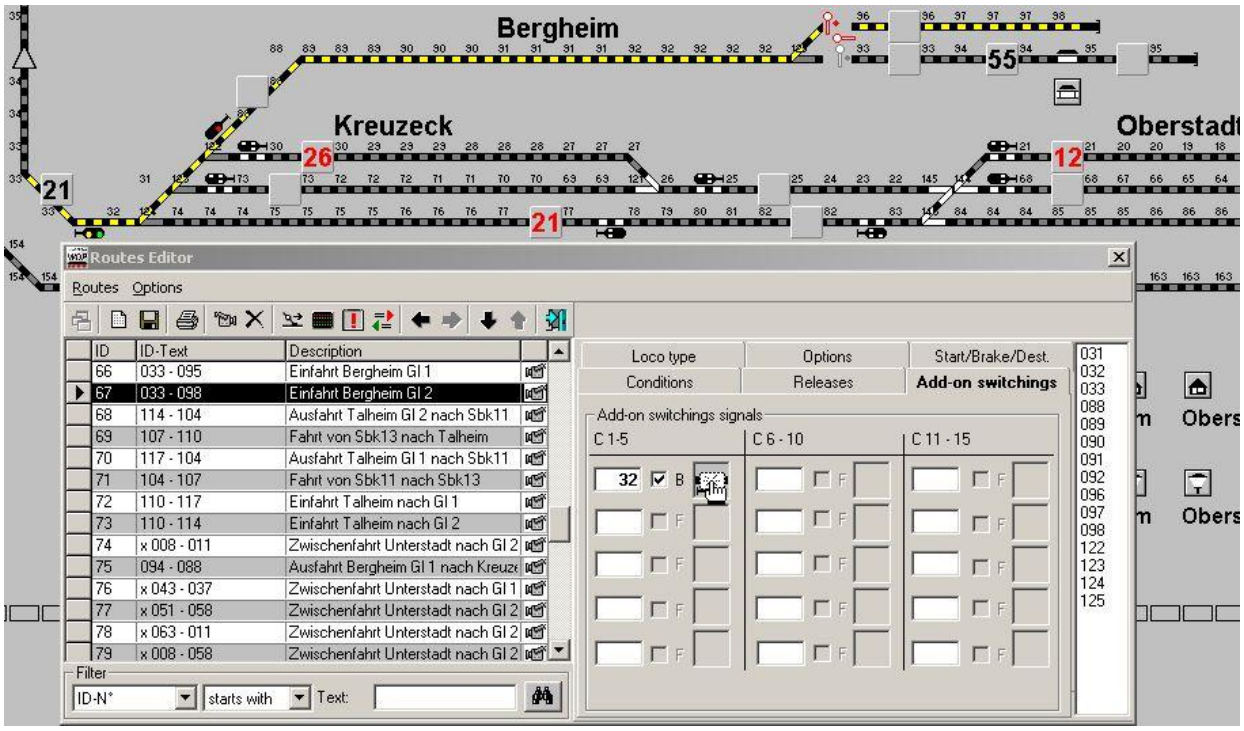
8.9 Add-on signal switching

WIN-DIGIPET gives the opportunity to switch additional solenoid devices, including a turntable (**except** double crossing turnouts), by switched routes.
Examples:

- “Switch the signal at the exit to red, after departure of the train”
- “Switch turnout #34”, etc.
- Or, for block operations, “After a train has entered a block section, switch the signal to red, to “protect” the train in the block section, “Switch a signal to green”.

You can switch up to **15** additional solenoid devices per route.

First enter the number of the contact at which the first add-on switching shall be carried out, e.g. „C1: If contact no.32 “O” (O = OCCUPIED; F = Free), switch the adjoining symbol to red“.



Point the mouse pointer to the symbol of the track diagram where you want to have an add-on switching carried out. Press the left mouse button: The mouse pointer changes to show a hand with a signal symbol.

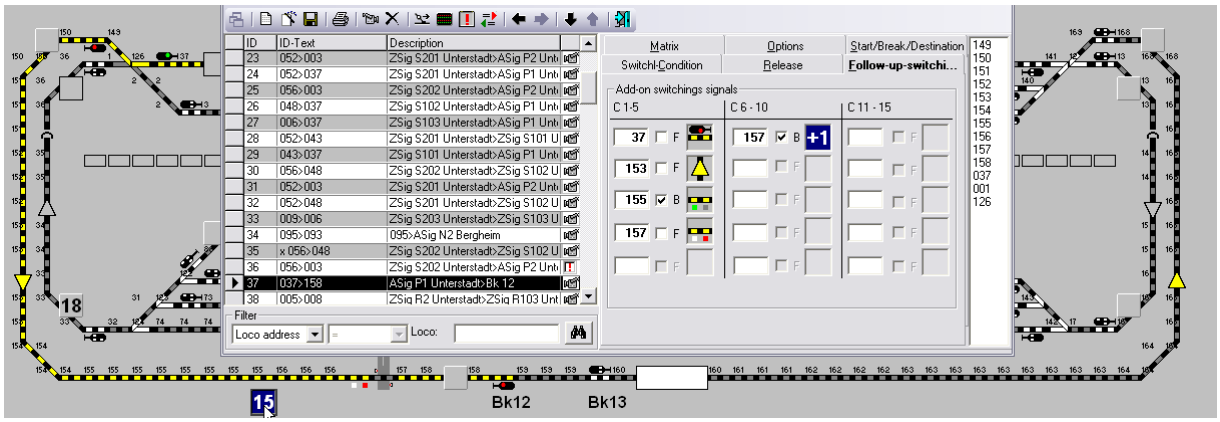
Keep the left mouse button pressed and drag this symbol to the display panel at the right, next to “Contact number FREE/OCCUPIED“ and release the left mouse button. The signal symbol “taken” from the track diagram appears in the display panel. Click on it- the mouse pointer changes to a hand- and sets the add-on switching you want for that signal (e.g. “signal red“).

A signal at which an add-on switching is carried out bears a black frame in the track diagram, indicating add-on switching, when moving the mouse over the add-on-switching-picture-box in the editor.

A recorded add-on switching of this route can be deleted by deleting the contact number: Mark it (blue bar) and press “Remove“ or the “CR” key.

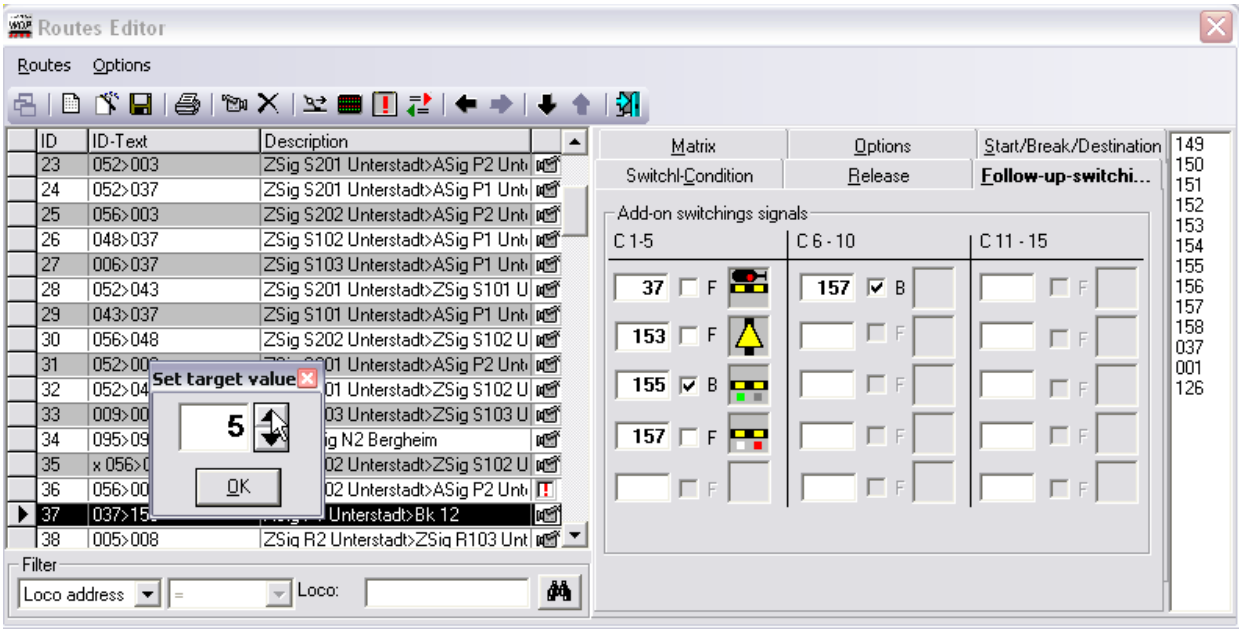
8.9.1 Using counters in routes

Not only in the tour automatic editor, but also in routes the counter symbols can be used.



If you want to increase the counter indicated in the track diagram by 1 when feedback contact 157 is occupied, drag this counter to a desired add-on-switching field in the editor.

When clicking with the left mouse button on the counter symbol in the editor you change the function from “+1” to “-1” or “00” (increase, decrease, set to specific value).



If you have selected the function “00” (change counter to predefined value) you can change the target value with by clicking with the right mouse button on the counter symbol in editor.

A small window will appear where you select the desired value.

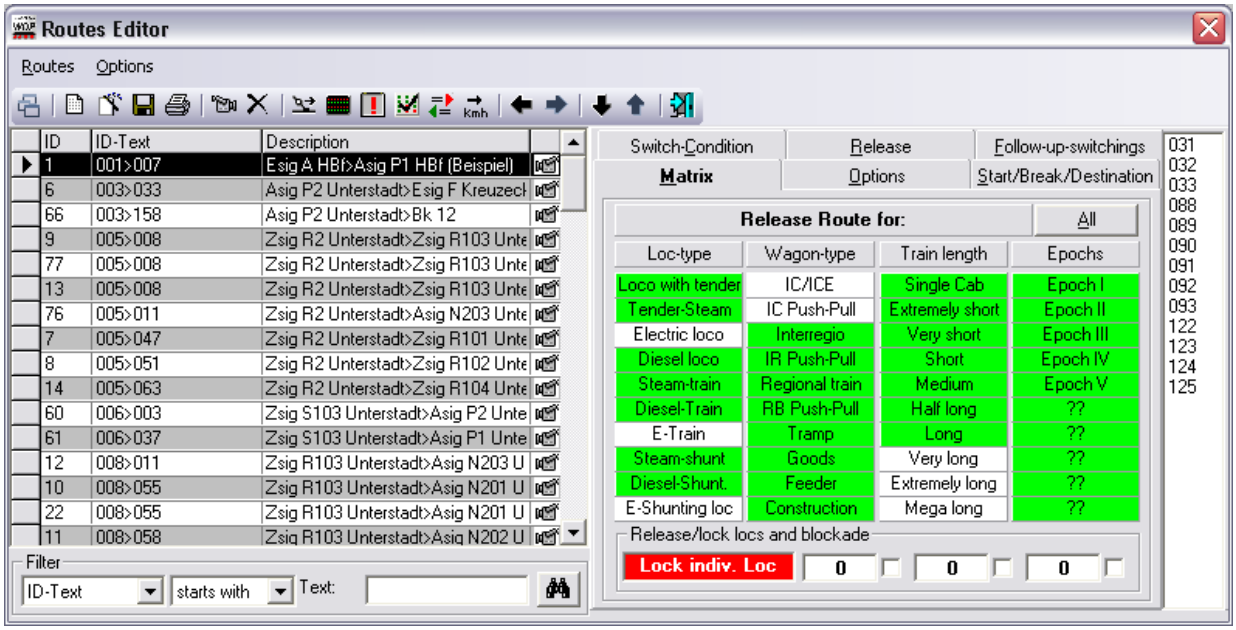
8.10 Matrix

If you have made matrix/loco type settings in the track diagram (see **7.4.5**) these settings will be transferred to automatically created routes. If you create your routes manually you have to make theses selections by your own.

	If you change the matrix in your track diagram later, you have to correct your routes manually.

Locked for Loco-/ wagon type:

You can lock routes for specific locomotives or trains as mentioned in the system-settings (see **4.13**); the input you made in section **4.13** will be displayed in the selection boxes. You can also lock individual routes for specific trains.



By clicking with the mouse to the button you can switch the selected type of locomotive/train or length on or off for this route. Using the left or right mouse button on the heading of the four columns you can select/deselect an entire column.

Using the left or right mouse button with the button 'All' you can select/deselect the complete list.

The colour green stands for "allowed for this type of train" and white for "not allowed".

By comparing the values of the route and the selection in the vehicle database the program can decide whether a locomotive is allowed to use a route or not.

A warning will occur, if you try to switch a route via the "Switch + Ride - function", if the train is not appropriate to the selected route, but nevertheless, these routes can be switched manually.

You will also get a warning if you try to assign a loco to a route which is not valid for this particular locomotive, in the timetable-editor, but nevertheless, if selected for your timetable-operation, this line will be carried out.

During the operation of the "Tour automatic", only appropriate routes will be switched by the system. This means for example: A Diesel-loco will never ride to the coal- or water station for steam-locomotives, if this route is closed for Diesel-locomotives.

Prerequisites for the matrix usage are:

- You have activated the switch "Switch only, if route isn't locked by special loco/wagon type" in the "system settings / routes" (see **4.7.1**)

  Fahrstraßen-Grundeinstellungen
  ☑ Nur ausführen, wenn Fahrstraße für speziellen Lok-/Wagentyp (Matrix) freigegeben ist

- You have registered up to 10 inputs in the text boxes to define your "rolling stock" as described in the system-settings in chapter **4.13** (if the default definition doesn't meet your requirements for your model railroad)
- You have assigned a "loco type" to each loco in the locomotive-

	database (see **5.4.2**) ➢ The digital address of the locomotive must be entered in the train number label of the start contact of a route.

Release/lock locos and blockade:

- Release loco only
  - ➢ If you enter here one or more locos the “Release for”-selection area will be deactivated and only the registered locomotive numbers will be allowed for this route.
  - ➢ If you check the field right of one or more of this locomotive numbers, the train numbers of this locomotive(s) will be switched to red in the “Automatic with demand contacts” when the destination has been reached. For example this feature could be used for a home-track-operation.
- Lock individual loco(s)
  - ➢ If you enter here one or up to 3 locomotives and check “No selection” this route will be allowed for using with all locomotives except these three.
  - ➢ But, of course you can enter an additional “Release route for”-condition.

This index card gives you powerful features to release/lock routes for several trains. It guarantees, that no train going the wrong way in manual as well as in automatic operation.

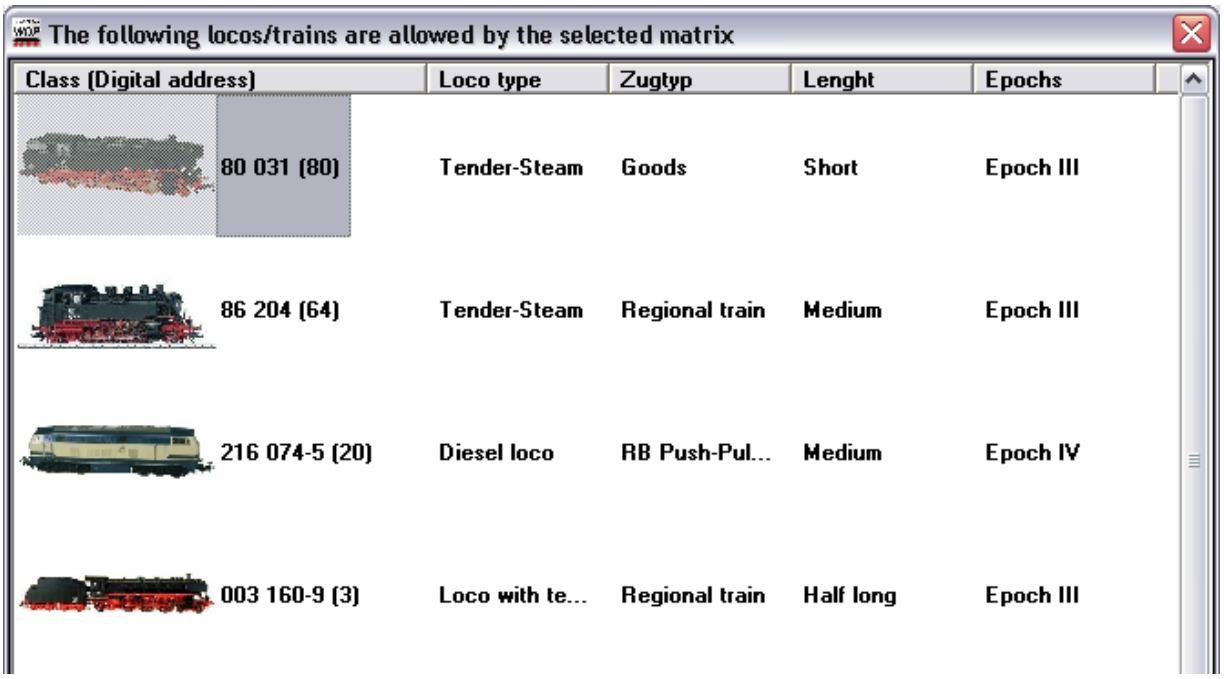
⚠	A click on the button **‘*Lock indiv. loc*’** will change the button to **‘Only loco’**. If you enter now no locomotive number at all, the route will be usable for any locomotive, no locomotive means in this case any locomotive.
⚠	Please keep in mind that for locomotives which are part of train, the train matrix will be taken into account and not the locomotives matrix.

8.10.1 Testing the loco type selection

You can easily test which locomotive can be used by the actually edited route according to the registered loco type selection.

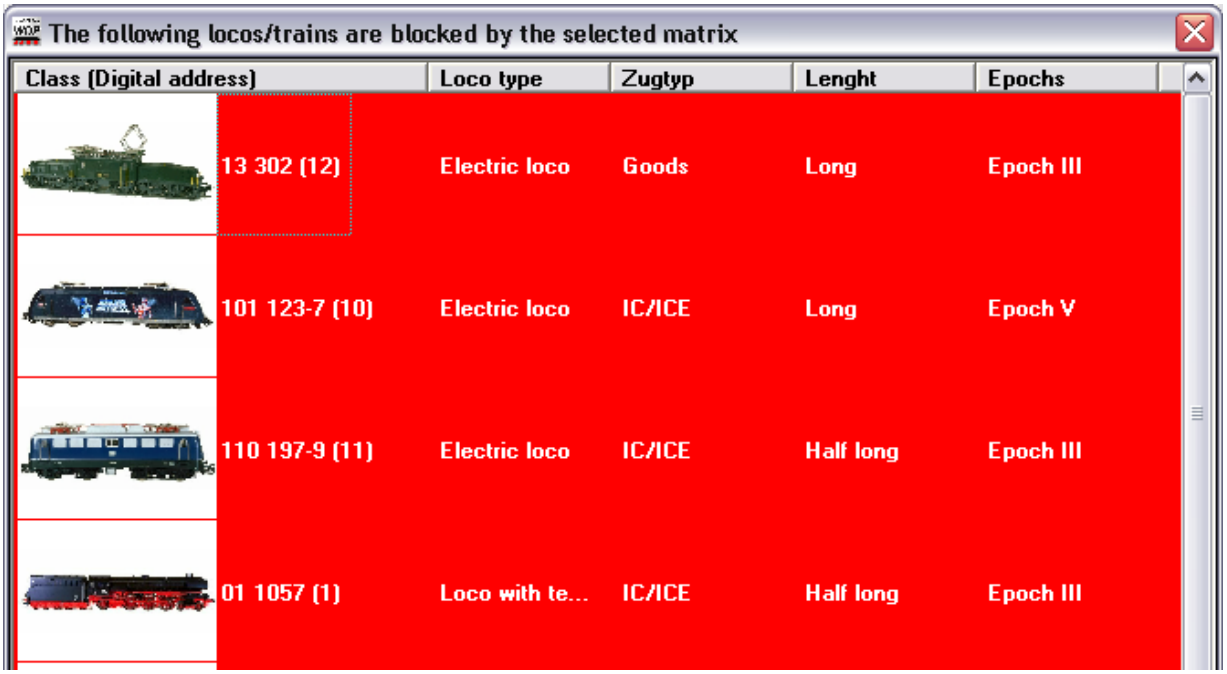
Therefore click on in the toolbar.

A new window will appear showing all locomotives that can be used by the route.



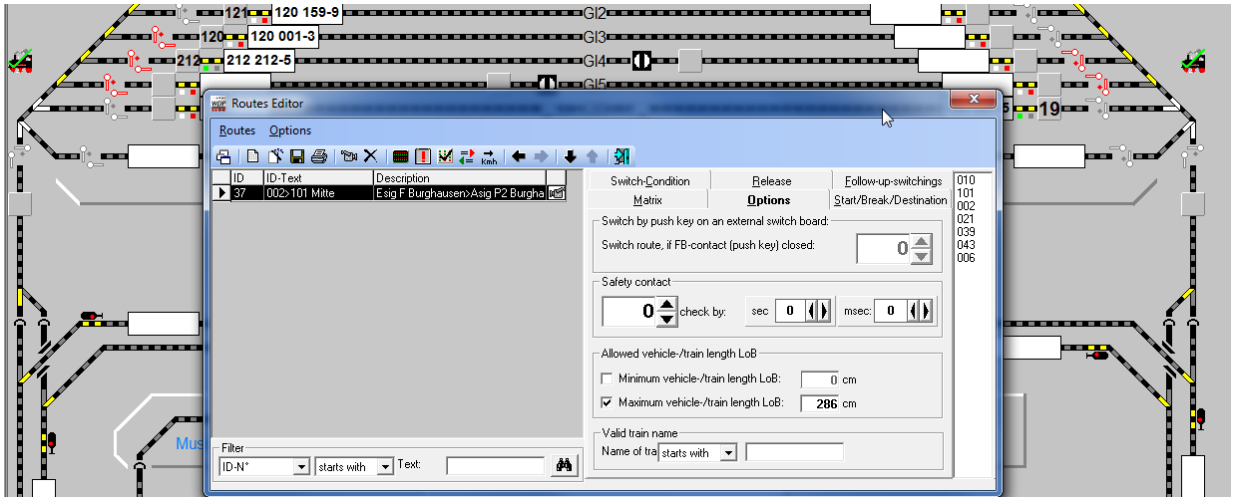
The list shows also the loco type of the listed locomotives.

With a double click into the list you can change the list from showing all locomotives which are enabled for the route to all locomotive blocked by the current loco type selection of the route (this list mode is indicated by the red coloured background). The next double click will switch back the list to its normal type.



8.10.2 Limiting the train´s LoB allowed for a route

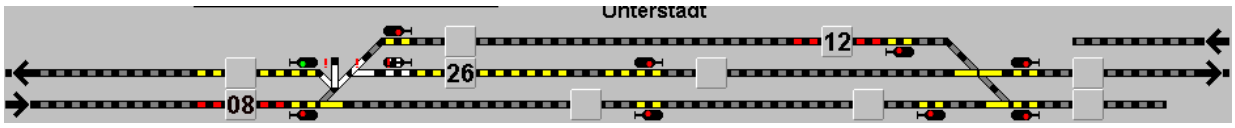
On the index card „Options“ you can limit the usage of the edited to trains who have a specific minimum or maximum length in cm. These values will be compared to the total train length resulting from the settings in the vehicle database and the train composition. This is a good addition to the matrix settings.



Please keep always in mind, that these precise cm-settings will have no effect on the old length settings from the matrix.

8.11 Check recorded routes

It is possible that a symbol may be faulty or the route is not switched correctly when the route is switched. This could happen if changes to the routes were made **later** in the track diagram editor and you forgot to save those changes. WIN-DIGIPET indicates this to you as well!



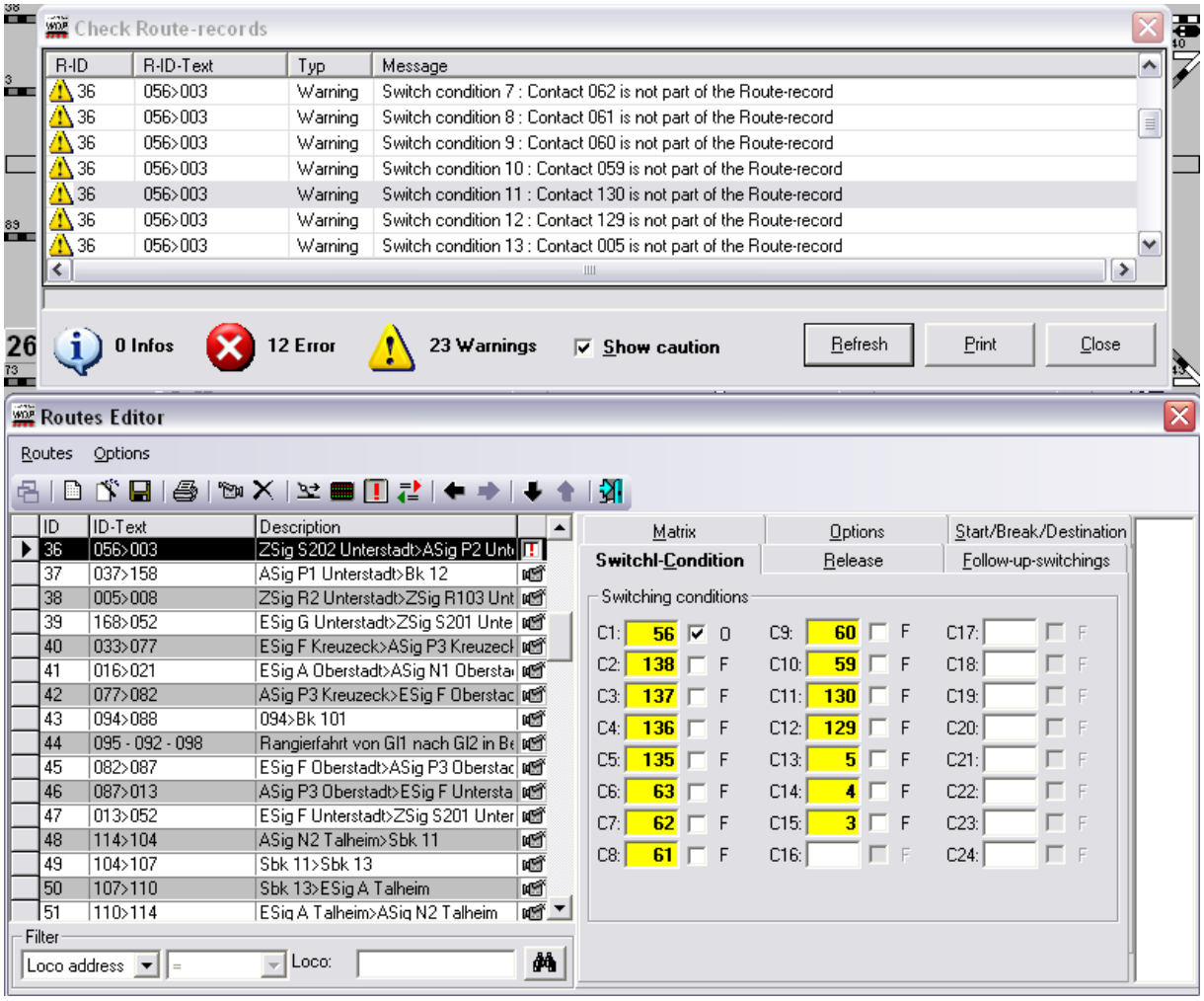
A **red exclamation mark** indicates in all program parts track symbols that are not identical with the recorded routes and the track diagram. You know immediately that you have to make corrections in the routes editor and where the areas are. The corrected routes have to be saved.

In the following picture the track diagram has been shifted one row down after recording of the route and the route hasn't been corrected yet.

To check **all** recorded routes automatically, click on <Options> and then <Check recorded routes> or on the switch ! in the toolbar.

WIN-DIGIPET 2012 checks all recorded routes whether they are **identical** to your track diagram and many other errors are also indicated. All routes need to be corrected will be listed in the routes list after the test. They are marked with a **red exclamation mark** to the **right** of the listing.

If you select an error or warning message in the check window, the route will be displayed immediately in the route editor and you can edit the route if you want.



In the track diagram you will find at the original track symbol positions of the route red question and exclamation marks.

- The exclamation indicates always a wrong symbol.
- The question marks indicate symbol position where a symbol was recorded before changing the track diagram and where **no** symbol is displayed any more.

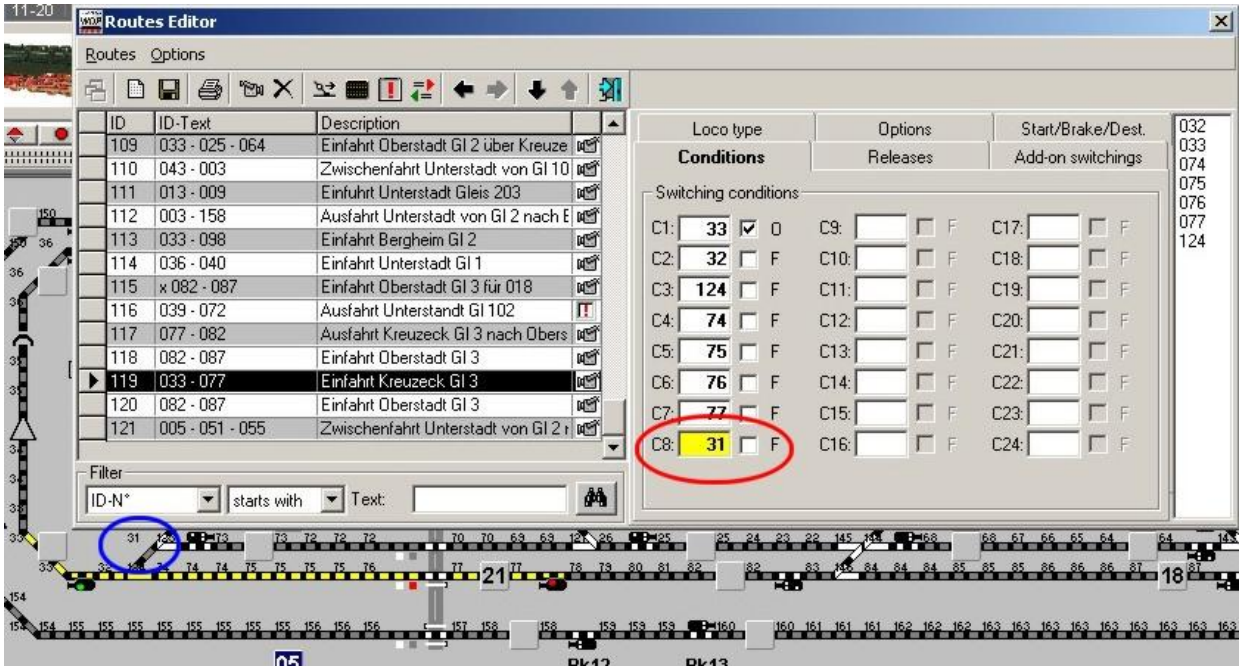
Perform all the necessary corrections with 'Record routes' on each route at the indicated places in the track diagram. Save the route after completion.

You can restart the check function using the button **'*Refresh*'**.

> Be very careful! Try to avoid any bigger changes of your track diagram after you started recording routes. This will save you a lot of time.

The complete routes list is reached by <Routes> – <Display all routes> or via the switch in the toolbar.

8.11.1 Switching conditions warnings

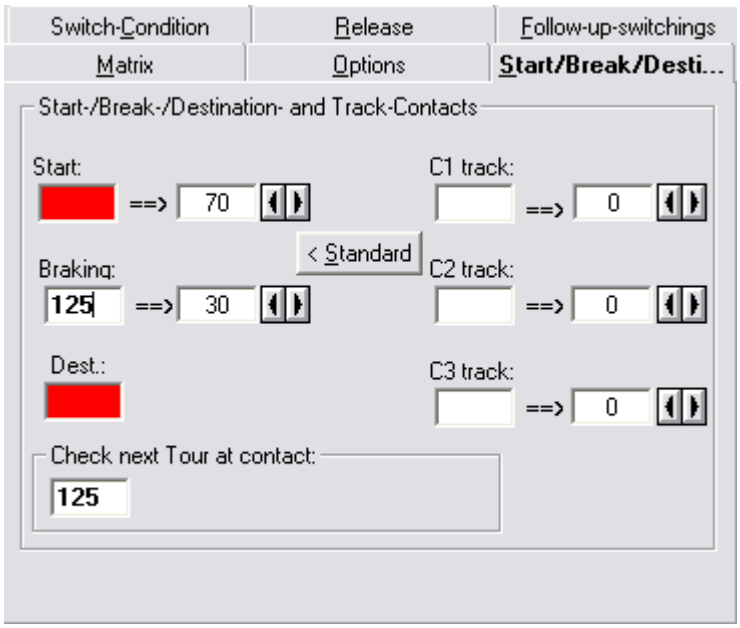


In this example the feedback contact 31 (see blue circle) has been registered in the switching conditions of the route (see red circle).

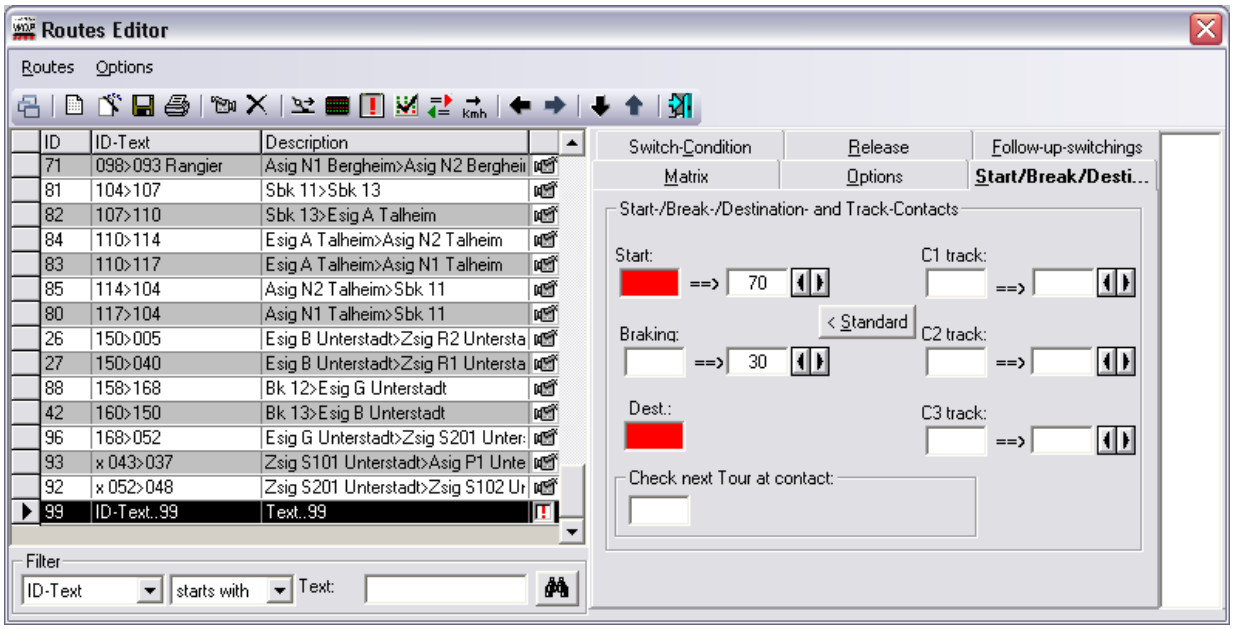
With the yellow background colour of the registration field Win-Digipet notice the user, that this feedback contact is not part of the registered route.

8.11.2 Missing start- or destination contact

If you have forgotten to register a start- or destination contact the according registration fields will be displayed with a red background colour.

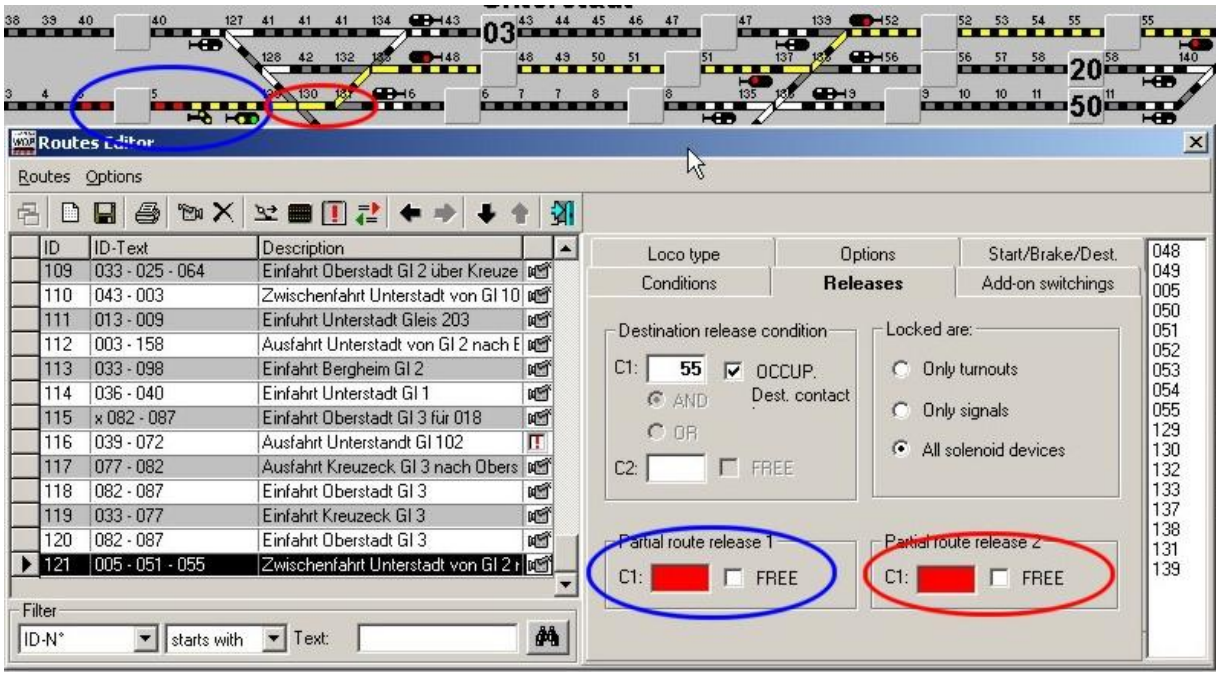


8.11.3 Error message for “No route recording”



If you haven't recorded the route yet, this circumstance will be indicated by a red exclamation mark (**!**) in the route list.

8.11.4 Error message for missing release conditions



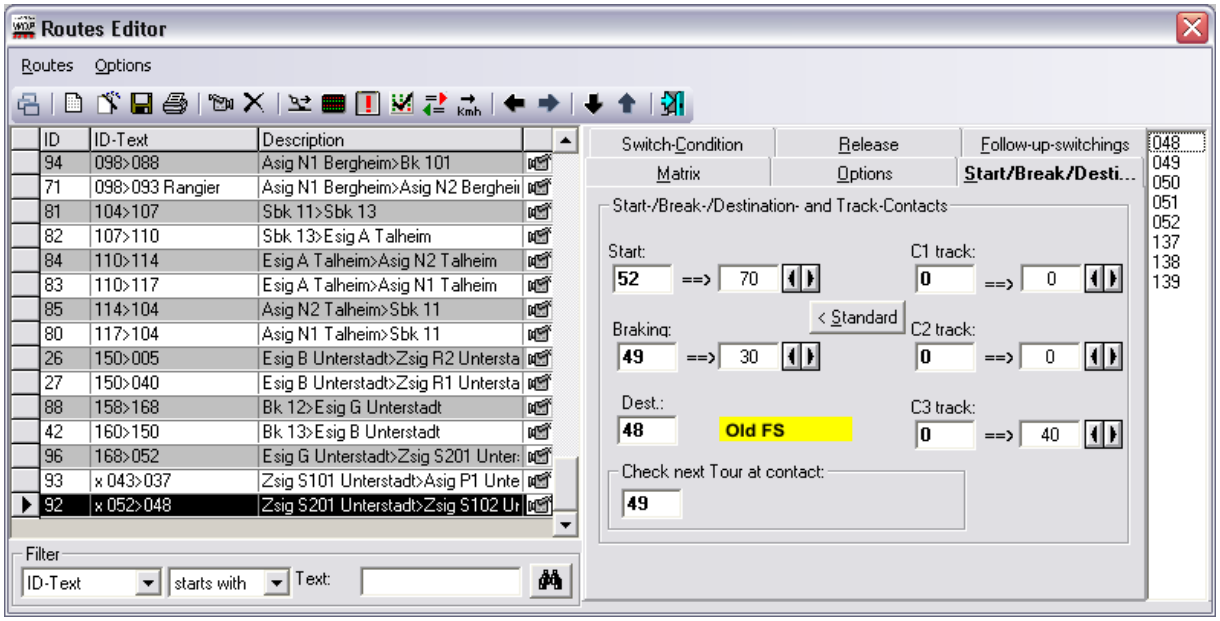
If you have forgotten to assign feedback contact numbers to one of the release conditions the according input field will be coloured in red.

8.12 Converting routes to km/h

If you have updated from a prior version of, you should copy your old project into a new one using km/h so you can easily change between the two projects until you become familiar to the usage of the km/h-mode.

Important!
When changing between two projects for one layout (one using speed steps and one using km/h) you should take care on the locomotive's position after switching to the alternate project. Take a look at all train number displays for showing you the current situation on your layout.

When using a route from a prior version the first time you will see the following on the start-brake-destination tab.

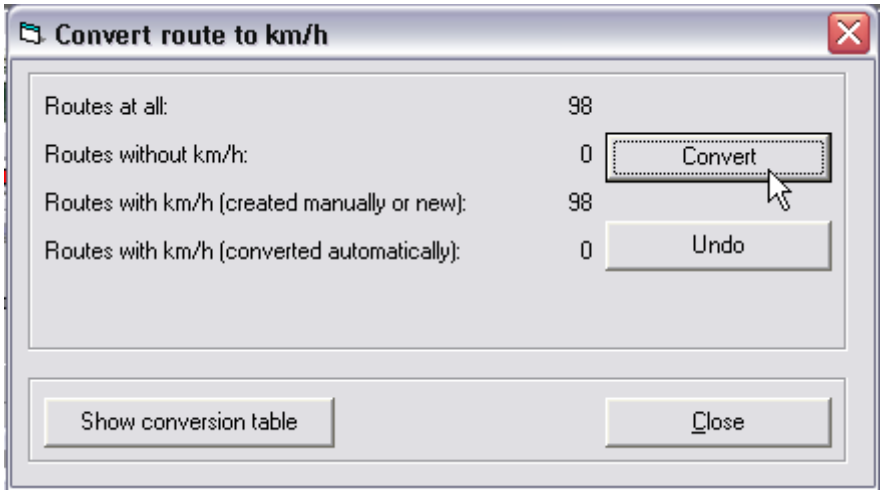


You will see the values which have been automatically calculated from the old speed settings. The label "Old RT" indicates, that these speed settings have be calculated using the speed settings of a route created by a prior version.

When changing to another route in the editor you will be asked if you want to save to calculated changes.

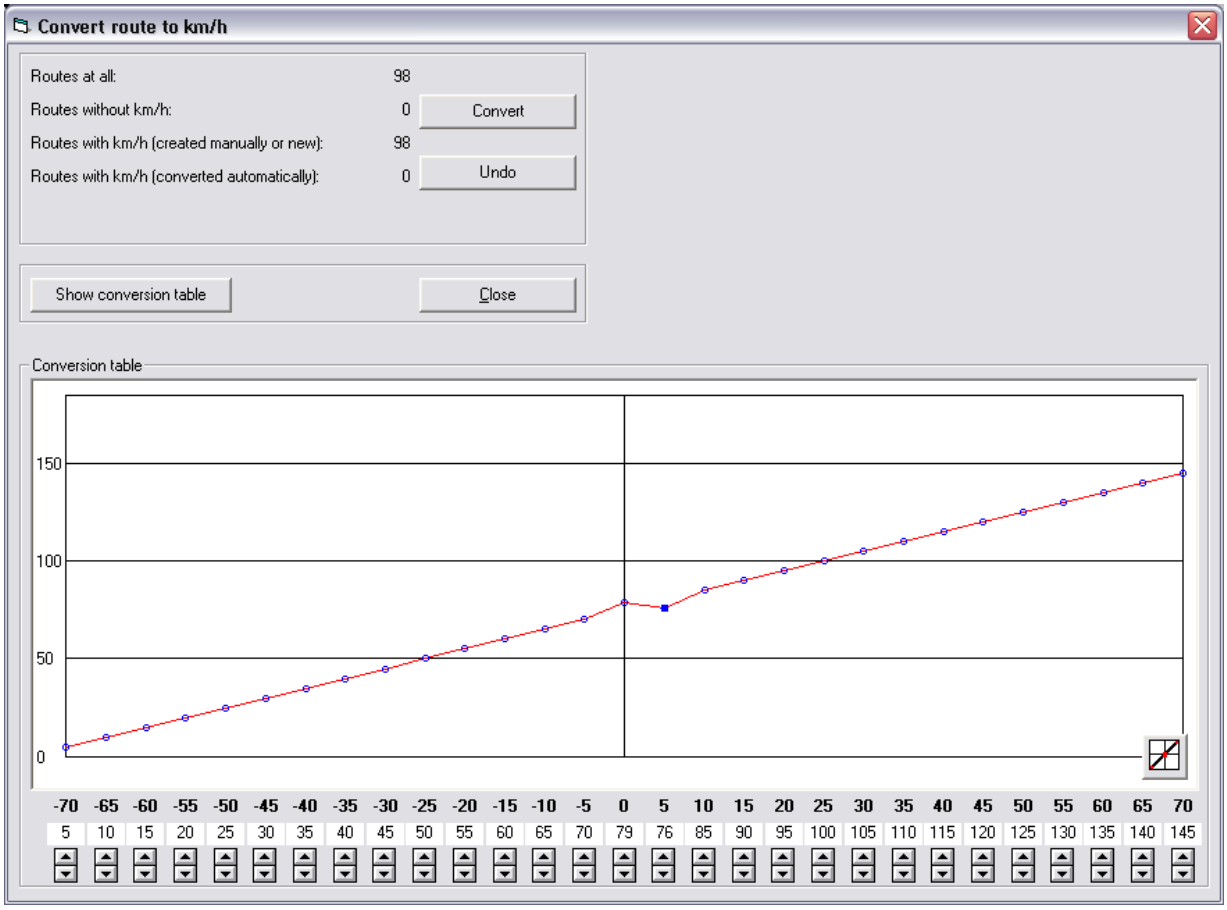
If you are not sure if the calculation suits your needs, you should select ***'No'***.

You can also convert all routes to km/h using a comfortable new function; therefore press the button  in the toolbar.



A new window appears, showing you the converting status of all routes. Here you can choose to convert all unconverted routes and you can also undo the conversion of all routes converted by this function (only until the first manual edit of the route after the conversion), if your first tests with the converted routes results bad conversion parameters to you.

The conversion parameters can be edited in the conversion table which can be displayed in the same window by pressing ***'Show conversion table'***.



Here you can select the conversion between the old relative speed steps -70 to +70 and the resulting km/h values. Using the arrow buttons or the left mouse button on any of the points in the diagram you can change the converted speed for each speed step.

Using  you can linearize the diagram using the values registered for -70 and 70.

The button **'*Convert*'** will result in the conversion of all routes which are unconverted until now.

The conversion can be reversed using **'*Undo*'**, the conditions for the reversion have been described above.

8.13 Route test

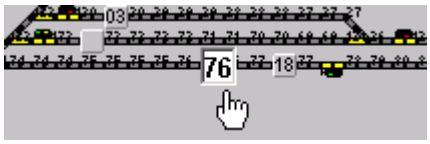
You can test your new routes immediately with **WIN-DIGIPET 2012**.

You can test your route with...

- the **simulation** in **WIN-DIGIPET 2012**.
- the route testing function together with the simulation.
- the route testing function directly with your model railroad layout.

Zoom for feedback contacts:

Under the menu <Options> <Display all feedback contacts> you can display all feedback contacts in the routes editor as well as in the main program.



You can check this switch to briefly check the recorded feedback contacts. All feedback contact numbers in the track diagram are displayed but until you use this function no track occupancy will be shown. This function is temporarily switched off. Once the switch has been unchecked, everything works as before, including the track occupancy. Sometimes depending on the track layout the given contact numbers are not readable. As soon as point to a number, left click the mouse. The number is coming up enlarged.

The zoom doesn't work if you have activated the <Display info about symbol below mouse pointer> in the menu <Options>.

> If you use this function in combination with the simulation, there will be no feedback information in the track symbols displayed and also you could not activate or deactivate feedback contacts by clicking on them.

8.13.1 Route test with the simulation

You have just created your route and now you may want to test the route.

To do this **WIN-DIGIPET 2012** supports a simulation mode. Close the route editor and drag a locomotive with pressed <u>right mouse button</u> to the start train number symbol of the route you'd like to test.

Now select the menu command <Options> <Simulation On> or click on the symbol  in the toolbar of the main program.

A little window labelled "Simulation ON" appears. If you open this window for the first time also the number 1000 will be displayed. This number indicates the time between two simulated events in

the simulation, because of this a lower number results in a higher speed. We suggest using perhaps 2000 (msec). This value gives you the chance to watch all events at your screen.

The simulation is set active after opening it, but you can start or stop it with two buttons in the small window.

WIN-DIGIPET 2012 automatically set all feedback contacts of the train number display, that show a locomotive number, to the state “occupied”. By this usually the first switching condition of the route is fulfilled.

Now click with pressed middle mouse button on the start- and afterwards destination train number display. A list will appear showing you all routes and or tours from this start to this destination. Select the route to test in the list and press **‘*Switch + Drive*’**, the route will be executed immediately and the train seems to move along the itinerary.

- The train number moves from the start to the destination contact as selected in the system settings.
- The feedback contacts will be occupied in same order as the switching conditions were registered in the route editor. If the itinerary will be highlighted in red/yellow not in the correct order then you should check your switching conditions.
- All add-on-switching will be executed.
- Also the partial releases will be executed.
- The speed of the locomotive can be watched in the locomotive controls, the locomotive quick command bar or as tendency in the locomotive monitor.
- When fulfilling the release condition the entire/rest of the route will be deleted from the screen.
- If you have recognized an error in your route correct the settings you’ve done in the route editor, drag the locomotive again on the start train number display, set with a mouse click the destination feedback contact to “Free” and the start feedback contact to “Occupied” and start the route again with the start-/demand-function.
- You can test further routes also in the way.

If you leave the simulation you can decide whether to restore the situation before the simulation in your track diagram or not.

	If you want to test a route with many feedback contacts or many add-on-switching it is sometime useful to stop the simulation and to (de-)activate the feedback contacts manually with mouse clicks. By doing this, it will be easier to recognize single events

	If you use the simulation with a connected digital interface no locomotive command will be sent and no solenoid device will be switched.

When leaving the simulation you should always answer with ***'Yes'*** to restore the real situation of your model railroad layout on the screen.

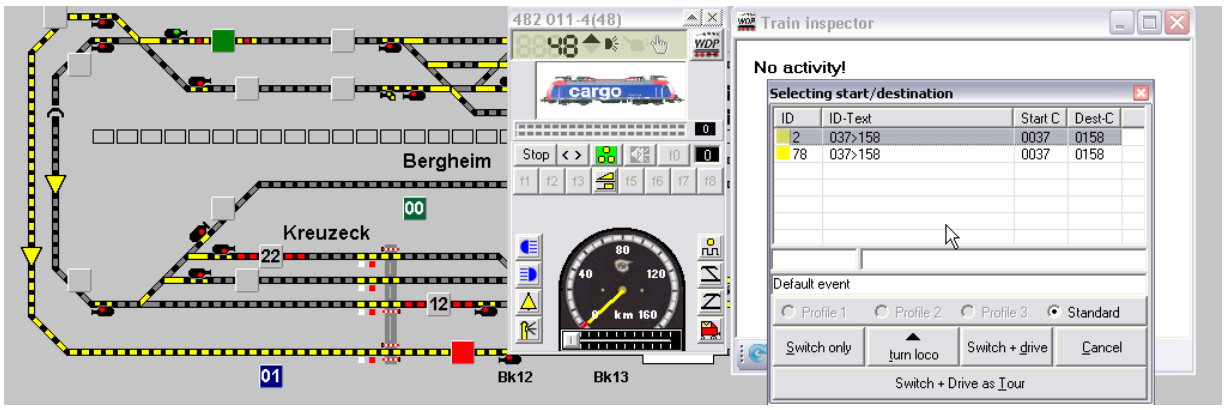
8.13.2 Route testing on your layout

Leave the routes editor and drag with pushed right mouse button a locomotive from a loco control or the locomotive monitor to the start train number display of the route to test.

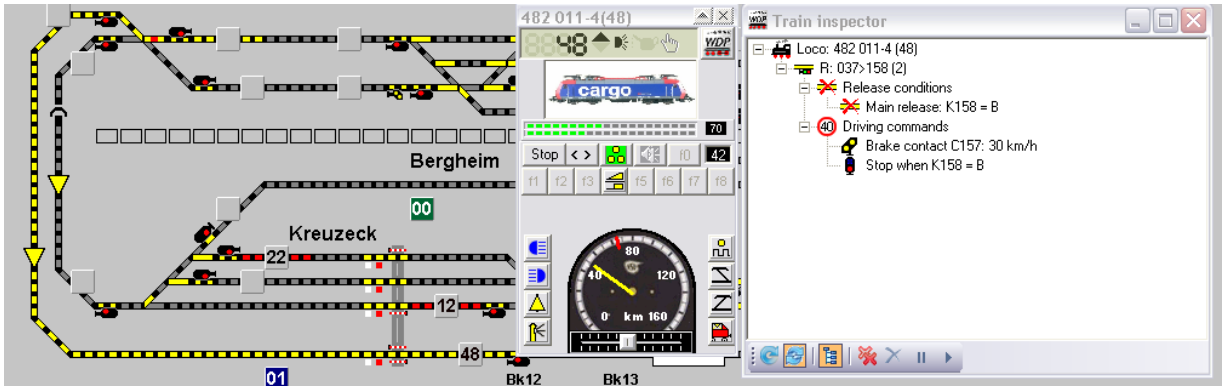
Now place your locomotive on the start contact of your route and open the locomotive's loco control.

For monitoring your locomotive please open the train inspector via the button .

Now click with pressed middle mouse button on the start- and afterwards destination train number display. A list will appear showing you all routes and tours from this start to this destination. Select the route to test in the list and press ***'Switch + Drive'***, the route will be executed immediately and the locomotive will start its journey.



Now you monitor the movement of the train in the locomotive control and the train inspector.



In the train inspector you see for example...

- the outstanding driving commands
- the outstanding add-on switching
- and the outstanding release conditions

...for the executed route.

After finishing the route, the train inspector shall be empty. Otherwise you made errors in your route.

8.14 Disable request for saving

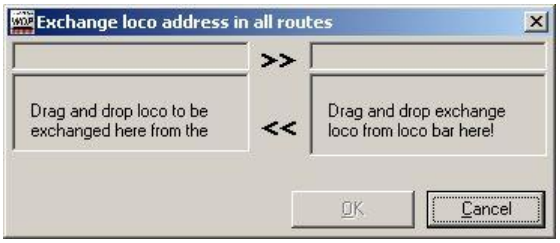
If you want to disable security queries to save your data records, then you can disable this request by <Options> <Disable request for saving>.

	This function is dangerous and should be handled with care because one wrong mouse click can cause the loss of many data of the last changed and unsaved route.

8.15 Exchange loc address in all routes

If you have registered locomotive addresses in many routes it would be much work to exchange locomotive addresses in all routes manually.

If you want to exchange a locomotive address if you want to redefine your "Home tracks" for example proceed as follows: Select the menu command <Option> < Exchange loco address in all routes > or in the toolbar of the routes editor on the symbol  .



The window as shown right beside this text will be displayed.

Drag the "old" and the new "new" locomotive to the field („drag & drop") and click afterwards on **'*OK*'**. Now the selected locomotives will be exchanged in all routes.

8.16 Options, external keyboard, safety contact

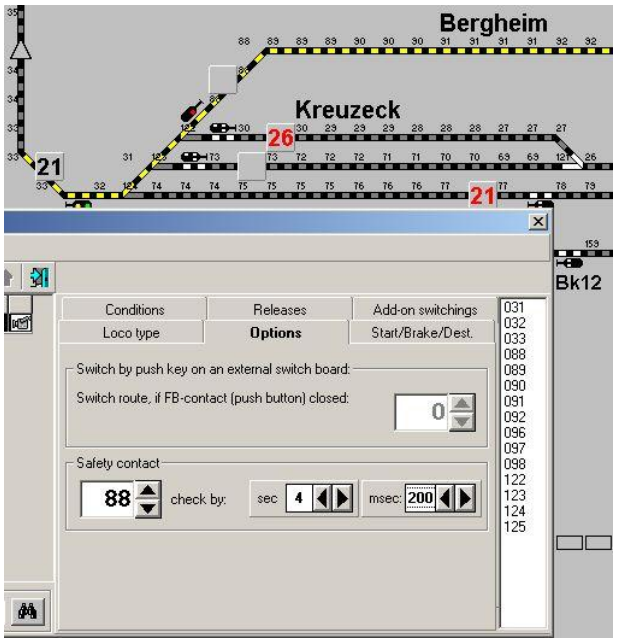
Switch routes and solenoid devices via external switchboard:

You have to activate the feature "Switch routes and solenoid devices by push key (external switchboard)" in the system settings.

This provided you can register the appropriate contacts in the routes editor.

If – for example – only one solenoid device shall be switched, you have to register two routes with each "red" and "green" of this solenoid device and assign it to one contact each. The interrogation will be done each 500 milliseconds – therefore you have to push the key for half a second. Switching conditions, partial release and add-on-switching **will also be taken into consideration**, the route will also be illuminated, if a release-condition is registered and faded out, as soon as this release condition is achieved. If no release condition is registered, the route will just be illuminated for a short time.

Safety contact :

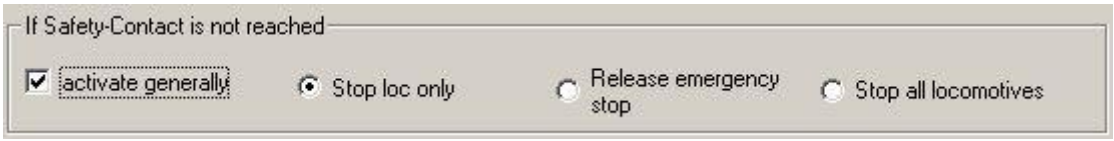


The safety contact is a function to reduce the consequences of turnouts, that doesn't switch proper.

If a turnout integrated to your route does not switch always to the correct position, proceed as follows:

Drive the route with your slowest locomotive and measure with a stop watch the time from the start until the train reaches the safety contact (in our example contact 88). On the index card you can now register the measured time in addition with a small tolerance.

If the train doesn't reach the contact (88) within the registered time-out after starting the route, because the turnout hasn't switched to the correct state or because another error occurred, **WIN-DIGIPET 2012** will perform the action selected in the system settings on the index card „Program settings - Routes (see **4.7.7**).



You should try the route with several trains to get a proper value of time to reach the safety contact.

8.17 Allocation of routes to the virtual keyboard

Up to **32** frequently used routes can be allocated in the main program to a **virtual keyboard.** The main program will execute them immediately by a mouse click (on assigned buttons) (see **18.5.3**).

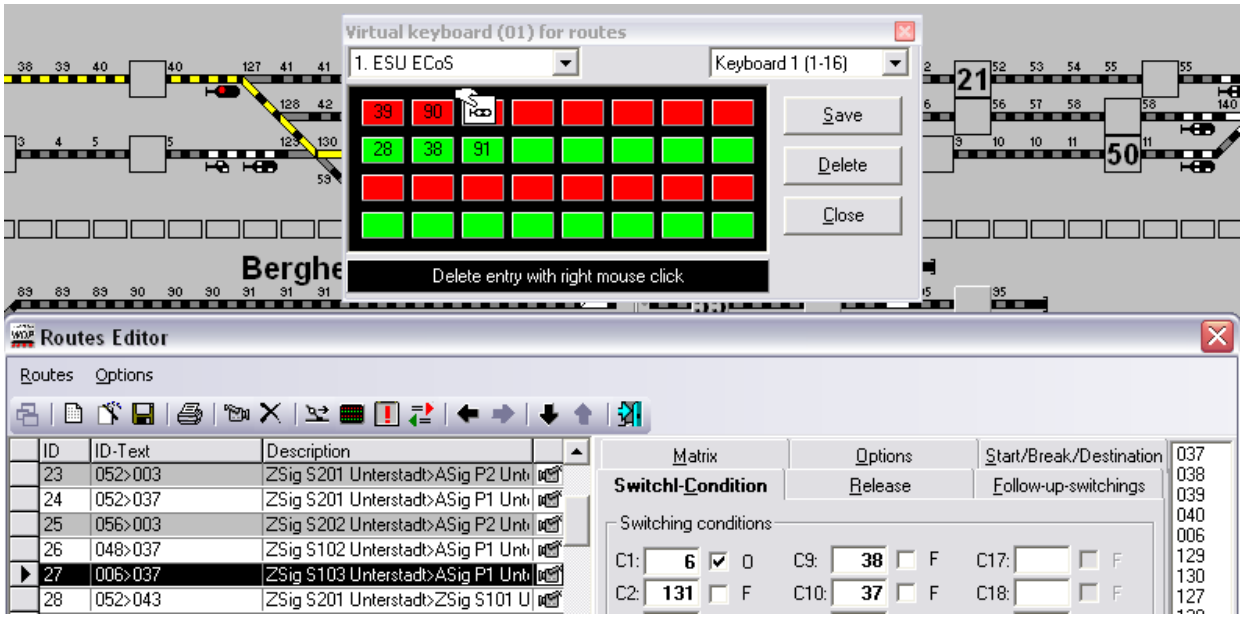
These max. 32 routes can be allocated to the command buttons of the virtual keyboard, using the routes editor.

Click on <Options> in the menu bar and then on <Allocate routes to keyboard> or on the switch in the toolbar.

A window *'Allocate virtual keyboard with routes'* opens, containing 32 command buttons.

The **keyboard number** in the right hand display window is used in conjunction with the **used digital system**; more detailed description to this feature below in this section. Should you not owe an Intellibox, select **"1"** for the keyboard number.

Mark the route in the routes list which should be assigned to a command button of the virtual keyboard. Click again on the line in the list and, with the left mouse button pressed, drag it to the command button. Release the mouse button. You may recognize this functionality as "drag & drop".



The command button shows the **ID** number of the route and the route description is displayed in the bottom display line.

For further routes proceed as described above.

Having completed all the inputs on the virtual keyboard, click on **'Save'**: The recorded route is saved and available for switching in the main program.

Routes can be **individually** cancelled on the virtual keyboard by clicking on the relevant command button with the right mouse button pressed.

The switch **'Delete'** deletes **all** recorded routes registrations from the buttons.

Moving the mouse pointer over an assigned button displays the description of the route in the bottom display line.

Additional information for Intellibox users:

A true closed loop between the layout and the computer takes place, using the Intellibox (in contrast to the Märklin system). Details can be found in **4.2**.

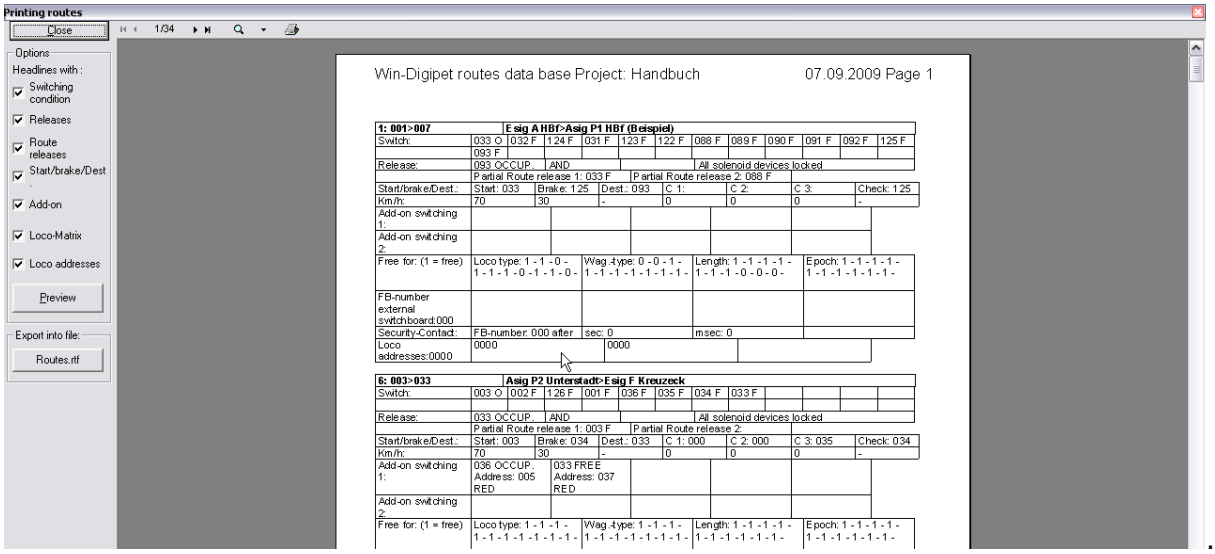
An existing keyboard hardware, plugged in on the left-hand side of the Intellibox, can be used to switch the first group of 16 routes.

To utilise this function, activate the "Keyboard No." and the correct keyboard address in system settings under „Hardware - Intellibox/Icum". Activate the switch "Switching position of solenoid devices using keyboard as input device" (see **4.2.3**).

⚠	With the virtual keyboard you can't drive any locomotives/trains on the layout or in the simulation. This function can only be used for switching routes; the trains have to be controlled manually.

8.18 Print routes list

In the menu <Routes> use <Print> or click on the switch in the toolbar. The process is the same as described in section **5.13** – Print vehicle database -. The screen displays are self-explanatory.



8.19 Correct route recording after changing your layout

If you have made changes to your track layout double-check for correction of the affected routes, otherwise false symbols might be displayed or solenoid devices might not be switched as you expect.

For correcting your route...

- open the route editor
- select the route to be changed (please **don't** create a new route!)
- click on the camera symbol
- correct the itinerary and finish the recording using the red record button

...your changed route will be displayed immediately.

8.20 Exit routes editor

Click in the menu <Routes> on <Exit> or on the switch in the toolbar: You will be returned to the main program **WIN-DIGIPET 2012**.

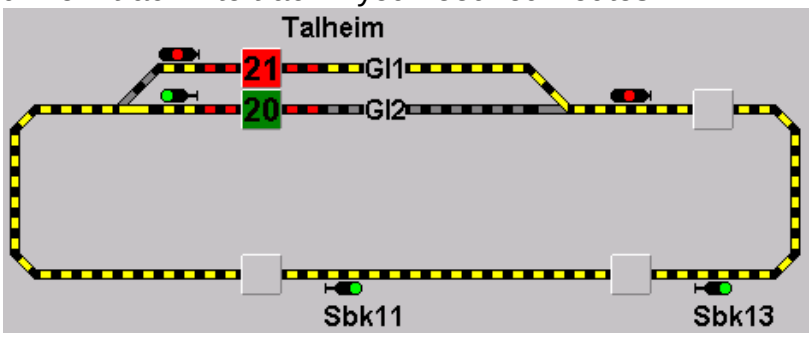
9 – TOUR-EDITOR

9.1 General

Tours in **WIN-DIGIPET 2012** are similar to routes (see routes editor, chapter **8)**, but one tour usually contain more than one route. Tours are also defined from **one** start- to **one** destination contact. In contrary to routes the destination contact could be the same as the start contact, if there is a minimum of one block between the contacts. A train using a tour drives from block to block and will stop only if the next block is "occupied" and no valid alternative routes exist.

A small example:

On track 2 of Talheim you can see locomotive 20 and on track 1 locomotive 21, all other blocks are free. For a tour from track 2 to track 1 you need four routes.



- From track 2 to Sbk11
- From Sbk11 to Sbk13
- From Sbk13 to signal in front of Talheim
- From signal entering Talheim to track 1

If you use this route via „Switch and drive", you drive from one block to the next block with train stops at the end of the block. If you register these four routes to a tour, the train 20 starts from track 20 and drives threw the blocks mentioned above to track 1. But in the example above the train will stop a the signal before Talheim, because track 1 is still occupied by locomotive 21 and will automatically continue driving when track 1 gets free.

In **WIN-DIGIPET 2012** tours a registered in a table. Every tour stands for a train driving an itinerary from one start- to one destination contact using the routes, which were combined to a tour in the editor. A route can even use repeatedly a similar itinerary on your layout, but may **never** drive over the destination contact more than one time.

Of course also profiles, the matrix and special home track definitions (see later in this chapter) can be used in tours.

The tour editor is used to register tours in **WIN-DIGIPET 2012**.

Before you want to use or edit tours the first time you have to activate them in the system settings, otherwise the icon for the tour editor and the tour schedule editor are invisible in the menu and the toolbar.

The Tour-Editor / the tours offer the possibilities as follows:

- Combining existing routes to a tour.
- Defining only one itinerary for the tour from start- to destination contact
- or defining itineraries with alternative ways if some blocks are occupied.
- Driving the train several rounds across the layout before reaching the destination.

- Even changes of direction are possible during a tour, if profiles with direction change commands exist for the used locomotives.
- Tour can be used by more than one train after the other or even at the same time.
- Of course the locomotive type selection from the routes editor will be taken into account, so you can still create individual using conditions for different locomotive types.
- Tours can be used in automatic with demand contacts and the tour automatic.

9.1.1 Tour processing

The process flow of the tour in the last section is show in the following table.

Tour event flow in WIN-DIGIPET 9.0					
Route	Check contact for next route	FB-contact	Speed of train when stopping in %	Speed of train when driving in %	Comment
114 - 104		114	40	40	**Start** of the tour
		102	30	30	Reduce speed because of track contact
	103	103	20	**50**	Brake contact/check contact/continue if next route is free, otherwise brake
		104	0	50	Dest. of 1st route, if 2nd route free, continue, otherwise stop
104 - 107		104	50	50	Start of 2nd route, if stopped before, otherwise continue with assigned speed
		105	30	30	Reduce speed because of track contact
	106	106	20	**40**	Brake contact/check contact/continue if next route is free, otherwise brake
		107	0	40	Dest. of 2nd route, if 3rd route free, continue, otherwise stop
107 - 110		107	40	40	Start of 3rd route, if stopped before, otherwise continue with assigned speed
		108	30	30	Reduce speed because of track contact
	109	109	20	**35**	Brake contact/check contact/continue if next route is free, otherwise brake
		110	0	35	Dest. of 3rd route, if 4th route free, continue, otherwise stop
110 - 117		110	35	35	Start of 4th route, if stopped before, otherwise continue with assigned speed
		115	30	35	Reduce speed because of track contact
	116	116	20	20	Brake contact/check contact/brake
		117	0	0	**End** of tour

In the first 4 columns you see the route's data. The fifth column shows the speed of the train if the next route can be switched and the train has not to be stopped. Every time an adjacent route can be switched when reaching the check contact, the speed settings of the actual route are ignored and the speed settings are used from the adjacent route. The **bold** speeds in the table are taken from the next route.

If the adjacent route cannot be switched when reaching the check contact, the speed of the train is controlled by the actual route. Even if the train has already reached the stop contact the train will be accelerated again if the adjacent route gets free and does not stop.

The recommended check contact usually is the break contact, but you can use every contact of the route. As you remember the chapter about the routes editor you've define the check contact to the index card "Start/Brake/Destination".

9.2 Registering tours

The tour editor can be opened by <File> <Tour-Editor> or by clicking on the symbol  in the toolbar.

When opening the tour editor for the first time you will see an example entry, which could be overwritten by your first tour.

Before registering your first tours you should consider the following:

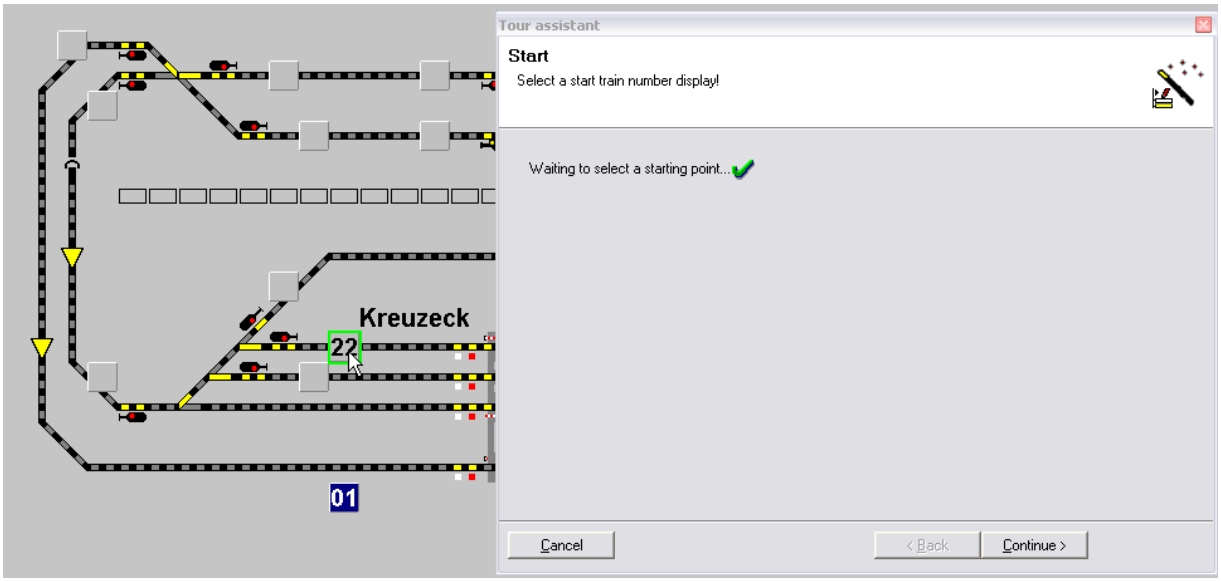
- where to start with the tour,
- where to end with the tour,
- which locomotive types should use the tour,
- which itineraries should be used by the tour,
- do you want more than one train to use this tour,
- which alternative itineraries can be included in this tour,
- do you want to use home-tracks similar to the routes?

9.2.1 Creating tours using the tour wizard

For the creation of tours using the tour wizard you should consider the following….

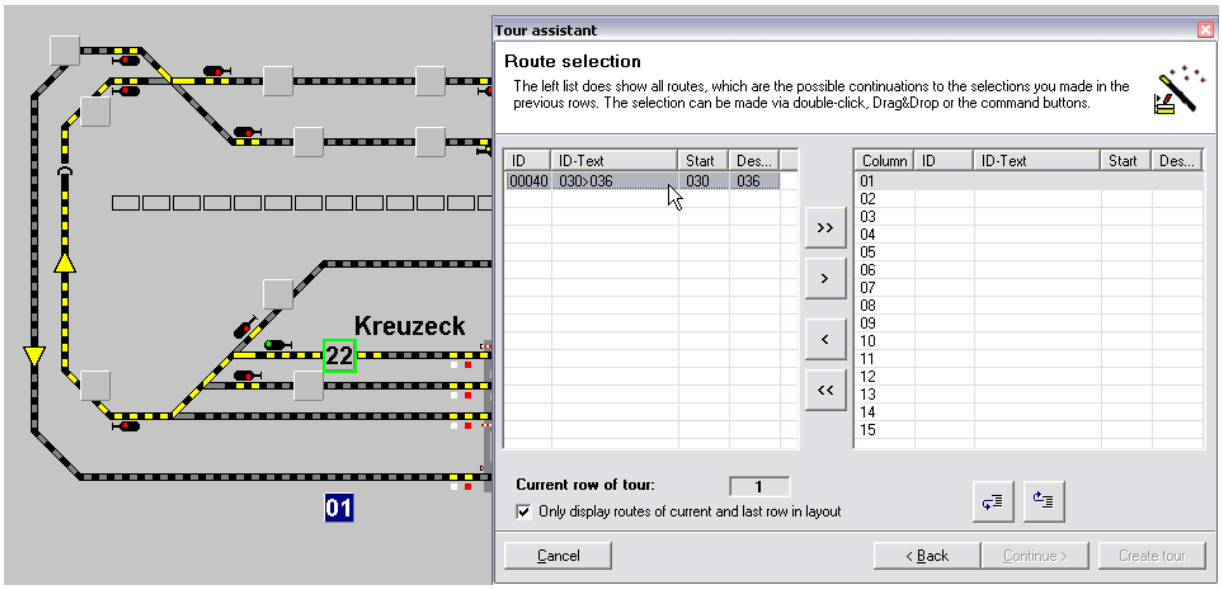
- all necessary routes have been created (see **8.3** to **8.3.9**)
- a loco type check for the designated the routes has been made (see **8.9.1**)

To start the tour wizard just click on  in the toolbar of the tour editor. The wizard will ask you immediately for the start position (start train number display where the tour shall begin).

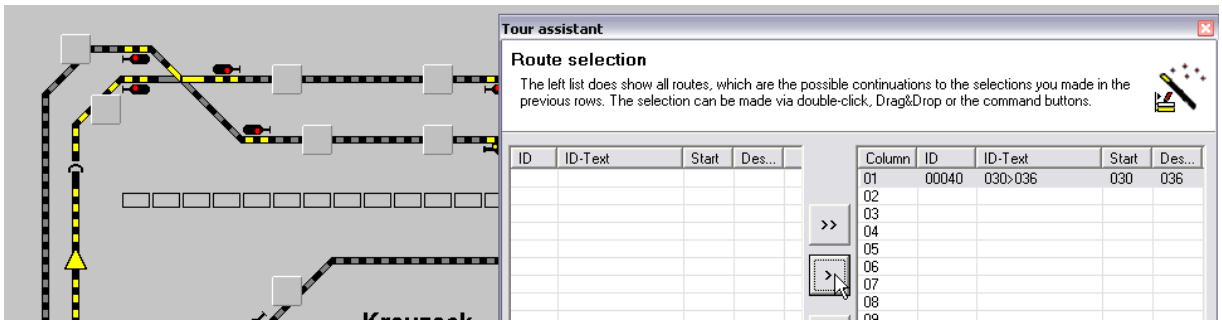


Just click on the start train number display and proceed with **'*Next*'**.

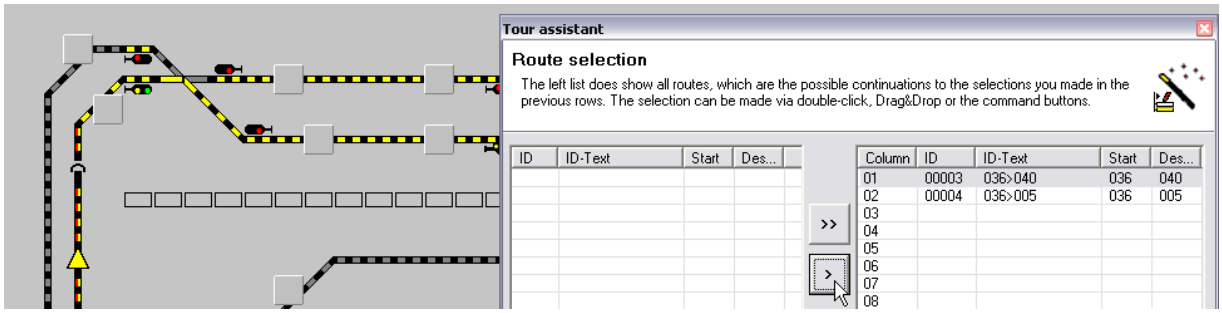
Now all routes starting at this train number display will be shown in the left handed list.



In our example only one route has been found, when highlighting the list entry the route will be displayed in the track diagram.



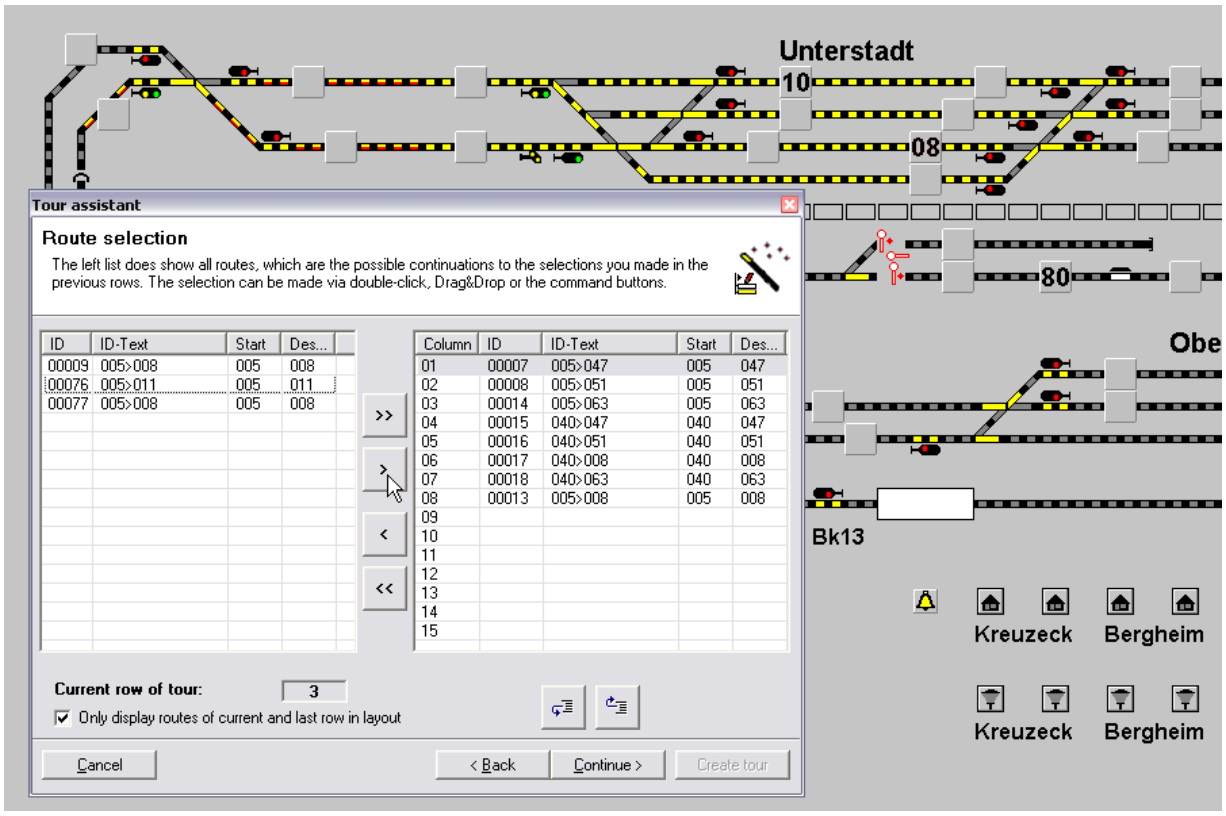
By using the single arrow button pointing to the right in the centre of both lists you can include the route into your tour. Afterwards ***'Next'*** will be enabled and you can press it to get to the next routes, which begin at the end of the first route...



In our example we do select both routes and transfer them to the right handed list, so that at contact 36 the train has the choice to travel to contact 5 or to contact 40.

If you want the alternative routes to be used in a special order you should transfer them to the right list in ascending order.

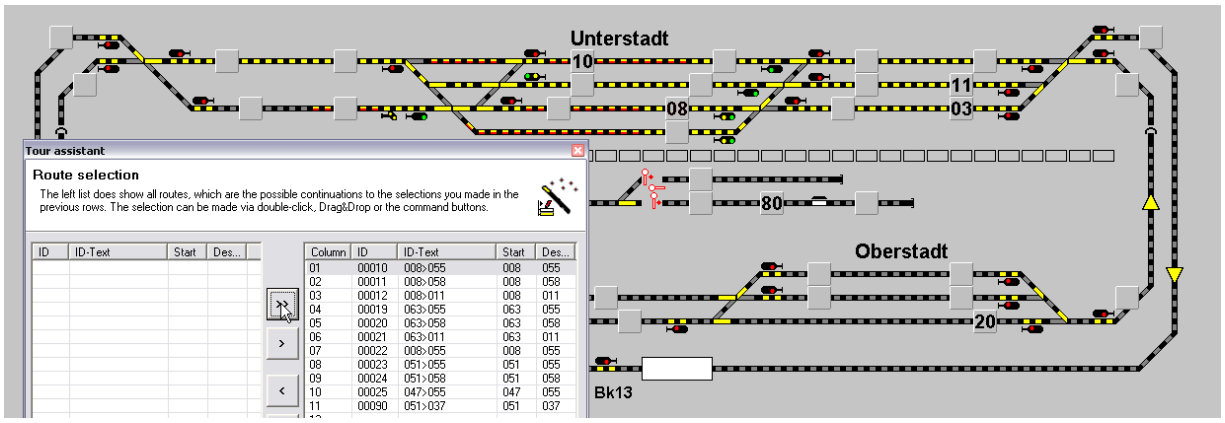
Afterwards press again ***'Next'***...



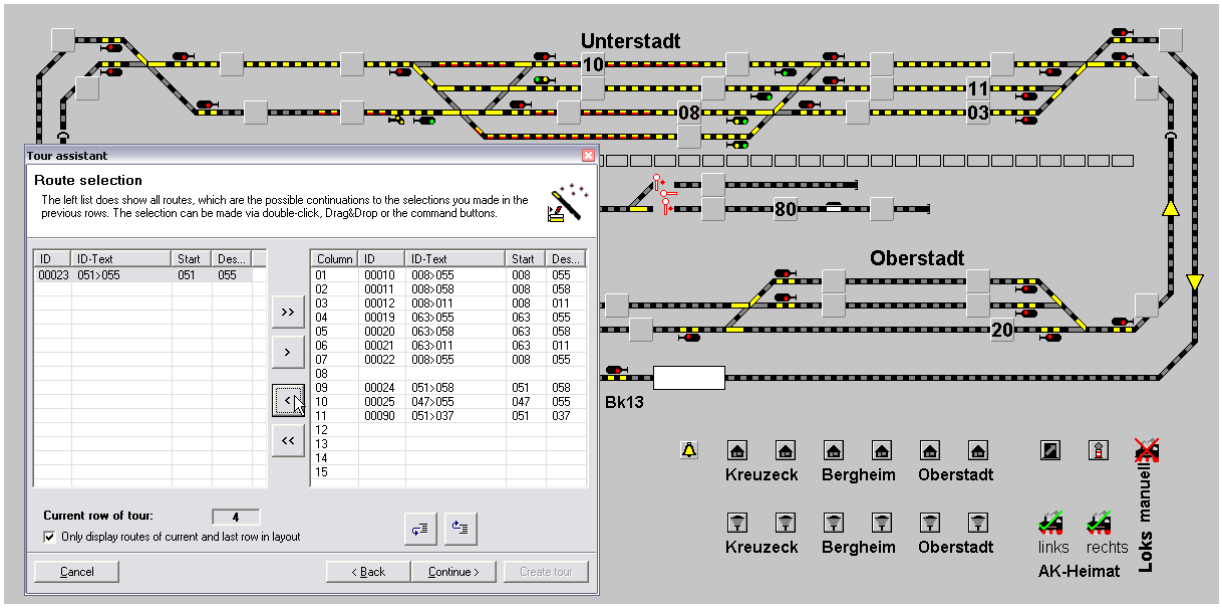
...and the left list will show you all routes starting at 5 and also at 40.

Again you can transfer the routes that you want to include in the tour to the right list.

Afterwards press again ***'Next'***...

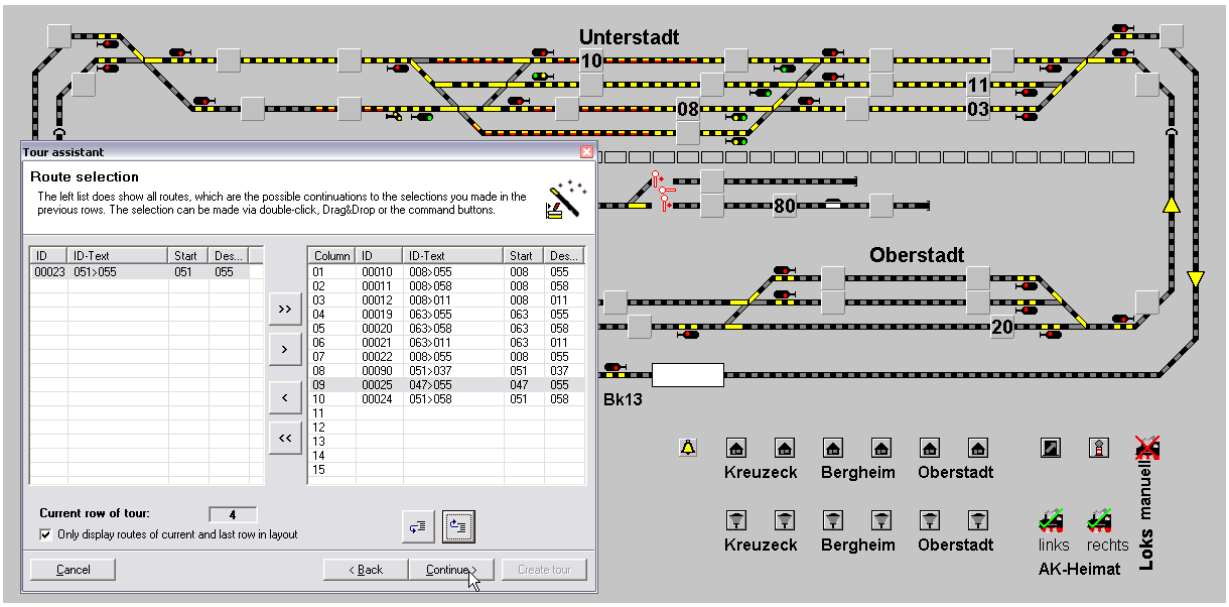


...now you can transfer all routes from the left side to right side using the upper double arrow button.

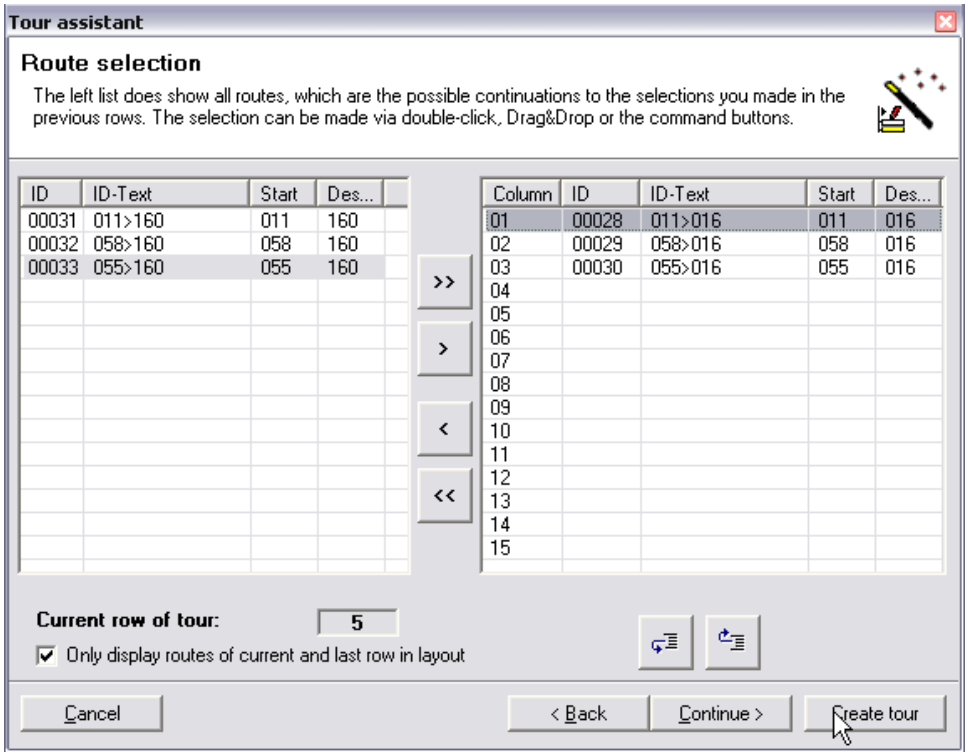


Using the arrow buttons pointing to the left you can also transfer one or all route(s) again from the right to the left handed list to exclude them from the tour.

The right list can also be rearranged by using the buttons  and  .



...by pressing again **'*Next*'** the tour creation will be proceeded.

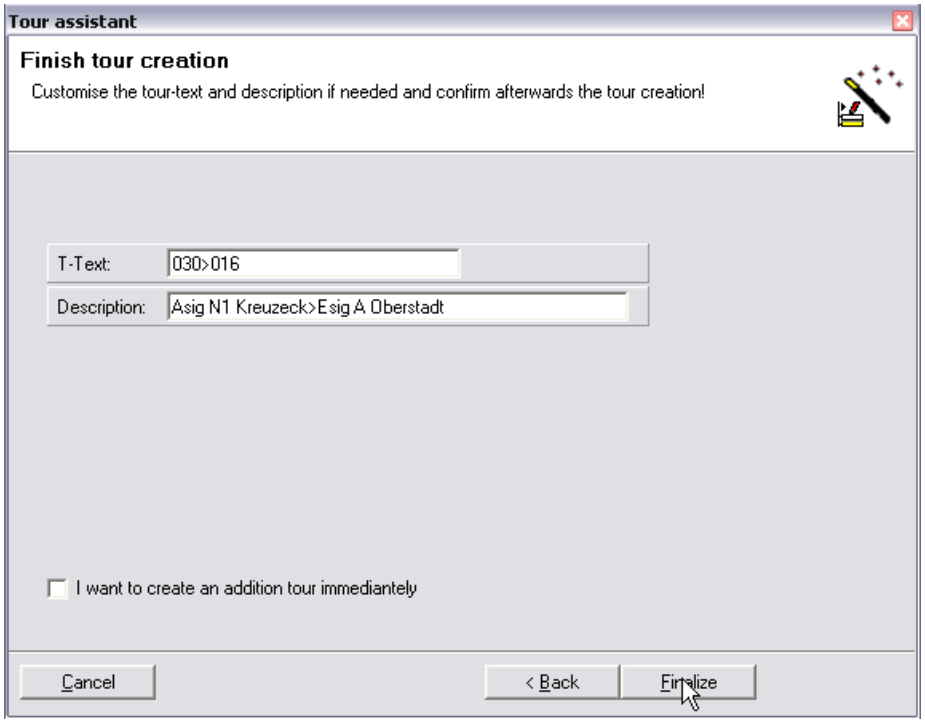


Now do only select tours which end at contact 016 to give the tour a singular destination contact.

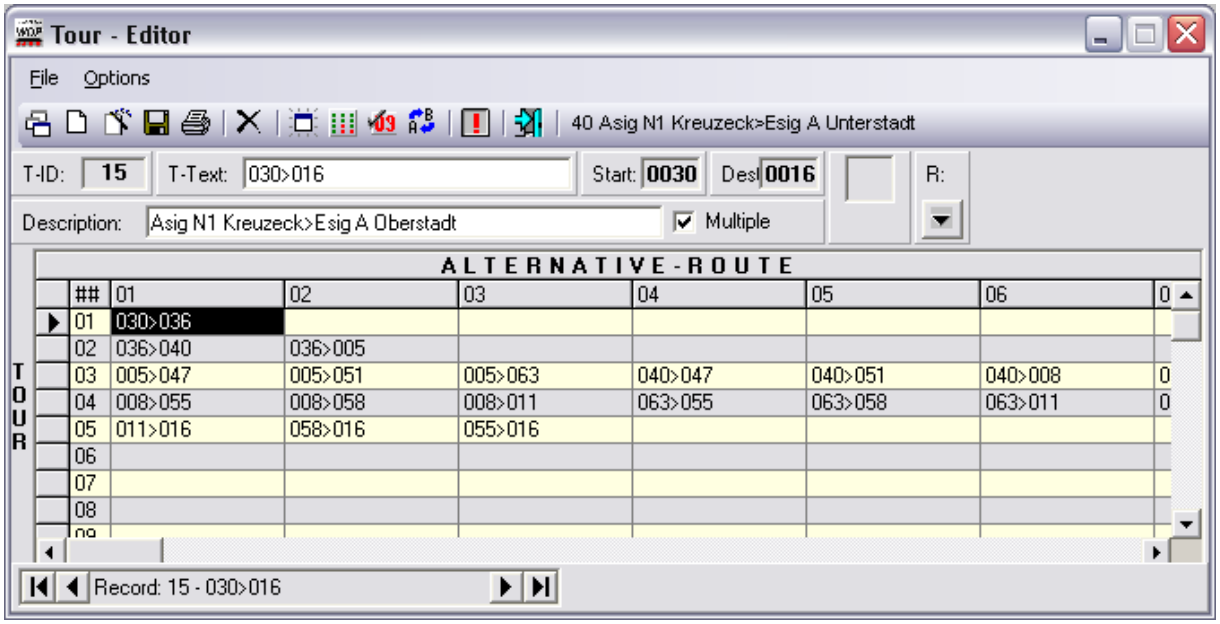
Now the tour has end at a singular destination contact and you'll finalize the tour creation by pressing **'*Create tour*'**.

If you want to get a better overview while using the tour wizard you may use the option „*Only display routes of current or last row in layout*". This option hides all routes of the tour except the ones of the current or last row in the layout.

After pressing ***'Create tour'*** you are asked to enter a name and a description for the tour.



Before you press ***'Finalize'*** you can select whether you want to create an additional tour using the tour wizard or not.



The above picture show you the tour editor with the tour created last by the tour wizard.

Important!

If you want to use the tour with more than one train at the same time, then you have to check *"Multiple"*. This is very useful feature by using longer tours to avoid traffic jams or the need to register additional tours. You should remember when using this option to give the train possibilities to continue at the end of the tour, because otherwise a

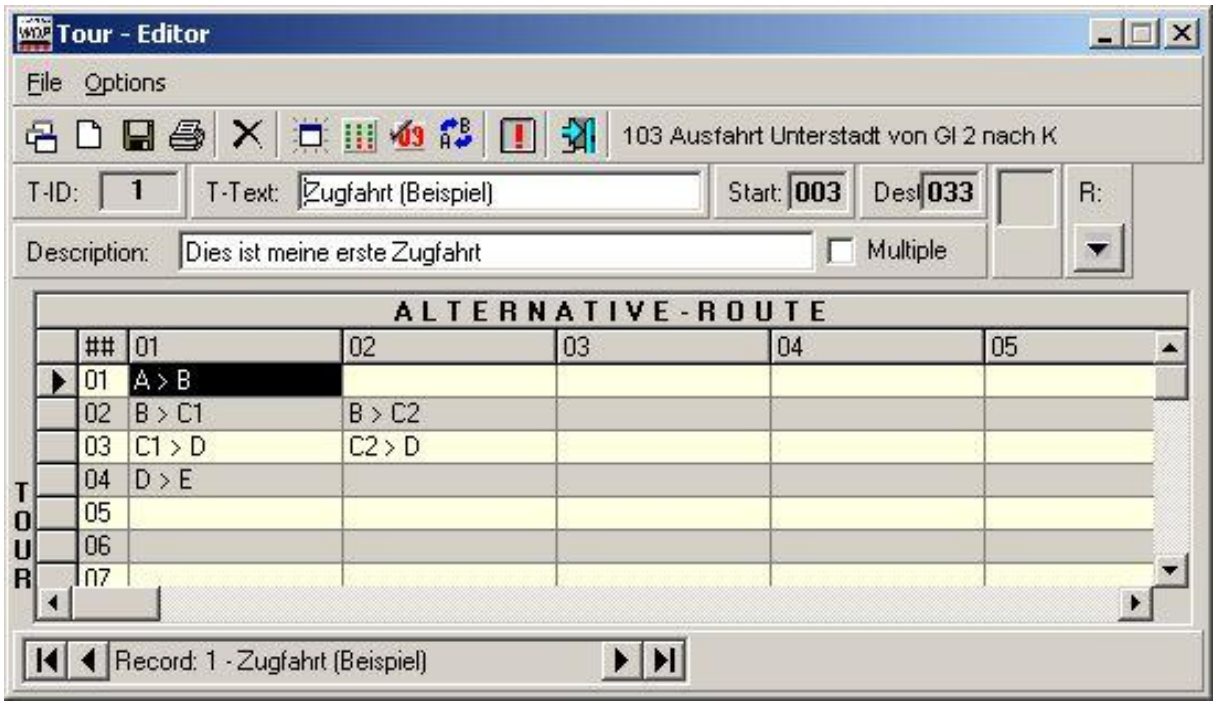
traffic jam for the following trains would be the result. When using the tour wizard this option will be checked automatically for your new tour.

9.2.2 Registering tours manually

Please create a new tour using the button in the toolbar.

In the field "*T-Text*" please enter a text with a maximum up to 30 characters.

The "Description" may have up to 100 characters.



If you want to use the tour with more than one train at the same time, then you have to check *"Multiple".* This is very useful when using longer tours to avoid traffic jams or the need to register additional tours. You should remember when using this option to give the train possibilities to continue at the end of the tour, because otherwise a traffic jam for the following trains would be the result.

The routes are registered in columns (vertical) and rows (horizontal). **WIN-DIGIPET 2012** processes the registered routes from the top left to the right bottom. The vertical arrangement (top to bottom) of the routes describes the way from start to destination. The horizontal arrangement describes the possible alternative ways. The examples later on will explain this in detail.

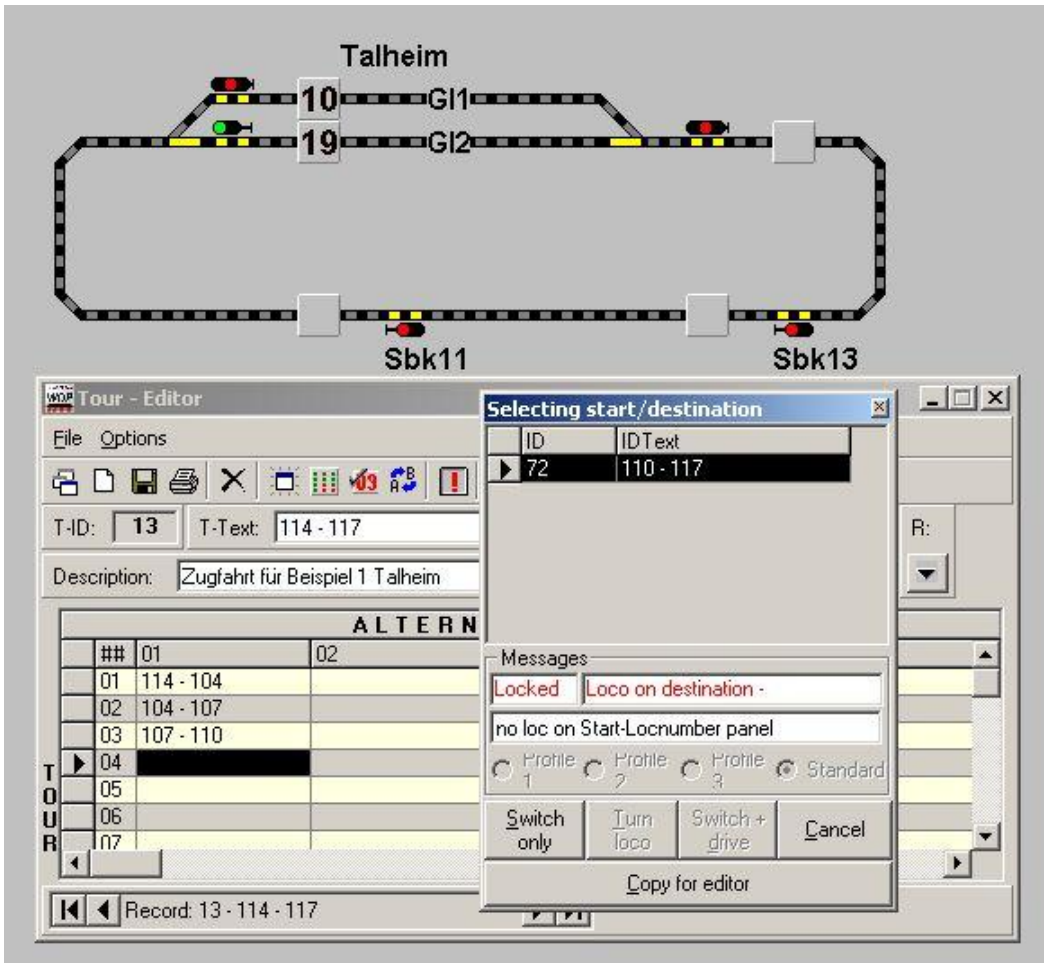
You have two possibilities for the registration of routes to the tour editor, the first is much more elegant and faster.

First click to the cell, where you want to register a route and put into the selected cell the route with one the following opportunities:

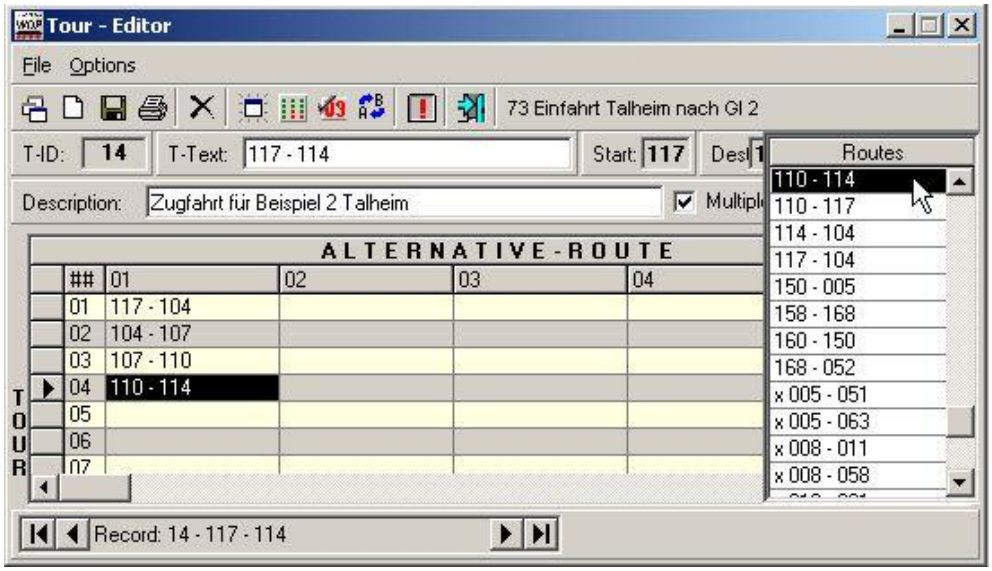
1. Click with the <u>middle mouse button</u> first on the train display of the start contact and afterwards to the one with the destination contact.

   Then the "Select Start/Destination" window opens and in this window click on **'*Copy for editor*'**, this will copy and register the selected route into the designated cell of the table. The cursor will move to the next row.

Information!
Eventual error messages in the “Select Start/Destination” window could be ignored at this time, because these are only relevant when routes shall be switched by this window.



2. The second possibility is to open the context menu by clicking with the right mouse button on the cell to edit. In the context menu select <Routes list> or click on the arrow next to “R:” in the toolbar. This will open a list with all registered routes.



Select the desired route from the list and the route will be highlighted yellow, if it is not covered by the editor.

When moving the mouse over the routes ID-texts in the list the description of the route will be shown as tool tip (see picture on the right side).

With a double click the selected route will registered in the selected cell of the table and the cursor will move to the next row.

9.2.3 Renaming tours automatically

If you open with a right mouse click the context menu over the tour registration grid you can select the command to rename tours automatically.

With a click on this command **Win-Digipet 2009** renames tours automatically according to section **8.4.1**. Therefore it uses the registered names and descriptions of the start and destination train number display of this tour.

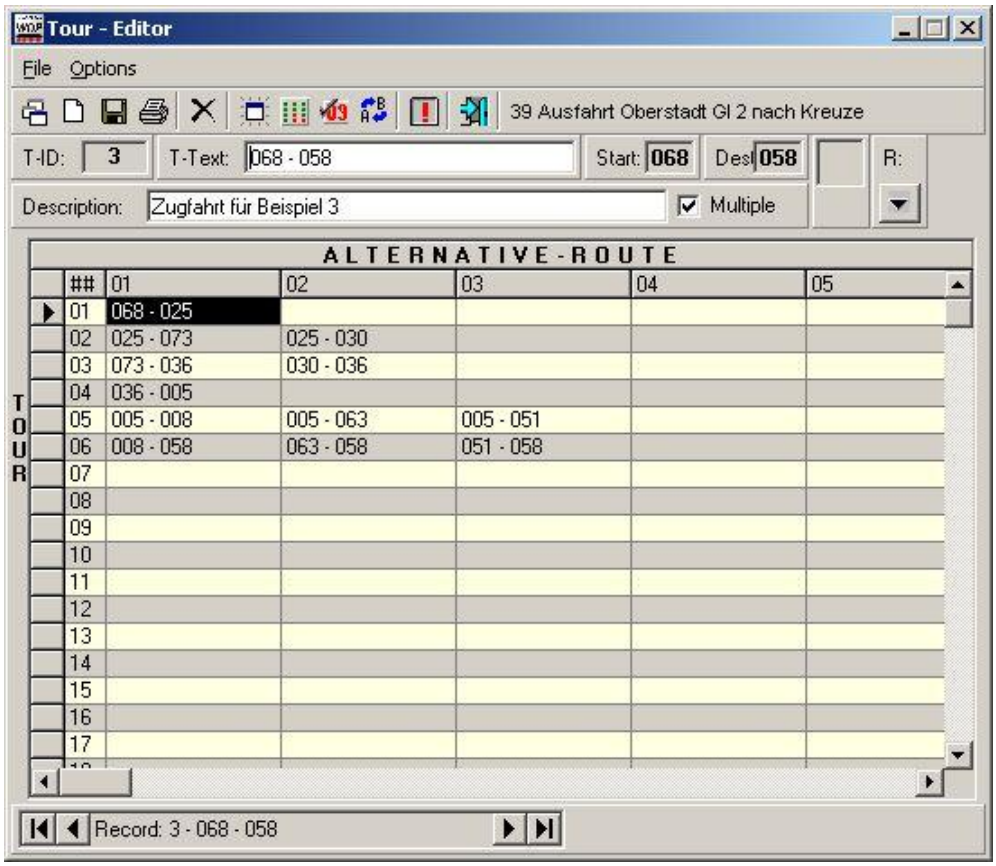
9.2.4 Registering further routes and alternative itineraries

Further routes for the tour created in **9.2.2** can be added by the same procedure.

If you don't want to register alternative itineraries for this tour, all routes for this tour will be registered one after the other in the first column of the table.

If you want to register alternative itineraries, these can be registered in the other columns side by side.

A simple example is shown in the picture on the right side. Here columns 02 and 03 contain the alternative itineraries.



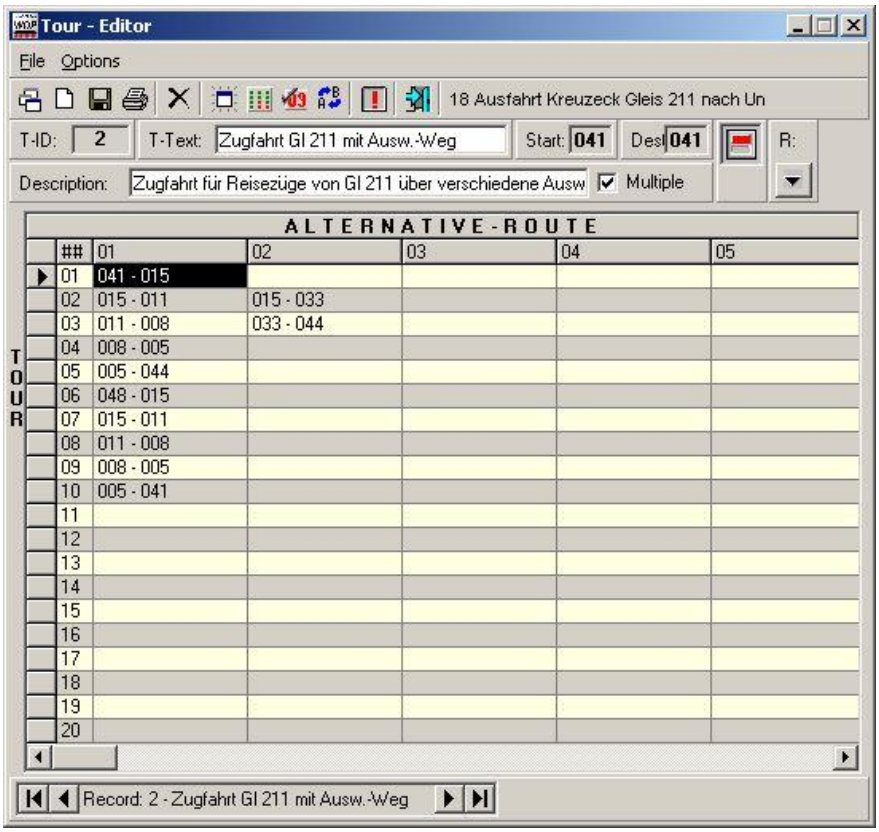
##	01	02	03	04	05
01	068 - 025				
02	025 - 073	025 - 030			
03	073 - 036	030 - 036			
04	036 - 005				
05	005 - 008	005 - 063	005 - 051		
06	008 - 058	063 - 058	051 - 058		
07					
08					
09					
10					
11					
12					
13					
14					
15					
16					
17					

TIP!
If you register alternative itineraries, you have to assure that the train never will come to a dead end. But you don't have to register additional routes to continue with a route in the first column, because if **WIN-DIGIPET 2012** doesn't find a suitable route in the current row, it will continue searching the next row.

The following picture would like to give you an idea about this showing you a simple example for a tour with no suitable routes in one row.

In column 02, row 03 the route 033 – 044 has been registered.

WIN-DIGIPET 2012 will try to search for the next route in row 04, but won't find a route with a suitable start contact, so it will jump to row 05 and then to row 06, where it will continue with route 044 - 015.



9.3 Editing tools

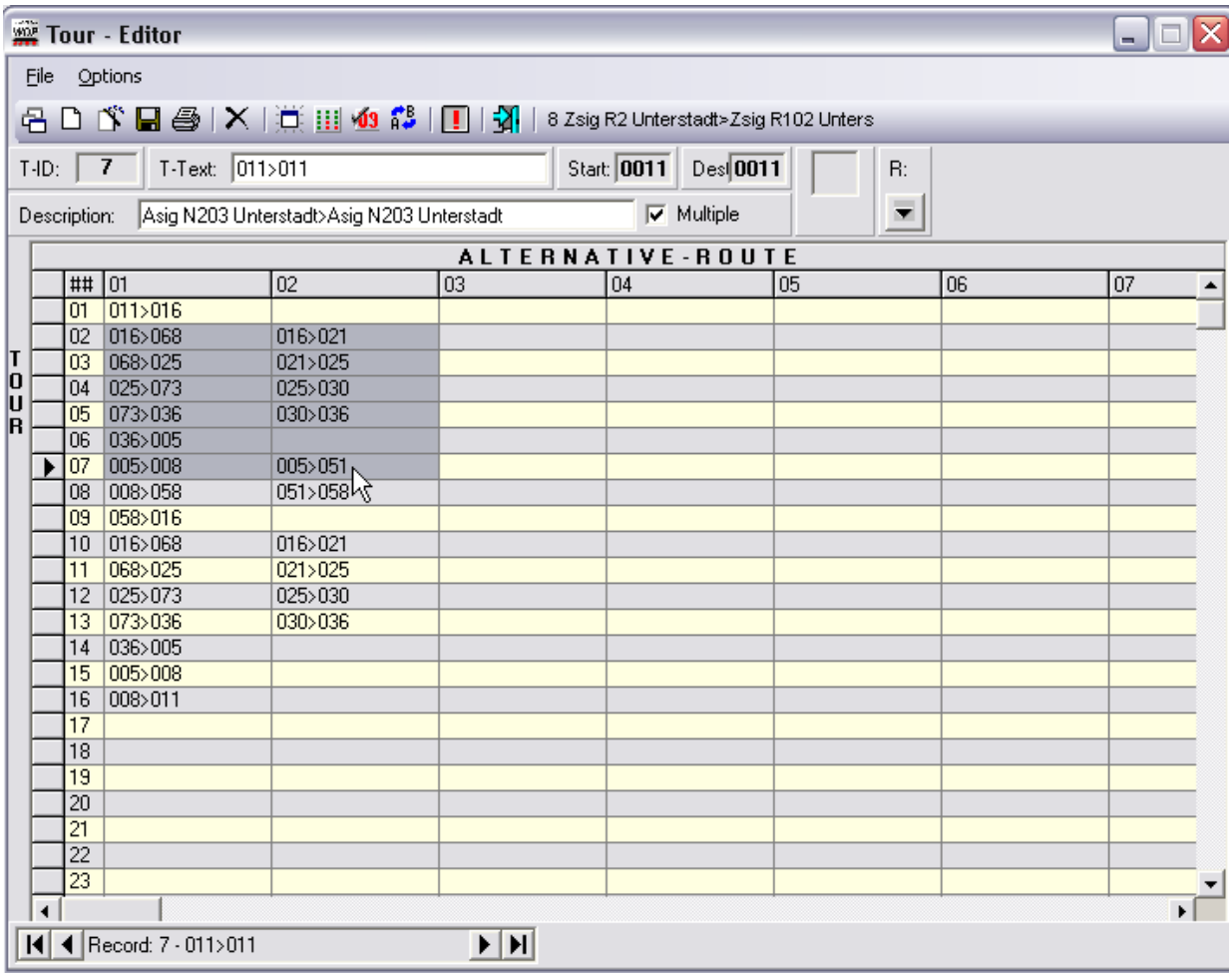
If you want to edit, register or delete data you can use the context menu, by clicking with the right mouse button on the cell to edit. You can even select complete cell areas for the copy/paste etc. functions. You can select cell areas by selecting the upper left corner of the area with a left mouse button click and selecting afterwards the lower right corner with a left mouse button click while pressing the Shift-key simultaneously.

The menu commands are self-explanatory in most cases.

Tip!
If you have opened the tour and the routes editor simultaneously then you can select with a double-click to a route in the tour editor this route for the route editor.

9.3.1 Copying, cutting and pasting of routes in a tour

The editing functions in the context menu, behave similar to the well-known functions of popular office applications. Just make your selection in the table and press the right mouse button to get access to all editing functionality included in the context menu.



9.3.2 Copy complete tour into a new dataset

If you want to create tour which is very similar to an existing one, then you may wish to copy the existing tour into a new dataset and then adapt the copied tour to the needs of the changed tour parts (e.g. other alternative itineraries).

Navigate to the existing tour in the tour editor and open the context menu with the right mouse button and select <Copy complete data into new dataset>.

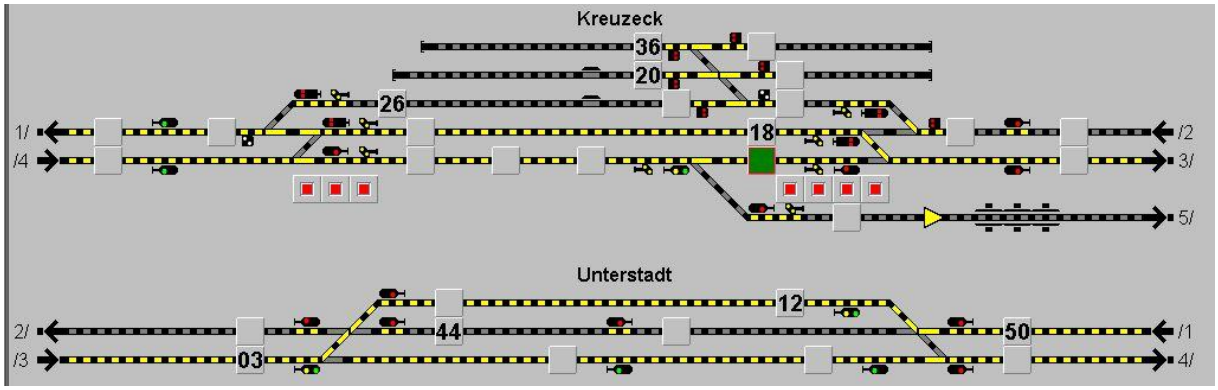
The copied tour will be added at the end of the tour list. The copied tour can be identified by the prefix “(C)..“ in the tour’s description.

Now you can adapt the tour to the changed needs as shown in the former examples.

9.3.3 Show entire tour

WIN-DIGIPET 2012 can show you the entire tour in the track diagram. This is very useful to check the main itinerary and the alternative itineraries of the tour.

An example is shown in the following picture:



In this example the start contact is the same as the destination contact. This case would be indicated with the train number this display of this contact it will coloured green with a red border. If the start and destination contact are different the colour of the start contact would be green and the colour of the destination contact red. The routes are highlighted in yellow as usual.

You can activate this indication of the entire tour via...

- the menu <Options> <Show entire tour>,
- via the context menu, that can be opened with the right mouse button, and then <Show entire tour>,
- or via the symbol in the toolbar of the tour editor

9.3.4 Display route matrix

When registering tours, you have to assure, that the train never will come to a dead end.

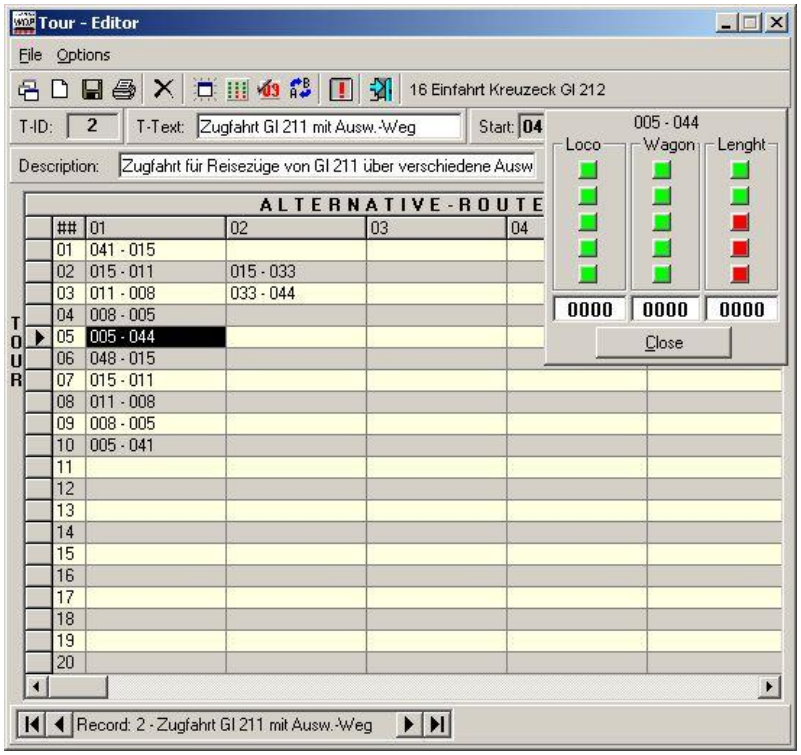
Because of this you should perform a matrix-test with your tour. You can perform the matrix test in three different ways:

- Select the menu command <Options> <Route matrix>,
- <Route matrix> from the context menu, that you can open with the right mouse button
- or click on the symbol in the toolbar of the tour editor.
- Move the mouse cursor over the heading of the **first** column “01”, then the cursor will change to a down-arrow with a mouse click you can also activate now the matrix-test.

If you check the matrix for the first column the program tests all rows and shows the complete matrix for the main itinerary. For the alternative routes/itineraries you have to check the single route-entries one after the other by clicking to each entry.

Remember always not to “build” a dead-end, because of limitations of route’s matrix.

The picture show you the matrix-test for row 05 of the first column, if you want also longer trains to use this way, then you may have to change something.



Because of this column 02 of row 05 contains the route 005 – 041.

This entry stops the tour ahead of schedule, but would be the only possibility to use this tour with a train with the length “middle” or “short”.

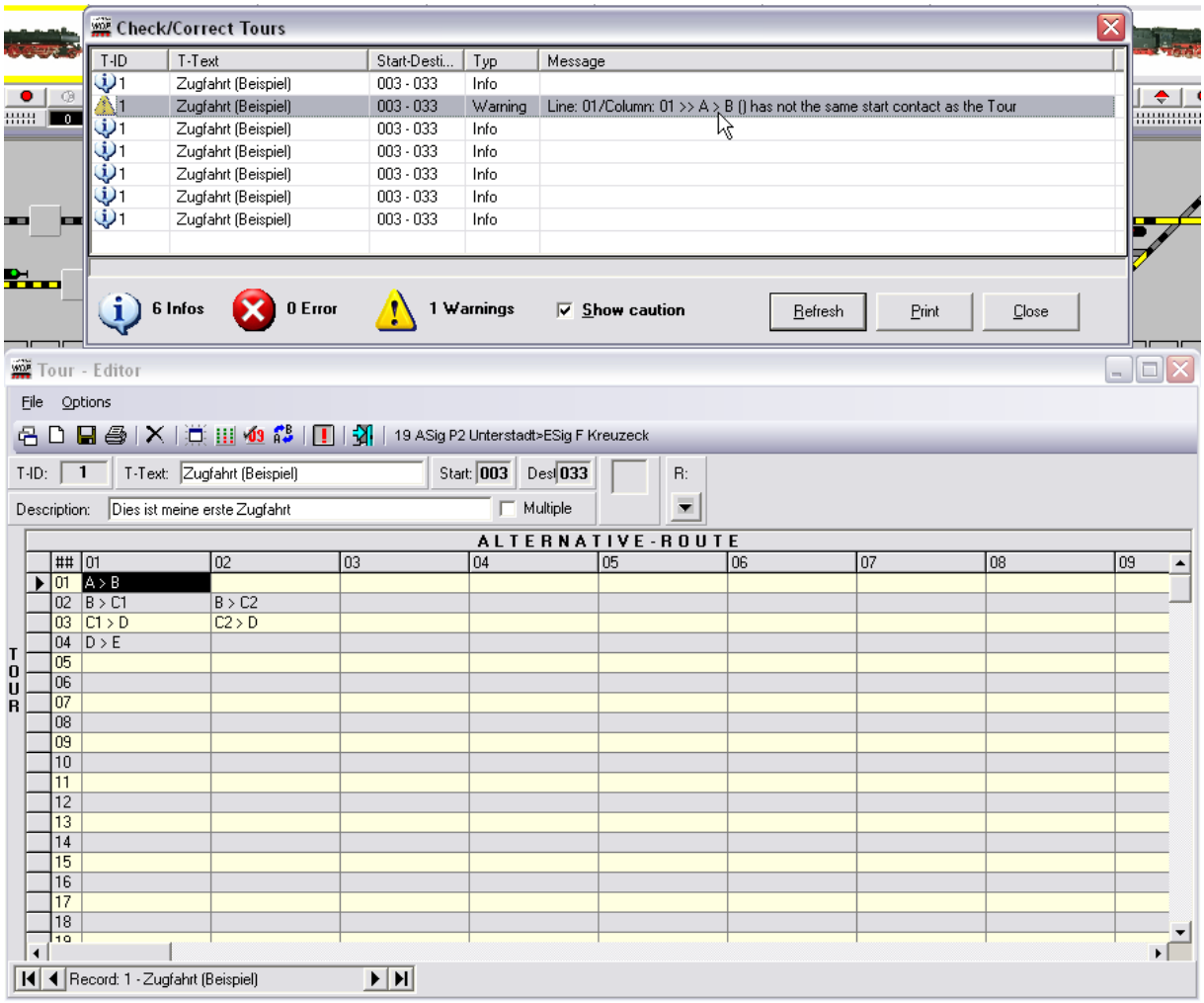
All other (shorter) trains would drive the main itinerary from column 01.

Important!
You should always perform a matrix-test to protect the tour against dead-end situations.

9.4 Checking tours

You can check your tours at any time, if the registered data are consistent with the data from the other editors. This is very important, if have you have changed or deleted routes and you are not sure if you had used them in tours. During the test the program checks if the routes used in your tours have been changed / still exist and performs several other checks.

The check window could be found via <Options> <Check tours> or by the symbol in the toolbar.

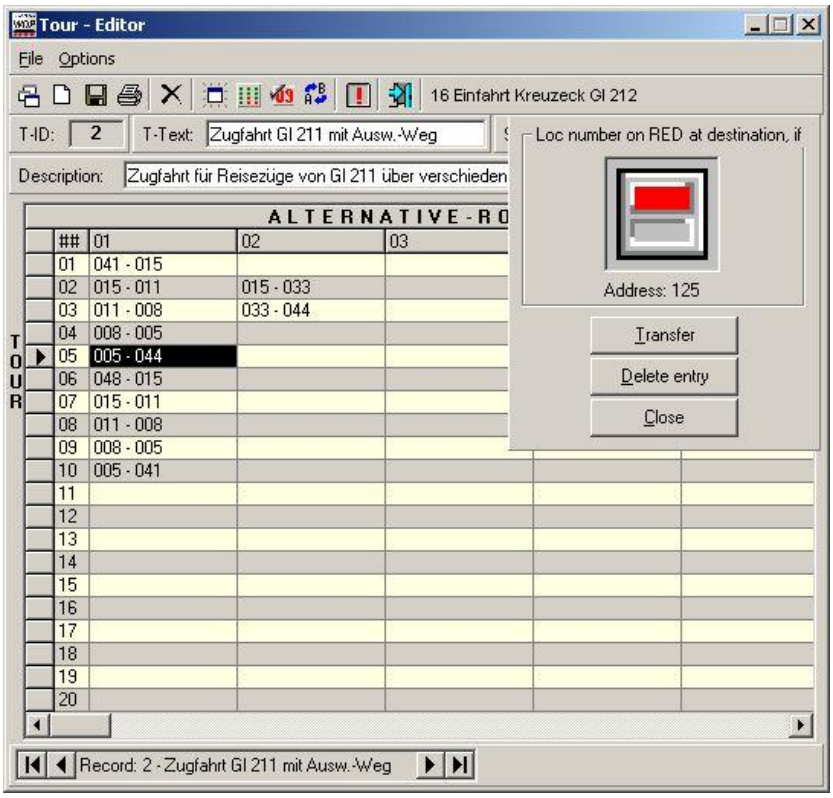


The check window is quite self-explanatory.

You can print also all messages from list. If you want to check the errors first you can hide all warnings.

When selecting a message in the check window, the program will automatically navigate to the corresponding dataset in the editor, so that you will correct your data and afterwards refresh the check list.

9.5 „Home track“-function for tours



The „home track“-function gives you the possibility to switch the locomotive's number to red at the end of a tour if a specified solenoid device is set to the registered state (e.g. “red). Trains with red locomotive's numbers will be ignored for the further operation in the automatic with demand contacts or the tour automatic. This is for example very useful to bring the trains to a desired position (“home track”) on your model railroad layout at the end of operations.

For this example you should create a virtual switch (k84 symbol) anywhere in your track diagram. You should give this switch also an address because otherwise you won't be able to switch it manually.

Then you have to register this switch in the tour editor for your tour. You can open the field for registration of this symbol by <Options> <Loc number on RED at destination> or by the symbol in the toolbar.

Drag the switch symbol to the picture box in the frame “Loc number on RED at destination, if”.

You can switch the symbol with repeated clicks on this field to the desired condition state. Afterwards click on **‘*Transfer*’.**

The symbol will be shown in the tour editor.

You might delete a registered symbol with the button **‘*Delete entry*’** in the same frame.

9.6 Standard window size

When working with the tour editor you change the window size according to your needs.

If you want to change the window size, move the mouse cursor to one edge of the window, the mouse cursor will change to an double arrow and with pressed left mouse button you can change the window size (typical for Windows).

To reset the window size to standard size, select in the menu <Options> <Default size> or click on the symbol in the toolbar.

You can also change the width the columns similar by moving the mouse cursor over the separator of two columns.

9.7 Printing tours

For printing select the menu command <Options> <Print> or click on the symbol in the toolbar.

You can choose between the options "*All*" and "*Headlines*" to decide what to print.

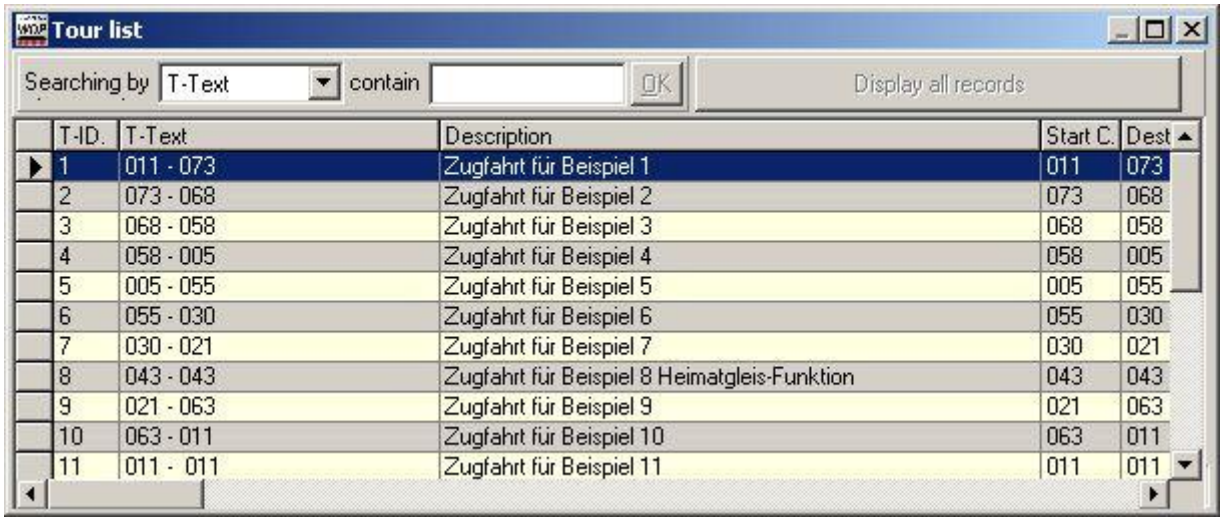
All other options are self-explanatory.

You can also export this printout into the file "Zugfahrten.rtf" to the Win-Digipet directory at your hard disk.

9.8 Tours list

You can display a list with all your tours.

Please open this list via the menu command <File> <Tours list> or by the symbol in the toolbar.



T-ID.	T-Text	Description	Start C.	Dest
1	011 - 073	Zugfahrt für Beispiel 1	011	073
2	073 - 068	Zugfahrt für Beispiel 2	073	068
3	068 - 058	Zugfahrt für Beispiel 3	068	058
4	058 - 005	Zugfahrt für Beispiel 4	058	005
5	005 - 055	Zugfahrt für Beispiel 5	005	055
6	055 - 030	Zugfahrt für Beispiel 6	055	030
7	030 - 021	Zugfahrt für Beispiel 7	030	021
8	043 - 043	Zugfahrt für Beispiel 8 Heimatgleis-Funktion	043	043
9	021 - 063	Zugfahrt für Beispiel 9	021	063
10	063 - 011	Zugfahrt für Beispiel 10	063	011
11	011 - 011	Zugfahrt für Beispiel 11	011	011

You may wish to filter the data records in the tours list using the fields "*Searching by*" and "*contains:*" and restore the original view with **'*Display all records*'**. If you select a tour in this list, this tour will be displayed automatically in the tour editor.

9.9 Tour event inspector

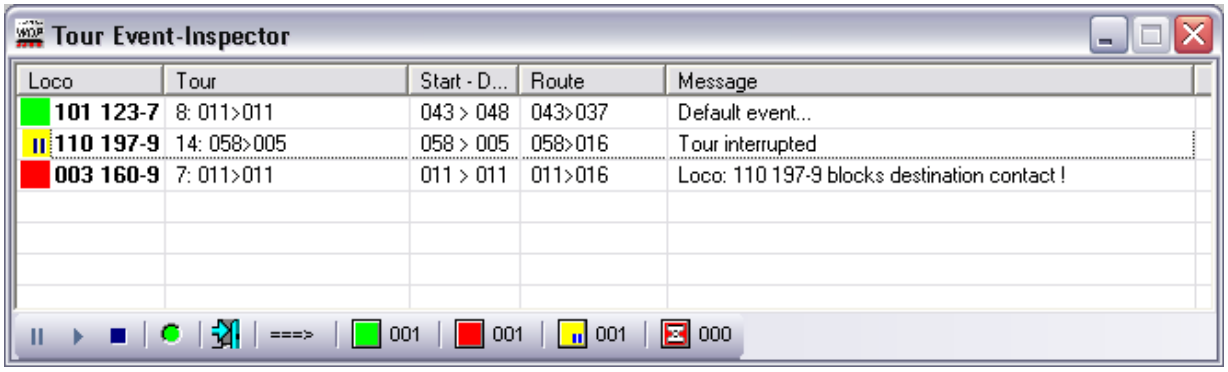
Every time a tour is started, the tour event inspector would be open .

The column "Loco" indicates the current state of the locomotive...

- green/red = drives/stopped and
- yellow = tour manually stopped (pause)
- red hour glass = tour stopped because of expired waiting time

The column "Route" indicates the currently requested route.

The window of the tour event inspector can be resized windows typically in the same way as the tour editor.



With the buttons at the left bottom, a selected tour from the list could be paused, restarted and killed.

With the round green button **all** tours could be paused and restarted again.

With a double click on a line in the inspector the locomotive control of the corresponded locomotive would be opened.

The four symbols display at the right side of the toolbar show the number of ...

- 

currently driving tours
- 

currently waiting tours
- 

currently manually paused tours
- 

tours with expired waiting time.

Important!
Never drive a train of an **active** tour manually or delete the train number in the track diagram, before you have killed or paused this tour.

With the symbols and you close the tour event inspector.

9.10 Tour-Navigator

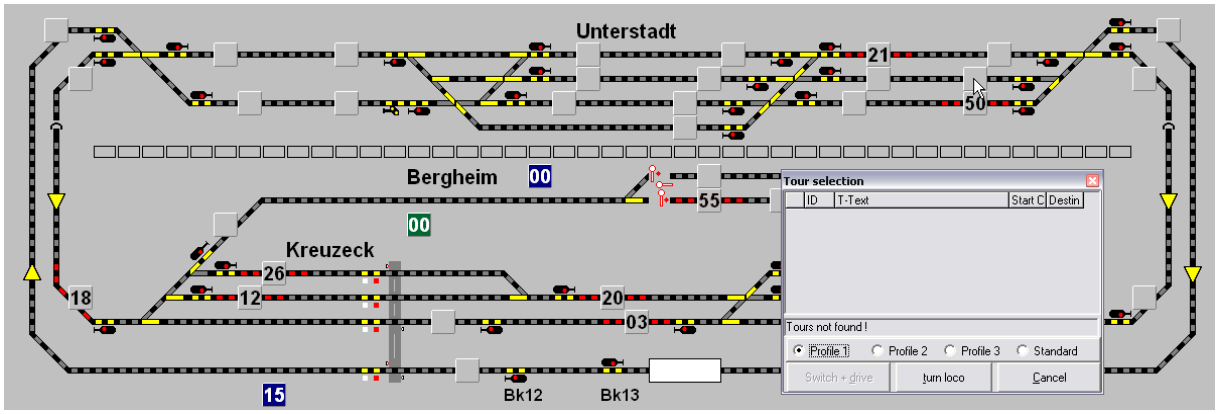
The tour navigator is a new program part of **Win-Digipet 2009**.

With the tour navigator trains can...

- after cancelling an automatic operation
- after a reset of a digital system (Intellibox)
- after a crash

...very comfortably sent from any start to any destination contact of your track diagram for reasons of precaution only some global tours have been defined.

The operation of the tour navigator will be explained by the following example.

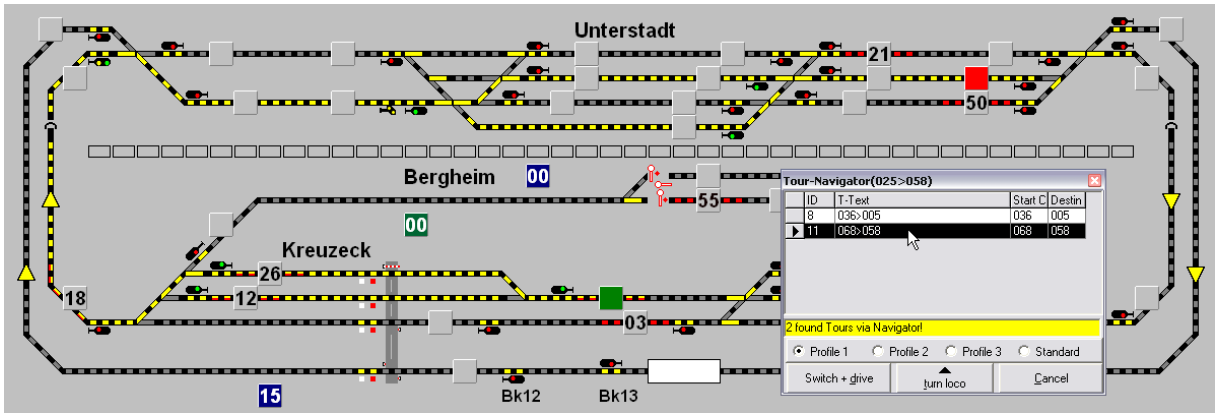


The train 20 shall be sent from its current position to the start position of a timetable indicated by the mouse arrow.

Using the normal tour function no suitable tour can be found. Until now the only possibility to bring this train to its destination would be using several routes.

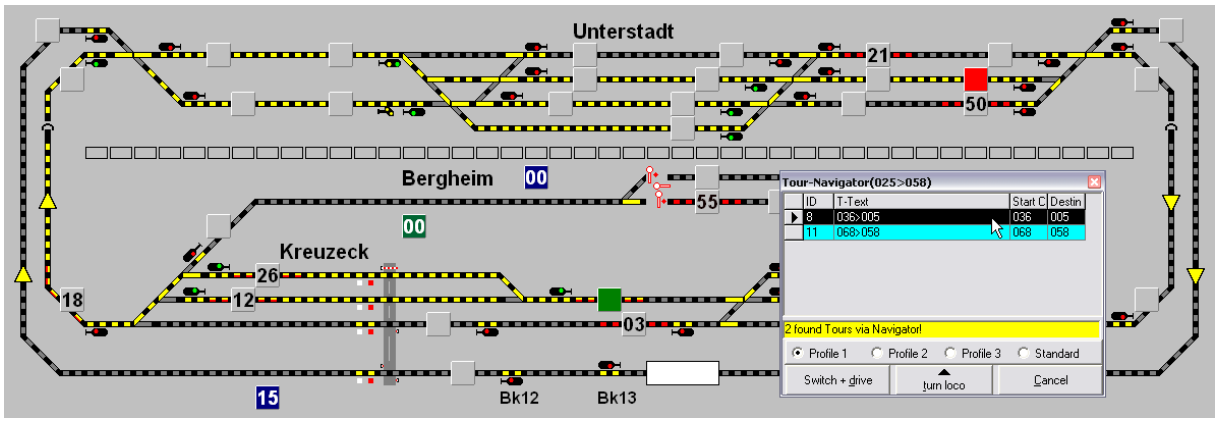
For starting the train navigator press on the start train number display with the middle mouse button while holding down the Alt-Key and do the same for the destination train number display.

Now the train navigator of **Win-Digipet 2009** will search for suitable routes to reach the desired destination contact.



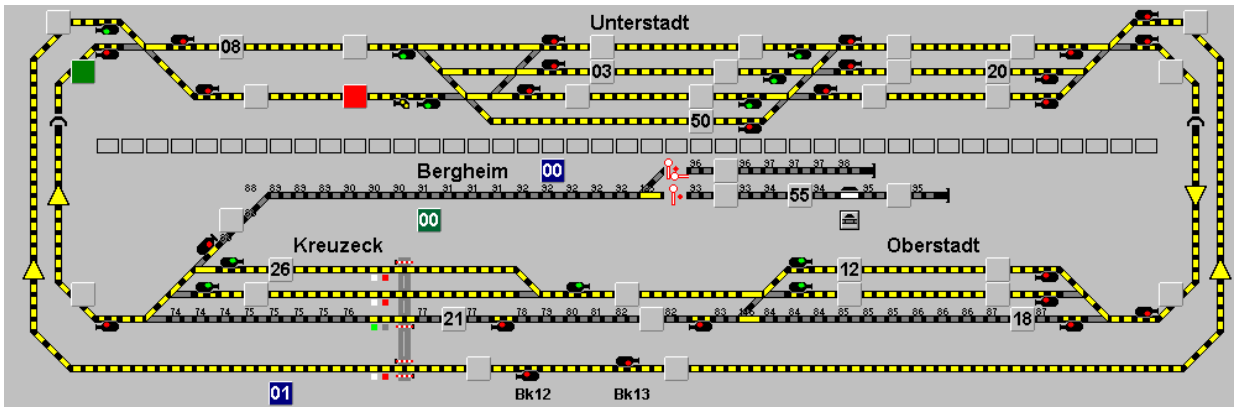
The tour navigator found two suitable tours and offers them for selection. In our example above the second variant has been selected, but this wills no lead to the wished result, because trains 03 and 50 are currently blocking the way.

For this case the first variant will be the better choice...



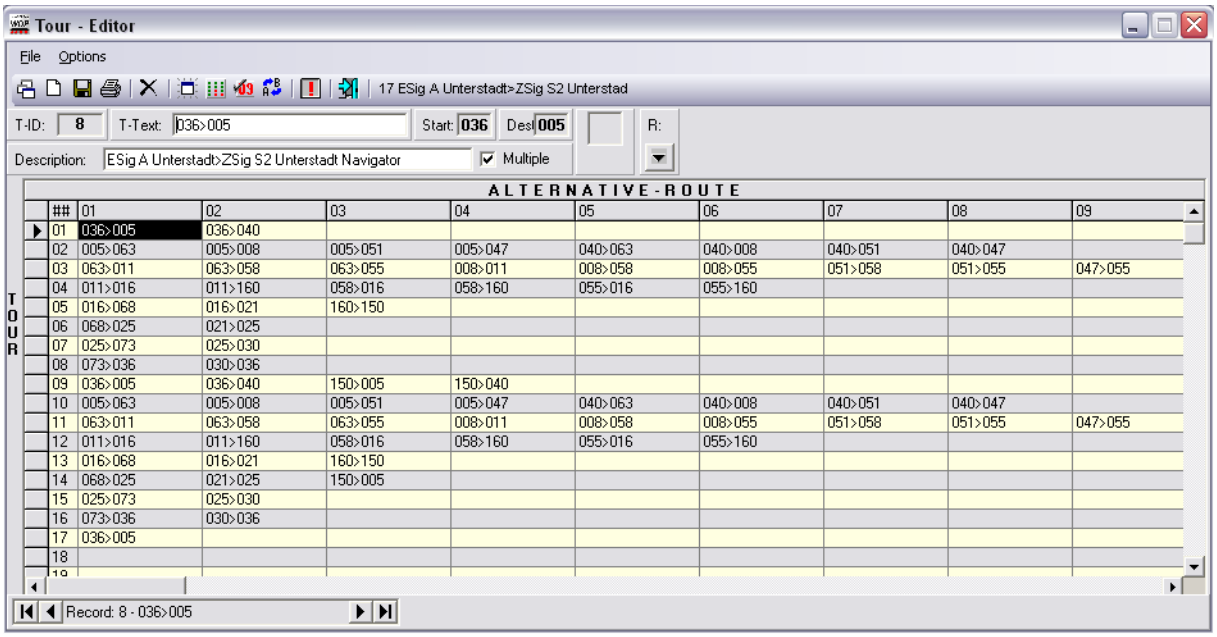
The tour navigator will only show in your track diagram the routes of your tour, located between the start- (green) and destination (red) train number display and also only if they are not blocked for the matrix of the loco on the start train number display. All routes of the tour before the start train number display and behind the destination train number display will be ignored. So the train navigator only extracts the part of the selected tour that fit to the wish to drive from the selected start- to the selected destination train number display.

Such a tour which is very usable for the operation with the tour navigator is displayed below. The tour has one start and one destination contact with many alternatives.



Nearly all possible routes have been registered in this tour to achieve the aim to drive from any start- to any destination contact of your layout using the tour navigator.

Please study the according registration in the tour editor shown in the picture below.



##	01	02	03	04	05	06	07	08	09
01	036>005	036>040							
02	005>063	005>008	005>051	005>047	040>063	040>008	040>051	040>047	
03	063>011	063>058	063>055	008>011	008>058	008>055	051>058	051>055	047>055
04	011>016	011>160	058>016	058>160	055>016	055>160			
05	016>068	016>021	160>150						
06	068>025	021>025							
07	025>073	025>030							
08	073>036	030>036							
09	036>005	036>040	150>005	150>040					
10	005>063	005>008	005>051	005>047	040>063	040>008	040>051	040>047	
11	063>011	063>058	063>055	008>011	008>058	008>055	051>058	051>055	047>055
12	011>016	011>160	058>016	058>160	055>016	055>160			
13	016>068	016>021	160>150						
14	068>025	021>025	150>005						
15	025>073	025>030							
16	073>036	030>036							
17	036>005								
18									

The primary way has been registered in column 01 and the alternative routes have been registered to the other columns.

As you can see in the graphic (see row 01 and row 09) above the normal tour could stop after the execution of row 09 because its first column would guide the tour to the destination contact **005**. But if you want to achieve the aim to drive from any to any point this will work.

Please read the following example.
If would like to drive from train number display **025** in row 07 column 01 to train number display **068**, a tour ending in row 09 column 01 would not lead to the desired result, only a repletion of the previous lines would lead the tour to a route ending at contact **068** (e.g. row 13 column 01).

9.11 Closing the tour editor

Therefore select the menu command <File> <Close> or click on the symbol in the toolbar.

10 – PROFILE EDITOR

10.1 General

With the profile editor you can create for every route/locomotive-combination profiles. These profiles consist of contact events as known from the timetable. The profiles give you the potential to use individual driving- and function-facilities of your locomotives, trains, cranes and functionality models in the automatic with demand contacts, the tour automatic and the semi-automatic operation (“Switch and Drive”) with a minimum of work. Until now this was only possible by using the timetable.

The following sections will explain the creation of profiles. The profiles offer you the following opportunities:

- The driving behaviour of different locomotives can be adapted individually to your routes.
- Even locomotives without load dependent regulation can be adapted for good driving behaviour.
- All special functions of locomotives and functionality models and even sounds can be included in automatic operations.
- When using profiles each locomotive can behave different when using the **same** route – independent from the setting in the routes editor or the vehicle database.
- The execution of crane macros is possible when using automatic operation.
- Individual sounds can be played anywhere and at any time.
- The usage of the turntable and transfer table can be adapted to every locomotive, this gives you more safety.
- Of course profiles can be also used when using routes via “Switch and Drive“ or when using tours.
- The profile editor is even a great tool for creating and configuring (several) timetables.
- Data records from the timetable and the profile editor can be exchanged via import and export functions.
- The timer function as known from the timetable is also available when using profiles.

10 – PROFILE EDITOR

The profile editor is similar to the timetable-editor. With the profile editor you can create for every route/locomotive-combination up to three profiles. Profiles can be exported to the timetable-editor or used with “Switch + Drive” and within the tour automatic. An already existing timetable can also be imported to the profile editor for the usage in the other automatics.

As basis for your own profiles you can ask the program to create profiles automatically using the values from the vehicle database and the route editor. Then you only have to customize the needed changes.

WIN-DIGIPET 2012 will not allow creating more than 3 profiles for one locomotive/route combination.

The profiles have to be activated in the system settings according to section **4.5.3**; otherwise the menu command and the toolbar icon are not available.

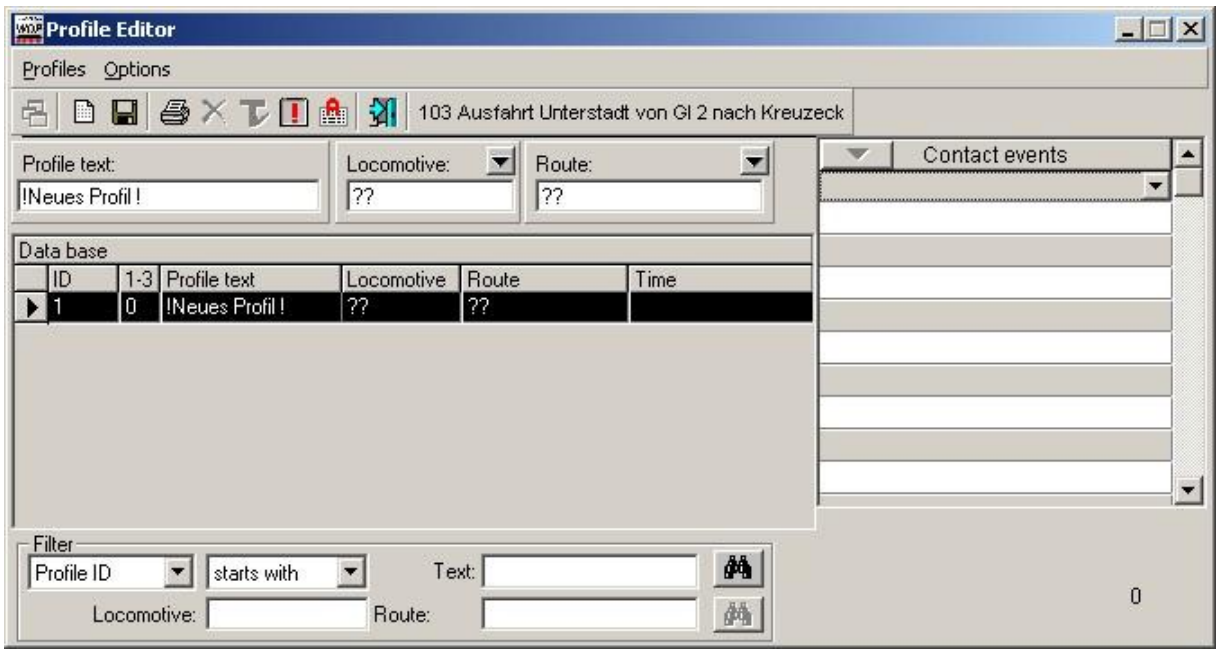
To open the profile editor select from the menu <File> <Profile-Editor> or click on the symbol in the toolbar.

10.2 Creating profiles

To open the profile editor select from the menu <File> <Profile-Editor> or click on the symbol in the toolbar.

When opening the profile editor for the first time you will see data record with the profile text “!Neues Profil!“. Here you can register your first profile

Before the creation of profiles you should take the following points into consideration.



Criteria for the creating of a profile are e.g.:

- A locomotive with an extremely different driving behaviour shall be adapted for several routes to the driving behaviour of the other locomotives.
- When leaving the train station with a passenger train e.g....
  ► the route switches first,
  ► 2 sec later a platform announcement will be played
  ► and after further 7 sec the train departs.
- A train shall stop exactly at the decoupling track.
- A warning whistle shall be played before a level crossing.
- A heavy train shall drive slower in curves than another train.
- A working train can stop for a short moment at a construction site for unloading material.

And even a big wheel or the illumination of houses can be switched on and off, this list is to be continued…..

In Win-Digipet 2012 all locomotives are driven in calculated real scale speeds (km/h). Therefor it is import to measure your locomotives according to chapters **5.9.5** to **5.9.9**. Because of this and escpecially when using the intelligent train number display all locomotives should have a very similar driving character and so fewer profiles are needed compared to former versions.

10.3 Creating profiles for all locomotives manually (Loco-ID 0)

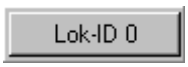
Within the profile editor 3 profiles of type Loco-ID 0 (which are valid for all locomotives) are possible per route. The profile number 1-3 can be selected manually when creating such a profile from the combo box „*P-No.*“. This can be very useful, take a look at the following example.

You could for example define the three possible profile numbers the following way:

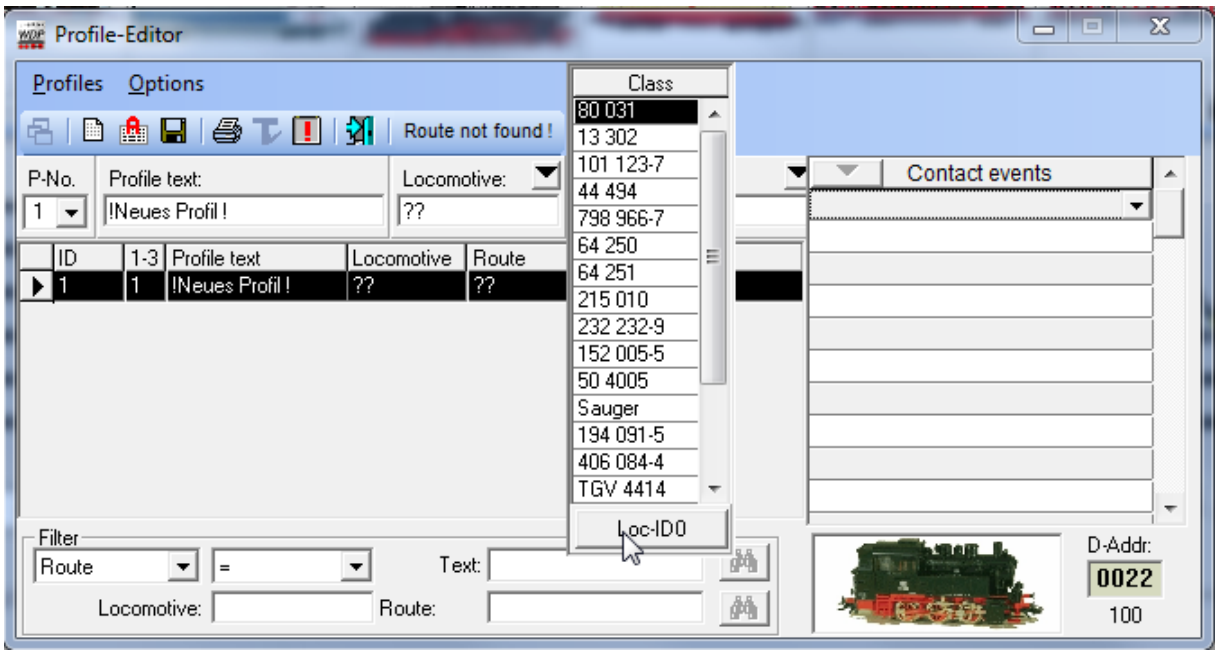
- Profile 1 for locomotive functions **without** sound
- Profile 2 for locomotive functions **with** sound
- Profile 3 for special cases like constructions site etc.

...to use them selective within your automatics.

As described above the universal profile type Loco-ID 0 is valid for any locomotive using the according route.
This is for example interesting if you want the locomotive/trains to switch of their lights/sounds etc. in the hidden yard in order to save power.

For creation of such profiles proceed use the button 

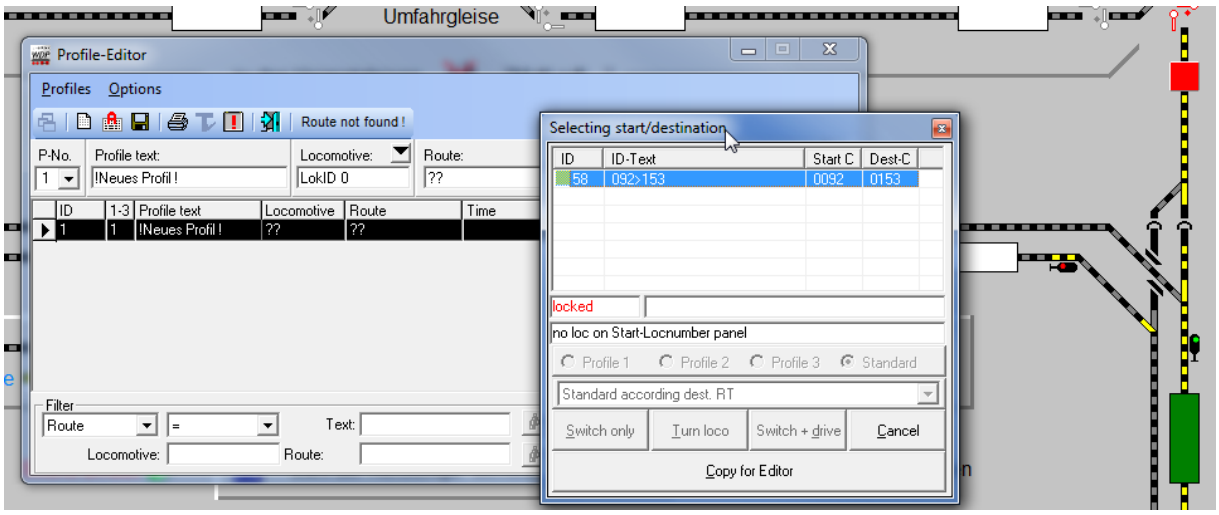
after pressing the small arrow beside of „*Locomotive*“.



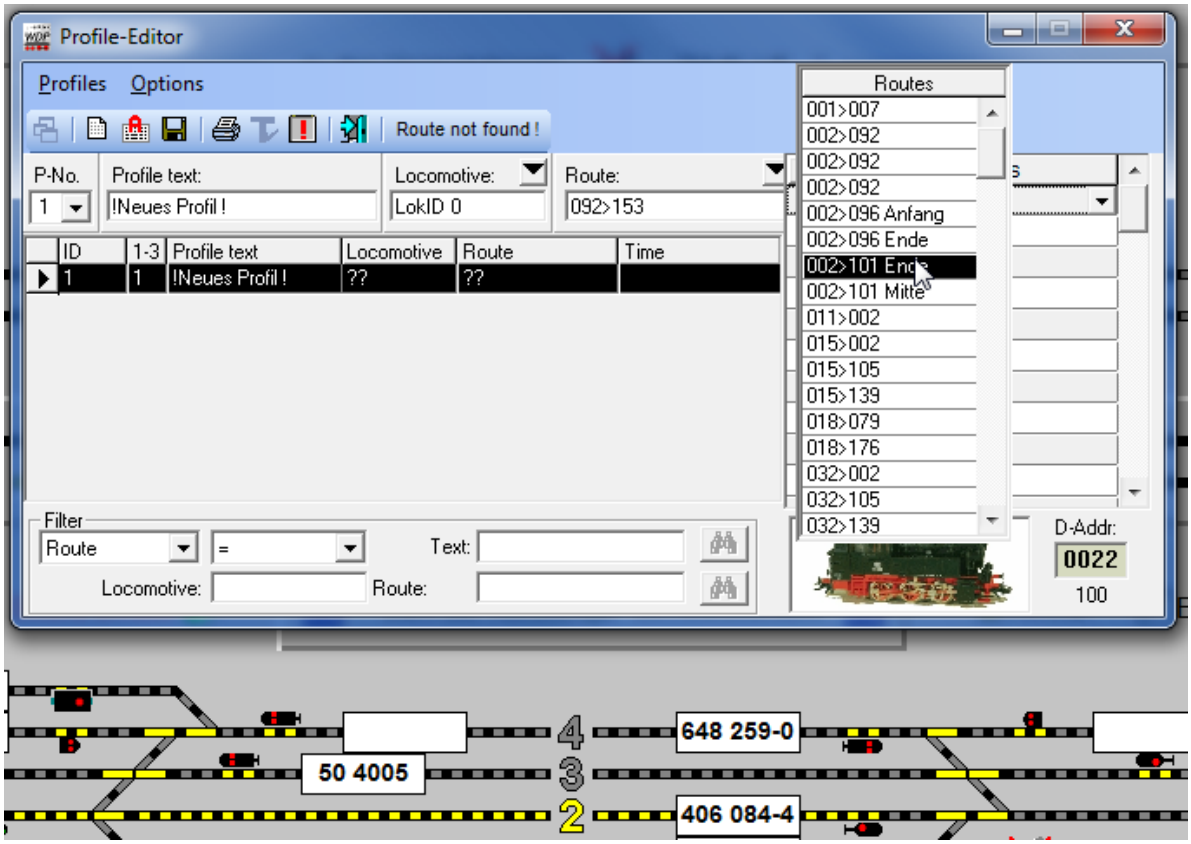
If you don't see the Lok-ID0-Button you have to resize the height of the profile editor.

To select the desired route click in your track diagram with the middle mouse button on the start and destination train number display of the desired route.

The window "Selecting start/destination" appears. Select the desired route and transfer it via **'*Copy for editor*'** into the field "*Route*".



You can also select the route by clicking on the small arrow right above the field *"Route"* and select the route from this lists with a double click. While selecting a route the route is also displayed in the diagram as known from the other editors.



The field "*Profile text*" asks you to give the profile a significant name. If you don't enter a text manually, then **WIN-DIGIPET 2012** will assign a significant automatically when saving.

You can save the profile with menu command <Profiles> <Save profiles> or by a click on the symbol in the toolbar.

In this case **WIN-DIGIPET 2012** creates automatically a profile text out of the ID-text of the route and the class of the locomotive separated by the sign " + ".

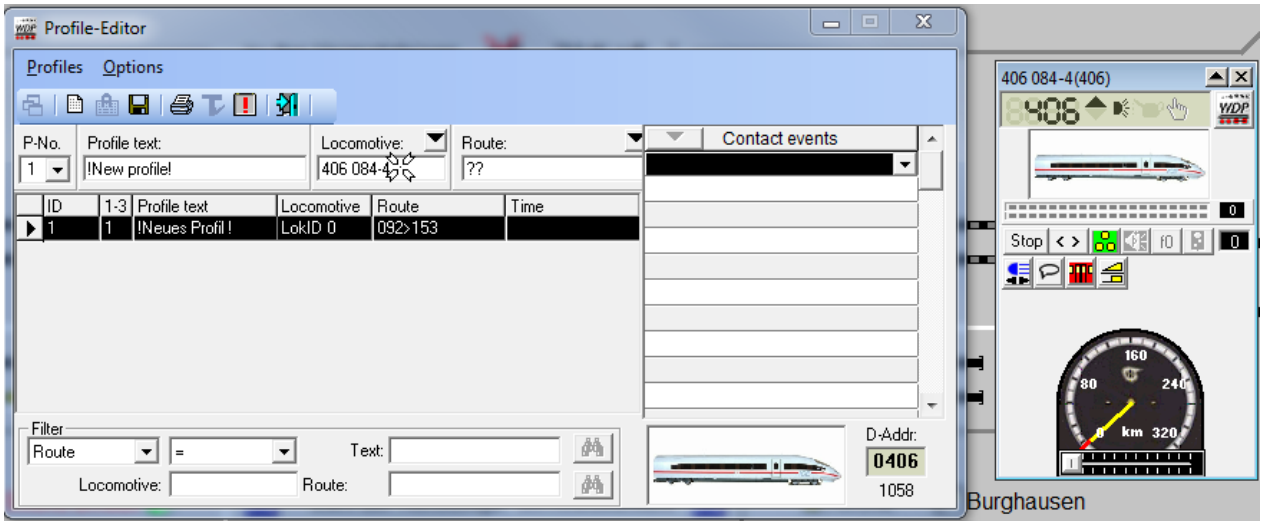
After saving the new profile will be added to the profile list and an ID-number will be assigned automatically.

If a profile already exists you will be asked if you want to jump to the according dataset or you can say ***'No'*** and try your luck with a different profile no.

10.3.1 Creating locomotive specific profiles manually

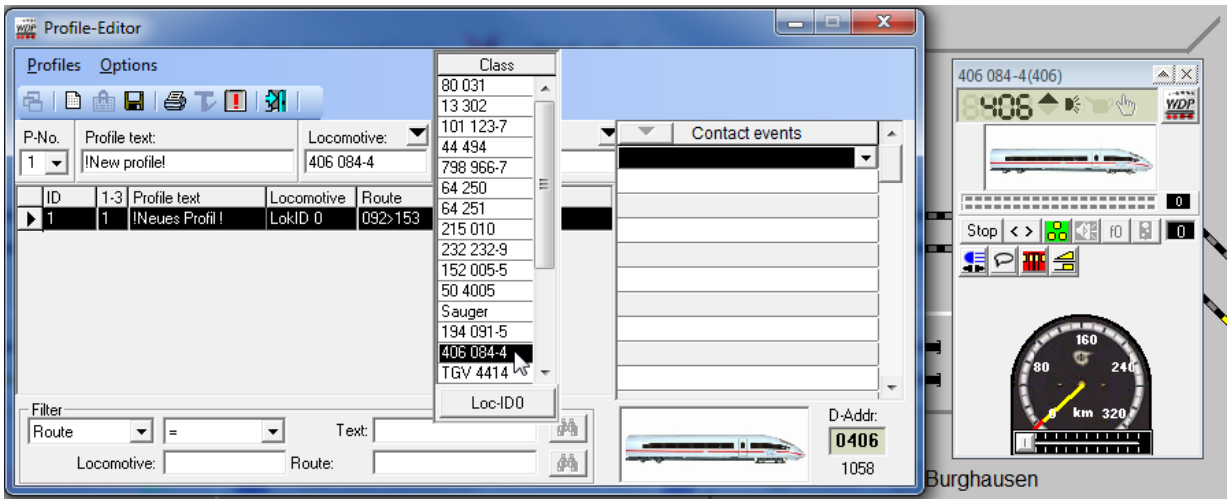
Within the profile editor 3 locomotive specific profiles are possible per route. This is e.g. useful if you want to specify special actions for single locomotives apart of the common operation for all locomotives (defined by Loco-ID 0 profiles). When using a route later on the program will first try to find a locomotive specific profile for this route, if no one is found the program will look for a common Loco-ID 0 profile and when even this is not available then it will use the standard driving defined in the route.

When creating profiles manually this can be done very quickly via the loco bar or opened locomotive controls.



Click on the desired locomotive and drag the locomotive with pressed right mouse button into the field "*Locomotive*" of the profile-editor. The locomotive has now been registered and is shown in the picture box at the right bottom of the editor.

For the selection of the route proceed as described in section **10.3**.



You can also select the locomotive and the route by clicking on the small arrows right above the fields "*Locomotive*" and *"Route"* and select the locomotive (only locomotives set to "Layout" in the loco database) and route from this lists with a double click. While selecting a route the route is also displayed in the diagram as known from the other editors.

The field "*Profile text*" asks you to give the profile a significant name. If you don't enter a text manually, then **WIN-DIGIPET 2012** will assign a significant automatically when saving.

You can save the profile with menu command <Profiles> <Save profiles> or by a click on the symbol in the toolbar.

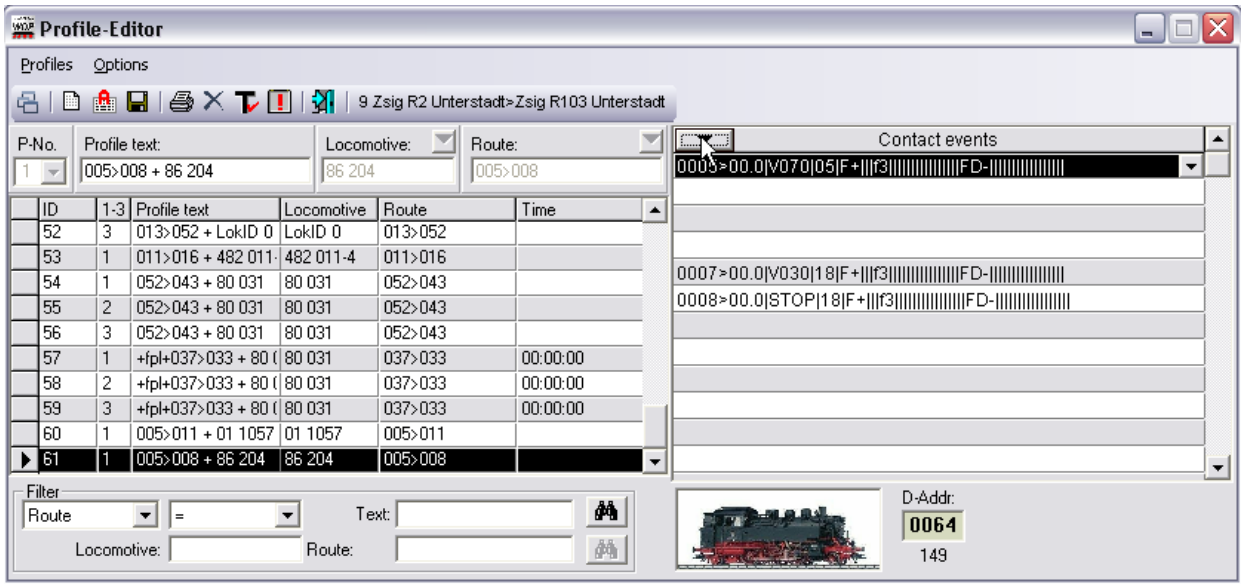
In this case **WIN-DIGIPET 2012** creates automatically a profile text out of the ID-text of the route and the class of the locomotive separated by the sign " + ".

After saving the new profile will be added to the profile list and an ID-number will be assigned automatically.

10.3.2 Creating contacts events automatically from the route´s settings

After registering of the route, and locomotive the button Contact events is activated.

If you click on this button **WIN-DIGIPET 2012** automatically copies all speed events of the route (from the index card “Start/Brake/Destination” of the routes editor) to the contact events.



This button was introduced to reduce your work, because already registered data is reused from the routes and vehicle database. From the vehicle database also the values for deceleration and acceleration are used.

When using this buttons, empty lines in the contact events don’t cause any problems. These empty lines are a result of non-registered data for route contacts K1 and K2 and will be automatically deleted after saving.

Be careful!
By editing an existing profile, pressing this button could cause a loss of data, because your already registered contacts are overwritten.

Above the contact events the ID-Number and the description of the selected route is shown. Underneath this window, the picture and digital address of the locomotive is shown.

The number under the loco picture is composed as follows e.g. for 12416 it is the first profile of the locomotive with ID-Nr. 24 and the route with ID-Nr. 16.

10.3.3 Creating profiles automatically

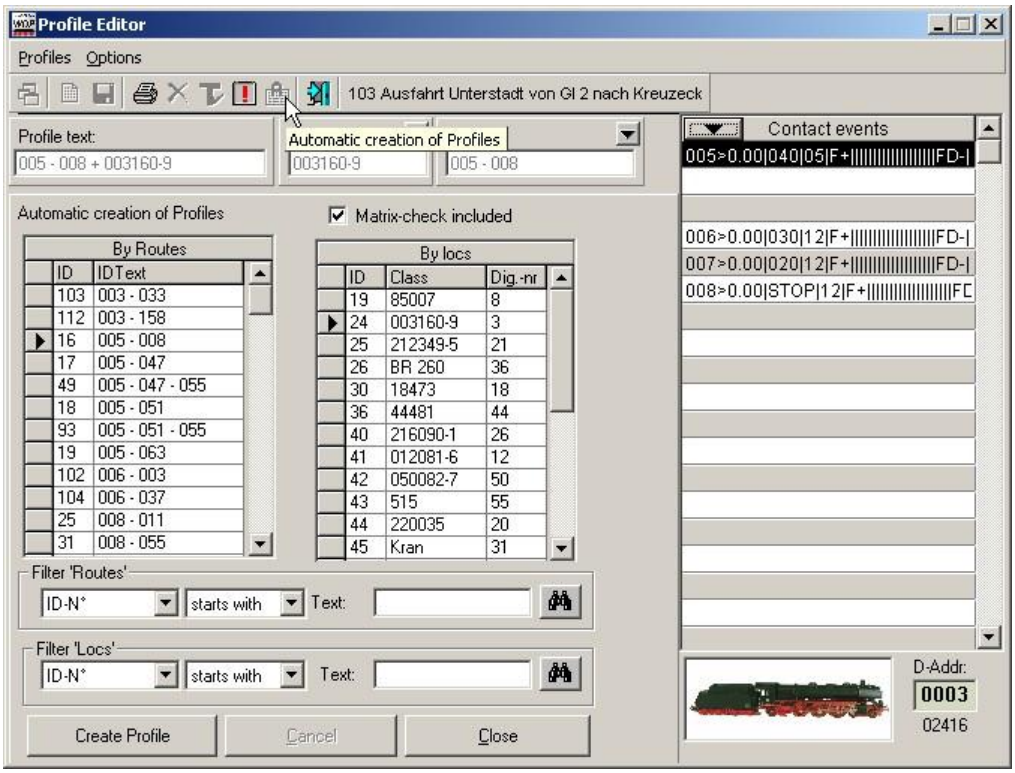
If you want to create several profiles according to criteria of section **10.2**, **WIN-DIGIPET 2012** can save you a lot of time, if you force the program to create the raw profiles automatically.

Therefore select the menu command <Options> <Automatic creation of profiles> or click on the symbol in the toolbar.

A frame appears where you select different criteria which profiles should be created.

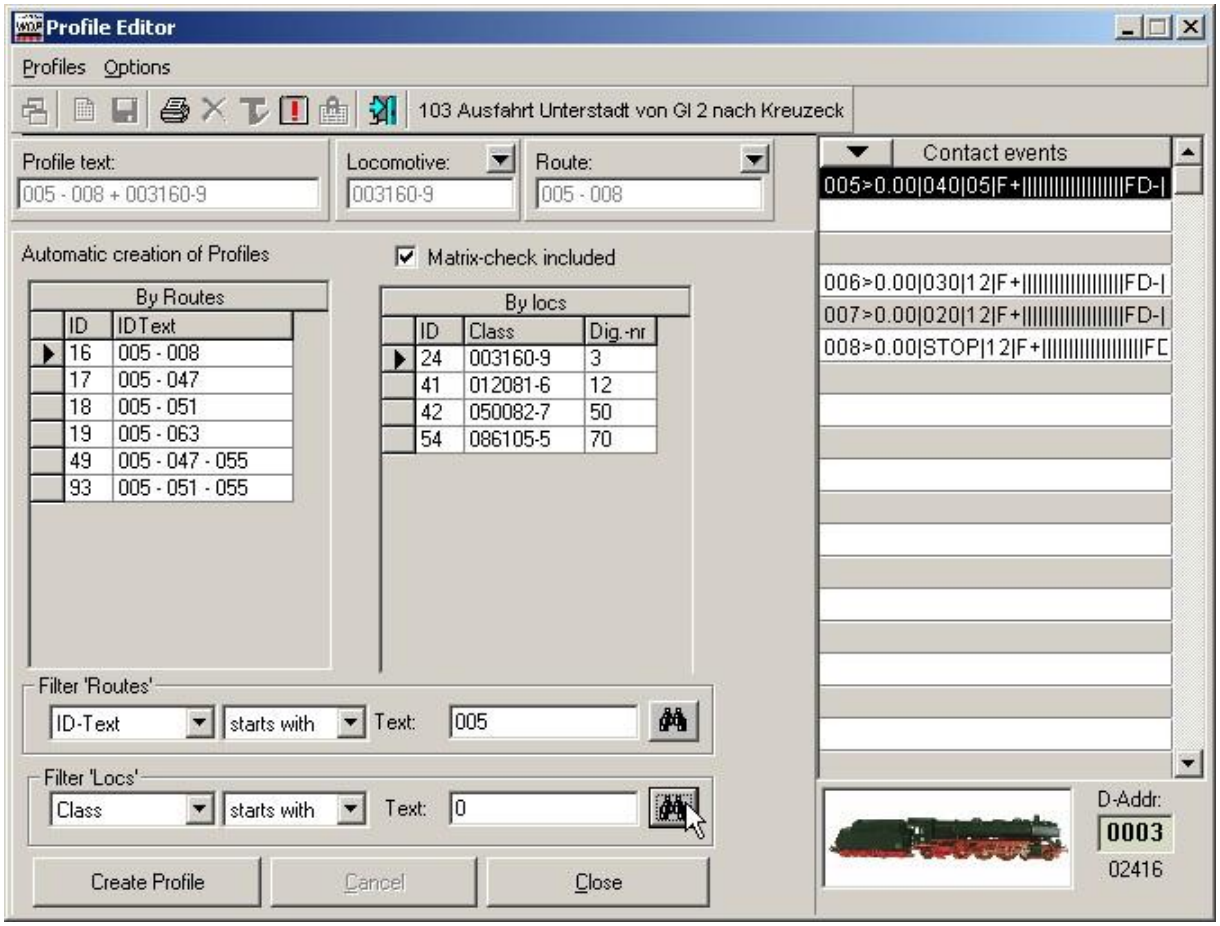
If you haven't selected any criteria yet, the lists will display all locomotives and routes.

Under the lists you will see a couple of fields, which can be used to filter the displayed locomotives and routes.



The following example uses the filter to select all routes **beginning** with the ID-Text "005".

All routes, which do not fulfil this criterion, will disappear from the list "By Routes".



By the filter for the locomotives, all locomotives with classes beginning with “0” have been selected and are display in the list “by locs”, after pressing the button .

You can reset the filters by selecting *“All”* from one of the combo boxes.

When you are satisfied with your selection of routes and locomotives, you can check *“Matrix-check included”* if you don’t want profiles to be created for route/locomotive-combinations that are not allowed by the routes editor (see **8.10**).

After making your selections you can confirm them by pressing the button ***‘Create profiles’*** and a new window will appear.

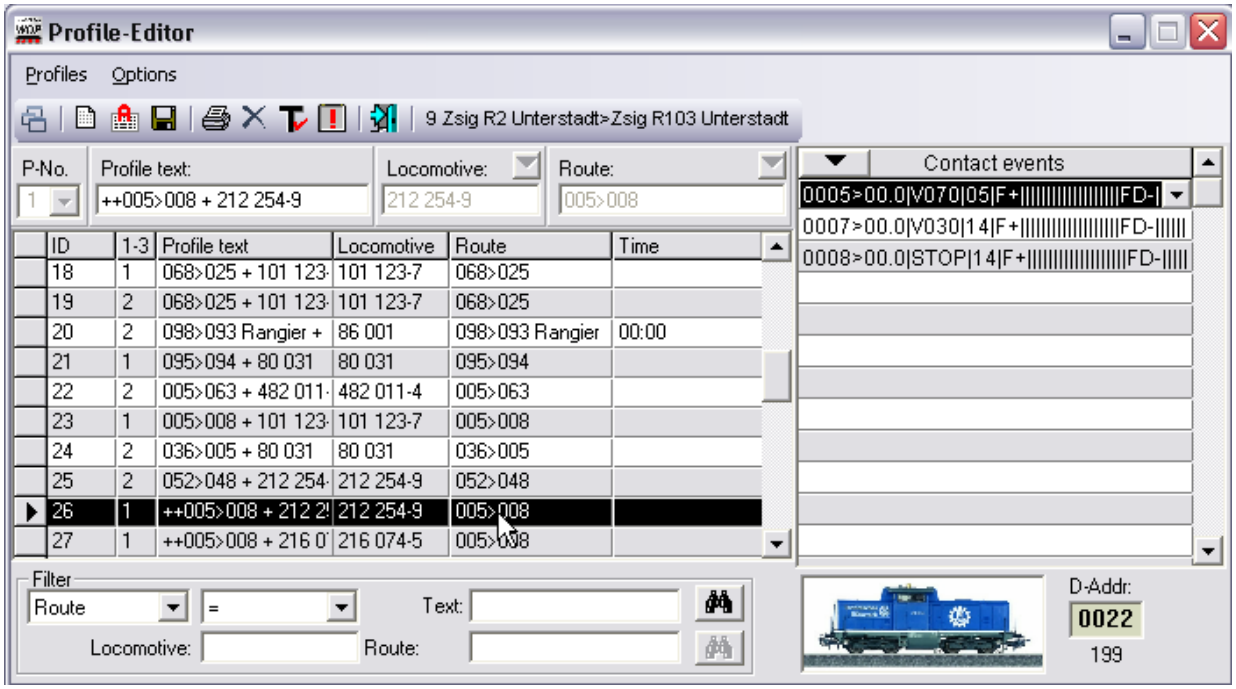
If you are satisfied with the information in this window, select ***‘Yes’*** and the profiles will be created automatically.

Already existing profiles will be found by **WIN-DIGIPET 2012** and the program will inform you about this issue.

After selecting ***'OK'*** the new profiles can be found in the profile editor.

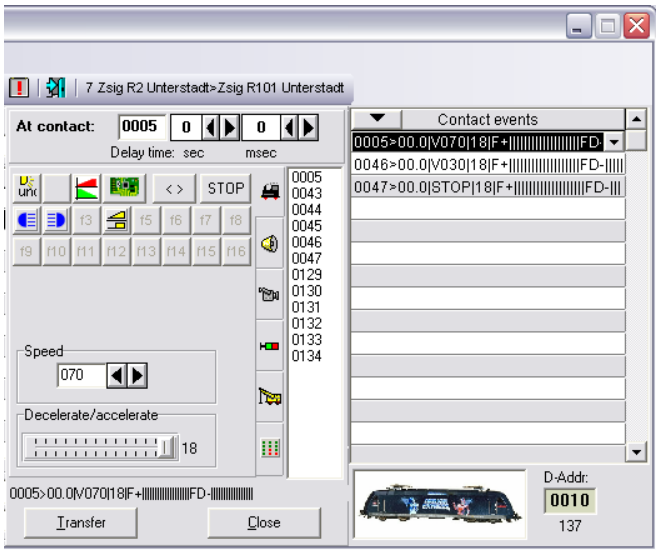
For differentiation between already existing and automatically created profiles, the profile texts of automatically created profiles marked with "++" in the profile text.

For these profiles the contact events have also been automatically registered. These events are based on the settings in the vehicle database and the routes editor (see **8.8.7**) for the processed routes and locomotives.



Every time you change an automatically profile manually you should delete the two characters "++" from the profile text. This is a good indicator for you, if you have adapted these profiles manually or not.

10.4. Adding and changing contact event lines



You can improve the contact events of your profiles. This is always possible. It is irrelevant if you created the profiles automatically or if you registered the contact events automatically in a manually created profile, you can always change them to your demands.

The automatically registered contact events are based on the data of your locomotive and routes databases. They are valid for all trains, but with the changes in the following sections you can further adapt and improve them.

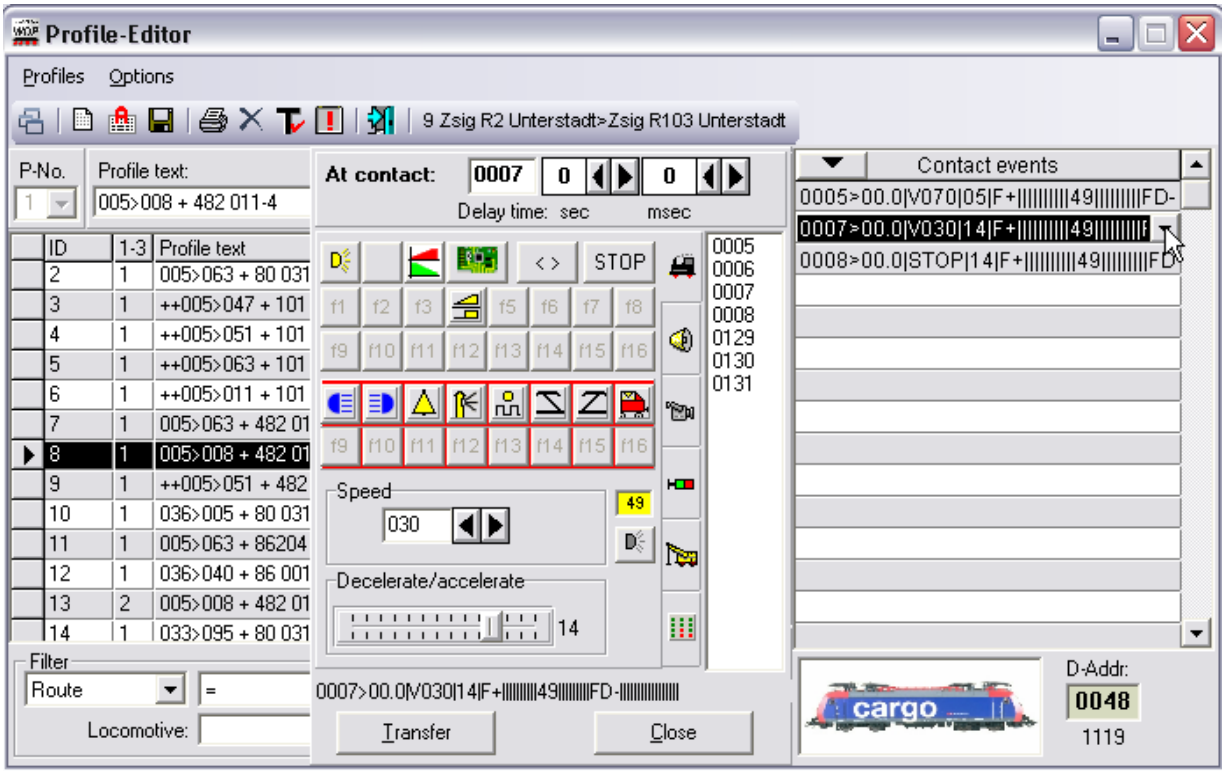
If you want to change or add contact events, click to the line under “Contact events“ and on the selection arrow which appears.

The window “At contact:“ appears.

In this window you are going to set the events which should take place when a locomotive passes over certain contacts. Five different types of commands are available.

These are...

- Command to locomotives (like speed changes, switch the light etc.)
- playing sound-files
- playing video-files
- switching of solenoid devices
- activating crane commands
- changing a locomotive’s type



The following sections will describe these possibilities.

You can assign a “delay time” of max. 90 seconds to each contact (the command will be processed after the delay time). Each second is subdivided into 1000 milliseconds. To adjust, please use the two arrows next to the panels “sec” and “msec”. This feature offers a great variety for operation modes; these will be described later in the section “Use of delay time”.

In the following table, all elements of the loco command line are described which will be displayed in the window “contact events”.

The detailed explanation of the following example is:

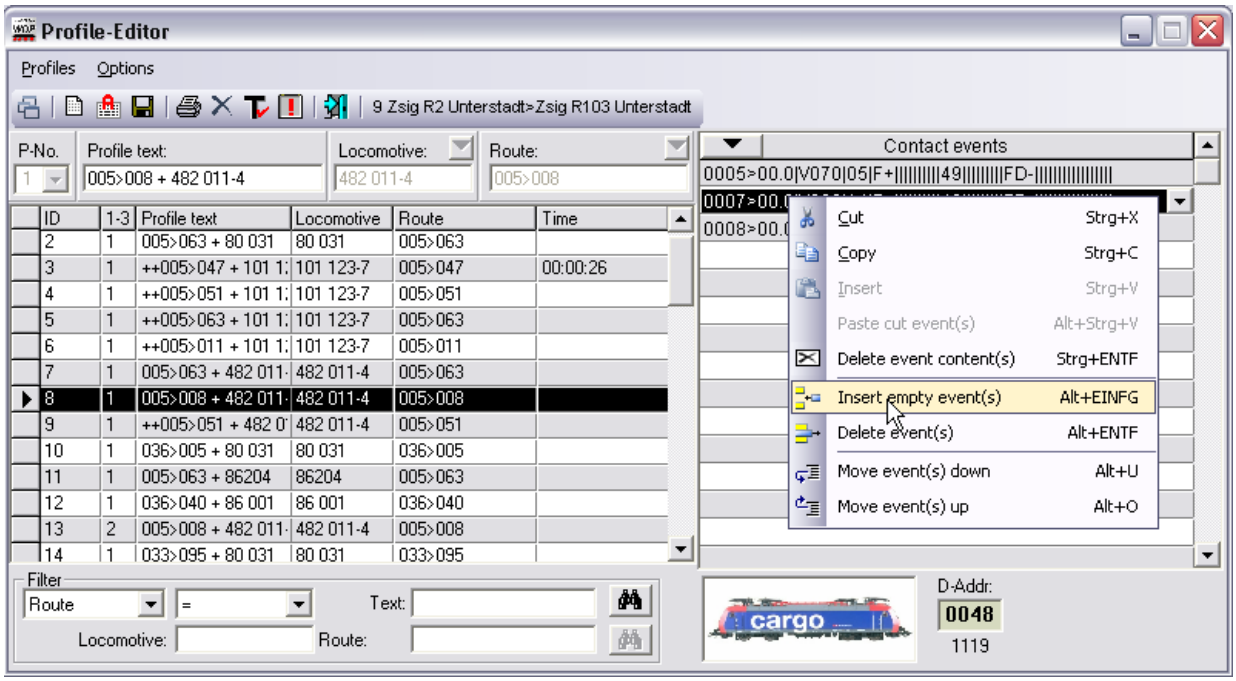
011 > 00.0 I V040 I 10 | F+ If1If2If3If4|f5|f6|f7|f8| S | 09 |f1|f2|f3|f4|f5|f6|f7||f8|FD+ |

011	=	Number of contact (three digits)
> and **|**	=	hyphens
00.0	=	Delay time 00. Seconds and 0 tenths of a second
V040	=	Speed (in km/h)
10	=	Delay factor (1 = slowly and 18 = fast)
STOP	=	Immediately stop, without consideration of a delay factor when the delay factor is 18, otherwise with consideration of the delay factor
<< >>	=	Change direction of locomotive

F+	=	Switch on locomotive function
F-	=	Switch off locomotive function, respectively keep function “Off”
MAG	=	Switch a solenoid device – e.g. followed by “S“ for signal, “W“ for single turnout or “D“ for a three way turnout, the other abbreviations of the solenoid devices are explained later; the designated numbers are codes, which are automatically assigned by the program.
WAV	=	WAVE-file < file name > activate
f1 ...f16	=	Special function f1 etc. = active
S	=	Locomotive-Sound „On“
09...	=	Functions decoder with address 09, as well as the indicated special functions f1 active etc..
FD+	=	Switch on function
FD-	=	Switch off function of the function decoder, respectively keep function “Off”

10.4.1 Editing helps

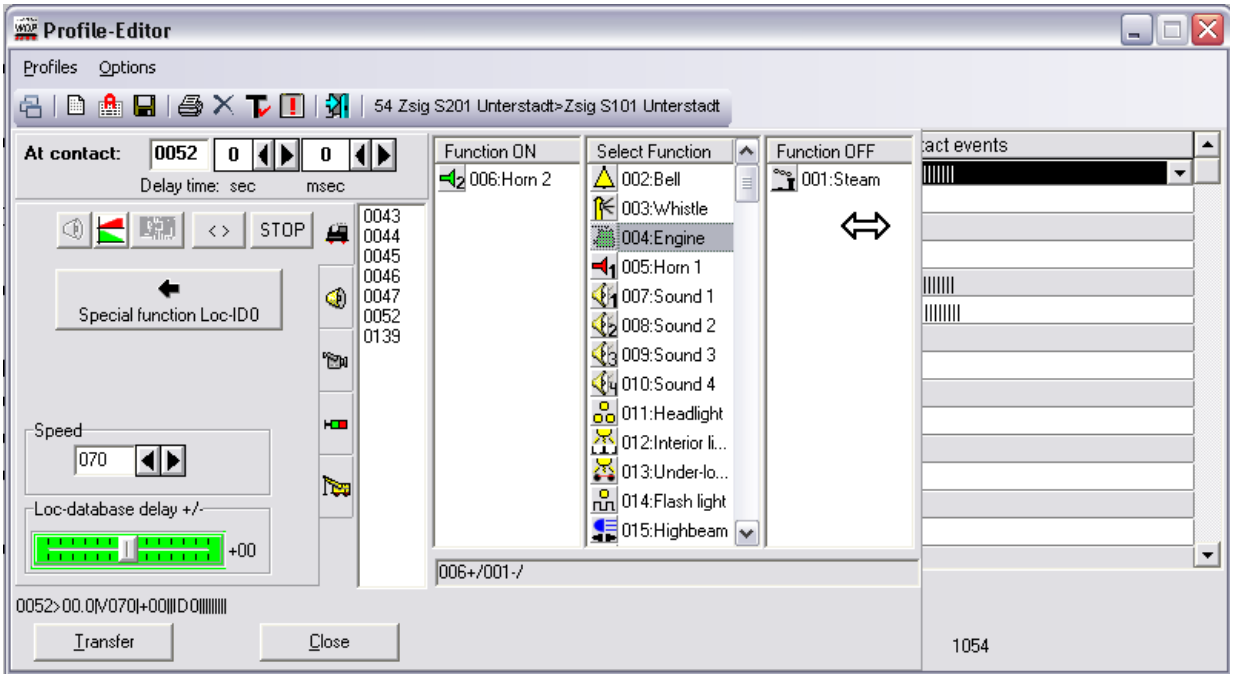
If you want to add or delete rows in your contact events or if want to cut, copy or paste one or more contact events then you can open the context menu for the contact events by pressing the right mouse button on one of the contact event rows.



These commands are self-explanatory.

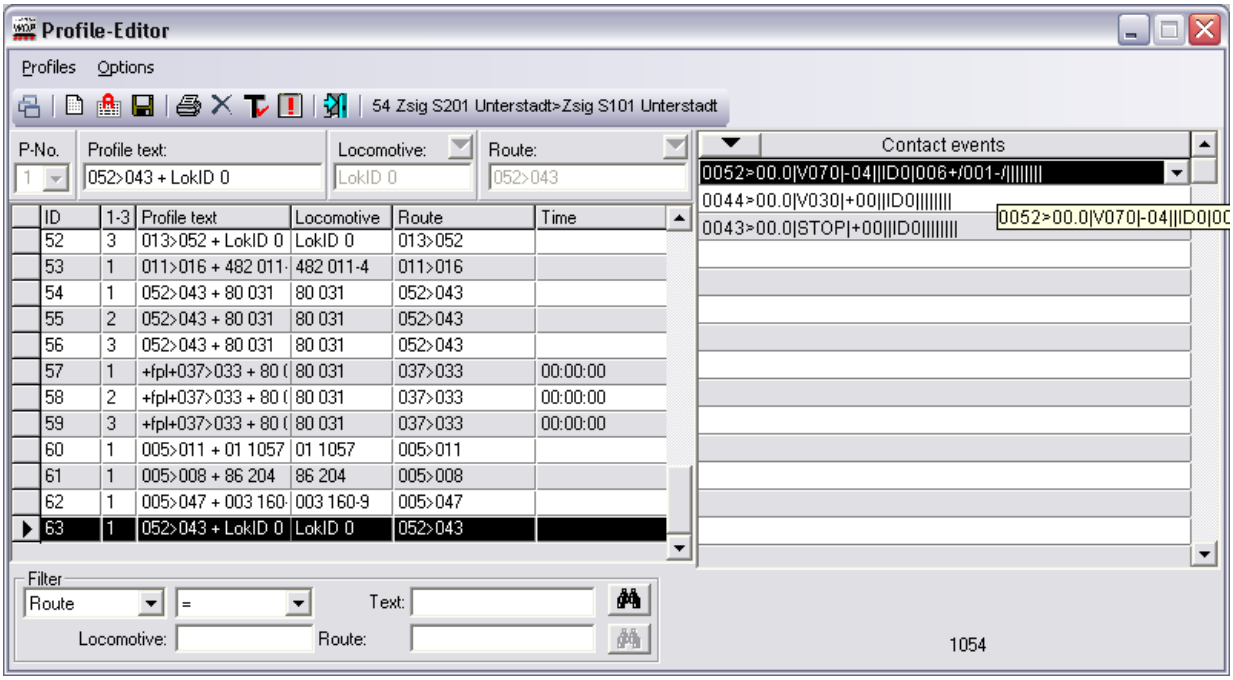
10.4.2 Special function in profiles using Loco-ID 0

For the registration of special functions click on the button ***'Special functions Loco-ID 0'***.



The list on the right shows all available special functions and you drag these to left upper or left lower list. All functions in the upper list will be switched on when the select contact event is executed, all functions in the lower list will be switched off and all other functions will be left as they are before executing the contact event. For example you can now switch on the steam generator at a specified contact and this command is executed for every locomotive having a special function “steam generator” and it is irrelevant if this special function is assigned to f1,f2 or f?.

When you have made all desired selections you can save them using ‘***Transfer***’.

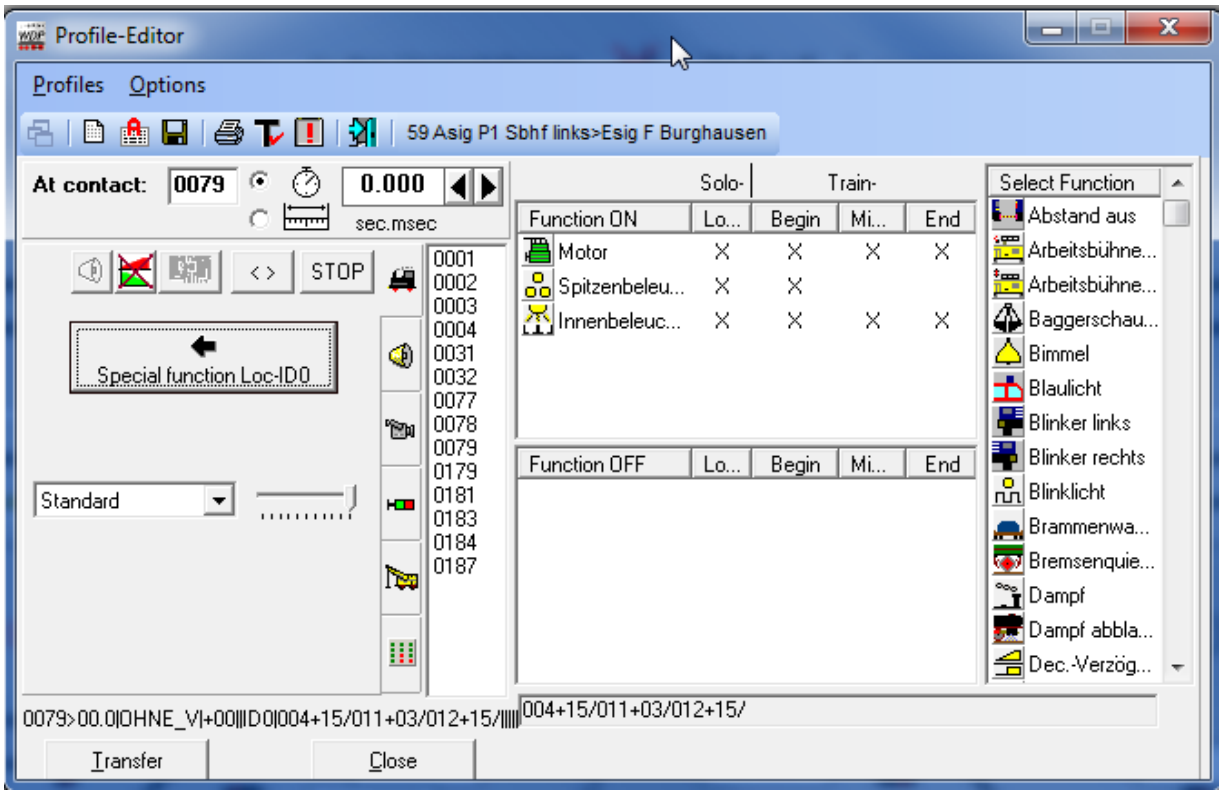


If you switch special functions with a Loco-ID 0-profile on or off they will be left in this state until they are switched off or on by another contact event. You don't have to repeat this special functions if you don't want to change them.

10.4.3 Special functions for Loco-ID 0 profile when using trains

In the previous chapter we described the registration of special function switching for Loco-ID 0 profiles. In the basic settings/after this initial registrations the function switch will affect every decoder within the train.

But sometimes you want to influence only single parts of the train with this Loco-ID 0 profiles. Therefor in the function ON/OFF-lists some check mark columns have been installed. With these columns you can decide whether the selected function switching shall affect a solo locomotive, the first vehicle, the last vehicle and/or a vehicle in the middle of the train. Let´s take a look at an example.



The interior light and the motor sound will be activated for all parts of the train as well as for a single locomotive. But the headlight will be only activated for a single locomotive or for the head of the train (you will agree with us, that it doesn´t make sense to switch on the headlight of a second locomotive within a train).

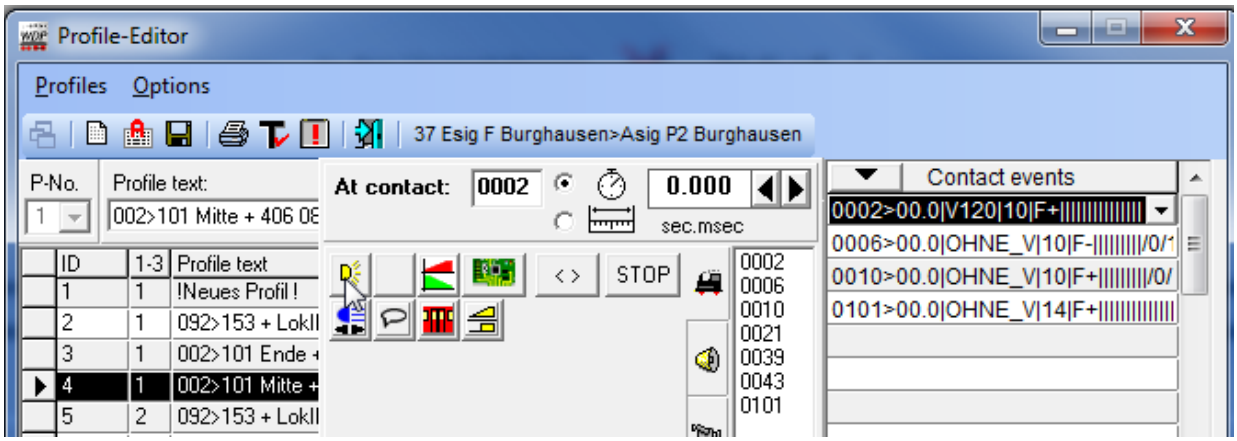
Remember: For Loco-ID 0 the only relevant thing is the definition of the right function symbol within the locomotive database so e.g. for the special function "steam generator" it is irrelevant if this special function is assigned to f1,f2 or f?

When executing a route, manually or by automatic, and you have selected to use profiles the execution will be tried (and executed if possible) in the following order:

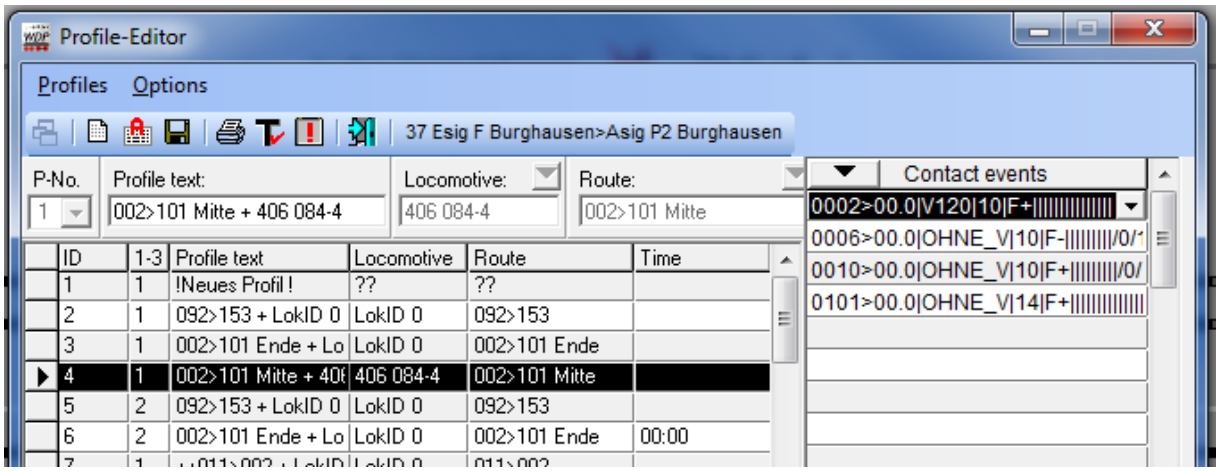
- if profiles exists for the locomotive of start train number display this will be executed, otherwise...
- if a Loco-ID 0-profile exists for the route this will be executed, otherwise…
- the route will be executed with the settings from the route editor.

10.4.4 Special functions for a locomotive specific profile

When editing profiles for single locomotive (locomotive specific profiles) you will presented only the special functions which are available for the selected locomotive. Now you can directly decide which special functions shall be (de-)activated when the edited contact event row will be executed. The special functions activated in the select contact event row will be displayed as “on” in the same way as in the normal locomotive control.



Click at **‘*Transfer*’** and the locomotive-command line will be recorded in the frame “contact events” and automatically the next command line will be activated.



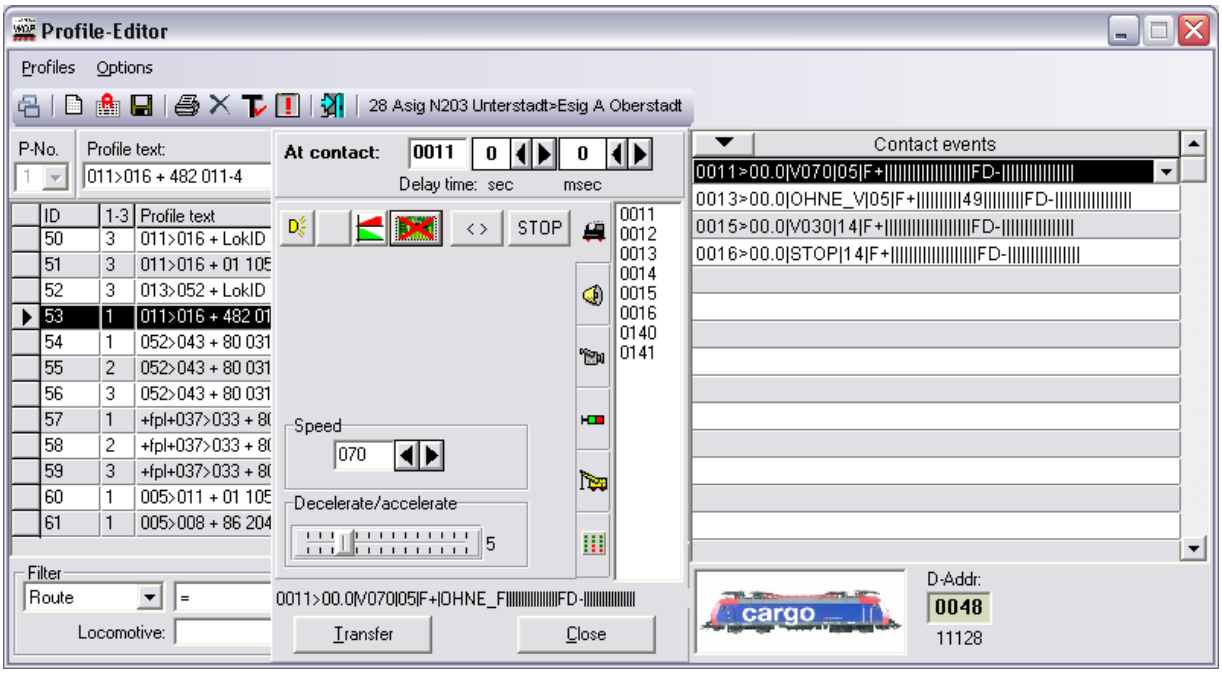
10.4.5 No change of speed

If you want the locomotive not to change speed when executing a contact event line (e.g. contact line for locomotive whistle) you can press . Now no speed changes will be performed for this contact event

10.4.6 No changing of special functions

If you just create a profile to enhance the driving characterises of a train you often don't want to decide what special functions should be switched on or not. A good example is he smoke generator of a steam engine. Normally you don't want to use the smoke generator, but if you have visitors at your model railroad layout you may want to switch on the smoke generator. If you have now created all profiles with "smoke generator off" you would have to create additional profiles with "smoke generator on" or disable profiles, because otherwise every contact event of the profiles would switch the manually (e.g. by loco control) activated smoke off again. In **Win-Digipet 2009** you will find the button , in this position the button forces the corresponding contact event line to behave normal.

If you change the button to all special function symbols will disappear. This means, that this contact line will you just change speed etc., but all special functions won't be changed.



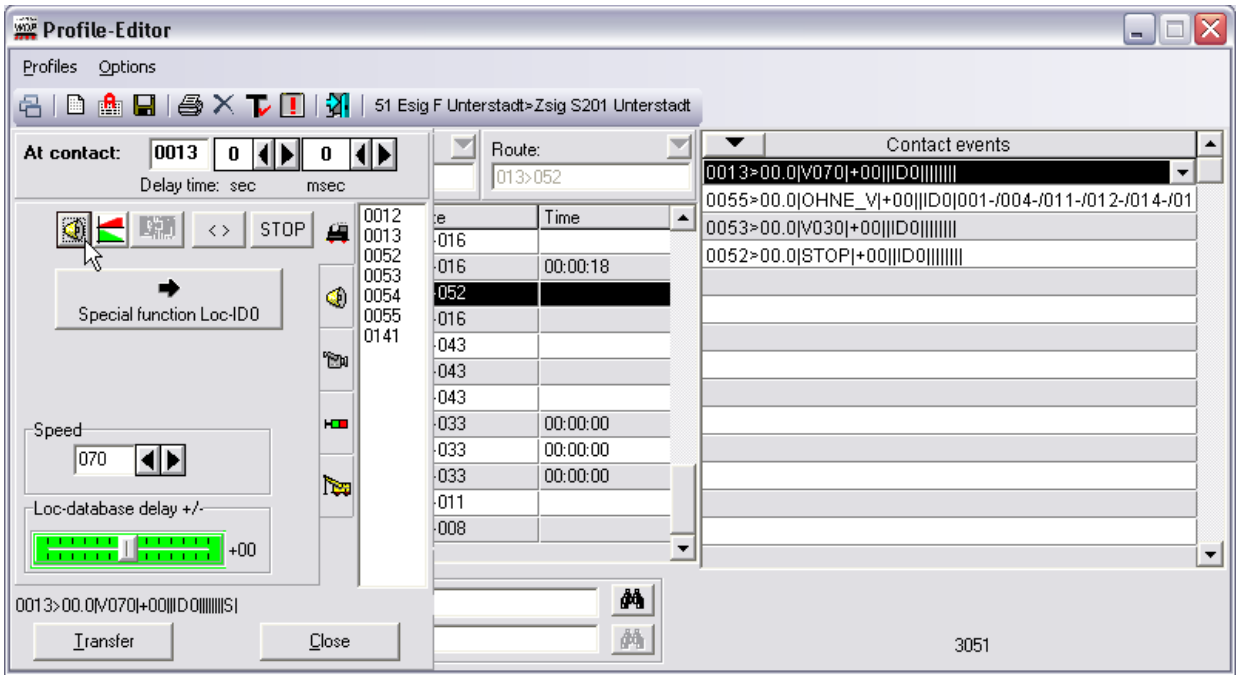
10.4.7 Changes of direction

Some loco decoders are just able to switch to the opposite direction tenths of a second later, after the locomotive has stopped. Therefore practically, you use the command for changing directions for the same locomotive, in a separate command line of your profile, one "model-railroad-minute" after the stop-command. We suggest using as few

as possible changes of direction in profiles. The change of direction when starting a route within the tour automatic should always be placed in the automatic.

10.4.9 Loco sound

You can play the sound which you have recorded for a specific locomotive (see locomotive-database, chapter **5.4.2**) directly in a timetable line. If you have not registered an individual sound for a locomotive, the panel at the right side of STOP will be blank. If a sound is assigned, a speaker-symbol will indicate, that a sound is registered to a timetable line. A grey-marked speaker-symbol indicates, a sound is not assigned for playback to that particular line.



10.4.10 Function decoder functions for a locomotive specific profile

If you assigned/linked a function decoder to your locomotive you can activates its function the same way as the locomotives special functions described in chapter **10.4.4**.

10.4.11 Special speed commands (OHNE_V, STOP and V000)

There are three special speed commands...

- OHNE_V
- STOP und
- V000

…which shall be described deeper.

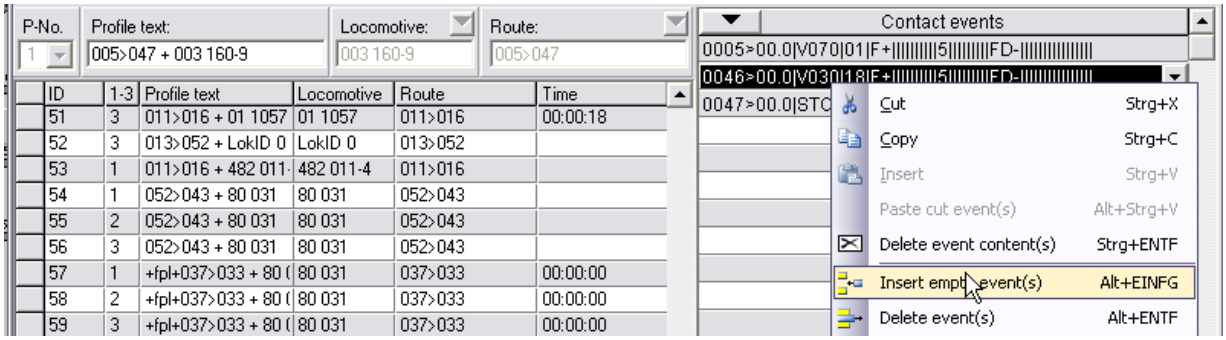
OHNE_V	This command can be used if you want your contact events to have now effect on the current locomotive speed e.g. if you just want to change special functions, see also **10.4.5**.

STOP	When using this command at the destination contact of the route, the train will not before stopped before the complete release condition of the route has become true. So can stop your trains with conditions like “Stop when Contact x occupied and contact y free” to achieve, that the train drove far enough. When using STOP with the main contact of an intelligent train number display and the route is set to stop with one of the intelligent train number display options, the release condition will not be taken into account and the train will only be stopped according to the settings of the intelligent train number display.

V000	This is the contrast command compared to STOP. When using V000 at the destination contact of the route, the release condition won´t be taken into account and train will stop we reaching the selected contact. When using V000 with the main contact of an intelligent train number display and the route is set to stop with one of the intelligent train number display options, the contact occupation will not be taken into account and the train will only be stopped according to the settings of the intelligent train number display.

10.4.12 Playing sounds

In another profile you want to play a sound file at a contact. For this select the desired line in the contact event; the line will be under laid in black.



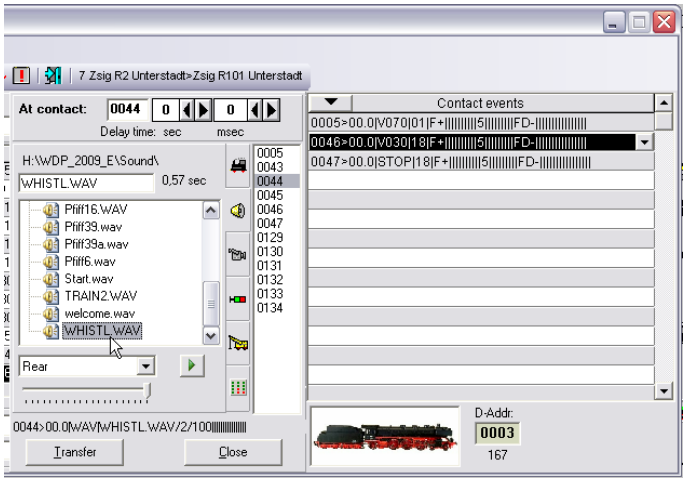
Before this line a new line ought to be inserted. To do this press the right mouse button and select <Insert line> in the appearing context menu.

By this you get a new empty black under laid line. Click on the selection arrow which appears. The window "At contact:" appears.

Click on the symbol  to open the index card "Sound".

All wave files in the subdirectory \SOUND of C:\WDIGIPET are displayed; you can also select sounds in the sub-folders of the \SOUND-directory.

In the list field at the right side all contacts of the actual route are listed. Select the desired contact by mouse click or you can enter it into the field beside of "*At contact:*" by keyboard.



Reasonable contacts in our example are 043, 044, or 045.

In our example click on 006 and the number is automatically displayed in the field beside of "*At contact*".

Also select the sound file you want to play. The file name and playing time is automatically displayed above the file selection list field.

For testing purposes you can also play the sound file immediately by pressing the button  . You can also choose the sound's volume and the speaker (in case of multi-speaker system), that shall be used for playback. In some cases you might be asked, if WDP may convert the sound file, because not all kinds of Wave-Files are supported by the multi-speaker-sound-system of WDP.

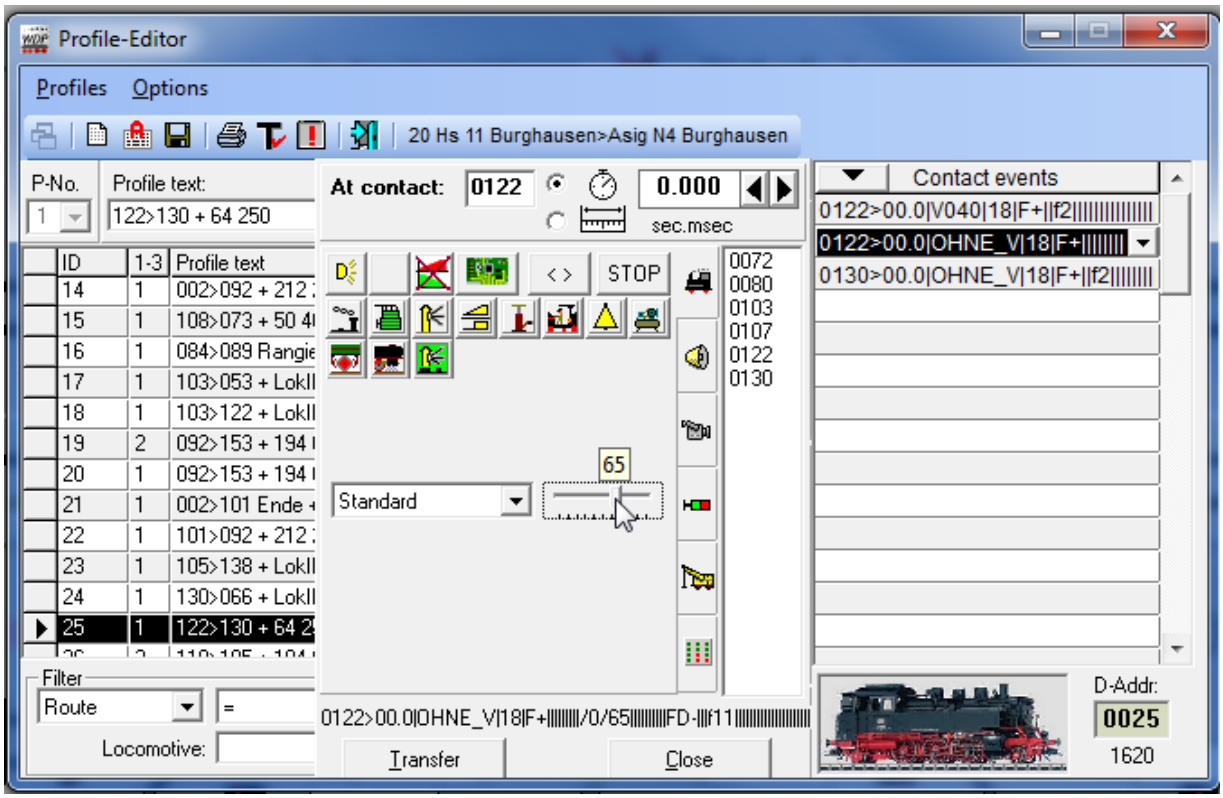
At the bottom of the frame, the command line is displayed similar to a locomotive command line.

If you are satisfied with your selection, click on **'*Transfer*'**.

10.4.13 Sounds assigned to special functions

If you have assigned sound files to special functions within your locomotive database (see **5.5.5**) you can set additional options for their playback for each contact event in your profiles.

As you can see in the following picture you can set the playback volume and you can choose which speaker of a multi-channel sound system shall be used for playback.



10.4.14 Video sequences

If you want to play a video in a profile contact event line, you have to do the following. Select an empty line in the contact events and click on the selection arrow which appears. The window “At contact:“ appears.

Click on the symbol  to open the index card “Video“.

All AVI files in the subdirectory \VIDEO of C:\WDIGIPET are displayed.

The selection method for videos is nearly the same as for sound files explained before.

For testing purposes you can also play the video file immediately by pressing the button  . The video is played in an extra window.

At the bottom of the frame, the command line is displayed similar to a locomotive command line.

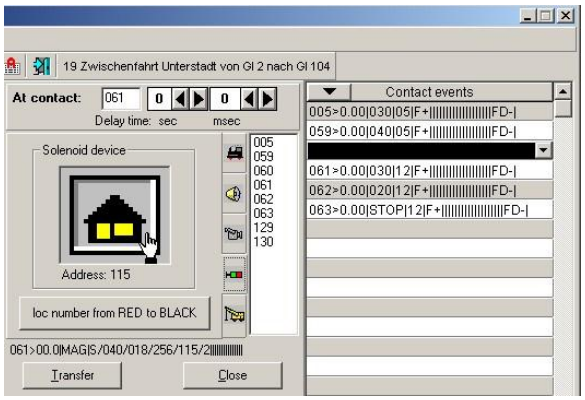
If you are satisfied with your selection, click on **‘*Transfer*’**.

10.4.15 Switching solenoid /Colour of rain number

With this function you can switch solenoid devices at a contact. Nearly all solenoid devices can be used **except** crossings. The handling of this function is similar to add-on switches in the routes editor (see **8.9**).

If you want to switch a solenoid device in a profile contact event line e.g. when contact 017 is occupied, you have to do the following. Select an empty line in the contact events and click on the selection arrow which appears. The window “At contact:“ appears.

Click on the symbol  to open the index card “Solenoid device“.



In the list field at the right side all contacts of the actual route are listed. Select the desired contact by mouse click or you can enter it into the field beside of “*At contact:*“ by keyboard.

In our example click on 017 and the number is automatically displayed in the field beside of “*At contact“.*

At the beginning of a new solenoid device registration the picture box below “Solenoid device“ is empty. Now drag the desired solenoid device via “drag & drop“ into the empty picture box. Select the desired state of the solenoid by clicking on the picture of the device. You are able to use counter symbols also they’ll be handled in the same way as the add-on-switching in the route editor.

At the bottom of the frame, the command line is displayed similar to a locomotive command line.

If you are satisfied with your selection, click on **‘*Transfer*’**.

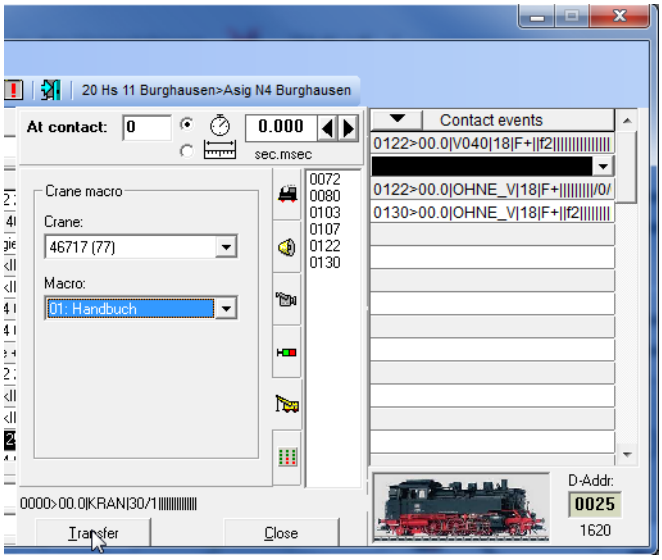
With this type of command you can switch also all kind of functions, which are switched with a k83/k84-decoder, and also a turntable or moving table.

On this tab you have also a function for change red (blocked for automatic) to black train numbers. This might be useful in some automatic operations etc..

10.4.16 Executing crane macros

If you want to execute your recorded crane macros, click on the symbol  to open the index card for controlling cranes is displayed.

Select the contact and the crane macro you want to execute.



At the bottom of the frame, the command line is displayed similar to a locomotive command line.

If you are satisfied with your selection, click on **'*Transfer*'**.

This function is also interesting for you user, who even don't own a crane!

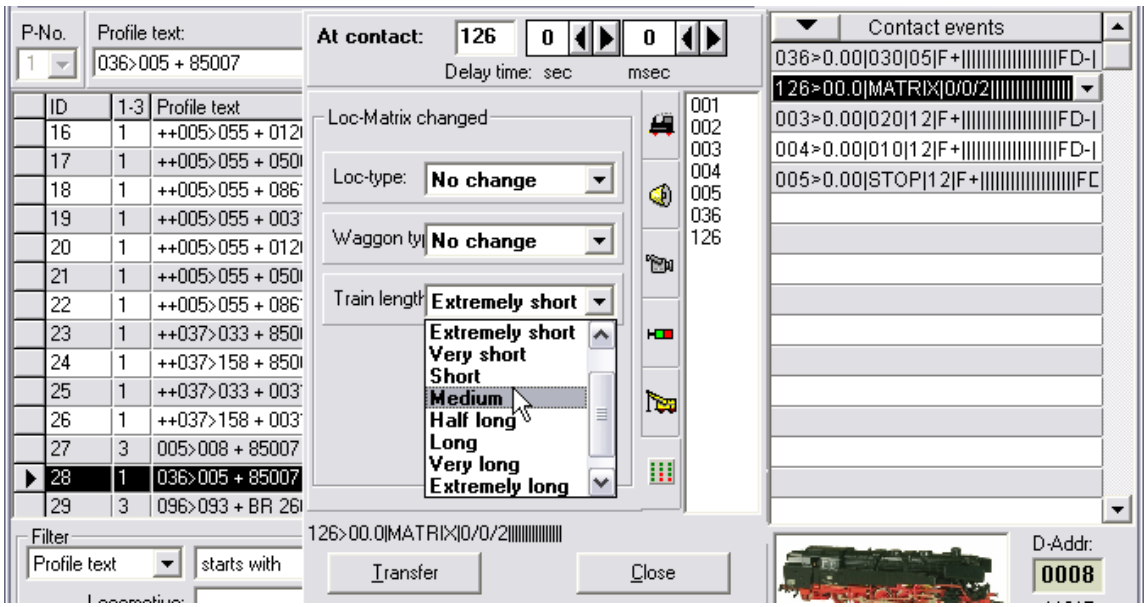
The crane macros can be used for special actions with locomotives that can be executed manually or by timetable after recording without using routes etc.

10.4.17 Changing the matrix (loco type) by contact event

If you make shunting operations etc. on your model railroad you sometimes want to change the matrix automatically e.g. if you uncouple some wagons from a train and so a long train becomes a short one.

In the past you had to make this change manually.

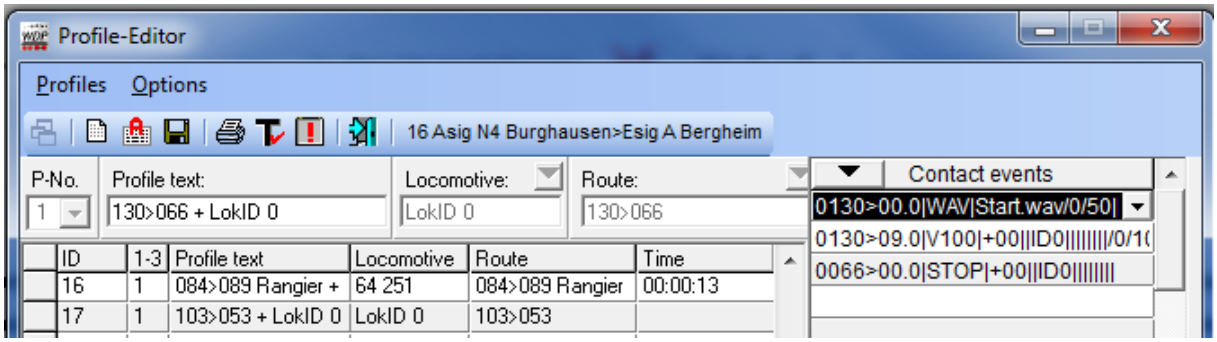
Now you can also change the matrix of a locomotive with contact events of a profile for this locomotive. An example is showed below:



10.4.18 Use of “delay time”

The following examples will show you, how to use this feature easily for great variety of operations on your model railroad.

You would like to playback a typical announcement of a railway station at the same contact before the train leaves (“Attention at platform 6. The train will depart soon. Doors will close automatically”). The train shall depart, AFTER the sound has finished – this would be the right way. Therefore you have to register the following contact-events:



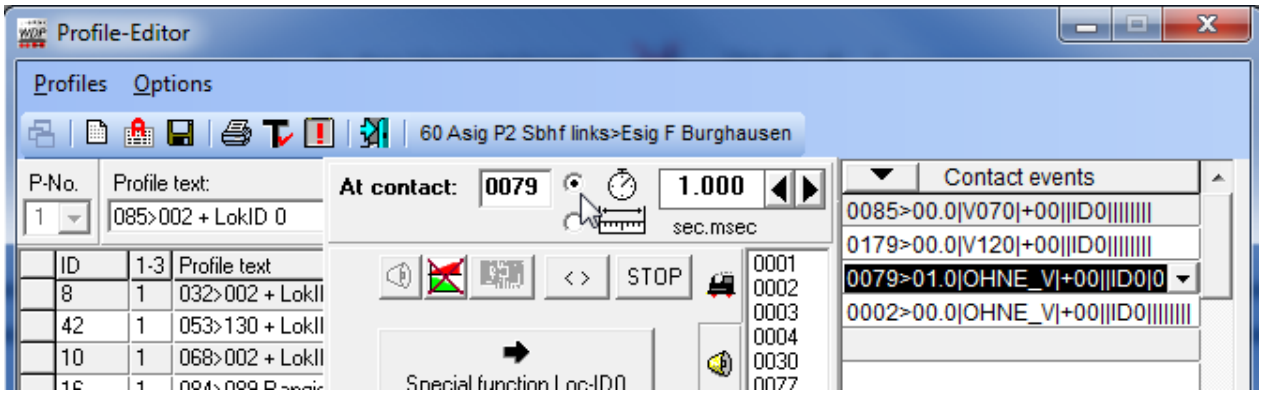
At contact 130 a wave file will be played immediately after switching the route and in the second row the train will be started with a target speed of 100 km/h after a waiting time of 9 seconds and 0 msec (>09.0).

Waiting times at start contacts of profiles will be ignored when a train passes through. The registered times at start contacts will only be taken into account when the train has been stopped before switching the according route.

10.4.19 Usage of “delay by centimetre”

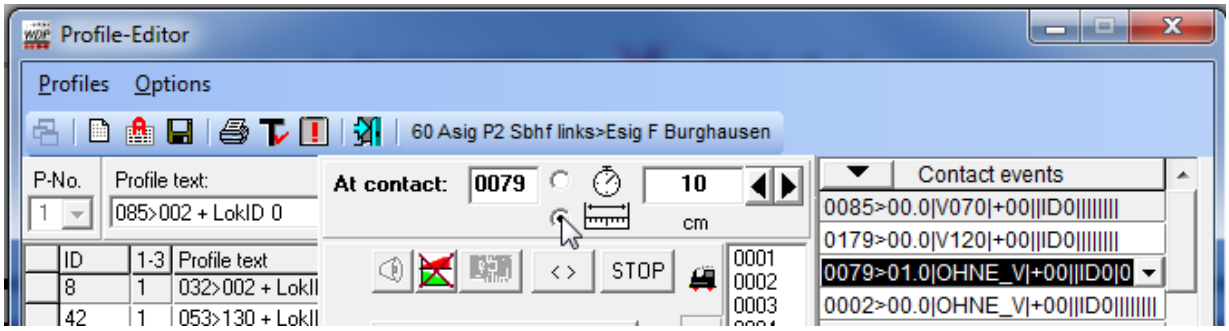
In the previous chapter we described how to delay a contact event using a waiting time. But sometimes this will not lead to the desired result.

Sometimes you will get a better result if you can say “execute command x cm after reaching a contact”. In the following example we see a train travelling with 120 km/h performing a second action 1 second after reaching this contact 79.



But at which position on your layout will the action be performed. You would have to do a time-speed-calculation.

This way can be shortened if you set the execution position in cm as displayed in the following picture. Here the command will be executed 10cm after reaching contact 79.

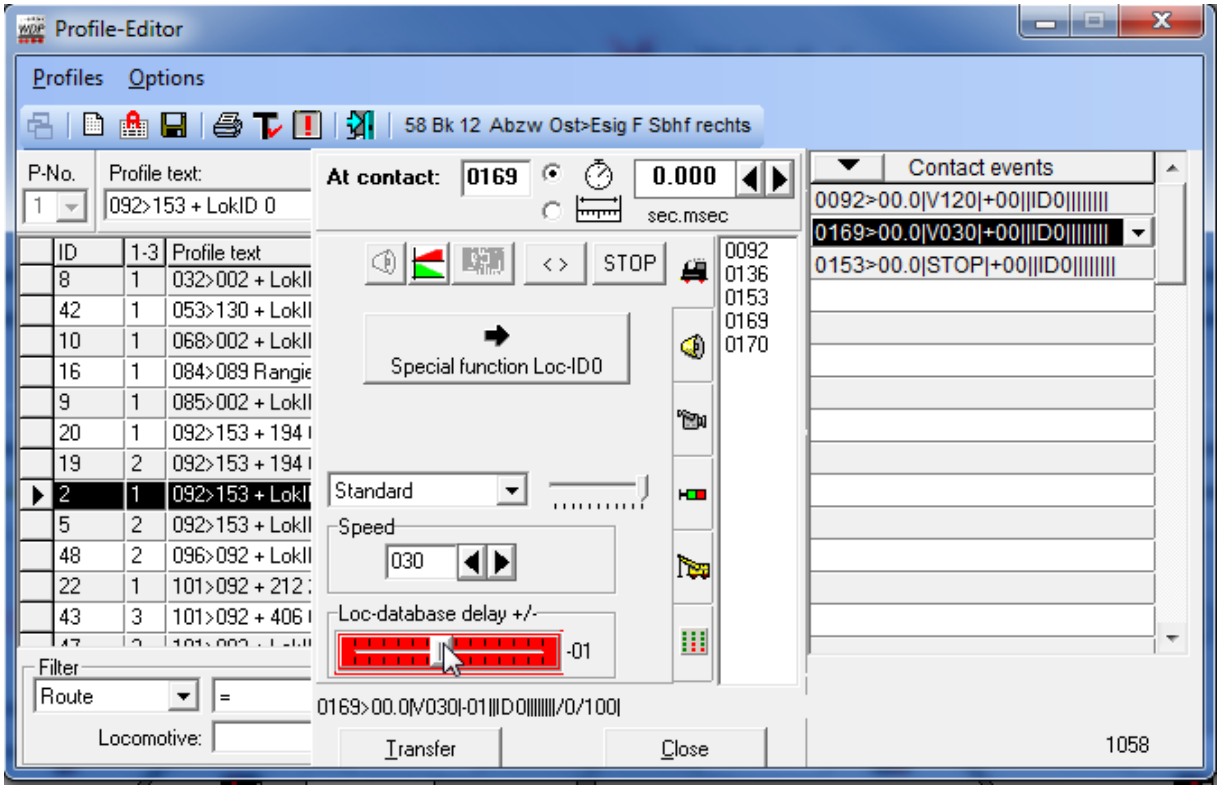


Of course delays in cm make only sense for moving trains.

If you register at the **start contact a delay in cm**, the train will **never** start...

10.4.20 Acceleration/deceleration settings in profiles

The acceleration/deceleration settings from your vehicle database will only be transferred for locomotive specific profiles as absolute values. For Loco-ID 0 profiles only relative values can be registered for the contact events. The +/- values will be used relatively to the settings made in the vehicle database. If the locomotive accelerates this value will be used relatively to the acceleration settings in the vehicle database and when braking accordingly added/subtracted from the vehicle´s database value.



Let´s explain this by a small example:

We registered....

- In the vehicle database for acceleration a value of 10
- And here in the Loco-ID 0 profile a value of -01

...then during execution of this Loco-ID 0 profile the acceleration rate 09 will be used (10-1=-9).

The same can be said analogously for the deceleration rate.

> Profiles already registered in Win-Digipet Pro X won´t be automatically converted to this relative values. So if you want to use for them the relative value feature you have to edit the profiles manually.

10.5 Different options

The menu <Options> gives you access to additional functions.

- **Always display feedback contacts** 

(see **7.4**)

  If you want to see all feedback numbers in your track diagram **every time** you open the profile editor check this switch.

  Be careful!
  If you want your profile with a locomotive in the simulation, then feedback contacts won't be highlighted in red and the feedback contacts can't be switched on and off with the mouse.

  Because of this you should always switch this function off before testing locomotives with the simulation

- **Different list sorting**

  Here you can choose the sorting criteria for the profiles list.

  You can also change the sorting criteria also by clicking on the different list headers (ID, Profile-Text, Locomotive or Route). Repeated clicks on the same header change the sorting direction (up/down).

  The last two sorting options offer to sort by locomotives and routes at the same time with sorting priority (e.g. first by locomotives then by routes and the other way round).

10.6 Testing profiles

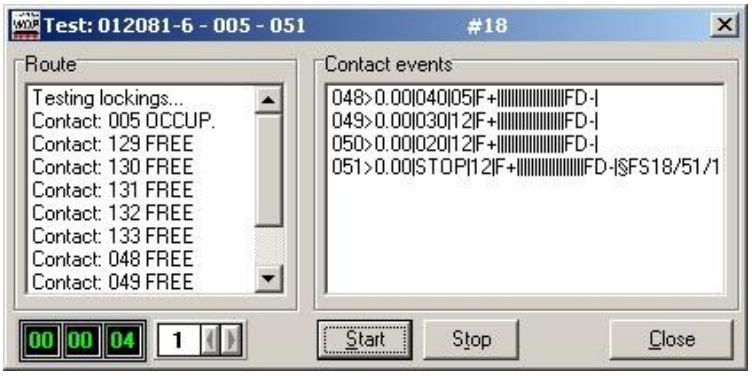
All registered profiles can be tested immediately after their registration. Therefore select the profile to be tested and place the locomotive/train on the start contact of the selected route.

Select the menu command <Options> <Test Profile> or click on the symbol in the toolbar. A window “Test...“ will appear.

On the left-hand side you’ll see the switching conditions, on the right hand side the contact events of the route belonging to this profile line. Further down, a digital clock with the starting time of this route appears. Next to it the time factor model railroad time/ real time is displayed which can’t be changed, because the times for profiles are always real time. If you export profiles to the timetable the real time will be converted to model railroad time.

Put the relevant locomotive on the starting contact and press ***‘Start’***.

The digital clock starts running, the switching conditions are checked, the route is switched, and the contact events are masked as soon as they have been executed (by the locomotive.



Caution!
If you get the message "**Loco not on starting contact** the relevant locomotive is not positioned on the starting contact or wrongly positioned. Drag the correct locomotive from the locomotive selection onto the starting contact and repeat the test. The route will be switched if all conditions are met.

The clock stops when the destination contact has been reached and therefore the route release condition is fulfilled.

If you have **not** entered a release condition for a route for whatever reason – this would be a mistake – the clock will not start, if you click on “Start”; the route will not be released if the destination contact is reached. The destination contact must be entered always in the upper panel of the routes editor (see **8.8.4**) (supplementary marked with “dest. Contact”).

Note!
The test window has to stay active during the test run, otherwise the driving time is not recorded.

You can also use the simulation for testing lines. But be careful, because the arrival time in the simulation will differ in most cases from the arrival time of the train on your model railroad layout. Therefore you should register the arrival time again with real environment.

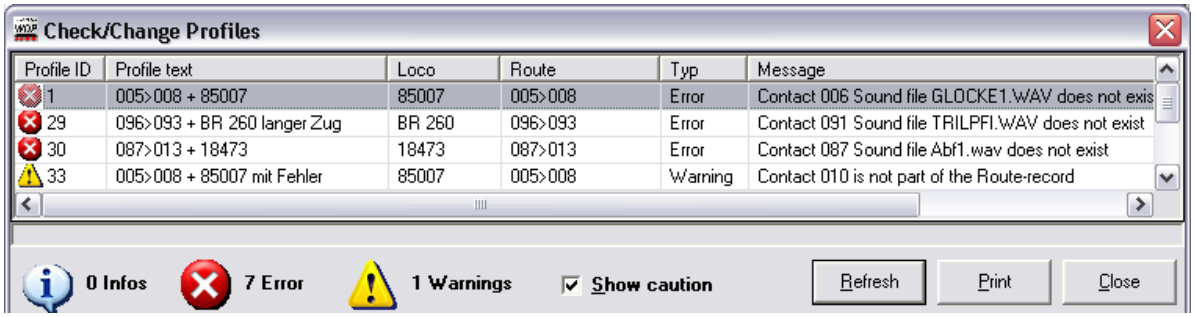
You will notice that not all contact events are masked in the contact events window, if you made a mistake. You can make your corrections immediately.

In case of any errors you might like to stop the locomotive during test run, use the switch ***'Stop'*** to perform this.

You leave the test program with ***'Cancel'*** and the running **time** is **automatically** recorded in the **column "Time**" in the list window of the **Profile editor**.

10.7 Checking profiles

For an automatic check of all profiles, select the menu command <Options> <Check profiles> or click on the symbol ! in the toolbar. **WIN-DIGIPET 2012** will display the check results.



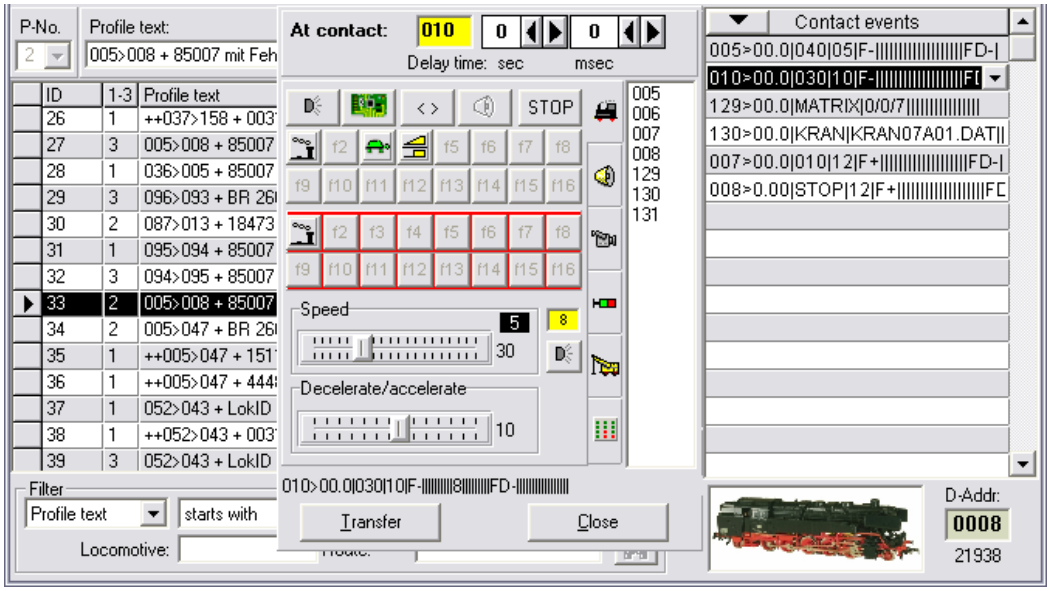
The check window is quite self-explanatory.

You can print also all messages from list. If you want to check the errors first you can hide all warnings.

When selecting a message in the check window, the program will automatically navigate to the corresponding dataset in the editor, so that you can correct your data and afterwards actualize the check list.

10.7.1 Warnings concerning wrong contact numbers

Similar to the route editor contacts not belonging to a profile's route are highlighted in yellow.



10.8 Selecting registered profiles

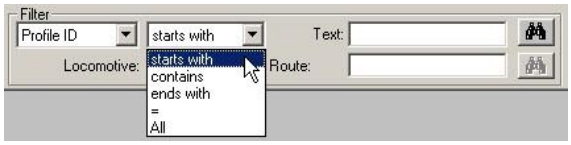
For selecting of profiles for editing etc. **WIN-DIGIPET 2012** offers the possibilities:

- Selection via text inputs and filters
- Selection using the start-/destination-function
- Selection using the start-/destination-function in combination with a locomotive and a route.

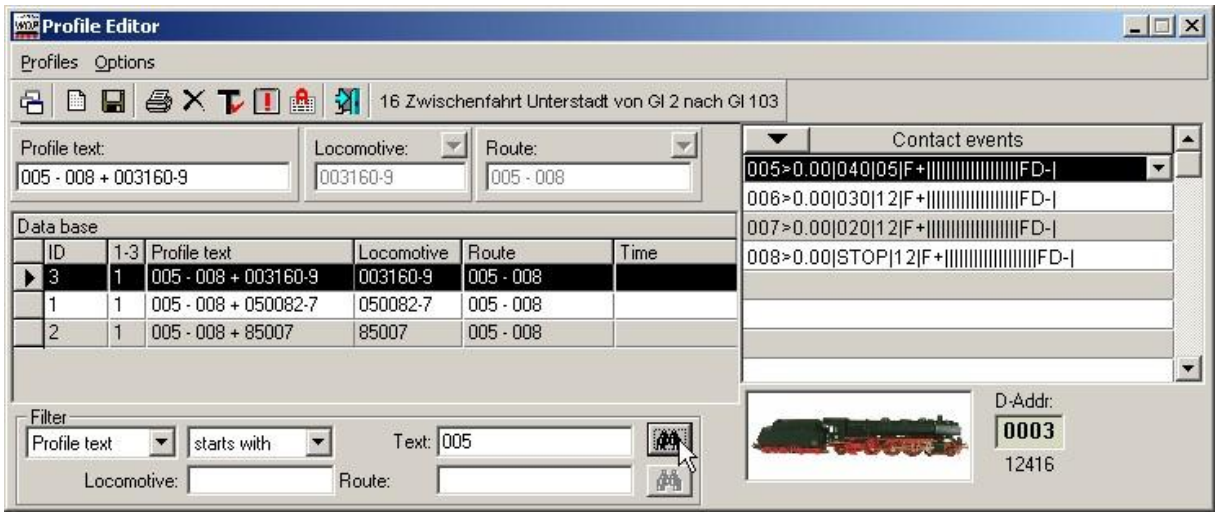
10.8.1 Selection via filters

Registered profiles can be selected in the profile editor with the two filter selection frames using different criteria.

and



Therefore select first the two filter functions and enter a text in the field "*Text*".

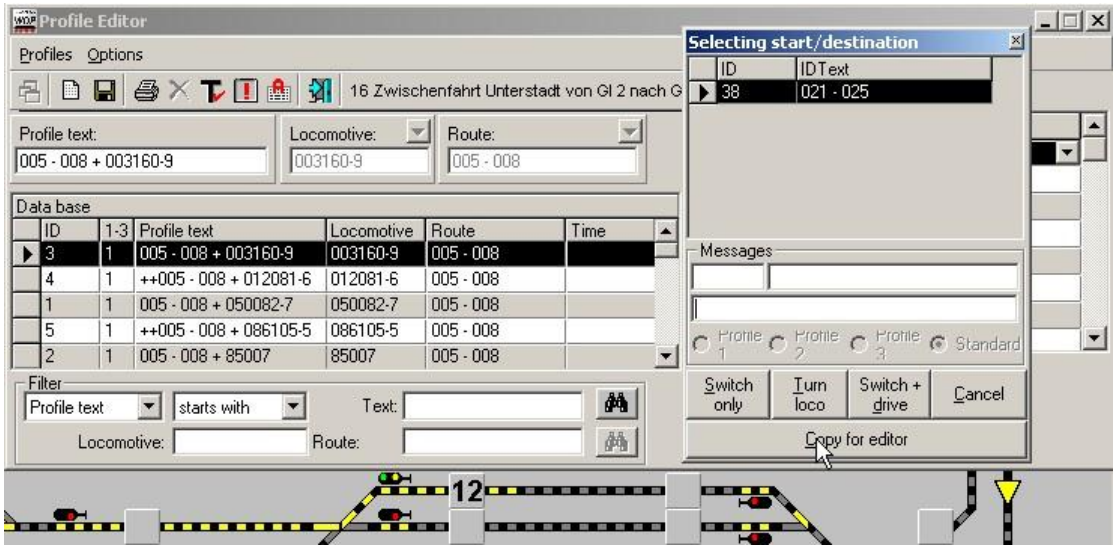


Afterwards click on  and the results are displayed or an error message will occur if no profiles were found.

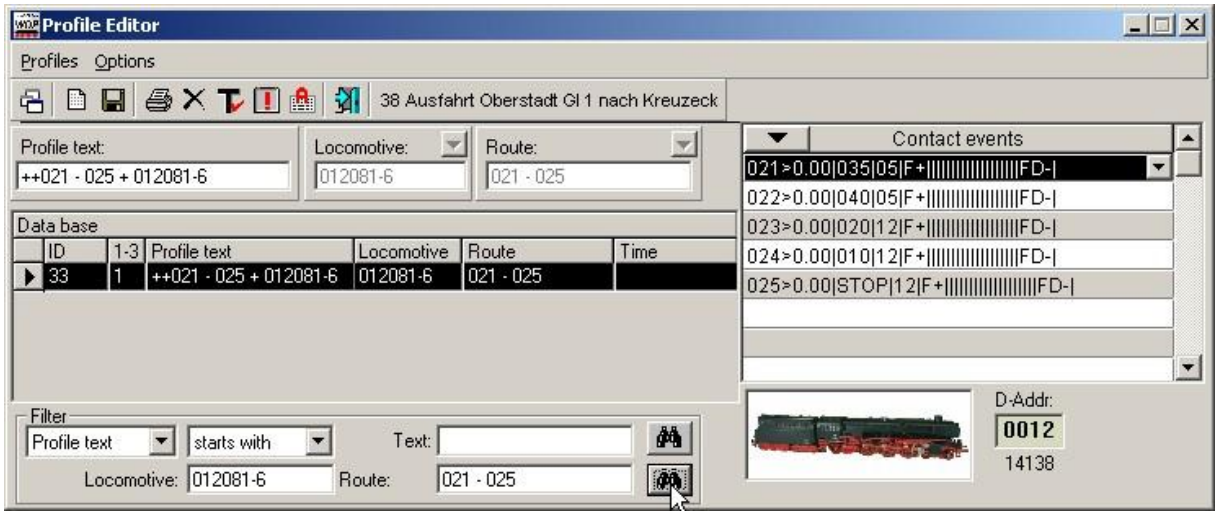
After a click on the symbol  the profile editor will display again all profiles.

10.8.2 Selection using the start-/destination-function

With this method you can directly search for all profiles for a specific route. Select the route with the start-/destination-function (see chapter **18**).



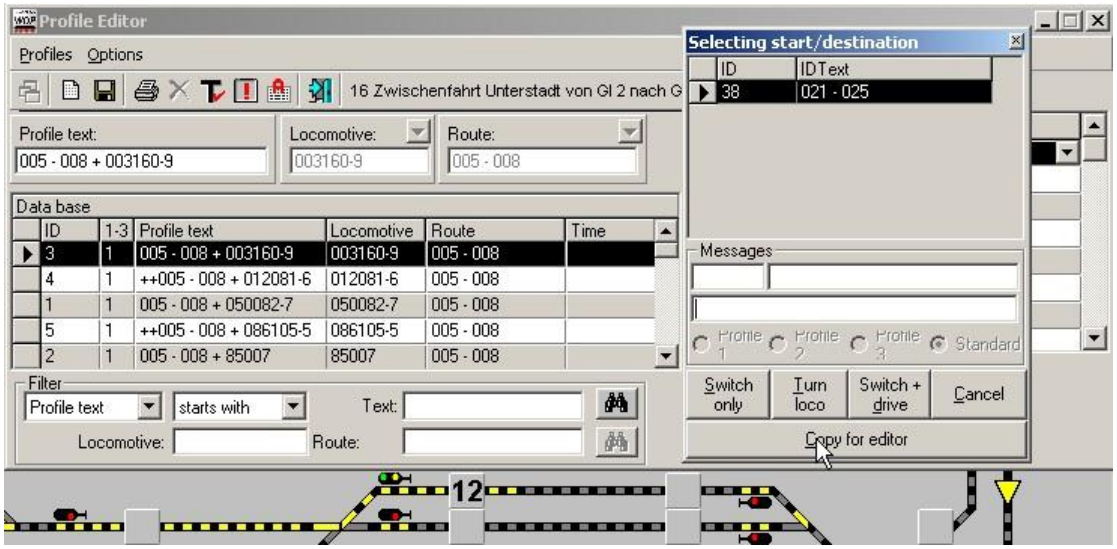
The route will be highlighted in yellow and the window “Start/Destination selection” appears. After a click on the button **‘*Copy for editor*’** the route will be automatically appearing in the search fields at the bottom the window.



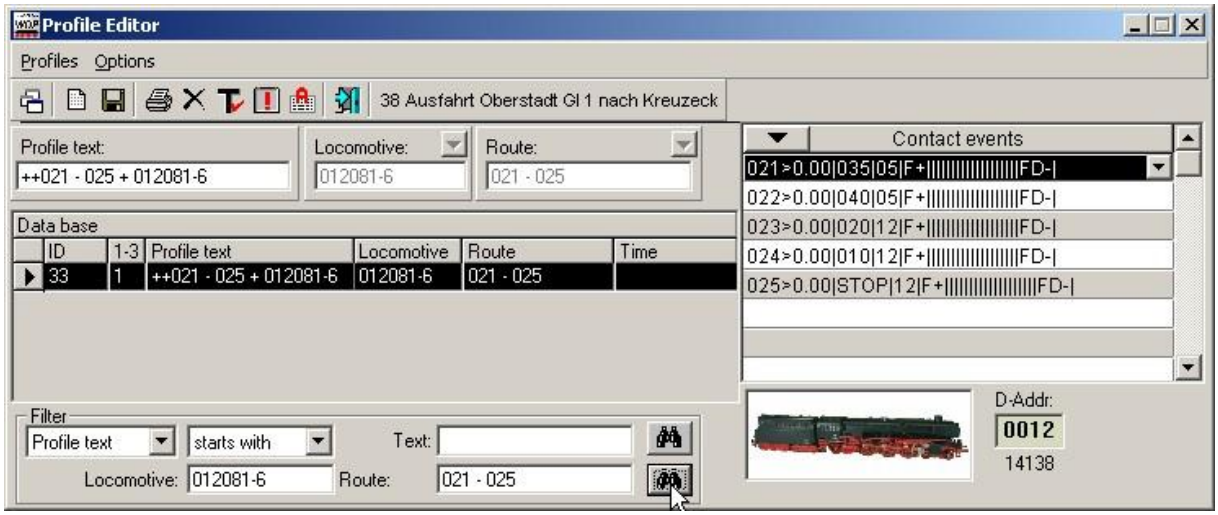
Now click on the symbol  and the profile editor will show you the suitable profiles.

10.8.3 Selection using the start-/destination-function combined with locomotive

With this method you can directly search for a profile with a specific locomotive/route combination. For this function the desired locomotive has to be registered on the start train number display of the route. Select the route with the start-/destination-function (see chapter **18**).



The route will be highlighted in yellow and the window “Start/Destination selection” appears. After a click on the button ***‘Copy for editor’*** the locomotive as well as the route will be automatically appearing in the search fields at the bottom the window.



Now click on the symbol  and the profile editor will show you the suitable profiles.

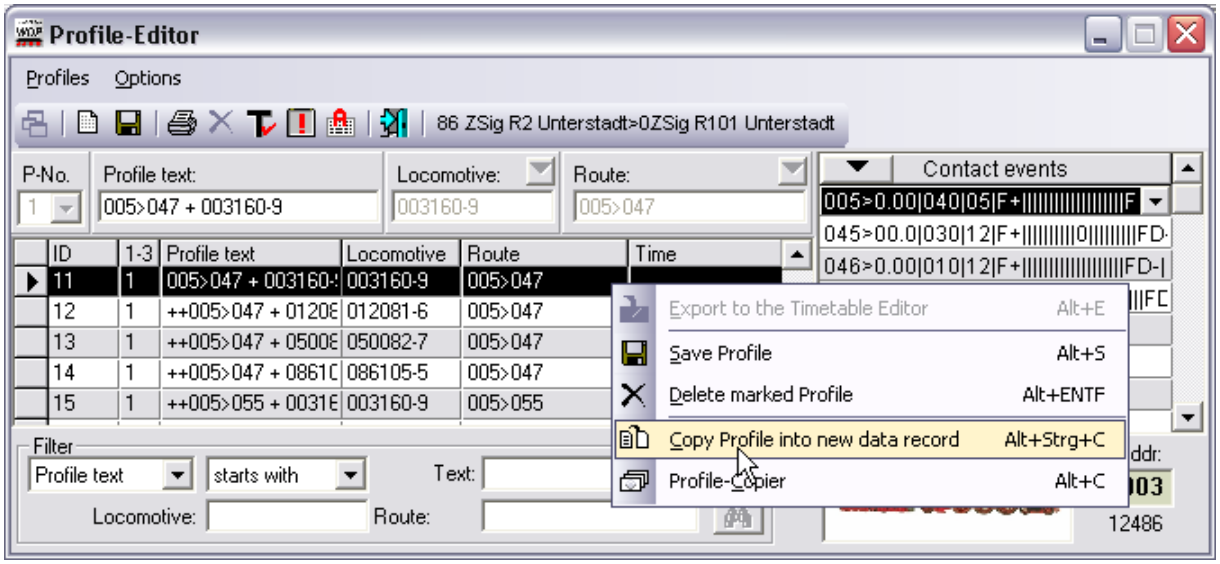
Hint!

This selection function only works if a locomotive is registered on the start train number display otherwise no locomotive will appear in the field “*Locomotive*“ and the button  will be deactivated.

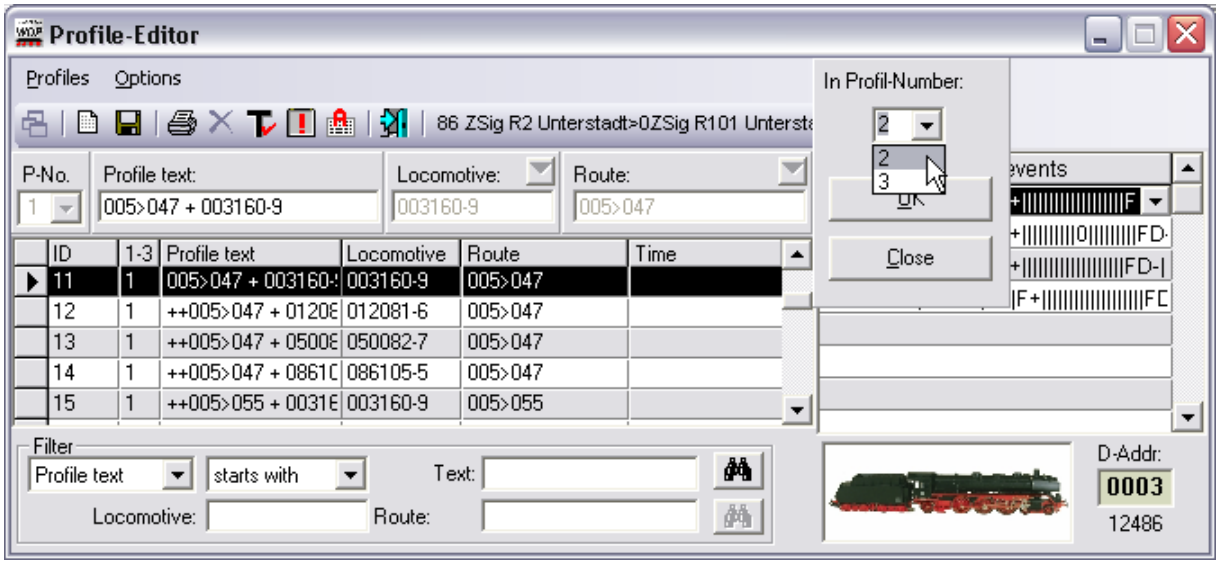
10.9 Copy profiles to new dataset (other profile number)

If you want to change profiles according to section **10.3.1**, you can copy profiles very comfortably to a new dataset. Therefore select the command < Copy profile into new data record > from the context menu.

Select the desired source profile in the profile editor and open the context menu with the right mouse button in order to select this command.



Now you will see an additional window where you can select the desired destination profile number. Confirm your selection with **'*OK*'**.



10.9.1 Copying contact events from one profile to another

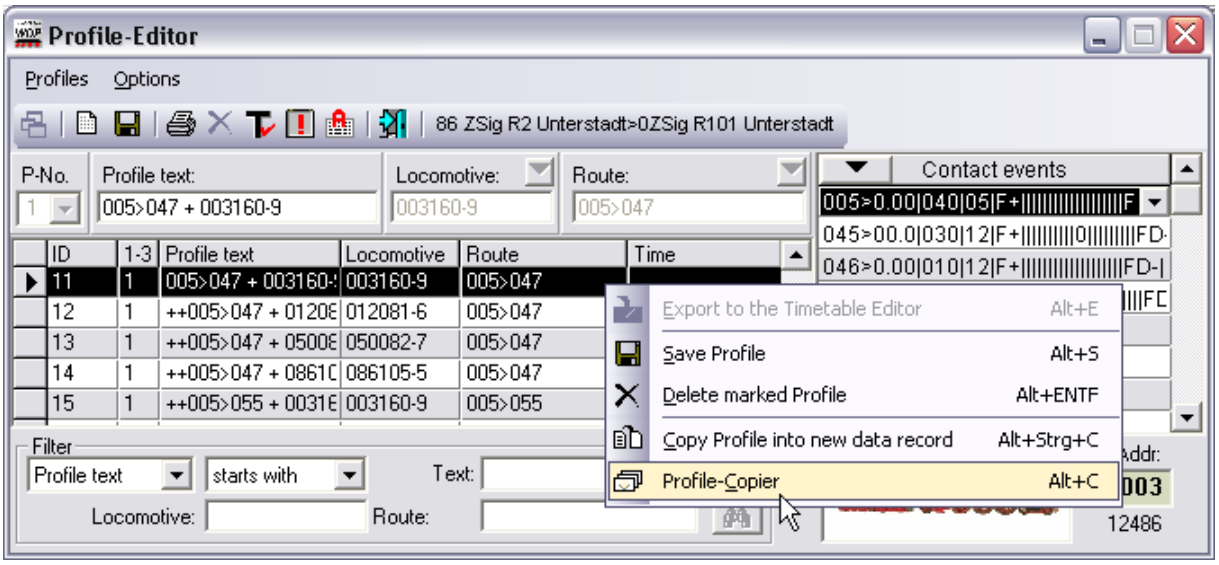
Using the context menu commands described/showed in chapter **10.4.1** you cannot only edit/manipulate the currently active/selected profile. You can even copy single or multiple contact event rows from on profile to another. This quite useful and can save

you a lot of time. Just of use the self-explanatory Cut-, Copy-, Paste-, Insert- and Delete-Commands.

10.10 The profile copier

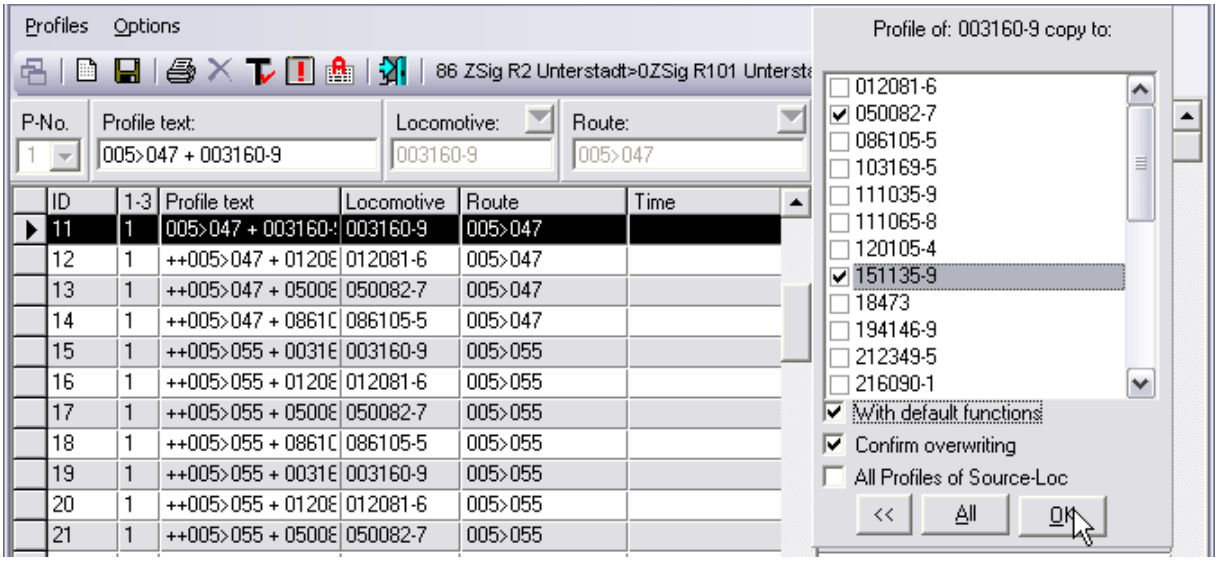
If you have created a profile for a locomotive-route-combination you can copy this profile very comfortably to another locomotive with similar driving characteristics.

Select the desired source profile in the profile editor and open the context menu with the right mouse button in order to select the command <Profile copier>.



Now you will see an additional window where you can make different selections.

In the following window all possible locomotives for this route (depending on route's matrix) will be listed and you select for which locomotives and new profile for this route should be created based on the source profiles.



By checking "*With default functions*" the profile will be created based on the source profile, but using the standard functions from the locomotive data base instead of the locomotive functions used in the source profile (e.g. when copying a profile from a locomotive without interior lighting to a locomotive without interior lighting.

If you check "*Confirm overwriting*" you will be asked before profiles will be overwritten, if a profile already exists for one of the destination locomotives.

With the button **'*All*'** you can directly select all locomotives within the list.

You can confirm your selection with the button **'*OK*'** or abort the profile copier by pressing the button <<.

The new copied profiles will be created using the profile number from the selection box P-No.

10.10.1 Profile copier for Loco-ID 0

If you use the profile copier according to section **10.10** with a Loco-ID 0-profile as source profile the (de-)acceleration rate will be recalculated (with the help of the setting in the vehicle database) from the relative settings of the Loco-ID 0-profile to normal absolute settings (destination profile is a normal profile just for one route-locomotive-combination).

10.10.2 Copying all profiles of a locomotive from a locomotive to others

If you have created multiple profiles for a locomotive you can copy this profile very comfortably to other locomotive(s) with similar driving characteristics.

The procedure is similar to the one described in chapter **10.10**. Before pressing ***'OK'*** you only need to check "*All Profiles of Source-Loc*".

10.11 Deleting profiles

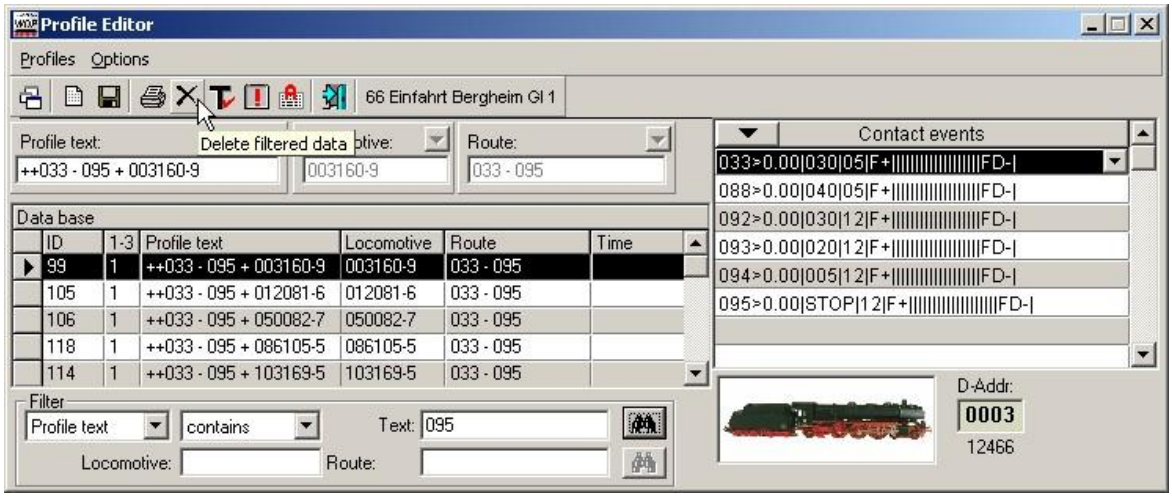
You have two possibilities for deleting profiles.

- **Deleting a single profile**

  For this purpose mark the profile to be deleted and open the context menu with the right mouse button. Select the menu command <Delete marked data record> and the marked record will be deleted from the database.

- **Deleting filtered profiles**

  For this purpose select (a) data record(s) using the filter functions described in section **10.7**.



If your satisfied with the filtered list, select the menu command <Profiles> <Delete filtered data> or click on the symbol ✕ in the toolbar of the profile editor.

The filtered profiles will be deleted from the database.

If you have selected the filter criteria "ALL" all profiles will be displayed, but for your own protection the menu command and the symbol ✕ in the toolbar are deactivated.

10.12 Printing profiles

For this purpose select the menu command <Profiles> <Print> or click on the symbol in the toolbar.

The displayed options are self-explanatory, you can e.g. choose between the options "*All*" and "*Headlines*" to decide what shall be printed.

You can even export the printout to the file "Profile.rtf" in your **WIN-DIGIPET 2012**-Folder.

10.13 Exporting profiles to the timetable editor

If you want to export profiles to the timetable editor both editors have to be **opened at the same time**.

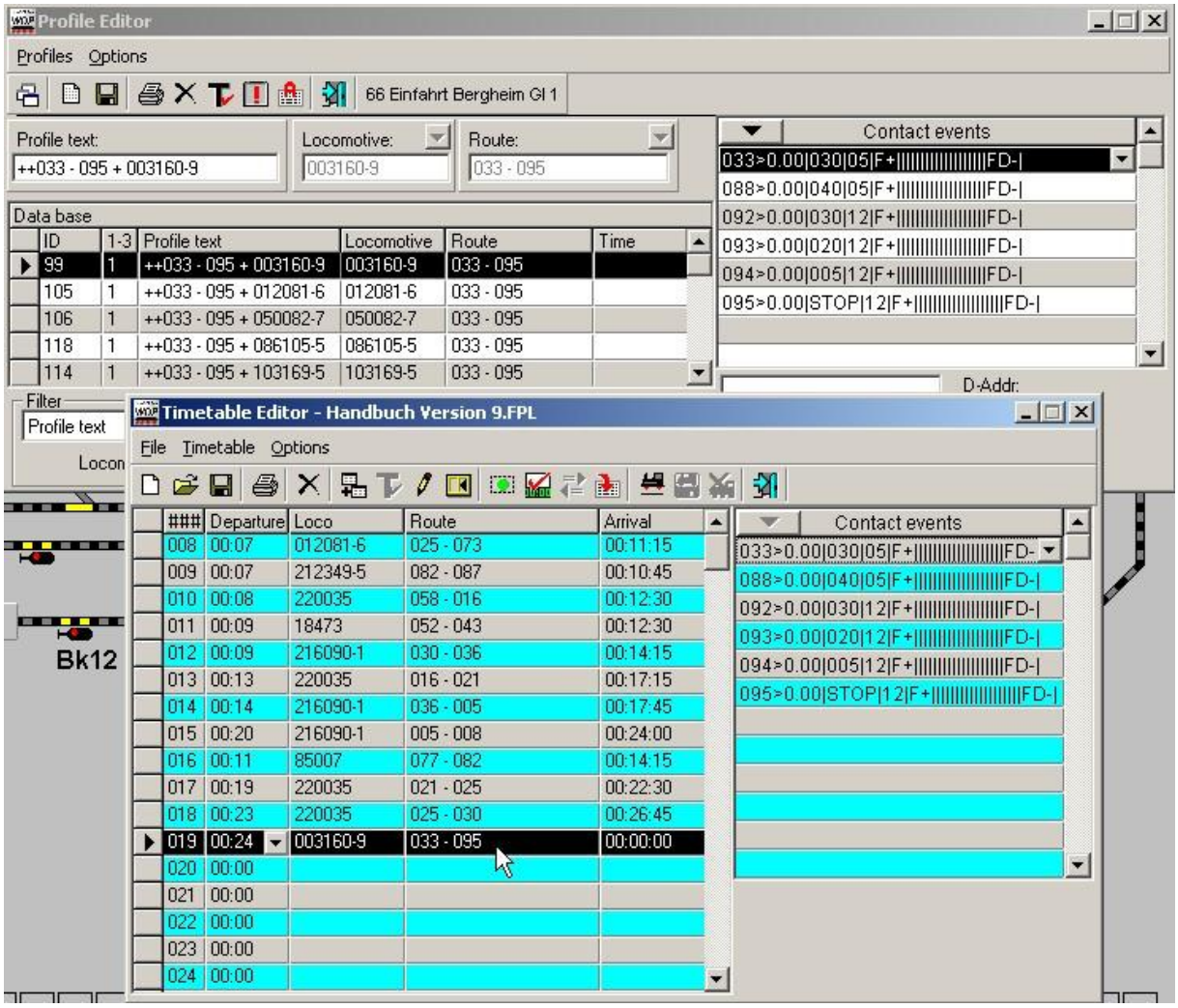
This export function helps you saving time when creating new timetables.

If you want to export profiles to the timetable-editor you have to select first a new or existing line in the timetable-editor and you have to select a departure time.

Attention!
If you select in the timetable an existing line this will be overwritten by the line from the profile editor; **WIN-DIGIPET 2012 doesn't** insert automatically a new line.

After the selection of a timetable line, change to the profile editor and mark the profile line to be exported, open the context menu with the right mouse button and select the menu command Export to Timetable Editor.

This command will export the profile line to the timetable-editor as shown in the picture:



- The contact-events where copied 1:1. Only the time might be recalculated taking the railroad time factor into account

You can also export timetable lines from the timetable-editor to the profile-editor; this is described in chapter **11**.

10.14 Leaving the profile editor

Select the menu command <Profiles> <Close> or click on the symbol in the toolbar.

If you have created thousands of profiles in the last versions should take a look at them if they are also still necessary in consideration of the km/h function in WDP 2012, we think: **no!**

11 – TOUR-SCHEDULE-EDITOR

11.1 System and functions

The **WIN-DIGIPET 2012** tour automatic gives you the possibility - as alternative to the inflexible timetable and the old automatic with demands contacts (included until to WDP **ProX.3**)– to create also an automatic operation on your model railroad layout with functions taken from both automatics.

The timetable plans every train operation very detailed and there is no room for variation. This means the timetable can be repeated a thousand times and will always behave same.

In contrast to this the automatic with demand contacts was never reproducible in all details, because many decisions in this automatic are random decisions.

The tour automatic combines features of the timetable and the automatic with demand contacts. Also the tour automatic should be independent from the used locomotive and because of this an exchange of locomotives is much easier than in timetables.

In the tour automatic you can use routes, tours and profiles, so you can use also sound effects etc..

WIN-DIGIPET 2012 recognises which parts of your model railroad layout are currently occupied by trains/locomotives through feedback contacts. Routes begin at a **start**-contact and end at a **destination-**contact; the required registrations have to be made in the route editor.

In the tour schedule editor **WIN-DIGIPET 2012** you describe your tour automatic in tables. One row of your table stands for one locomotive-/train-movement described by a route or tour.

The **WIN-DIGIPET 2012** tour automatic is mainly controlled via demand contacts. A demand contact is a feedback contact (= a contact track area) in **WIN-DIGIPET 2012**. The defined feedback contact will operate the routes/tours, defined by you, as soon as the locomotive passes over it. Additionally you have the chance to register very different conditions that have to be fulfilled, before an automatic row is allowed to execute. These conditions will be described later.

Three random generators help also to generate a very varying tour automatic in **WIN-DIGIPET 2012**.

11.2 Planning and precautions

It is advisable to think about the way you want to create your automatic and to make some notes before you start to use the editor. You should even think about switching- and release-conditions of the used routes, if they are compatible to the planned operations.

The route automatic can be planned in the tour schedule editor in the same way as for timetables and the DC automatic. In the tour automatic you can see directly how the several rows are treated.

In the tour schedule editor rows with...

- the green treated as in the timetable.
- the red treated as in the automatic with demand contacts
- the red clock with yellow border as in the DC automatic with waiting time
- the symbol treated as in the timetable but with repetitions
- the symbol for solenoid device switching without using routes/tours.

11.3 Registering in the tour schedule editor

Select the menu command <File> <Tour schedule editor> or click on the symbol in the toolbar.

If you haven't registered a tour before you will see an empty list.

In the left part of the tour schedule editor you see a list window and on the right side you see four index cards...

- Precondition
- Follow-On-Tour
- Matrix and
- Options.

You should directly assign a filename to your new tour automatic, for this purpose select the menu command <Files> <Save> or click on the symbol in the toolbar of the tour automatic.

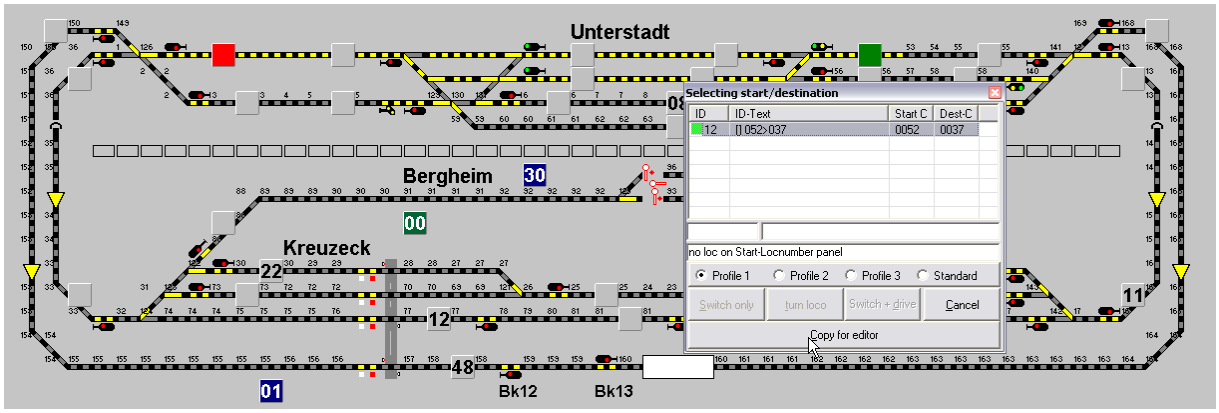
You should assign a meaningful name to your automatic, but you are not allowed to use the following characters/signs: "äöü@§$%&/(){[]}\|", dot and comma, but underscore (_) and blank are allowed.

After clicking on **'*OK*'** the file will be saved and the new name will appear in the headline of the editor.

In the list window you will 10 columns, column 3 (K) is only used for information. In the first column "###" you can see the row number. The maximum number of rows can be set in the system settings.

A selected row will be under laid in black.

To register routes or tours just select those with the start-destination function...



...and press **'*Copy for editor*'** (see also **18.5.1** to **18.5.5**).

11.3.1 Tour by arrival

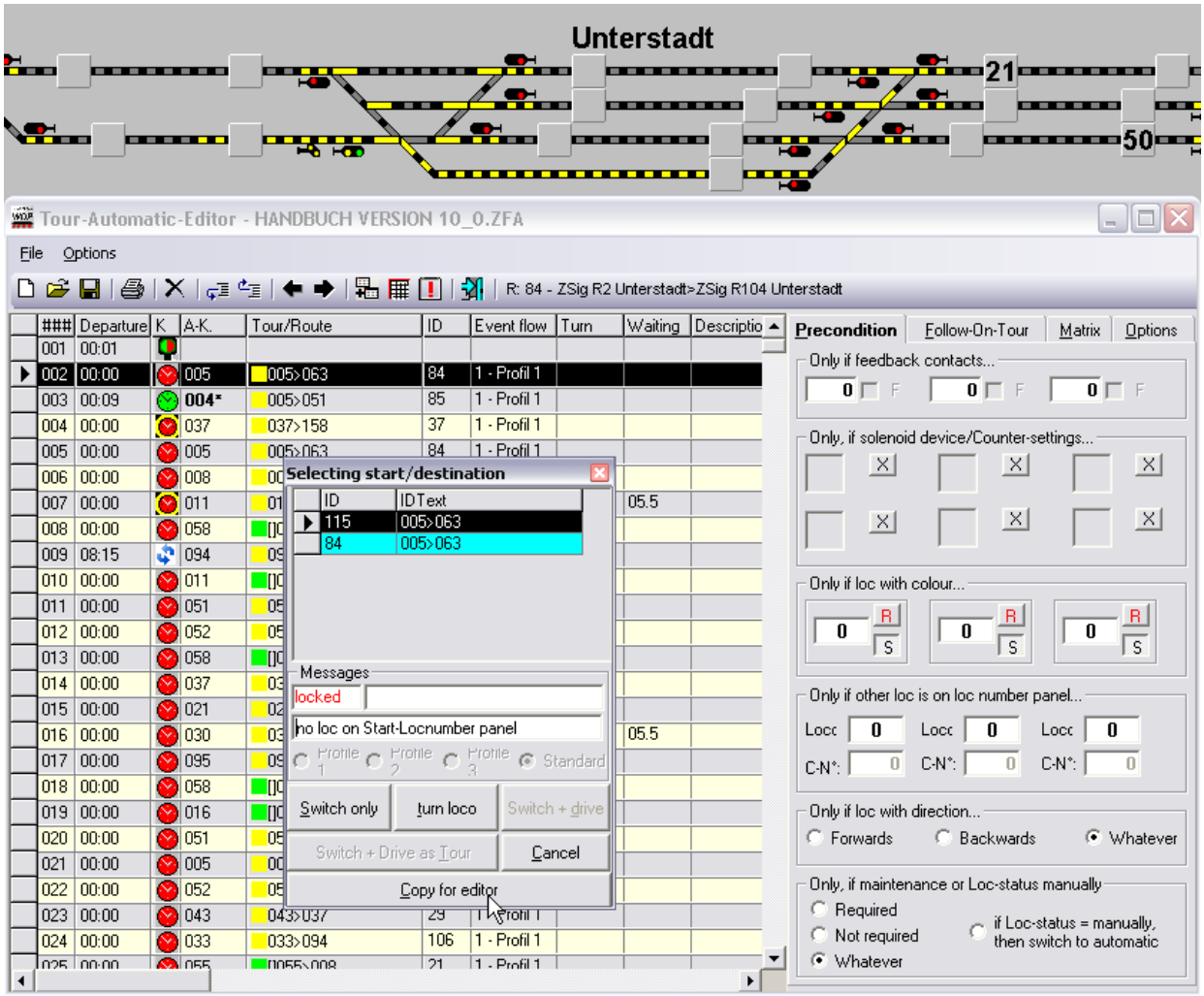
This is the default settings, when registering data in the tour schedule editor and because of this you will normally see the symbol in the column "K".

Now select the row, where you want to register a tour or route. If you want the row to execute immediately after arriving of the train of the start contact and fulfilment of the switching conditions, you don't have to make additional registrations in the column "*Departure*".

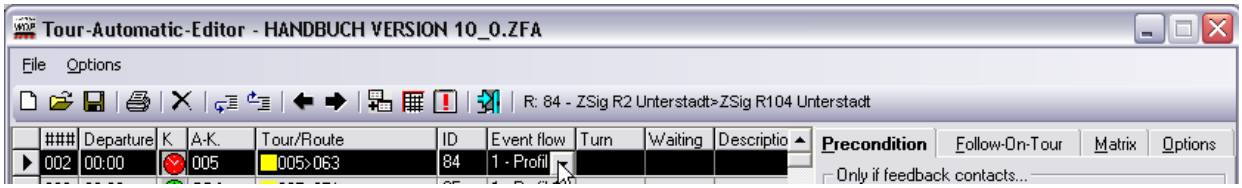
Now select with start-/destination-function the desired tour or route. In this example we will register a route.

Click with the right mouse button in your track diagram onto the start- and then on the destination-train number display of the desired route.

In the window "Start/Destination select" select the desired route and click on the button **'*Copy for editor*'**.



The route will be transferred to the selected row of the table and the window “Start/Destination select” will disappear.



In the column “*Event flow*“ the pre-setting from the system settings appears according to the settings on the index card “Program settings – Profiles“ (see section **4.5.4**); here “Profile 1”.

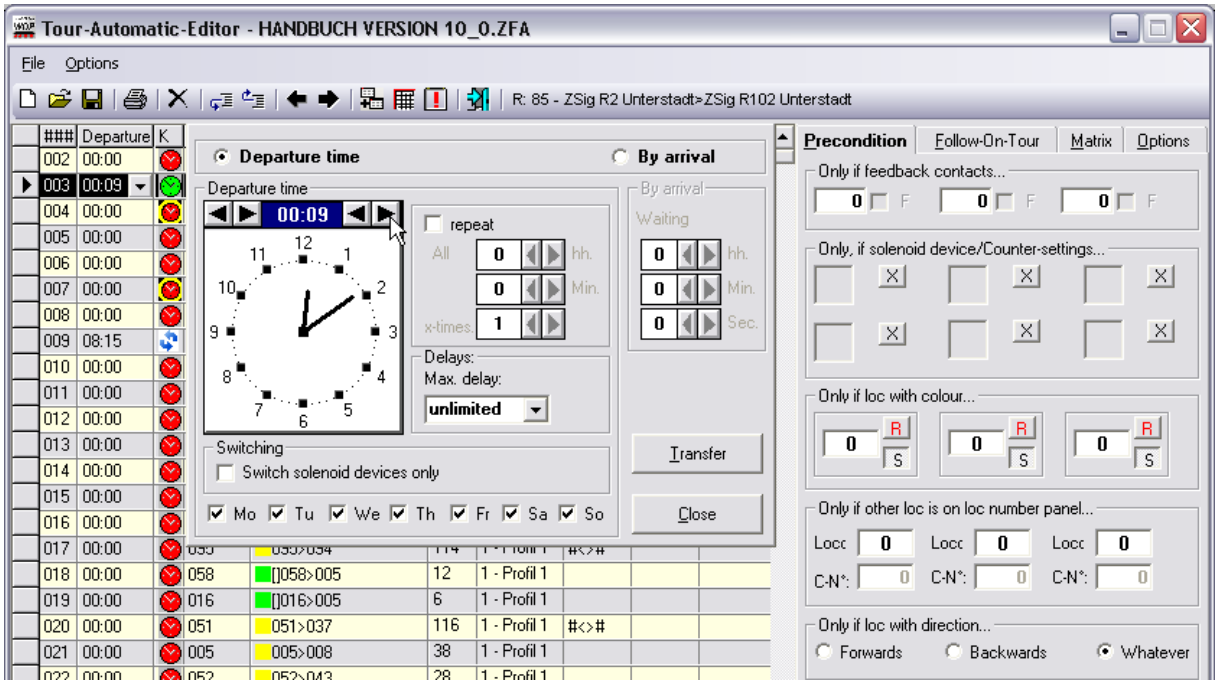
With this registration you made the basic settings for this row and if you don’t need any additional conditions, you are finished with this row. The other options will be described later in this chapter.

The next rows can be registered in the same way or as described in the following section.

11.3.2 Tour at departure time

In the next we will register a train with a specified departure time. For this purpose click on the small arrow in the column "*Departure*" in the desired row of the tour schedule editor.

A new window will appear and in this window you can select the departure by the arrow buttons at the top of the clock or directly by moving the watch hands.



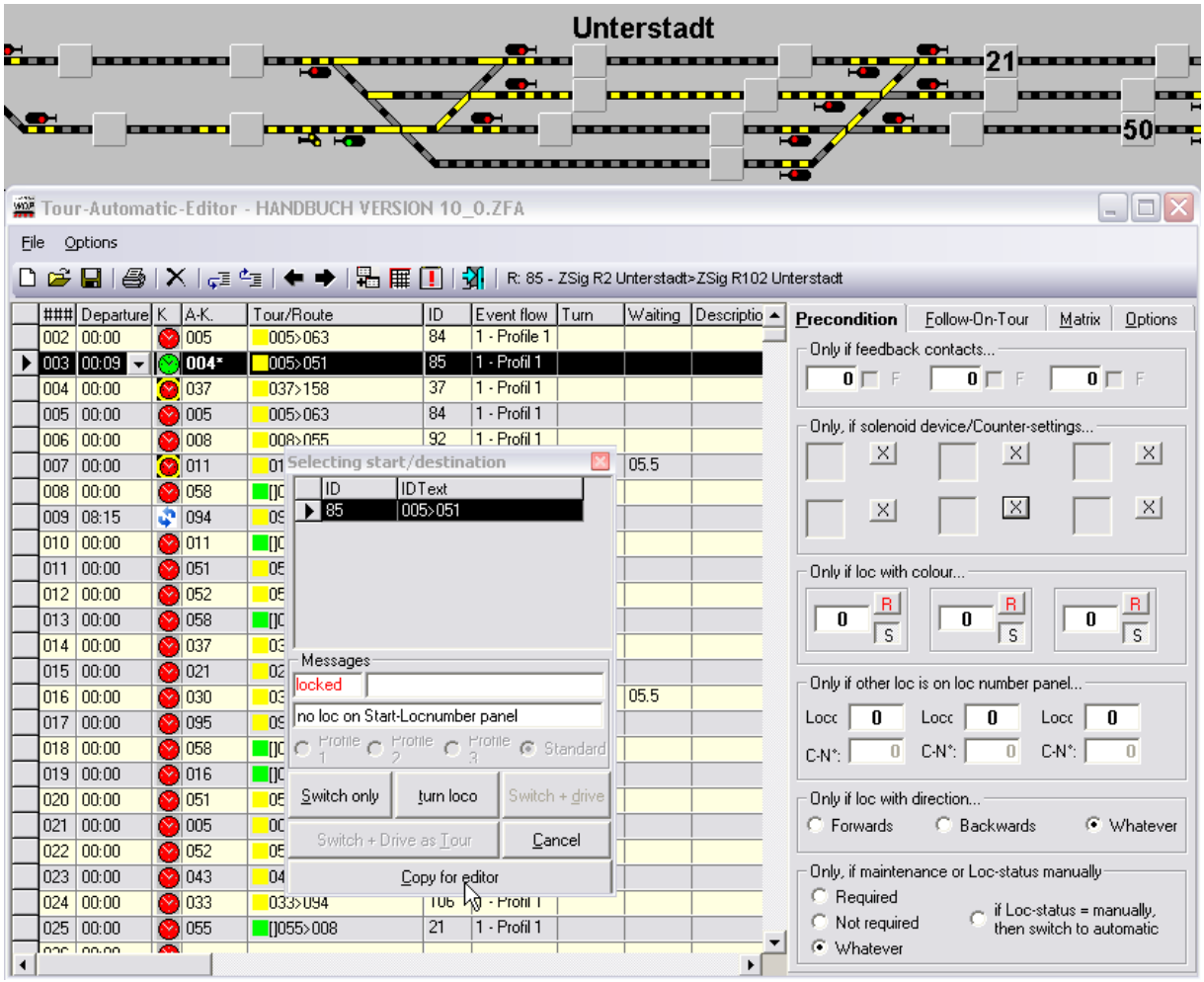
Also repetitions, waiting times, maximum delays and weekdays can be selected. This will be explained later on in this chapter.

After the selection of the departure time, click on the button **'*Transfer*'** and the small window will disappear.

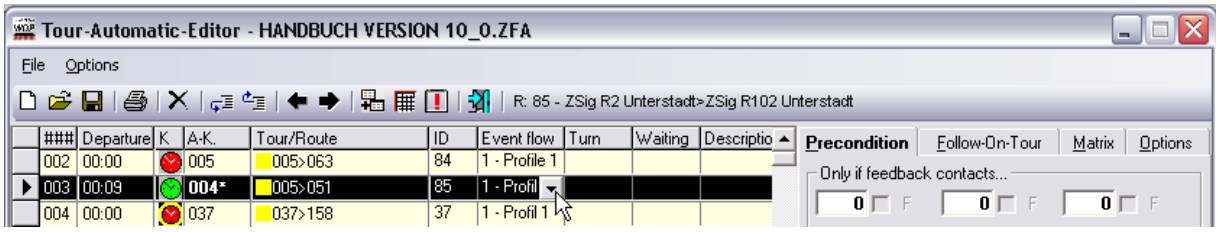
Now select with start-/destination-function the desired tour or route. In this example we will register a route.

Click with the <u>right mouse button</u> in your track diagram onto the start- and then on the destination-train number display of the desired route.

In the window „Start/Destination select" select the desired route and click on the button **'*Copy for editor*'**.



The route will be transferred to the selected row of the table marked by the symbol and the window “Start/Destination select” will disappear.



In the column “*Event flow*“ the pre-setting from the system settings appear according to settings on the index card „Program settings – Profiles“ (see section **4.5.4**); here “Profile 1”.

With this registration you made the basic settings for this row and if you don’t need any additional conditions, you are finished with this row. The other options will be described later in this chapter.

11.3.3 Registering additional tours or routes

For the further rows in the tour schedule editor it is irrelevant if use route or tours (chapter **9**). Because of this you immediately start to create a tour automatic using your existing routes, and later also add tours after their creation.

You can distinguish between registered routes and tours by the symbol...

- 092>131 for routes
- []101>101 for tours

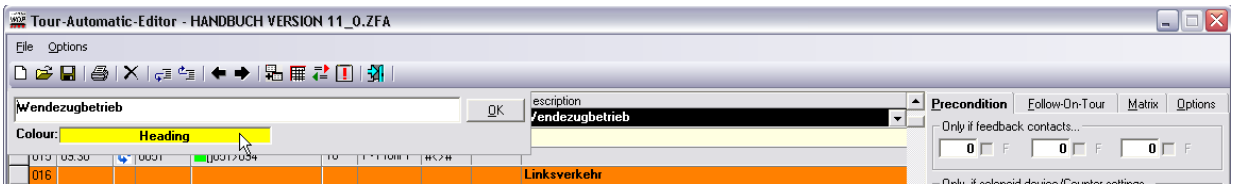
...in front of the ID-Text.

11.3.4 Descriptions

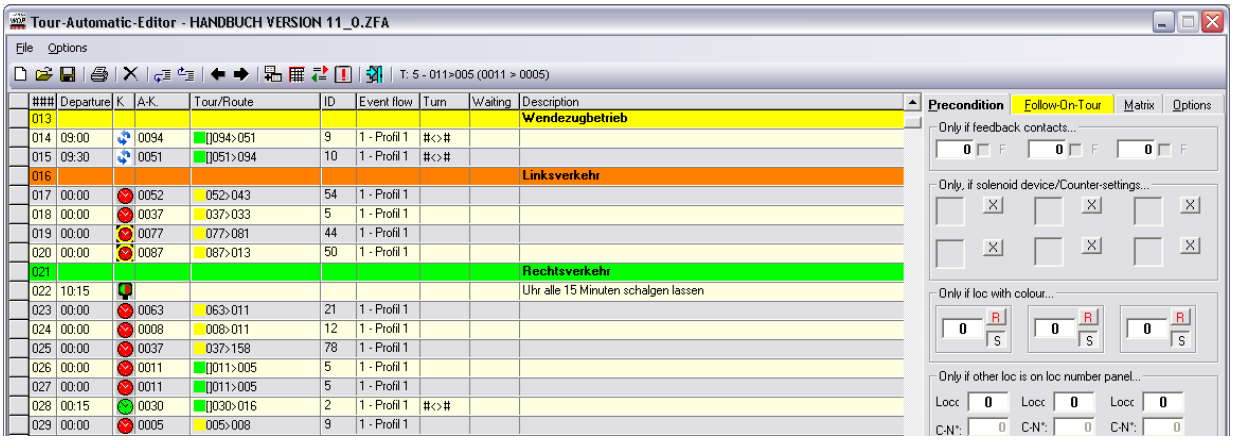
Another feature it is to add descriptions to every row (up to 100 characters per row, no special characters) of the tour automatic editor, this very useful for storing comments etc. for special rows of the automatic (Column “Description”).

11.3.5 Headings

For better documentation/separation of different tour schedule lines (e.g. main station and shunt yard and hidden yard you can register a description into an empty row of the editor (as described in **11.3.4**) and this text will be automatically highlighted in another colour and bold.

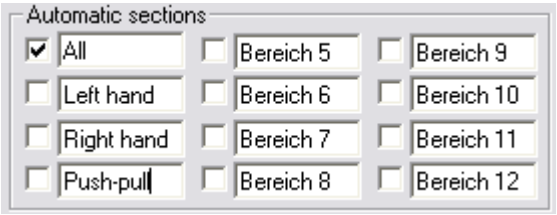


You can even change the back colour of the heading by pressing the left mouse button in the field labelled “Colour:” and the text colour by pressing with the right mouse button into the same field...



11.3.6 Automatic sections on the index card “Options“

In **Win-Digipet 2009** can define up to 12 automatic sections for the tour automatic.



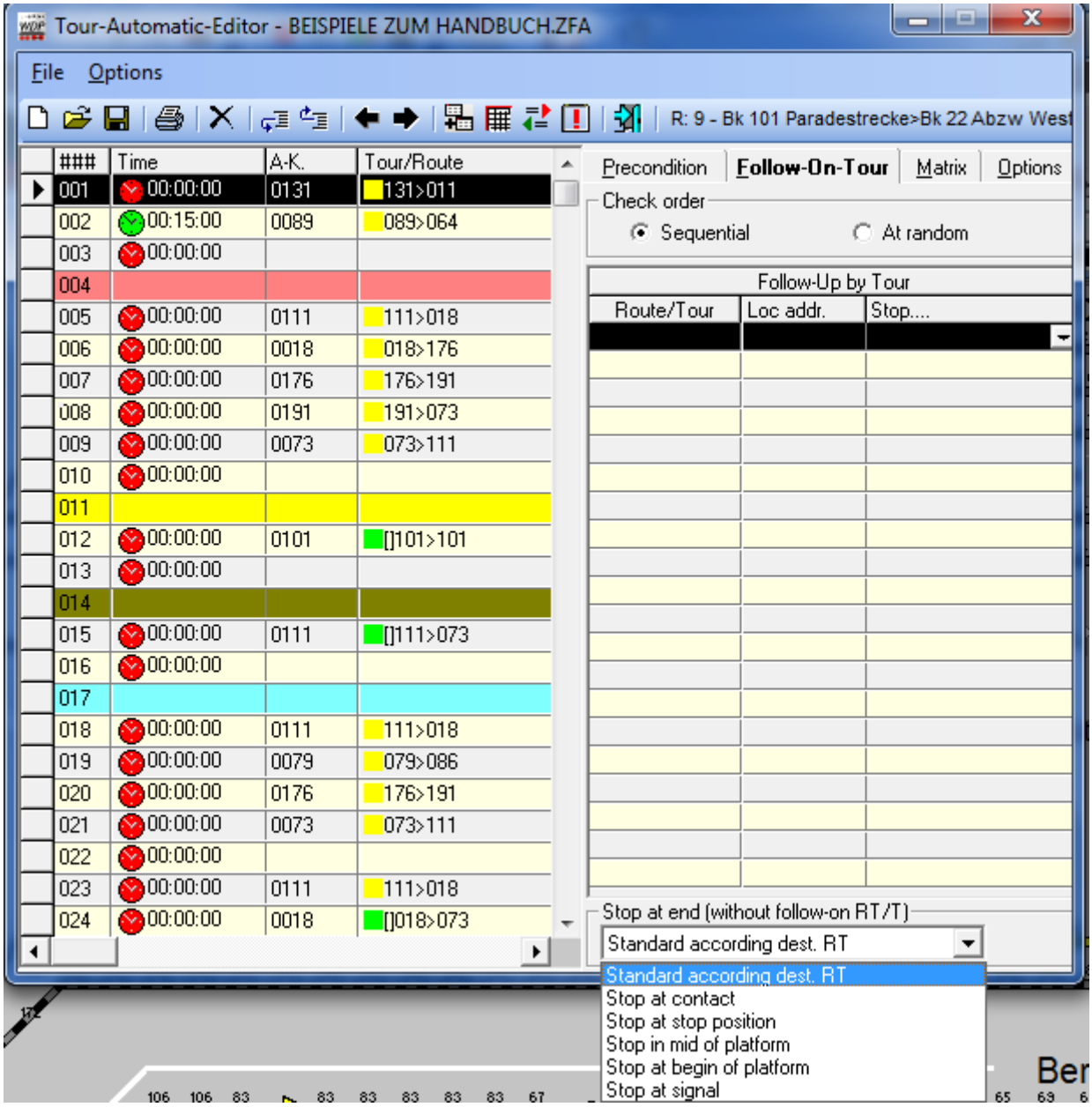
You can define for each tour automatic line the automatic section(s), which use this tour

automatic line.

When using the tour automatic you can (de-)activate the several automatic sections. With this function for example you might deactivate the operation in your hidden yard, but all tour automatic lines concerning your main station will still be executed.

11.3.7 Selecting the intelligent stop options for each row of the tour automatic

Starting from Win-Digipet 2012.1 an additional input box has been introduced within the follow-on tour tab. You can now select for routes/tour which will end at an intelligent train number display if the train shall stop according to the selection in the route or you can select another stop option.



11.4 Registering follow-on-tours

On the index card “Follow-on-tours“ you can register **following**-routes and -tours. The follow-on-routes are handled as routes in tour, i.e. the train will not stop before the signal, if the next block system is free and be used.

Follow-on-routes are useful in every row of the tour schedule editor for...

- Extension of a route **without** a junction (e.g. a simple turnout) with **1!** route or tour
- Extension of a route or tour **with** a junction (e.g. a simple turnout) and **2!** routes or tours
- Extension of a route or tour **with** junctions (e.g. a simple turnout) and **several** routes or tours e.g. a tour ends at the signal before the station and the follow-on-routes bring the trains to the platform tracks.

The **start**-contact of the registered follow-on-route(s)/tour(s) **has to be always** the same as the **destination**-contact of the route/tour before.

This explanation was very abstract, so we will describe the function of follow-on-routes/tours in the following examples.

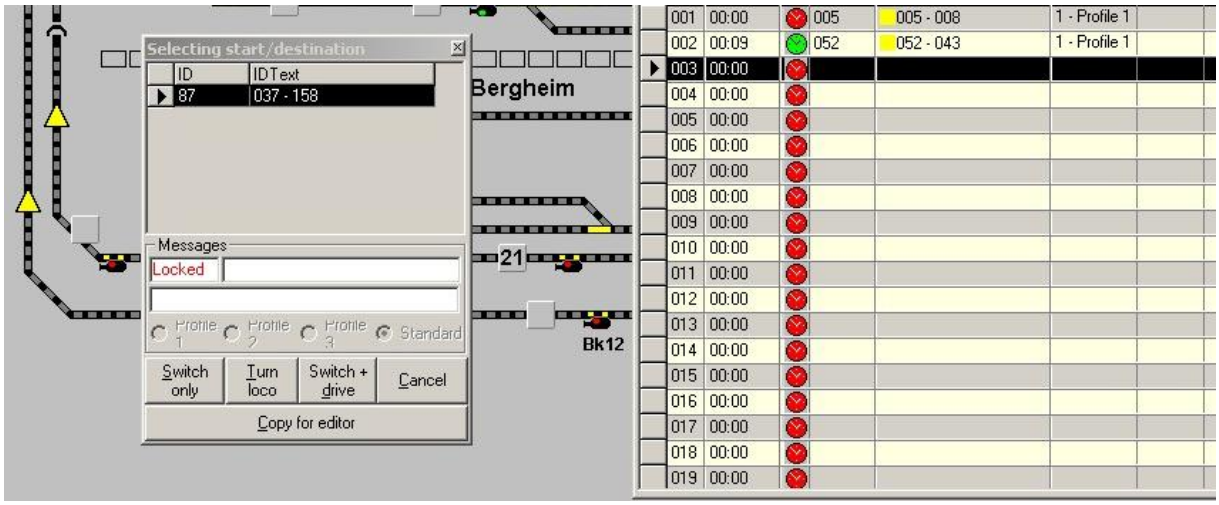
11.4.1 Extension of a route without a junction

This makes sense when...

- You **haven’t** registered any tours until now or
- If you want to begin the tour not before the destination contact of the first route e.g. when leaving the hidden station and you want the tour not start before the first contact of the main itinerary.

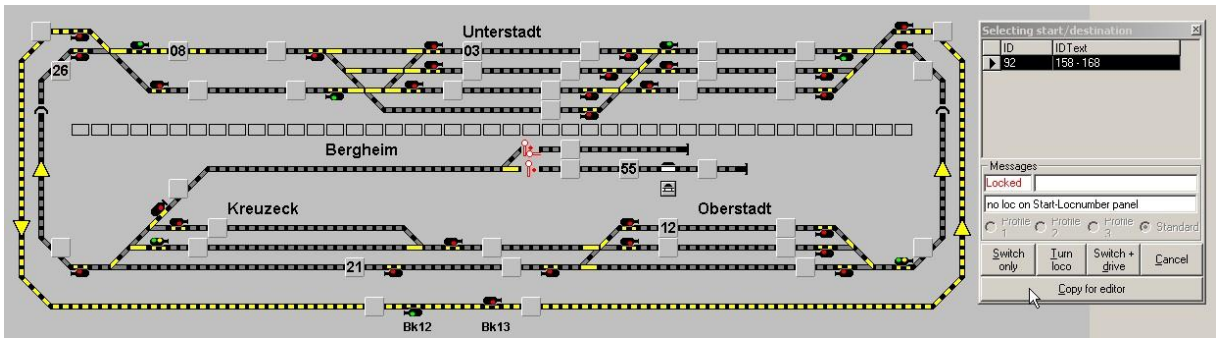
  This could save you a lot of time, because you would have to create less routes and nobody will see it the train stops again in the hidden area, because there the next tour will start.

We will describe both registrations in the tour schedule editor.



Select with the start/destination function the desired route. In this example this is the route 037 – 158. This route starts at the train number display (here occupied by locomotive 08) and ends at the block signal Bk12.

Select the desired route and transfer it via **'*Copy for editor*'** into the selected row.



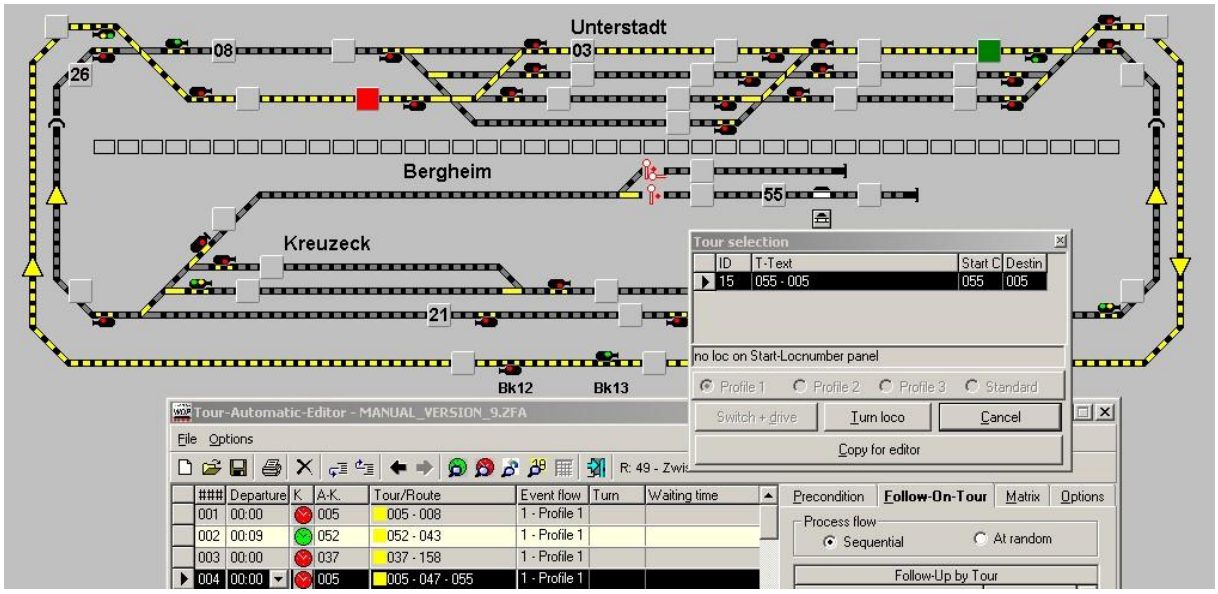
In the track diagram the main route (with feedback contact numbers here) is still shown. After registering the route 037 – 158 select the index card „Follow-on-tours“ and select with the start/destination function the desired follow-on-route. This is the route with ID-Text 158 – 168. This route starts at the block signal Bk12 and ends at the entry signal of the station Unterstadt (occupied by locomotive 03 here).

Select the desired route and transfer it via **'*Copy for editor*'** into the selected row on the index card “Follow-on-tours”. In the track diagram the complete tour is highlighted in yellow and the train will **not** stop before the block signal Bk12, if the follow-on-route is free and can be switched.

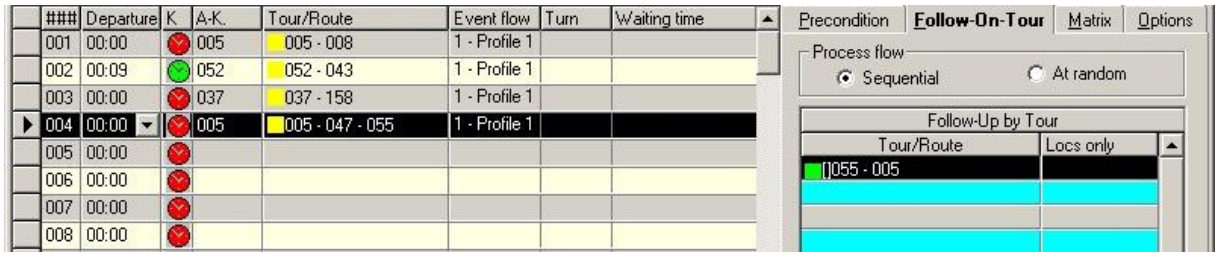
In our next example you have registered a tour according to section. The tour starts at contact 055 (green train number display) and ends at contact 005 (red train number display). Both contacts are in the hidden station and because of this, nobody will see, that the trains will stop for a short time at the start and destination, until they will be continued by **WIN-DIGIPET 2012**. This will save you a lot of time, because you have to create fewer tours from the hidden station over the main track back to the hidden station.

In the tour schedule editor register via the start-/destination function and copy for editor the route from contact 051 (actually occupied by locomotive 20) to contact 055, which is the start-contact of the following tour.

Now select the index card “Follow-on-tours” and select the first row. Using the start-/destination-function and click with the middle mouse button of the start-train number display 055 (green train number display) and afterwards with the middle mouse button on the destination-train number display 005 (red train number display). In the tour selection the tour will be displayed and shown in the track diagram.



Select the desired tour and transfer it via ***'Copy for editor'*** into the selected row on the index card "Follow-on-tours".



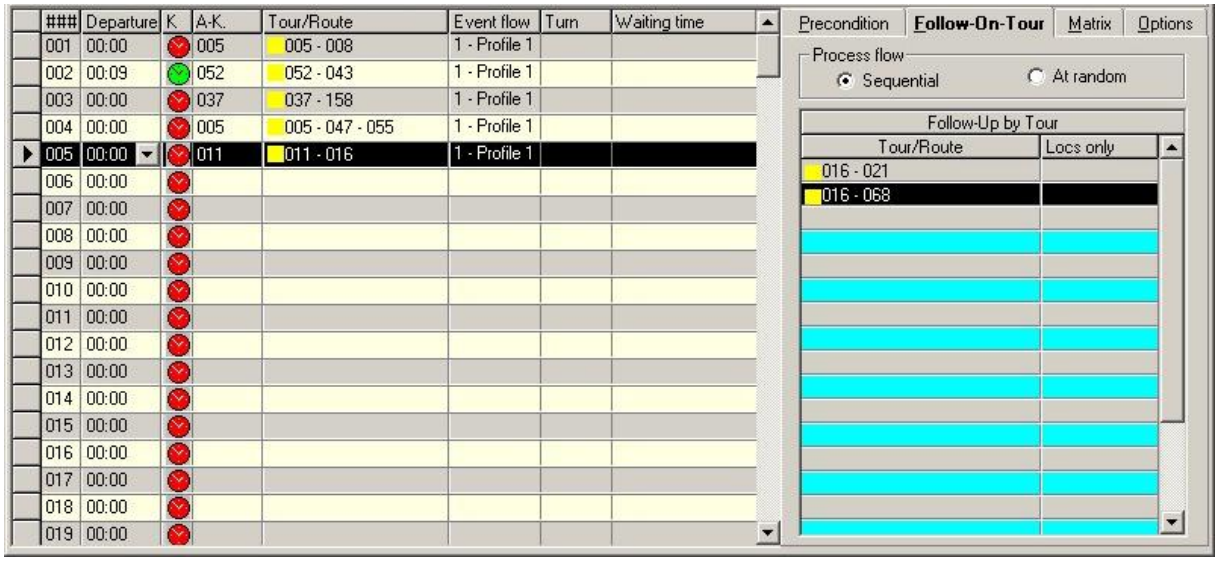
For distinction between tours and routes in the editor, routes are marked with a green square and tours with a yellow square.

11.4.2 Extension of a route/tour with junction

In this example the train can drive through a turnout to two platforms of the station and only one route/row should be used and registered. The main route 011 – 016 begins at the start train number display occupied by locomotive 50 and ends at the entry signal/ train number display occupied by locomotive 26.

The routes on the index card "Follow-on-tours" are the routes 016 – 021 and 016 – 068.

Using these two follow-on-routes a train won't stop at the entry signal of the station, if a minimum of one platform track is free and the switch conditions are fulfilled.



When registering this follow-on-routes the order of registration defines, which route should be checked first, if you have selected “sequential”. When using the option “At random” the follow-on-routes are selected by a random generator. If the first checked route is occupied the next will be checked and so on.

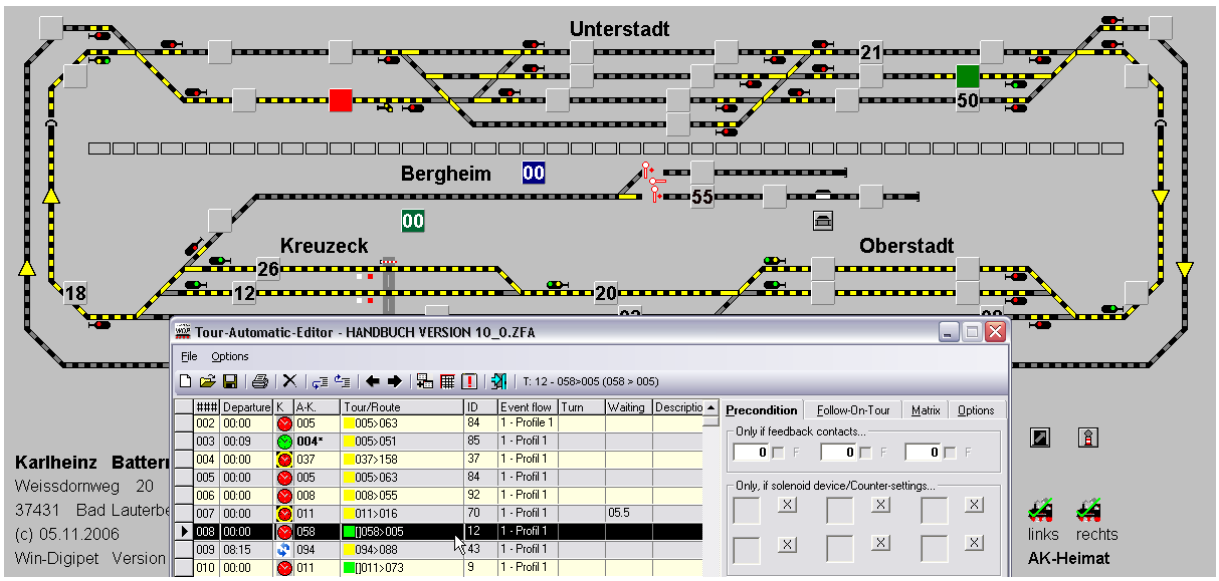
Important information!

After registering follow-on-routes you should **immediately** change back to the index card “Preconditions” or any other. This is important because otherwise the next tour/route you want to register to the main list in the editor would be added as follow-on-route/tour.

11.4.3 Extension of a route/tour with several junctions

This is a classic example for leaving the hidden stations using several itineraries on the model railroad layout and driving back to several tracks of the hidden station.

Of course the hidden station is just an example, you can use this also for other constellations.

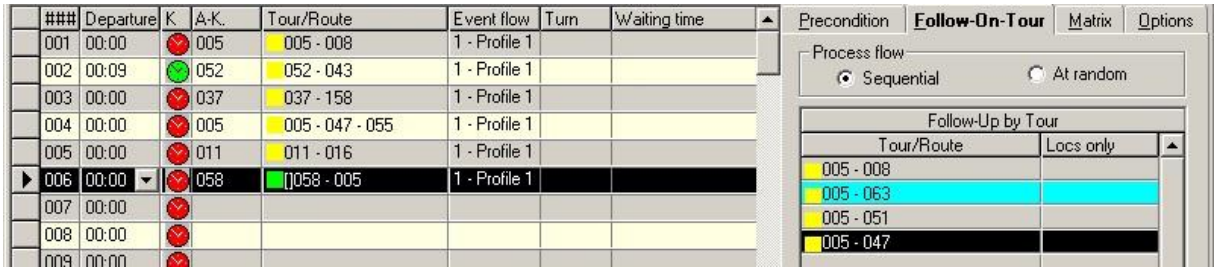


The tour begins here at contact 058 using several itineraries over two stations to contact 005. Use the start-/destination-function for tours to select the desired tour. In the tour selection the tour will be displayed and shown in the track diagram.

After the registration of the tour in the list of the tour schedule editor select the index card “Follow-on-tours” and register the follow-on-routes.

Four following routes for the entry to the hidden station are possible. These have to be registered in order of the desired usage of the tracks via the start-/destination-function for routes and copy for editor.

Using these four follow-on-routes no train will stop at the entry signal of the hidden station, if a minimum of one track is free and the switch conditions are fulfilled.



The registrations for the follow-on-routes are shown in the picture above.

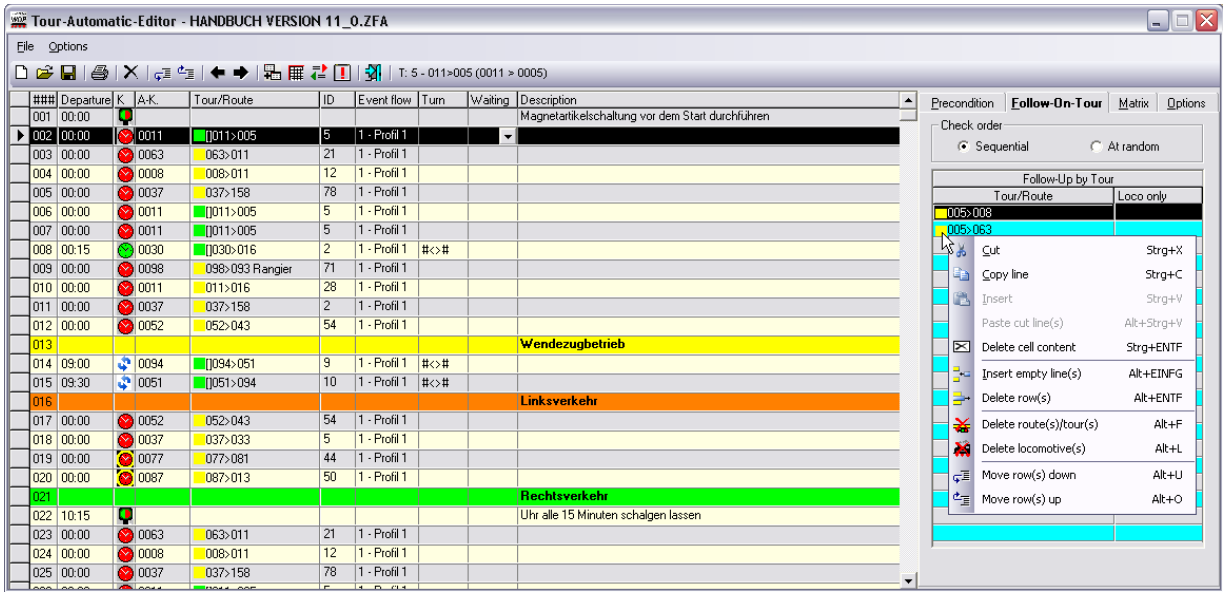
The routes are checked/tested starting with the first row and then so on.

11.4.4 Adding, changing or deleting follow-on-routes/tours

On the index card “Follow-on-tours“ you can also assign one locomotive to each follow-on-tour/route. If you do this, this follow-on-route/tour will only used by the registered locomotive. For this purpose drag the picture of the desired locomotive with pressed right mouse button from the locomotive bar or a locomotive control to the column “*Locs only*“ of the desired row as show in the button and release there the right mouse button („drag & drop“).

You can remove this locomotive later if you want also delete single rows or insert new for follow-on-routes/tours.

For this purpose select the desired row and open the context menu with the right mouse button.



The menu commands of the context menu are self-explanatory, only the third and fourth last commands will be explained here.

If you just select <Delete tour> then only the tour/route will be deleted from this row.

If you want to delete the complete row you have to select <Delete line>.

The same can be said for the command <Delete loco>.

If you want to change the order/manner of selection of follow-on-routes/tours, set the radio buttons to “Sequential“ or “At random“.

11.4.5 Registering follow up ways

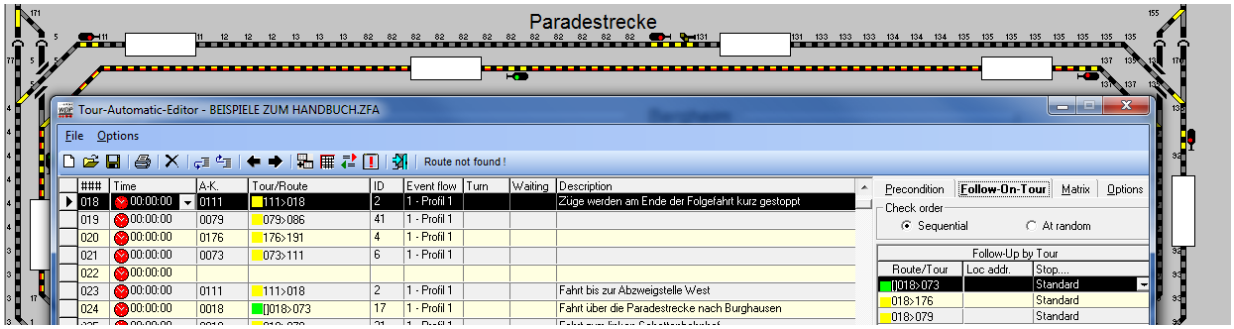
On the index card „Follow-on tours” you can also register follow-up ways. But what are follow-up ways? Follow-up ways are links/jumps to other tour automatic rows. A follow up way means “After reaching the end of the current tour automatic row immediately execute the linked follow-up way and this without stop if possible”. In contrast to normal follow-on tours/routes not only a route/tour is appended, but a whole new tour automatic row (with consideration of conditions and so on). And this linked row can also have some follow up ways. By this you can theoretically build an endless loop etc..

When are follow up ways useful?

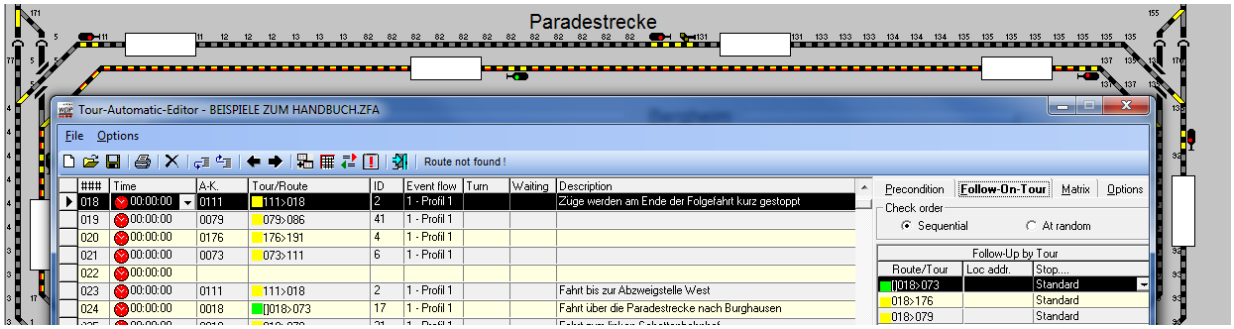
Follow up ways are always useful, when trains shall continue their journey at a branch without stop into one or another way.

The following montage with the left branching point West shows you an example. In the line of the 018 tour automatic editor the route from the track 3 in Burghausen to the

branch West has been entered. The description of the route you see to the right of the toolbar of the tour automatic editor.



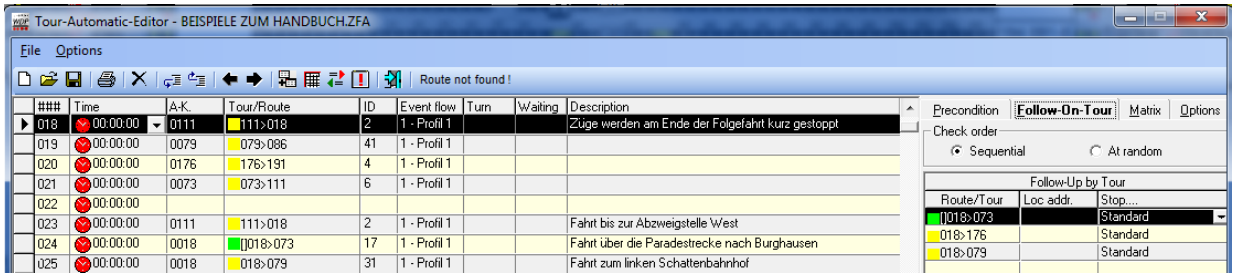
On the index card „follow-on tours“ the next possible routes and tours have been registered. After reaching contact 018 one of the routes/tours on this index card will be executed, but after reaching the next contacts 073, 176 or 079 the train will stop always. After a short stop the train would continue its journey using one of the additional routes/tours starting at these contacts registered in rows 19 to 21 in the tour automatic editor as shown in the following picture…



Now we will use follow-up ways to get a journey without stop.

In row...

- 023 we register again route 111>018 to branch West
- 024 we register the tour using the show route with a follow on route to track 3 in Burghausen
- 025 we register the route to the entry signal of the left hidden station with follow-up routes into the hidden station.



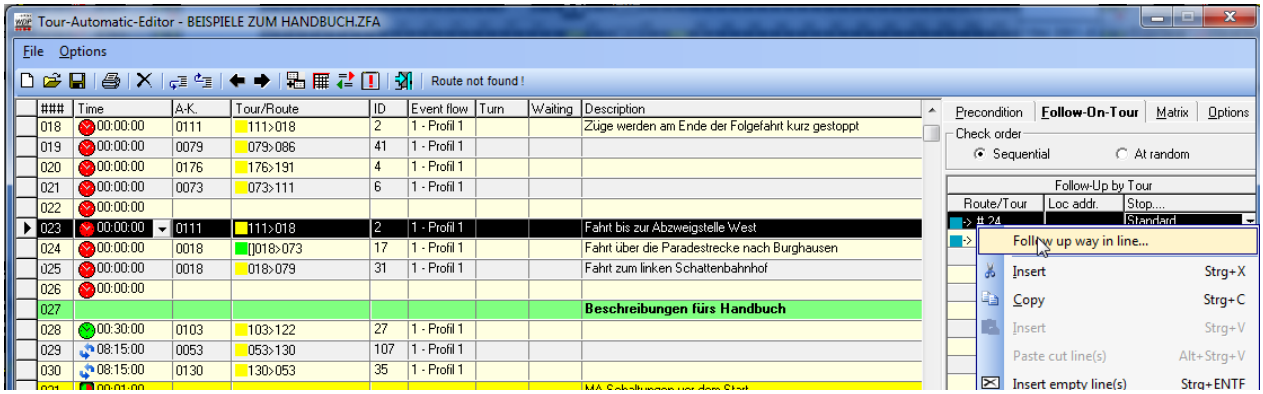
Follow-up ways can only be used after activating the expert mode according chapter **11.10.14**.

But where do we register the follow-up ways?
Change to row 23 in the tour automatic editor and open the follow-on…-index card.

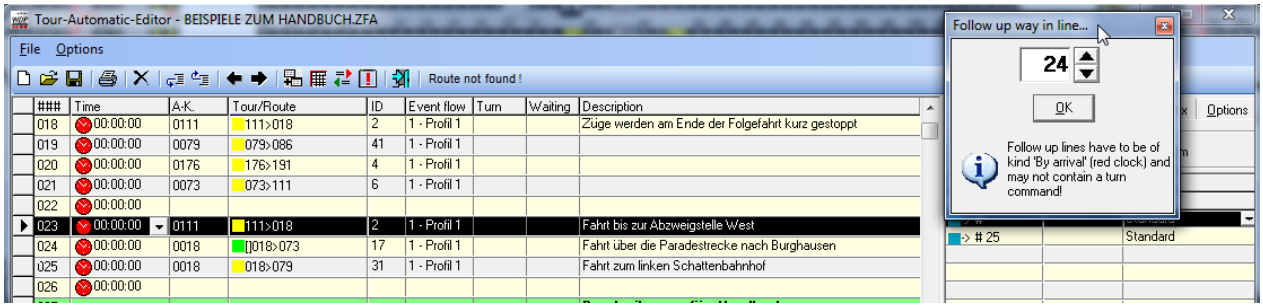
There exist two ways for registering follow-up ways:

The first way is very easy by using drag&drop. Move the mouse pointer in the left list above the row you want to use as follow-up way and drag this row with pressed left mouse button into an empty row in the follow-up…-list.

The second way is to open the context menu of the follow-on….list and to select „Follow-up way in line". Now you can enter the row number of the desired follow up way.

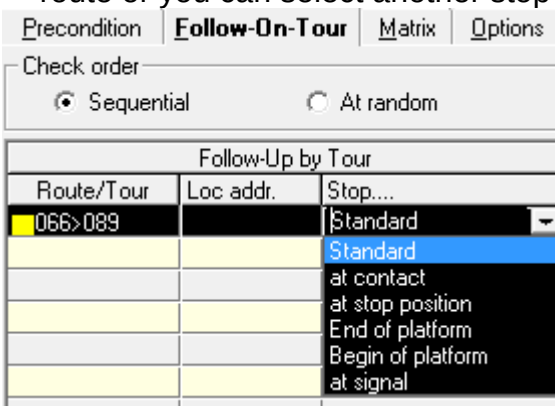


The following picture shows you a registered follow-up way.



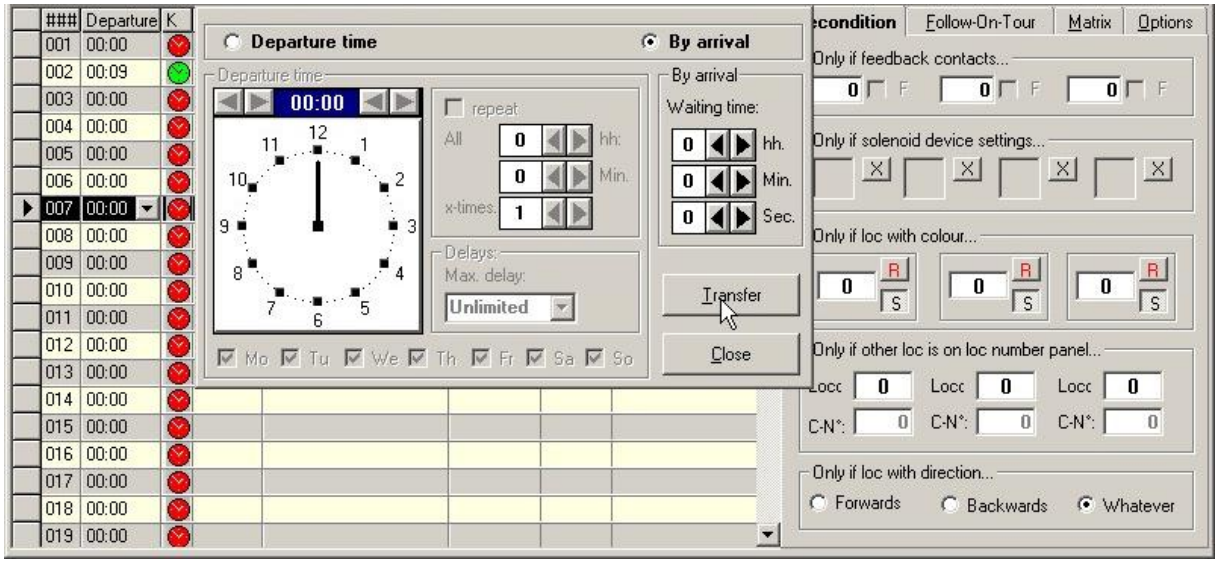
11.3.7 Selecting the intelligent stop options for follow-ons of the tour automatic

Starting from Win-Digipet 2012.1 an additional input box has been introduced within the follow-on tour table. You can now select for routes/tour which will end at an intelligent train number display if the train shall stop according to the selection in the route or you can select another stop option.



11.5 Registrations in the column „Departure“

After a click in the column “*Departure*“ the following frame will open, there you assign additional conditions for the execution of this row.



By default the radio-button “*By arrival*“ is selected. When selecting “*By arrival*“ the selected line will be executed after the defined waiting time has been expired.

If you set the radio-button to “Departure time” on the other hand, then this line will behave similar to the timetable described in chapter **12**.

You can confirm the registrations from these frames with the button ***‘Transfer’***.

11.5.1 Waiting time after arrival (By arrival)

Here you register the waiting time in hours/minutes/seconds.

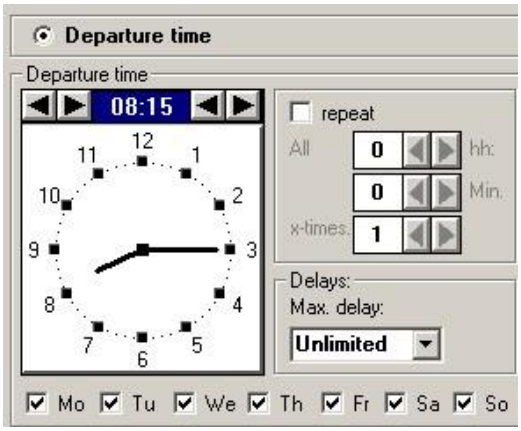
This is very useful at a train station, because it would make no sense if the train would restart immediately after stopping and the passengers have no time to leave. But you can find many examples for this feature.

The waiting is chosen with the arrow buttons.

This waiting starts when....

- a train is standing at contact with a waiting time when starting the tour automatic or
- a train arrives at the destination of a previous executed tour automatic line and the previous route/tour has been released.

11.5.2 Departure at specified time/weekday (Departure time)

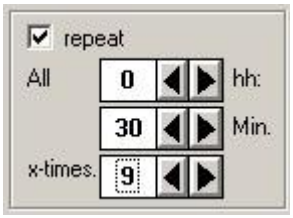


By default all days of the week are checked and you have just to choose the departure time.

If you want to create an automatic for a whole week, you can of course also select, that some train should not/only drive on several days.

11.5.3 Repetitions

Also repetitions of rows are possible. For example it is possible to create an automatic, where some trains drive a several tour x-times every hour.

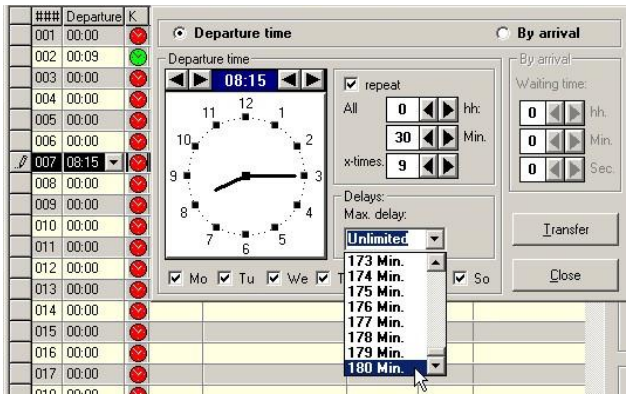


The repetitions depend of course also on the selected departure time. If the departure time is set to 8:15 for example and the route/tour shall be repeated every 30 minutes for **10-times**, then have to enter the value 9, because the first execution is the departure time and the **first** repetition is already the **second** execution.

You can of course combine weekdays and repetitions as you like.

If you have checked "*Repetitions*" the column „K" in the main list will contain the symbol . By this it is very easy to find rows with repetitions.

11.5.4 Delays



In the field „*Delays*" you can register the maximum delay from 1 to 180 min. or unlimited (Default setting).

Also these settings can be combined with every other setting.

In the picture, train would drive from 8:15 on every 30 minutes for 10 times the tour/route and trains may have a maximum delay of 180 minutes, otherwise the delayed train will be ignored.

11.5.5 Important information concerning departure time, repetitions and delays

If you register **repetitions**, these are only executed as long as the repeated execution start time is before 0:00 of the next day (maximum time 23:59).

Let's make an example:

You have registered in the column "*Departure*" 20:15 and in the frame "*Repetitions*" 10 times every 30 minutes.

For this the row will be executed last at 23:45, because the next execution would be at 0:15 of the next day. This repetition after 0:00 won't be executed by **WIN-DIGIPET 2012**.

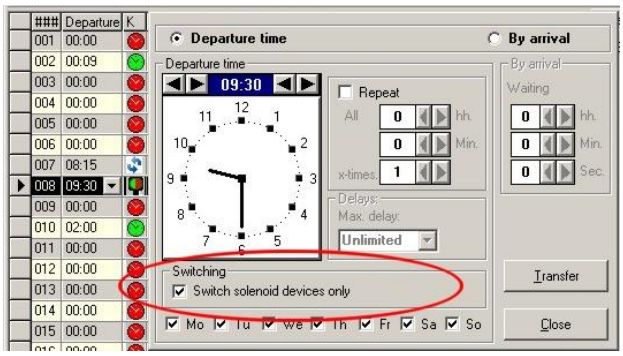
This does not implement **delays**, if your train shall start at 23:45 and has a delay of 20 minutes; the train will start anyway if you have registered a maximum delay of 20 minutes or more for this row.

11.5.6 Solenoid device switching without train movement

In the past solenoid device switching without train movements were not possible. This feature is now included within the tour automatic.

With this feature you have the possibility...

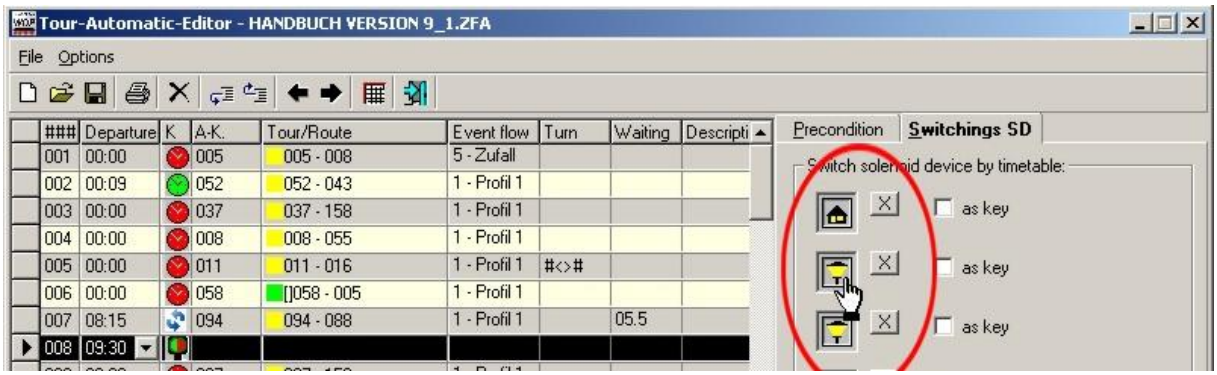
- to make solenoid device switching before the start of train operations (e.g. home track functions etc.).
- to make solenoid device switching for accessory decoders (e.g. fun fair, windmill) at specified point of time.



Therefore click on the small arrow in the column "*Departure*" within the tour automatic editor, select the radio button "*Departure time*" and enter the desired execution time and check "*Switching solenoid devices only*" (**RED** circle).

Repetitions are also possible.

Afterwards confirm your selections with '***Transfer***' and select the solenoid to switch on the new index card *„Switching SD"* on the right side of the window as used from the add-on switching in routes etc.. If you want the solenoid device to be switched off again immediately you can also check *"as key"* for each solenoid device.



Single solenoid can be removed from the switching tab with the buttons ☒.

11.6 Registrations in the column "D.C."

In the column "D.C." **WIN-DIGIPET 2012** registers automatically the start contact of the selected route/tour.

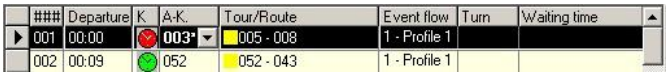
If you want to change this contact, click on the small arrow in this column.

A small window will open as displayed on the picture. In this window you might change the demand contact number.

You can register the desired demand contact number via keyboard or you drag the demand contact number from a feedback contact in your track diagram with pressed left mouse button as shown in the picture. While this drag & drop-operation the mouse cursor will change its appearance.

The demand contact could be every feedback contact you like and might be used to create a dependency to another train.

With a click on the button **'*OK*'** the demand contact will be transferred into the list.



The changed contact number will be printed in **bold** letters and also marked with a star.

If you register now another route/tour for this row the demand contact will be overwritten again by the start contact of the route/tour.

11.7 The column "Event flow"

In the column "*Event flow*" the pre-setting from the system settings normally appear according to settings on the index card "Program settings – Profiles" (see section **4.5.4**).

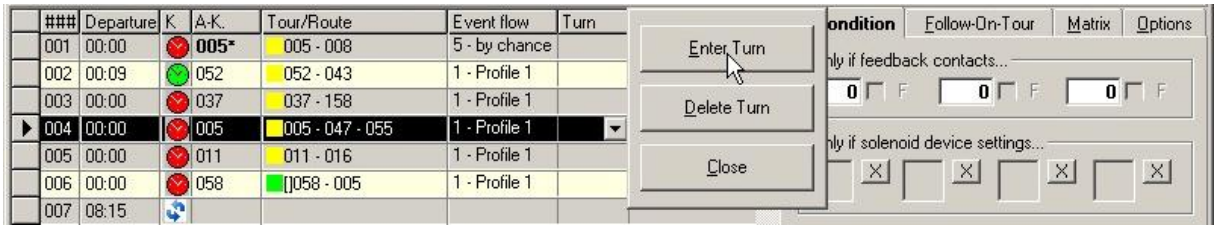
If you want to change the event flow, click on the small arrow in this column.

A small window appears and in this window you select the desired event low e.g. „5 – by chance".

With a click on **'*Close*'** you can transfer your choice to the column "*Event flow*".

11.8 The column "Turn"

You want to change the direction of your locomotive/push-pull-train? - No problem



For this purpose click in this column and after on the small arrow. In the small window click on the button **'*Enter turn*'** this will transfer the command to the column and the window disappears.

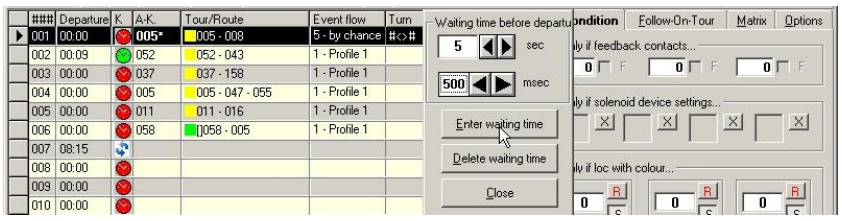
A turn command can also be deleted by the button **'*Delete turn*'**.

You can leave the small window without changes with the button **'*Close*'**.

If you enter a turn, this turn will be executed at the **start** of the route/tour and not at the end.

11.9 The column „Waiting time“

In this column you can register a waiting time **before** departure of the locomotive. When you register here waiting the route/tour will be switched and then the locomotive will not start until the waiting time is over.



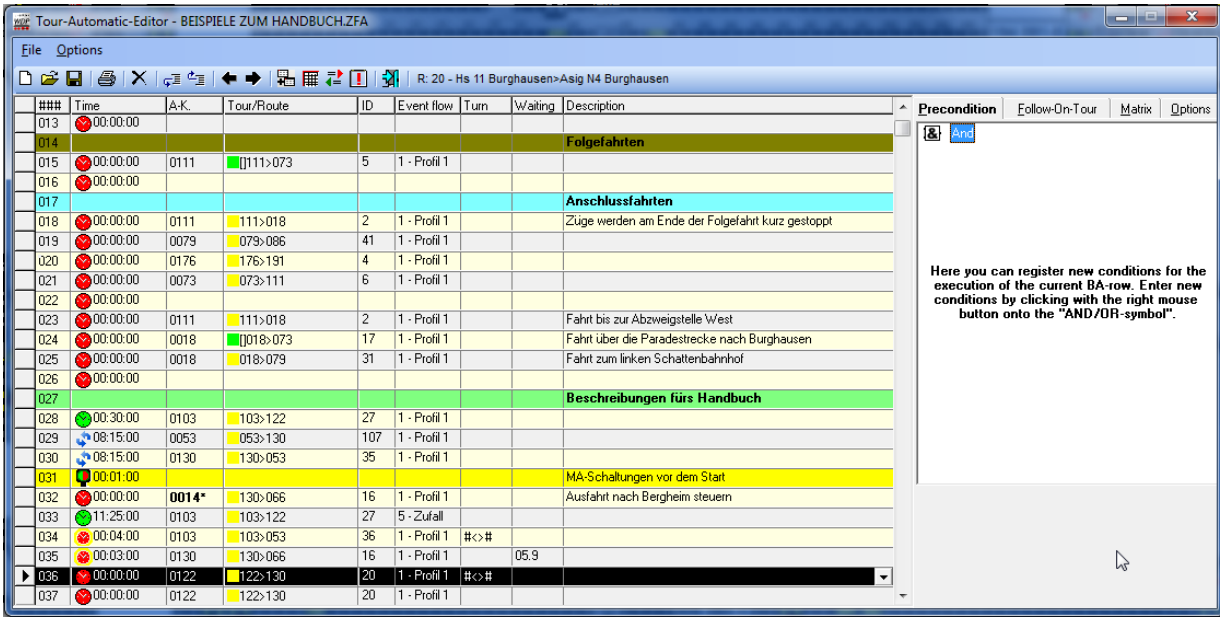
Click in the column and afterwards on the small arrow. The window shown in the picture will appear. Here you will be able to select a waiting time in seconds and milliseconds. The maximum value is 99 sec 900 msec.

With a click on the button **'*Enter waiting time*'** you'll transfer the waiting time into the list.

To delete a waiting time in a row click on the button **'*Delete waiting time*',** to leave the small window **without** changes on the button **'*Close*'**.

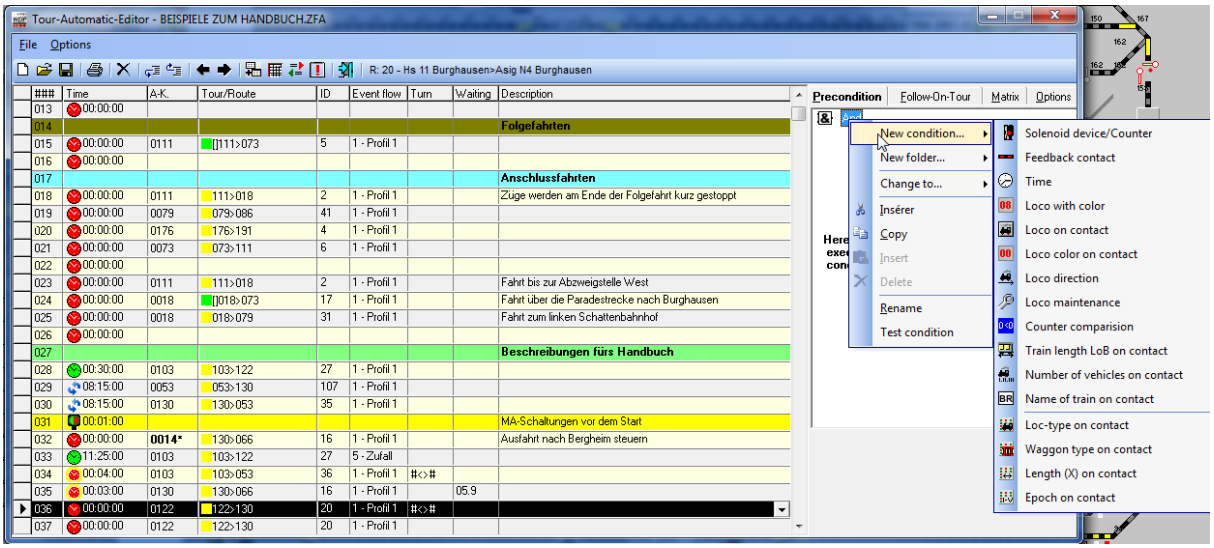
11.10 Registrations on the index card „Precondition“

On this index card you can register conditions which will be taken into account to decide if the selected tour automatic row can be executed or not.



By default there are no conditions listed.

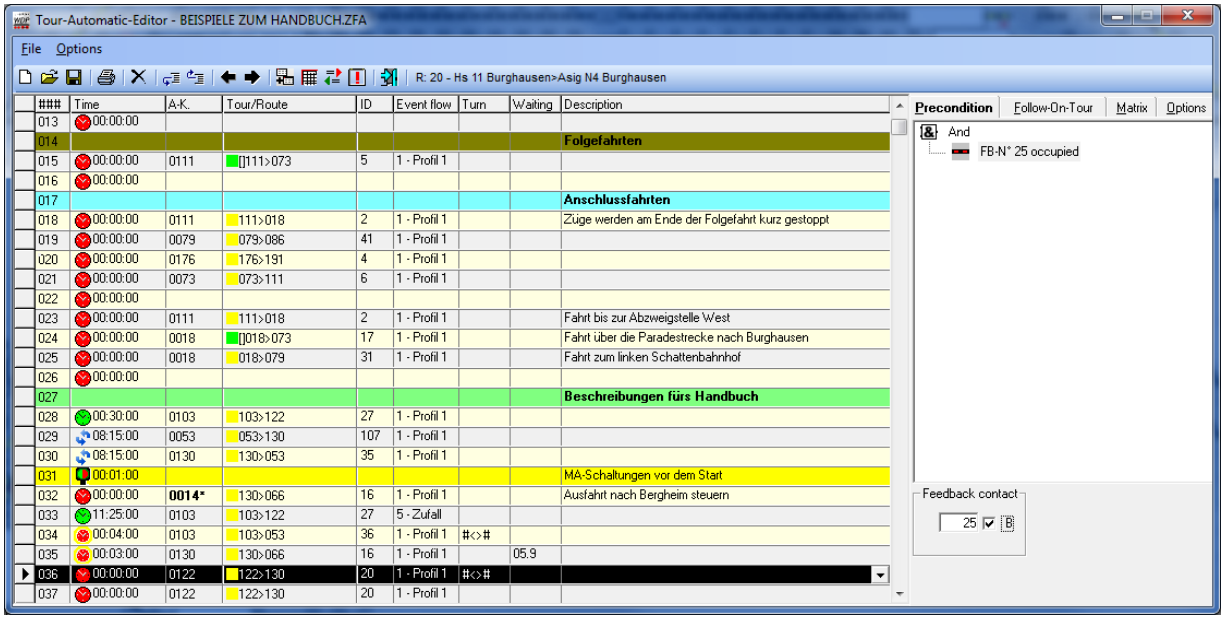
When opening the context menu of white tree window with the right mouse button you will see several menu commands for filling and manipulating the condition tree. For registering a new condition you use the command <New condition>. The different conditions will be explained within the next sub-chapters.



11.10.1 Condition “Feedback contact”

If you want to execute the tour automatic row only if a specific feedback contact is occupied or free, this condition will be your right choice. After selecting this condition from the context menu you can register a feedback contact number and you can decide whether the condition shall be true if the feedback contact is occupied or free.

Therefor just enter the feedback contact number or drag it from a track symbol in your track diagram using this feedback to the number field. By (un)checking the check mark box you decide between the condition occupied “O” or free “F”.



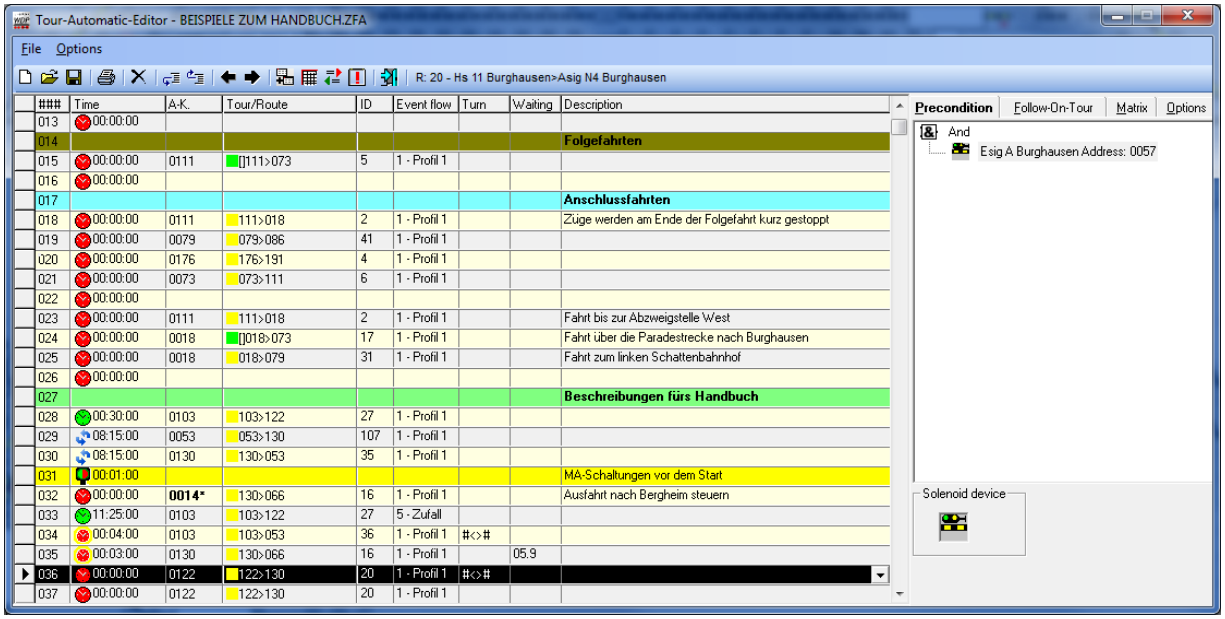
After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.

Another quick way for registering new feedback contact conditions is to drag a track symbol having a feedback contact number from the track diagram directly into the condition tree.

11.10.2/3 Condition "Solenoid device/counter"

If you want to execute the tour automatic row only if a specific solenoid device or counter is in a specific state, this condition will be your right choice. After selecting this condition from the context menu you can register a solenoid device or counter and you can decide which solenoid device/counter state shall last in a "true"-condition.

Therefor just drag a solenoid device or counter from your track diagram using this feedback to the grey input box.



For solenoid device you can now decide which state shall result in a “true”-condition by clicking on the solenoid device symbol in the input box. After every click the solenoid device will show the selected state.

For counters a left mouse button click on the counter symbol in the input box will result in a change of the three basic compare conditions > (larger), < (smaller) and = (equal). A click with the right mouse button will open a window where you can the value/number the counter value should be compared with.

After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.

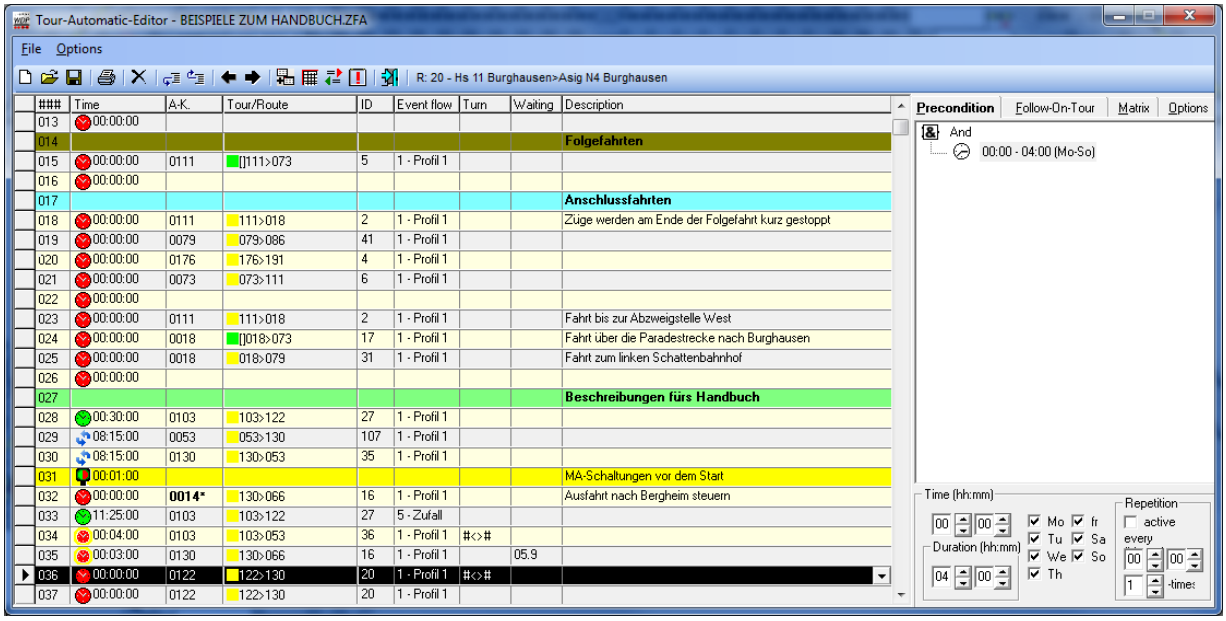
Another quick way for registering solenoid device/counter conditions is to drag a solenoid device/counter symbol from the track diagram directly into the condition tree.

When moving the mouse cursor over the solenoid device/counter symbol in the input window, the according symbol in the track diagram will be framed. By this function you can easily see which solenoid device/counter has been used for the condition.

11.10.4 Condition “Time”

If you want to execute the tour automatic row only at a specific time, this condition will be your right choice. After selecting this condition from the context menu you can select at which time (and how long) your condition shall become true. You can also select at which days of the week the condition shall be taken into account and if the condition shall be become valid more than one time per day (e.g. hourly).

After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.

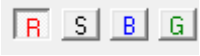


In the example shown above….

The tour automatic uses for this condition the tour automatic time.

11.10.5 Condition "Loco with colour"

If you want to execute the tour automatic row only when a locomotive has a specific colour, this condition will be your right choice. After selecting this condition from the context menu you can select the locomotive and for which locomotive colour the condition shall become true.

You have two ways for selecting the locomotive. The first way is to enter into the train number of the locomotive into the input box. The second way is to drag the locomotive from the locomotive bar/monitor/control with pressed right mouse button in the input box. Afterwards you can select the colour used for the conditions by pressing one of the coloured buttons 

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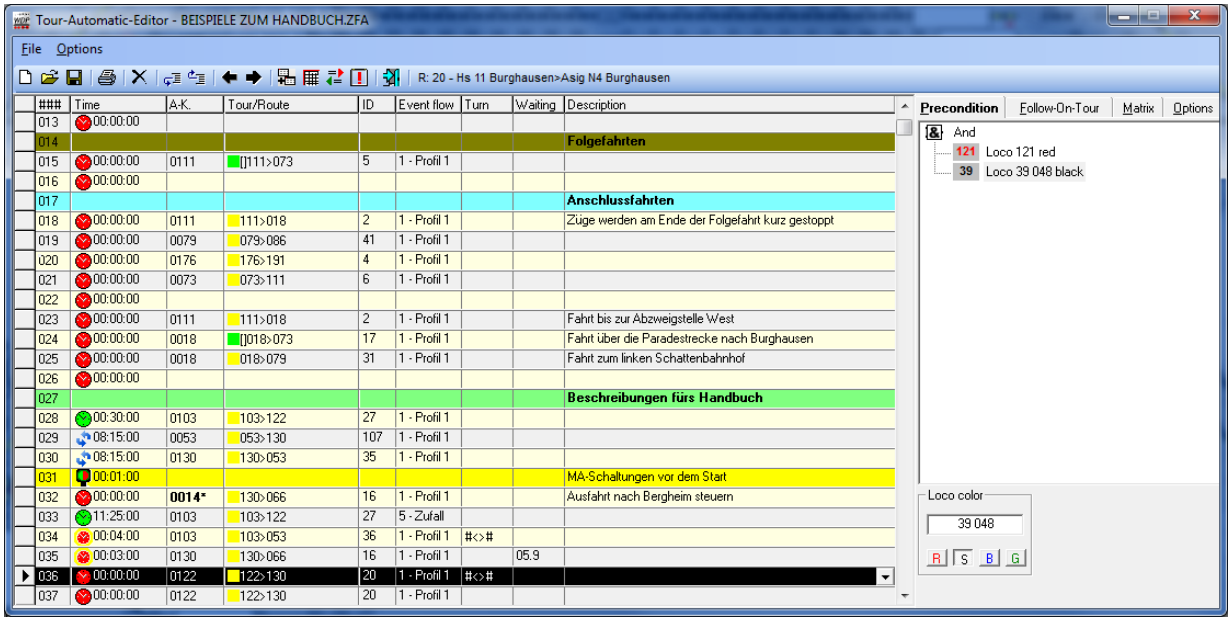
After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.



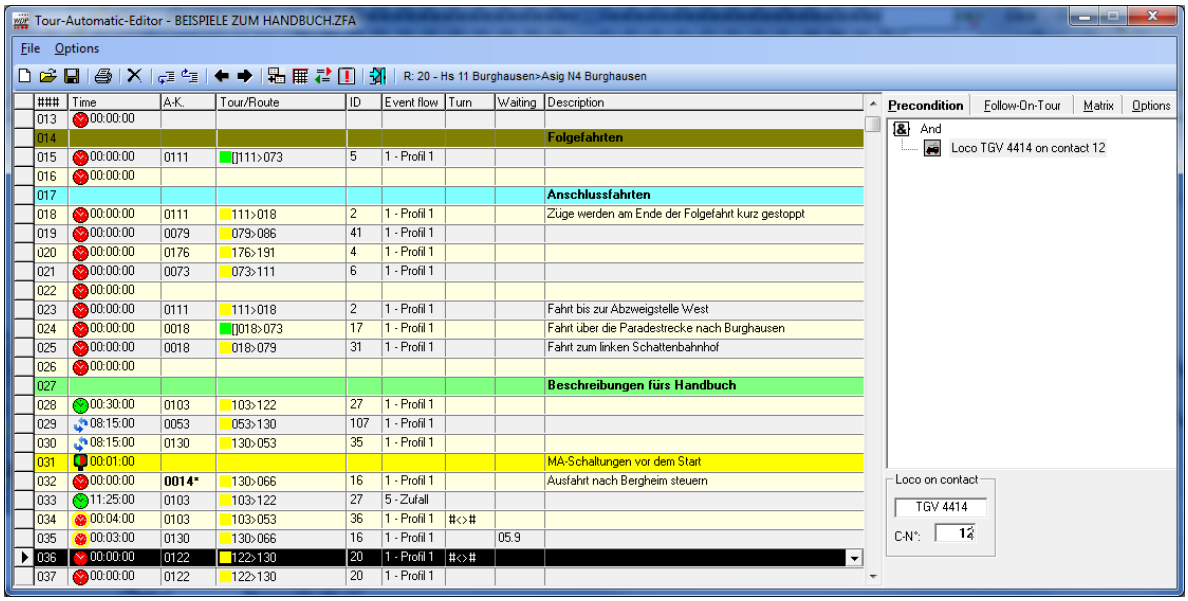
11.10.6 Condition "Loco on contact"

If you want to execute the tour automatic row only when a specific locomotive is on a specific contact, this condition will be your right choice. After selecting this condition from the context menu you can select the locomotive and for which contact number the condition shall become true.

You have two ways for selecting the locomotive. The first way is to enter into the train number of the locomotive into the input box. The second way is to drag the locomotive from the locomotive bar/monitor/control with pressed right mouse button in the input box.

Afterwards enter the feedback contact number or drag it from a track symbol in your track diagram using this feedback to the number field

After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.

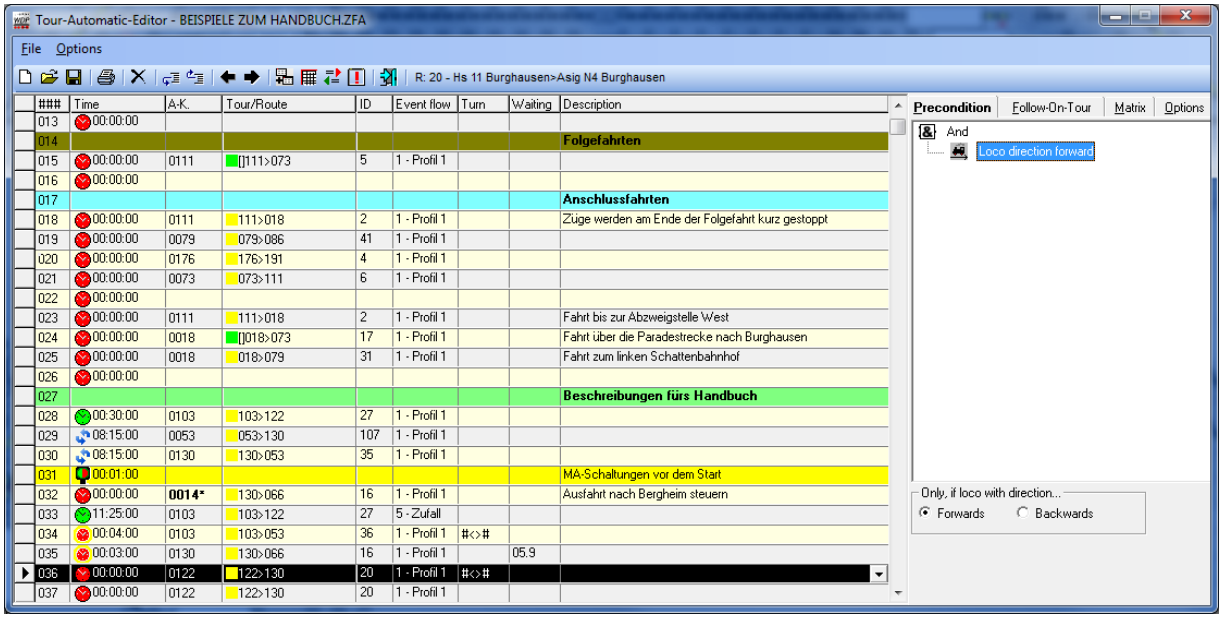


For this condition you have to use feedback contact numbers from a train number display. For fulfilment of this condition the chosen train number has to be visible in the train number display and the contact of the train number display has to be occupied.

11.10.7 Condition “Loco direction”

If you want to execute the tour automatic row only if the direction of the locomotive which shall use this row has a specific direction, this condition will be your right choice. After selecting this condition from the context menu you can select for which locomotive direction the condition shall become true.

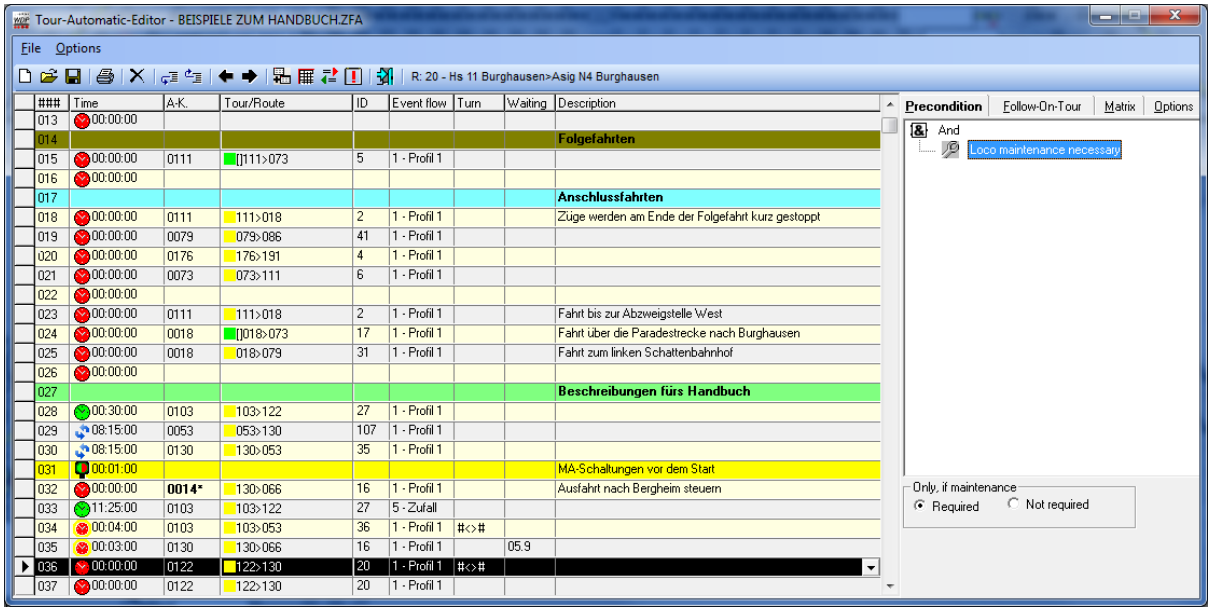
After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.



11.10.8 Condition “Loco maintenance”

If you want to execute the tour automatic row only if the locomotive which shall use this row needs maintenance or not, this condition will be your right choice. After selecting this condition from the context menu you can select for which locomotive maintenance state the condition shall become true.

After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.

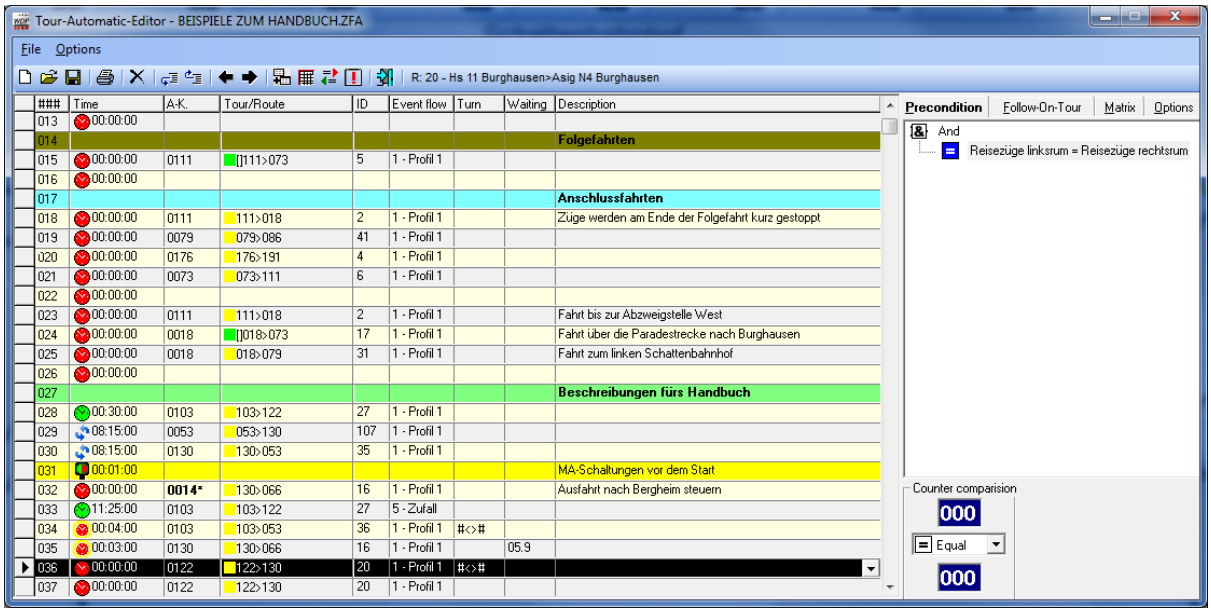


11.10.9 Condition "Counter comparision"

If you want to execute the tour automatic row only if two counters have a specific comparison state between each other, this condition will be your right choice. After selecting this condition from the context menu you have to select two counters from your track diagram by dragging them into the two grey input fields. Afterwards you can select from the combo box between the two input fields the comparison mode "larger", "smaller", "smaller or equal", "larger or equal" and "equal".

After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.

This condition is only available with activated expert mode.



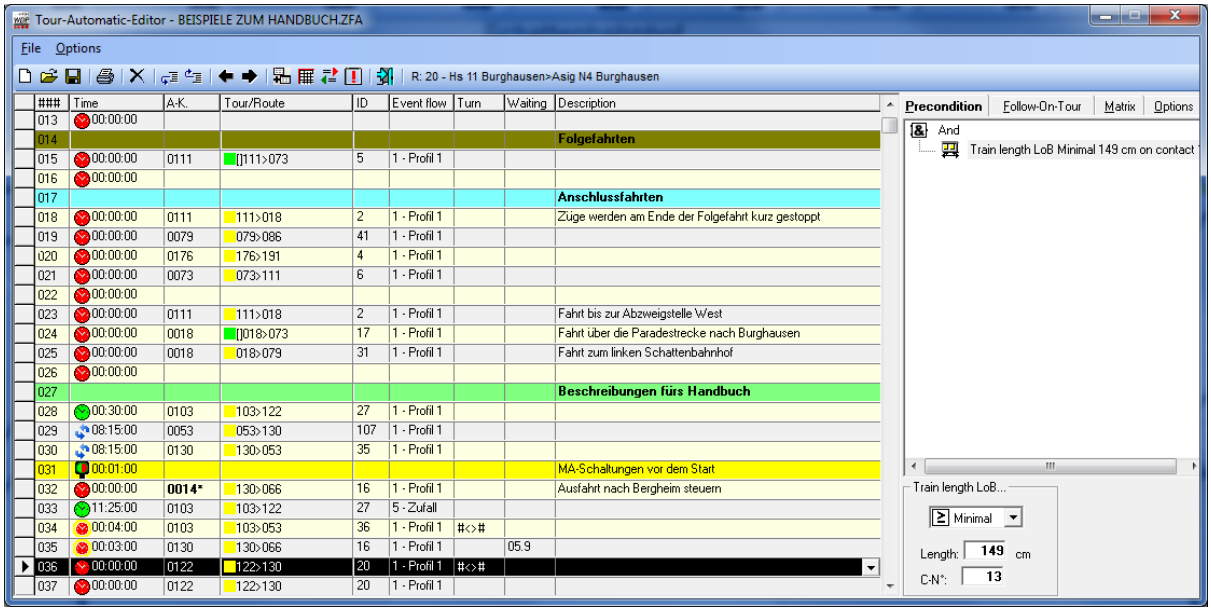
11.10.10 Condition “Train length LoB on contact”

If you want to execute the tour automatic row only if trains of specific lengths are on a specified contact number, this condition will be your right choice. After selecting this condition from the context menu you can select for which contact number and for which trains lengths the condition shall become true.

Therefor just enter the feedback contact number or drag it from a track symbol in your track diagram using this feedback to the number field.

Afterwards enter a train length LoB in cm and select if the condition shall become true if the length of the train on the specified contact shall be equal or larger than the entered length (minimum-condition) or if it shall be shorter or equal the entered length (maximum condition).

After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.



For this condition you have to use feedback contact numbers from a train number display. For fulfilment of this condition the chosen train number has to be visible in the train number display.

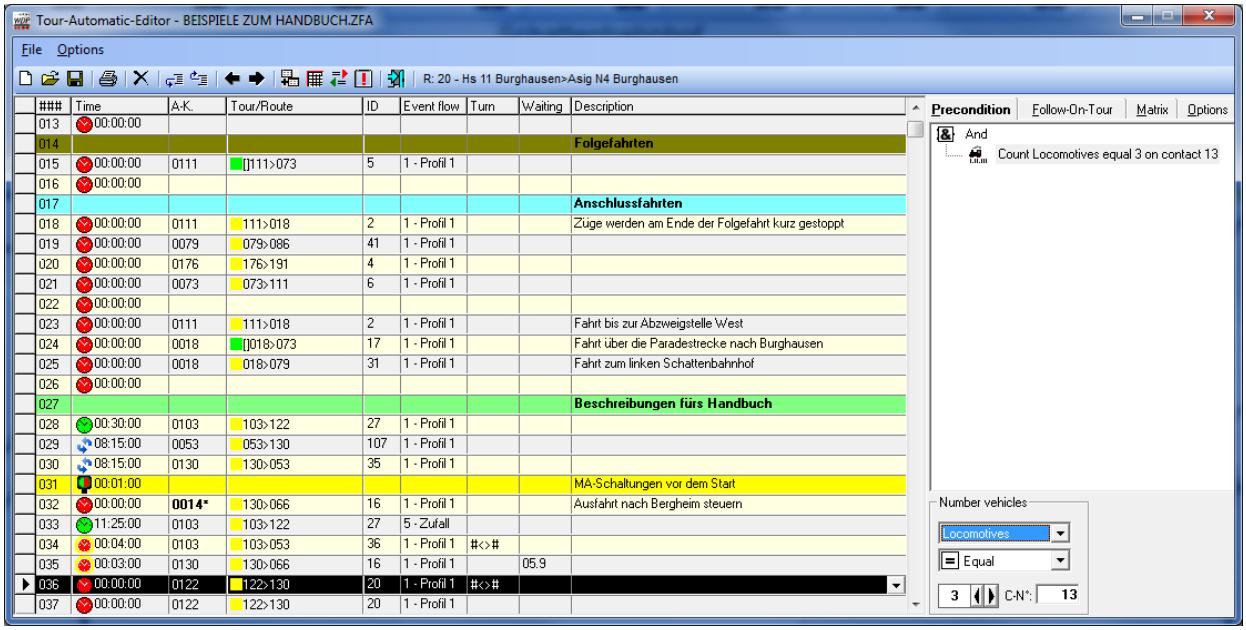
11.10.11 Condition “Number of vehicles on contact”

If you want to execute the tour automatic row only if trains with a specific number of vehicles are on a specified contact number, this condition will be your right choice. After selecting this condition from the context menu you can select for which contact number and for which vehicle types and numbers the condition shall become true.

Therefor just enter the feedback contact number or drag it from a track symbol in your track diagram using this feedback to the number field.

Afterwards select the type of vehicle (all, locomotives, waggons), the condition (Equal, Larger, Smaller etc.) and the number to compare to.

After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.



For this condition you have to use feedback contact numbers from a train number display. For fulfilment of this condition the chosen train number has to be visible in the train number display.

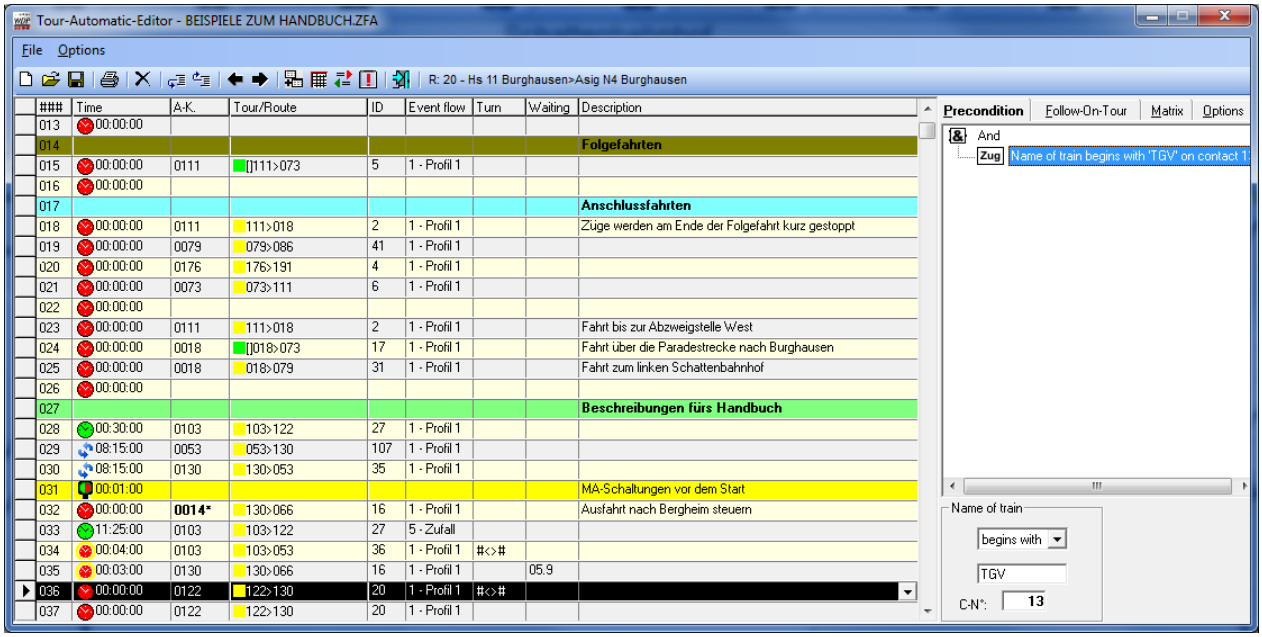
11.10.12 Condition "Name of train on contact"

If you want to execute the tour automatic row only if trains with a specific naming are on a specified contact number, this condition will be your right choice. After selecting this condition from the context menu you can select for which contact number and for which names the condition shall become true.

Therefor just enter the feedback contact number or drag it from a track symbol in your track diagram using this feedback to the number field.

Afterwards enter a text a select wether the train name shall be equal to this this or start with this text or end with this or just contain this text.

After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.



For this condition you have to use feedback contact numbers from a train number display. For fulfilment of this condition the chosen train number has to be visible in the train number display.

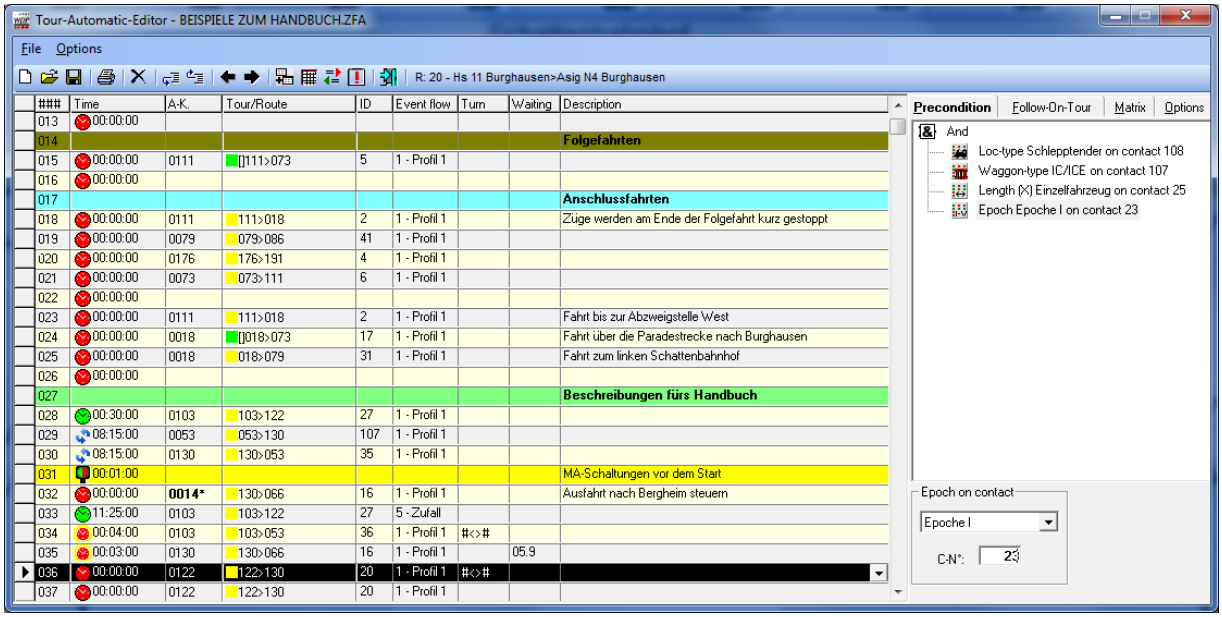
11.10.13 Condition "Loco-type etc. on contact"

If you want to execute the tour automatic row only if a specific locomotive type, waggon type, train length(x) or epoch is on a specified contact, this condition will be your right choice. After selecting this condition from the context menu you can select which of this matrix type has to contain a specific value for the train currently staying on a specific contact.

Therefor just enter the feedback contact number or drag it from a track symbol in your track diagram using this feedback to the number field.

Afterwards select the desired matrix value from the combo box above.

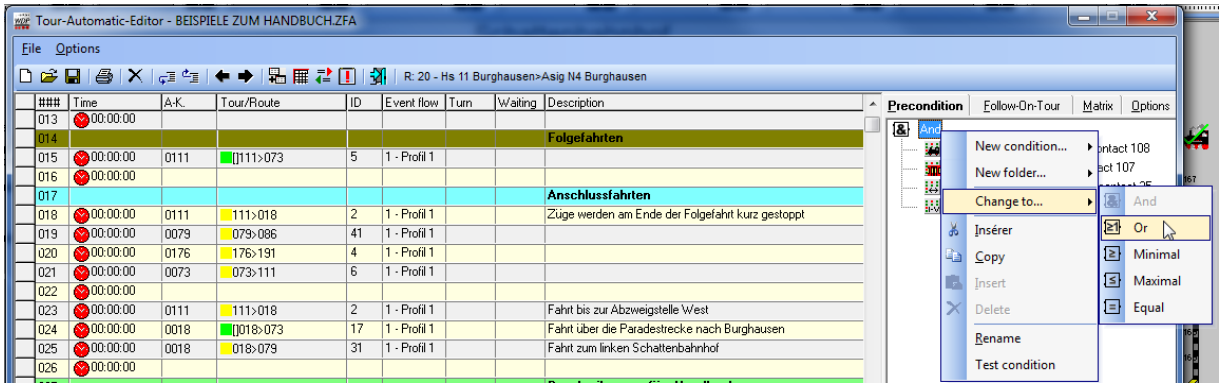
After making this registrations and whenever a change is made the condition is displayed in clear words in the condition tree above.



For this condition you have to use feedback contact numbers from a train number display. For fulfilment of this condition the chosen train number has to be visible in the train number display.

11.10.14 Condition group "Or"

By default all conditions within the condition tree are placed with a "And"-Group. This means, the whole condition tree will only become "true" (and is then OK for execution) when all conditions in the tree are true.



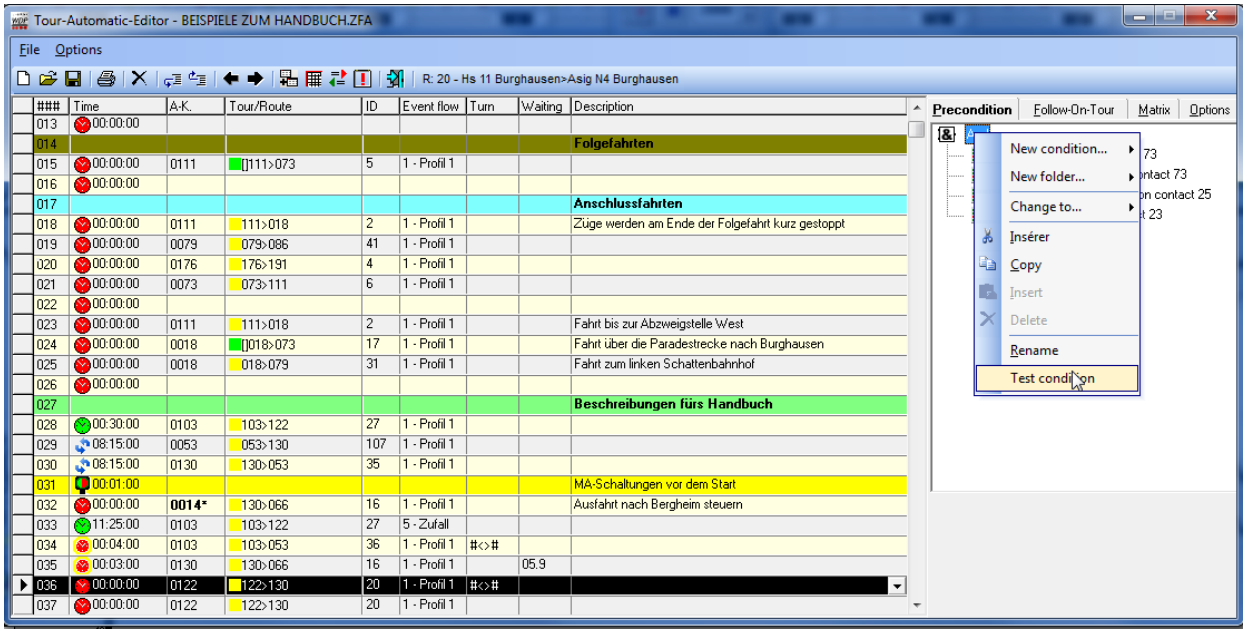
Sometimes you may want to say "Execute this row if condition A **or** condition B is fulfilled" in contrast to "Execute this row if condition A **and** condition B is fulfilled"

Therefor open the context menu of the condition tree (will the mouse cursor rests above the symbol of an "And"-group) with the right mouse button and select from the menu <Change in><Or>.

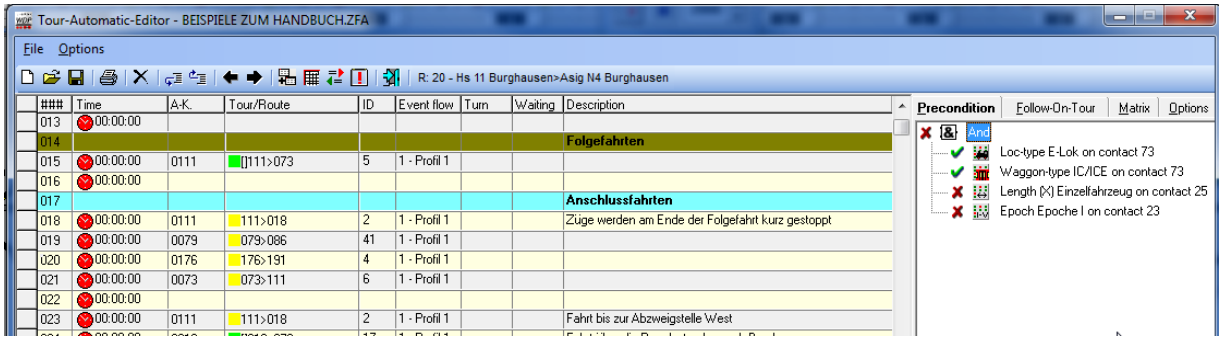
Another way to change between "And" and "Or" is pressing the middle button while staying with the mouse button above the "And" or "Or"-Group symbol.

11.10.15 Testing conditions

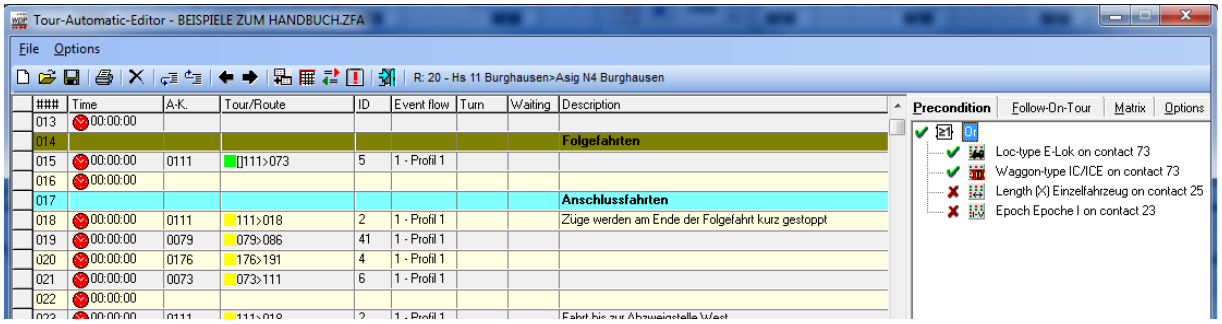
All conditions within the tour automatic editor can be tested immediately by select <Test condition> from the context menu of the condition tree.



After activating this mode green checkmarks and red crosses left of each condition in the condition tree will show you if each single condition is currently fulfilled...



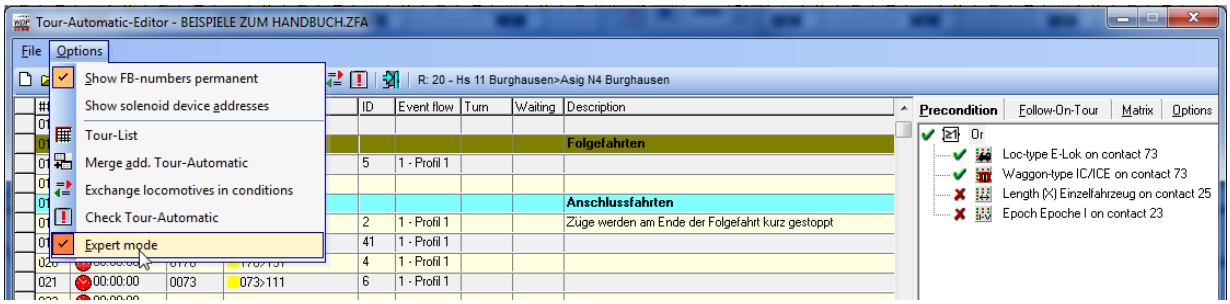
...when changing e.g. solenoid device states etc. in your track diagram the condition test will be updated immediately.



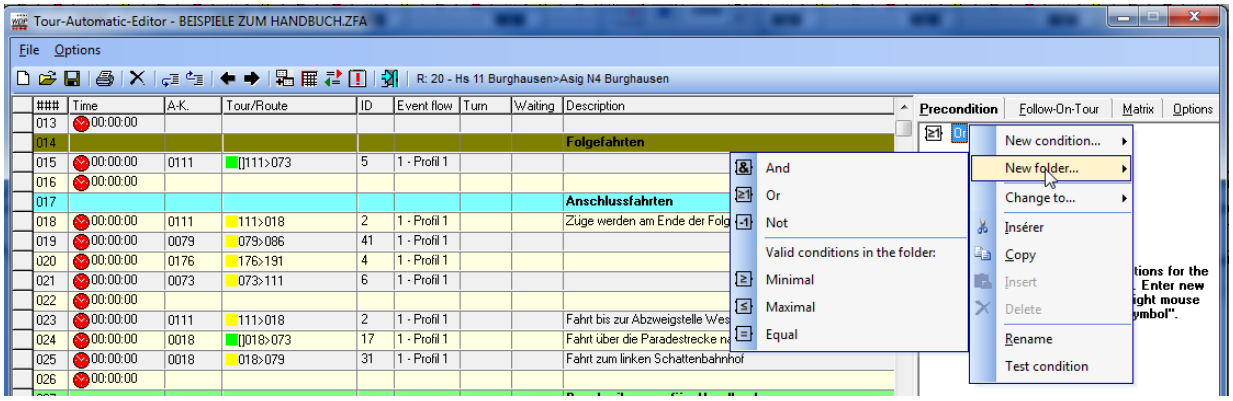
After making tests you should deactivate the test mode, because only after deactivating the test mode all edit function within the tree are available again.

11.10.16 Activating the expert mode

After activating the expert mode via the menu <Options> and <Expert mode>,...



...several new options are available within the condition. For example you get additional condition groups and can create condition sub-groups.



Before using the advanced condition groups for greater tasks, make tests with few conditions to get sure you have understood them completely.

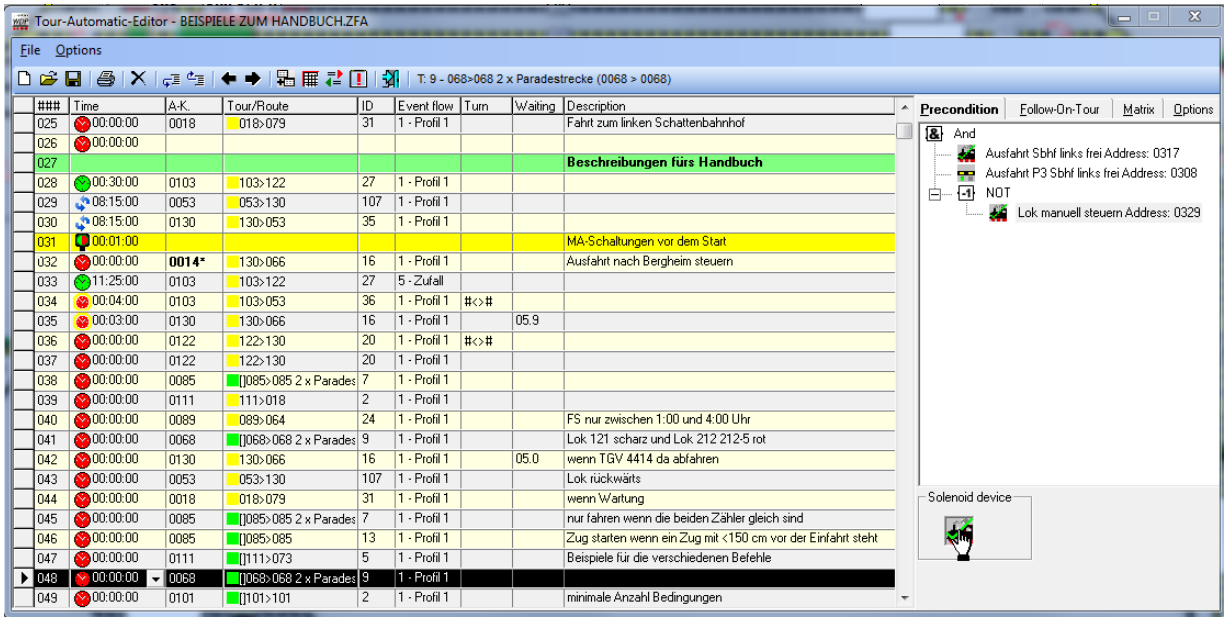
11.10.17 Condition group/folder “Not”

The condition group/folder “Not” may only contain one condition or a condition group. Normally a condition will be taken as valid if the condition is fulfilled/true. When placing a condition or a condition group into a “Not”-Folder, it will be consired as true when it is not fulfilled.

Example:

If you want a row to be executed if a four aspect signal is **not** showing the state you would need normally the condition:

“True if State green **or** State green-yellow **or** State red-white”.

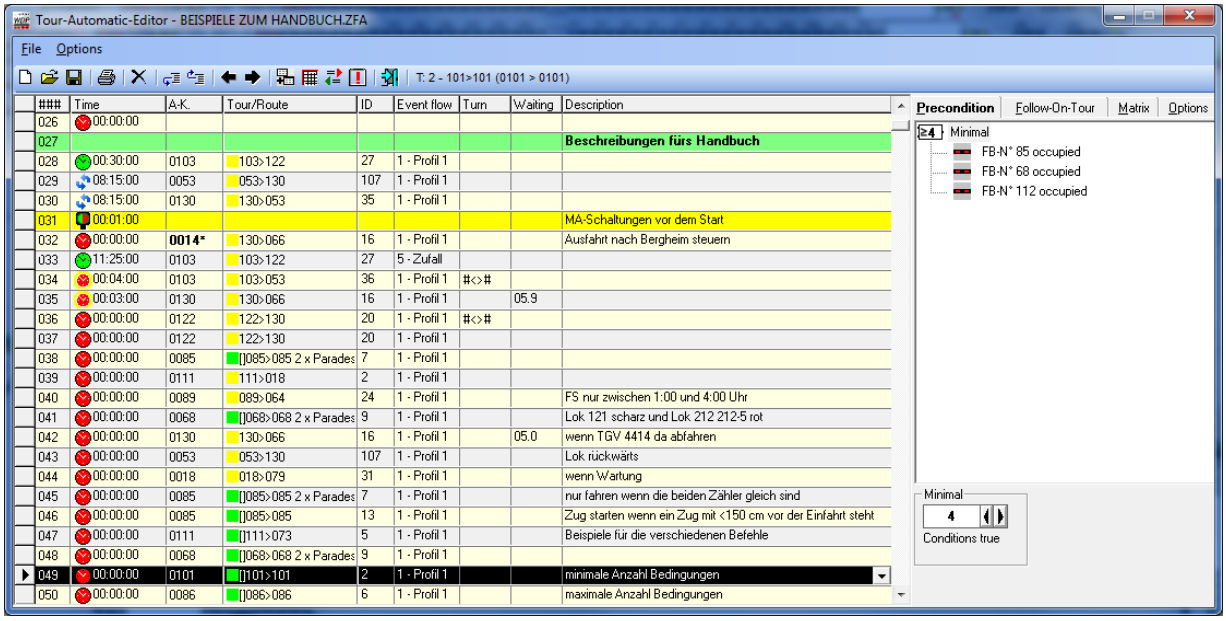


Using a not group you can directly say “True if **not** State red”.

11.10.18 Condition group/folder “Minimal”

The normal condition groups/folder “**And**” becomes/valid true if **all** conditions within this group are fulfilled and the groups/folder “**Or**” becomes/valid true if **at least one** condition within this group is fulfilled.

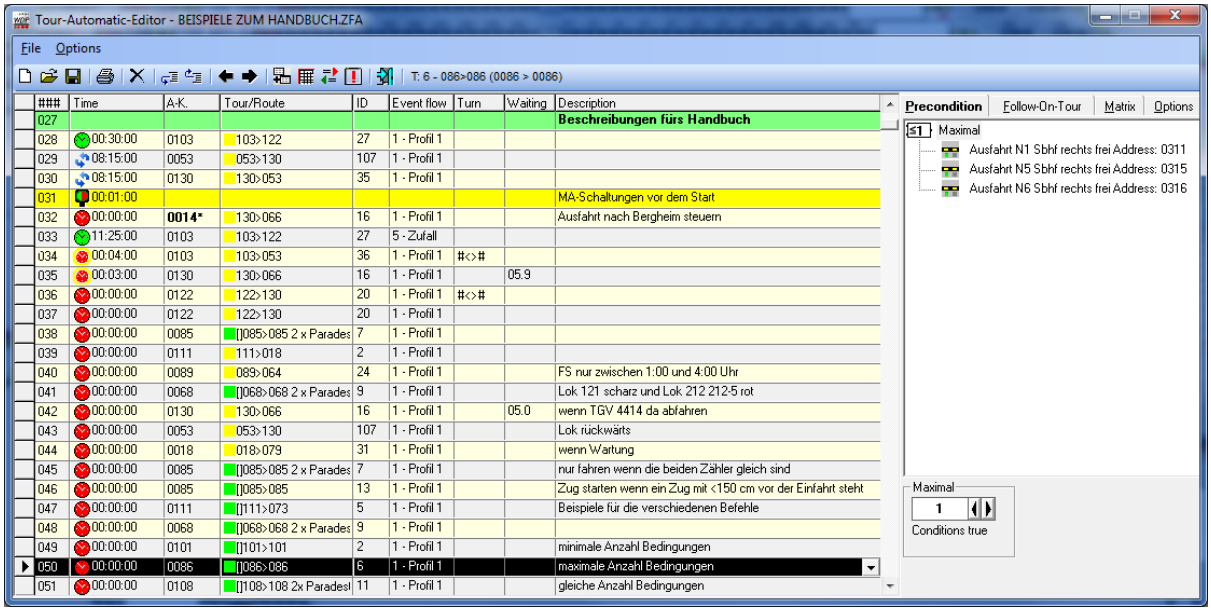
Condition groups/folders with the Attribute “Minimal” get valid if **<u>a minimum specific number</u>** of conditions within this folder is fulfilled. After selecting this group type you have to select how many conditions have to be fulfilled minimally.



11.10.19 Condition group/folder "Maximal"

The normal condition groups/folder "**And**" becomes/valid true if **all** conditions within this group are fulfilled and the groups/folder "**Or**" becomes/valid true if **at least one** condition within this group is fulfilled.

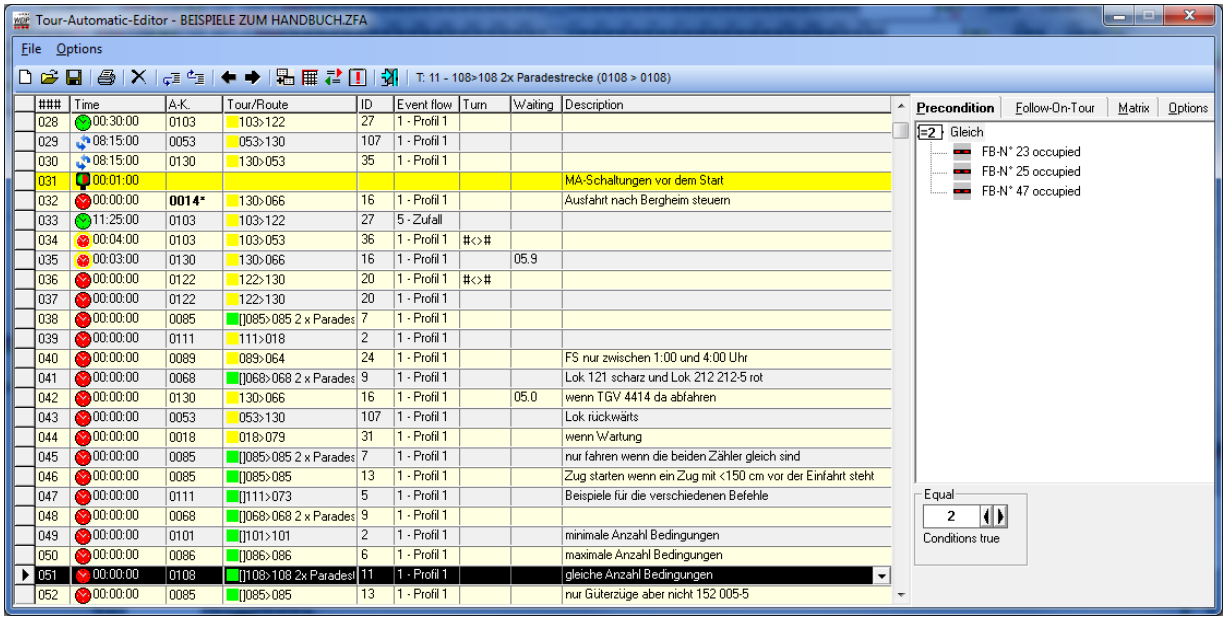
Condition groups/folders with the Attribute "Maximal" get valid if **a maximum specific number** of conditions within this folder is fulfilled and not more. After selecting this group type you have to select how many conditions may be fulfilled maximally.



11.10.20 Condition group/folder "Equal"

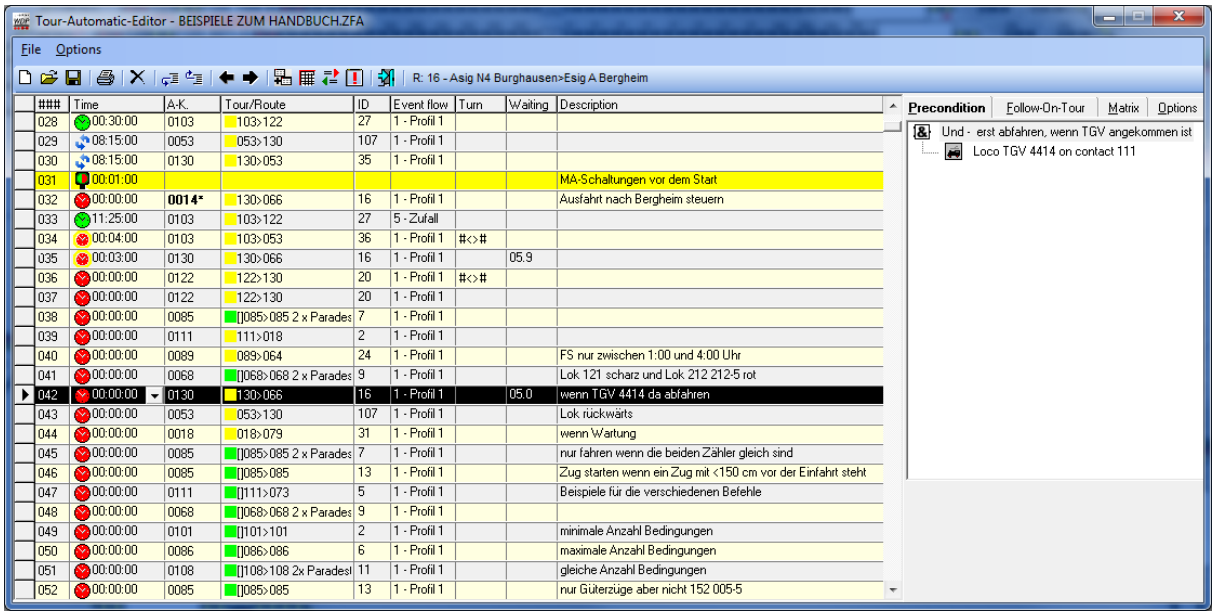
The normal condition groups/folder "**And**" becomes/valid true if **all** conditions within this group are fulfilled and the groups/folder "**Or**" becomes/valid true if **at least one** condition within this group is fulfilled.

Condition groups/folders with the Attribute "Equal" get valid if **an exact specified number** of conditions within this folder is fulfilled and not less or more. After selecting this group type you have to select how many conditions should be fulfilled exactly.



11.10.21 Renaming condition groups/folders

For documentation the condition groups/folders within the condition can be renamed. Therefor open the context menu by clicking with the right mouse button on a condition group/folder within the tree and select <Rename>. Afterwards you can add a description to the group/folder. Especially for complex condition trees you should make extensive use of this functionality.



11.10.22 Editing the condition tree

You can delete conditions which you do not need any more from condition tree after selecting them using the “Del”-key on your keyboard or via the “Delete”-command from the context menu (right mouse button) of the condition tree.

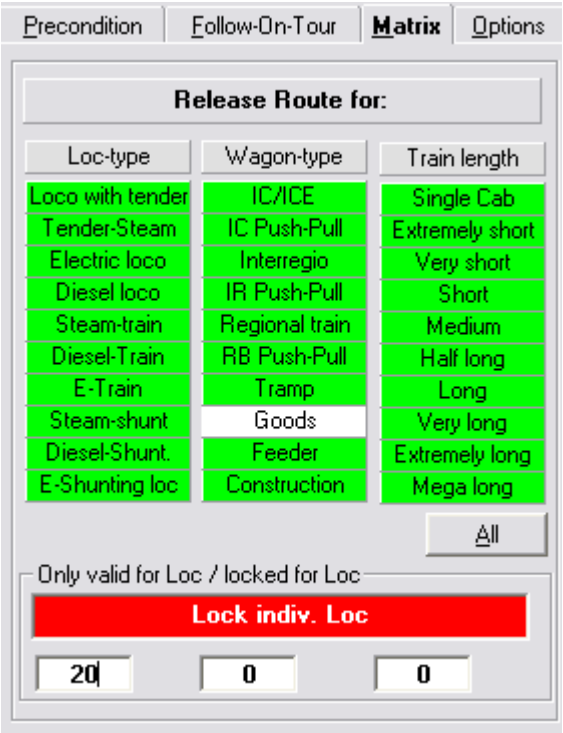
The context menu offers also commands for copy/cutting/pasting-operations within the condition tree.

Conditions within the condition can also be moved very comfortably using drag & drop.

11.11 The index card "Matrix"

On the index card "Matrix" you register several additional conditions for the execution of the selected row. But you should remember that you are now working with two matrixes.

- The route matrix according to section **8.10** and
- the tour matrix as described here.



When making registrations on this index card you should always remember your registrations on the index card "Loco type" in the routes editor.

With the selection made in the picture this row of the tour automatic is **not** allowed for Goods and locomotive **20**.

You don't have to think of any further matrix settings e.g. the route matrix would be used to block this route for all electrical locomotives, because the itinerary of this route has no overhead contact line. Such matrix settings should be made in the route editor, because these settings are global for this route.

The matrix in the tour automatic is mainly take influence on the current playing situation.

Here the radio button, which you use for locking trains, as shown in the picture, should be set to "*Lock indiv. loc*".

Important information!

If you want to lock just up to three locomotive, you have to press the button ***'All'*** to check all fields of the matrix. A check field in the matrix allows these kinds of trains to use the selected row.

If you enter with selected button "Release loc only" one or more locos the "Enable tour for"-selection area will be deactivated and only the registered locomotive numbers will be allowed for this route/tour.

Prerequisites for the matrix check are:

- You have activated the switch “Switch only, if route isn’t locked by special loco/wagon type” in the “system settings / routes”

- You have registered up to 10 inputs in the text boxes to define your “rolling stock” as described in the system-settings (if the default definition doesn’t meet your requirements for your model railroad)
- You have assigned a “loco type” to each loco in the locomotive-database (see **5.4.2**)

The digital address of the locomotive must be entered in the train number label of the start contact of a route.

In the tour schedule editor you can also use the matrix test function described in chapter **8.10.1**.

Using this test of the matrix only the matrix from the tour automatic will be taken into account. While executing the matrix of the used route (possibly within a tour) will also be taken into account.

11.12 The index card "Options"

On this index card, you can make some registrations to take individual influence on your automatic operation. Special influence can be taken on the locomotives colour.

The influences of the locomotive's colour in **WIN-DIGIPET 2012** are as follows.

If the colour of the train number in the train number display is...

- BLACK, the train can be used in every automatic and the timetable
- RED, the train will not continue driving when using the automatic with demand contacts and also not in all lines of the tour automatic with the symbol (“By Arrival”)
- BLUE, the train will not continue driving when using the timetable and also not in all lines of the tour automatic with the symbols or (“Departure Time”)
- GREEN, the train is actually driving a tour or controlled by the tour automatic.

11.12.1 Colour of loc number at the end of the tour/route

Here you can select whether you want the colour of the locomotive to be switched to BLACK, RED or BLUE or reset the maintenance flag at the end of the execution of the selected row. But this change of colour will only be performed if the registered solenoid device in this frame is switched to the desired state. This is a new very elegant way for realising a “Home track”-function. Here can also reset the maintenance timer. This is interesting for people using automatic car loading stations

You can drag the solenoid device with pressed left mouse button from your track diagram to the picture box and release there the button („drag & drop“).
The button will remove the solenoid device.

Important information!

X-Routes used in the tour automatic according to chapter **8 don't** switch the locomotive number to red at the end of the route.

11.12.2 Sound at start of route/tour

Here you can register an individual sound that should be executed when starting the tour/route.

For this purpose you have to check the button “*Activate sound*“ and search for a sound on your hard disk/CD-ROM/network by pressing the button **'*Browse*'**.

The button is used the selected sound for testing purposes.

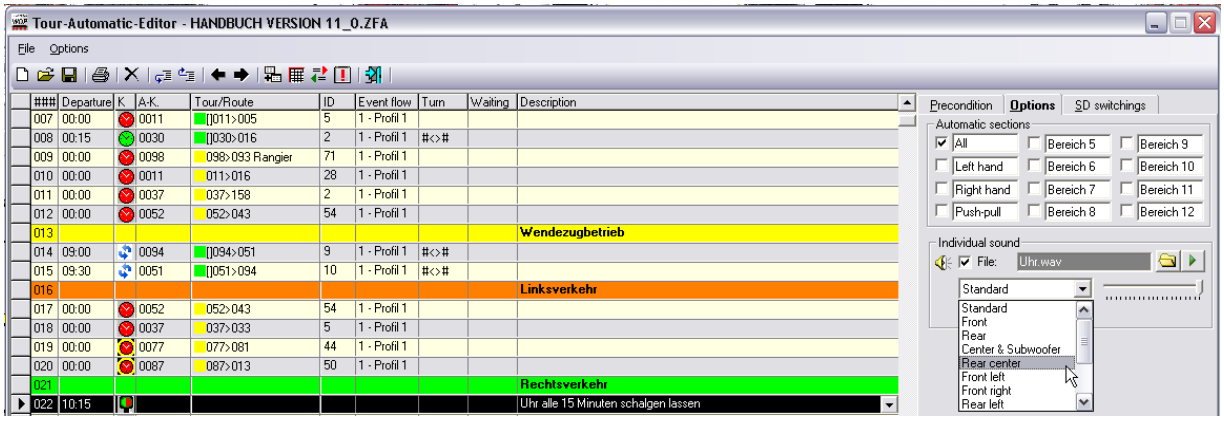
It is also possible to play the locomotives sound registered in the vehicle database for every locomotive. This sound can be activated by checking “*Sound from Loc-control*“.

The registered sounds will be played when **starting** the route/tour.

When using a **2.1**, **5.1** or **7.1**-sound system you can also select the speaker used for playback, the other settings can be made according to section **10.4.12**.

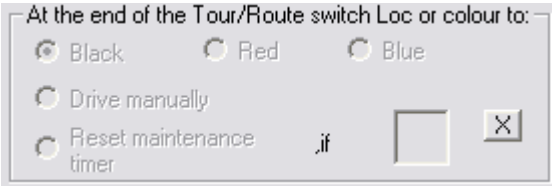
11.12.3 Sound playback at specific time

If you register in the tour schedule line a “Switch solenoid devices at specific time”-row, you can select for this row also a sound to play when executing this row. The settings can be made according to section **11.12.3**.



11.12.4 Colour of loc number at the end of the tour/route

Here you can select whether you want the colour of the locomotive to be switched to BLACK, RED or BLUE or reset the maintenance flag at the end of the execution of the selected row. But this change of colour will only be performed if the registered solenoid device in this frame is switched to the desired state. This is a new very elegant way for realising a “Home track”-function. Here can also reset the maintenance timer. This is interesting for people using automatic car loading stations



You can drag the solenoid device with pressed left mouse button from your track diagram to the picture box and release there the button („drag & drop“).
The button ☒ will remove the solenoid device.

<u>Important information!</u>

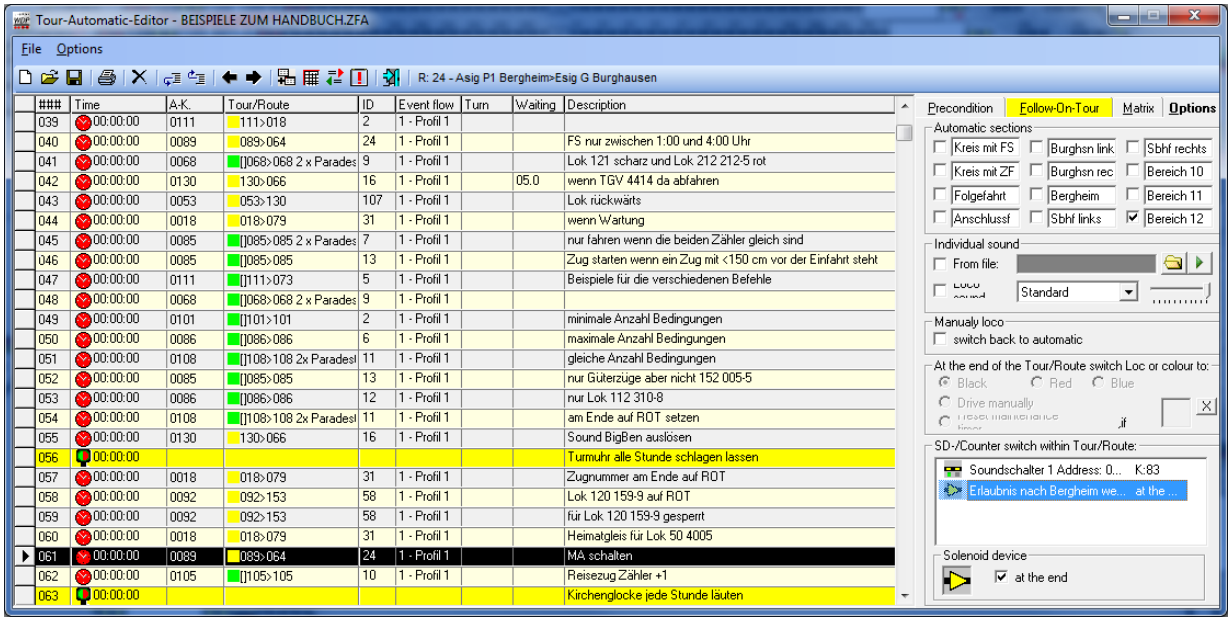
X-Routes used in the tour automatic according to chapter **8 don’t** switch the locomotive number to red at the end of the route.

11.12.5 Solenoid device switching at tour/route

During the execution of a row in the automatic you can force the program to switch up to 4 solenoid devices, without the need to include them into the used route or profile. This is very useful to switch virtual switches, which have influence on indirect controls of your automatic operation and normally this settings only make sense within the automatic and not when switching the routes/tours manually.

You can drag the solenoid device with pressed left mouse button from your track diagram to the white box within the “SD/counter switching frame” and release there the button (“drag & drop“). Afterwards you select with the check boxes whether the switching should be performed at the start (unchecked with contact no. 0), a specific contact (unchecked with contact number) or end (checked) of execution of the selected row.

The picture shows an example where a signal is switched to green at the beginning of the execution of the selected row and the button e.g. for the “Home-track”-function is switched to red at the end of the tour/route.

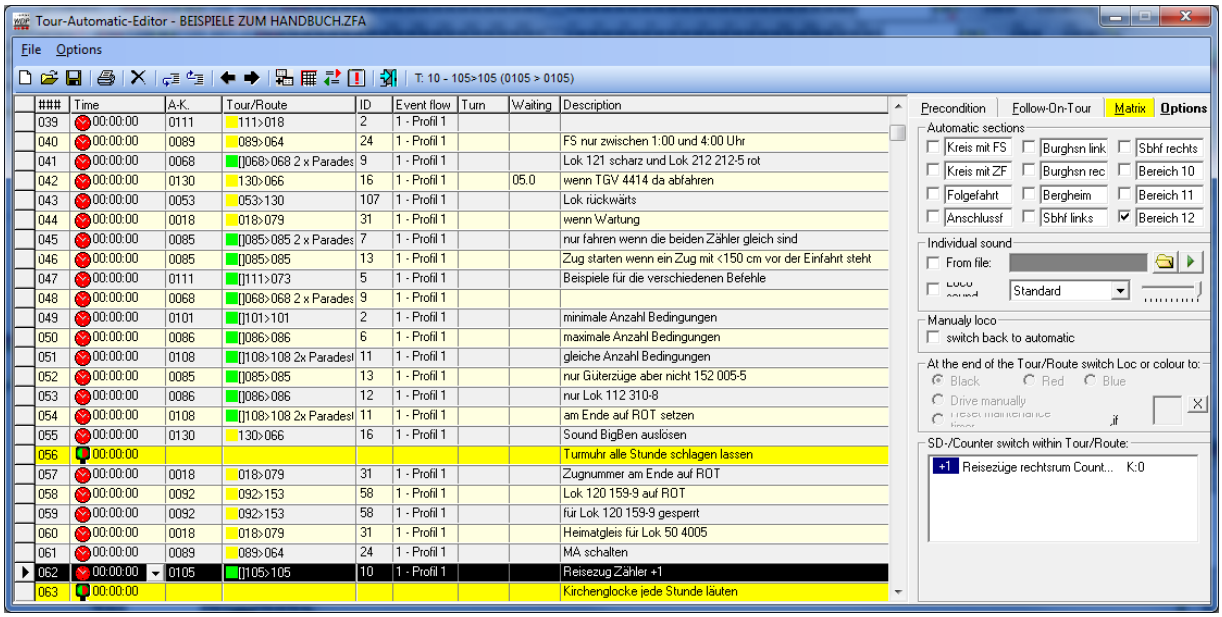


11.12.6 Counter change at tour/route

You can use also counters in the options of the tour automatic, you only have to drag and drop the counter symbol from the track diagram to registration field on the options card of your tour automatic editor.

By clicking with the left mouse button you can change the way of counting to +1, -1 or predefined fix value (00). To set this predefined value click with the right mouse button on the registration field containing the counter in the tour automatic editor.

After selecting the way of counting, you have to select when to count, this can be done in the same way as for solenoid devices.

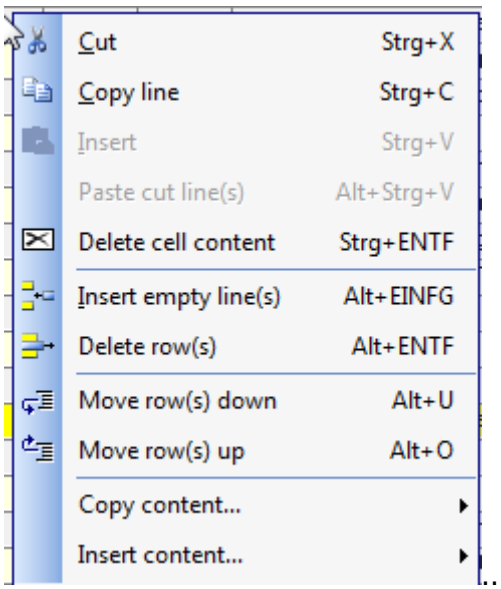


The counter will only be executed when the route/tour of the corresponding tour automatic line contains the selected contact. This prevents you from a counter change in the wrong moment (e.g. your tour has not yet switched the route containing this contact and another train occupies this contact, this will not lead to any counter change).

11.12.7 Inserting, deleting and copying rows

Select in the list the row to edit, then open the context menu of the list by a click with the right mouse button.

The context menu offers you several editing helps, which are quite self-explanatory and similar to standard office applications.



11.13 Saving a tour-automatic-file

After the registration of all data, it's a good idea to save your work. Select the menu command <File> <Save> or click on the symbol in the toolbar of the tour schedule editor.

11.14 Opening a tour-automatic-file

When opening the tour schedule editor the file **edited last** will be loaded and displayed automatically.

If you want to open another file (*.ZFA), select the menu command <File> <Open> or click on the symbol in the toolbar of the editor.

Select a file and confirm you selection via **'*OK*'**.

You can select the four recent accessed files also in the menu <File> without using the normal open-command.

11.15 Renaming a tour-automatic-file

You can rename a changed/unchanged file in the tour schedule-editor. Select the menu command <File> <Save as...> and assign a new file name (see also section **11.3**).

11.16 Deleting a tour-automatic-file

Via the menu command <File> <Delete> or the symbol in the toolbar the actually **loaded** and **displayed** tour-automatic-file can be deleted from your hard disk.
The file will be deleted after a security query.

11.17 Creating a new tour-automatic-file

When opening the tour schedule editor the file **edited last** will be loaded and displayed automatically.

If you have never opened the tour schedule editor before, the empty file has the name ??*.ZFA.

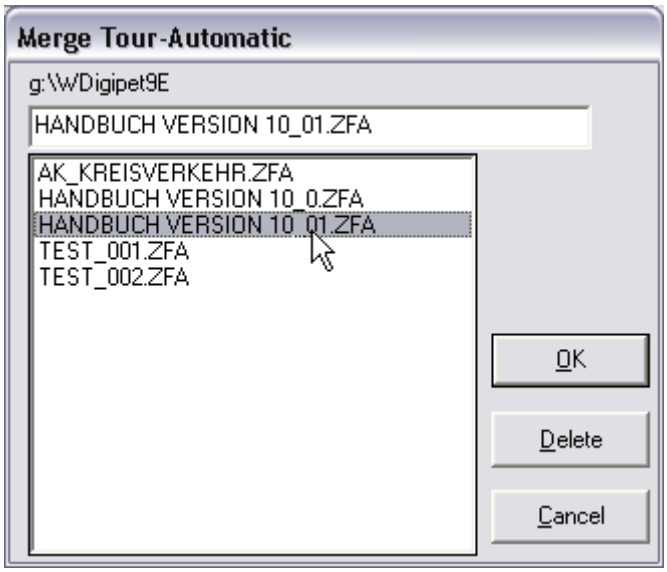
If you want to create a completely new file, select the menu command <File> <New> or click on the symbol in the toolbar.

11.18 Appending a tour automatic file

If you want to append a tour automatic file to the currently opened one just press the button in the toolbar or select the corresponding command in the menu <Options>.

The new window appears.

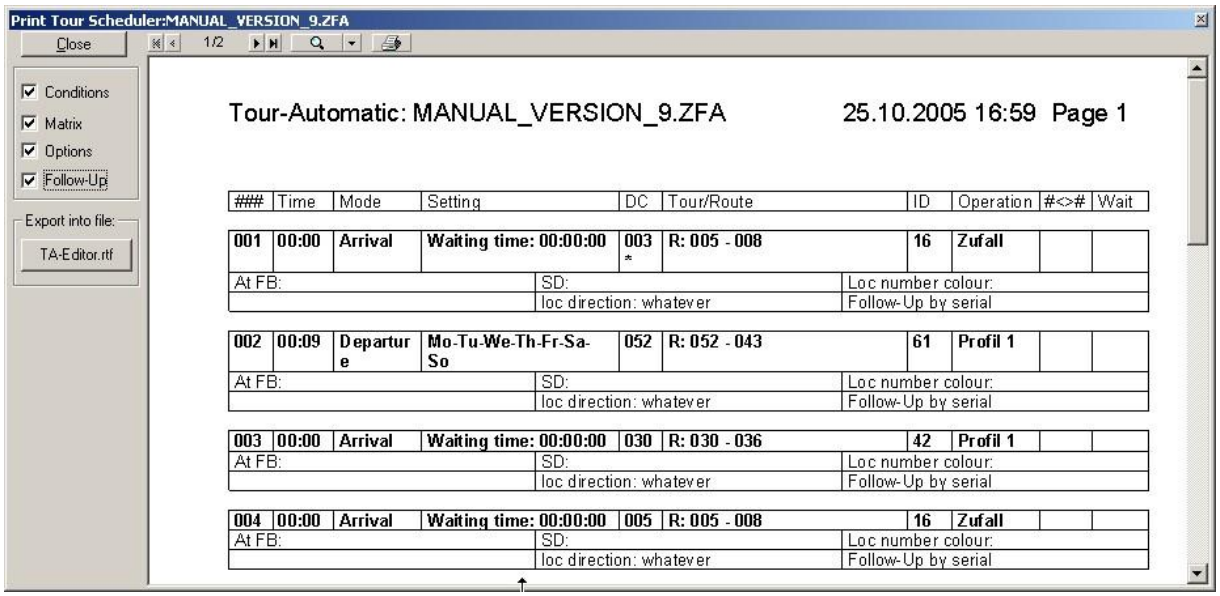
On the left you see the names of all tours created so far.



The data from the selected tour automatic will be appended to the last row of the current tour automatic file. Afterwards you should save the tour automatic as new file according to section **11.13**.

11.19 Printing a tour-automatic-file

You can also print the **display** tour automatic file. Select the menu command <File> <Print> or click on the symbol in the toolbar of the tour schedule editor, the window “Print tour scheduler...“ will appear.



Here you can select if the conditions, the matrix, the options or the follow-on-tours shall be displayed and printed or not.

Before printing a file, you have to save, because otherwise the last changes will not be printed.

11.20 Sorting the list

The rows of the list in the tour schedule editor can be moved with the two buttons in the toolbar of the editor.

Select the row, you want to move up and click on the button displayed in the picture.

With several clicks you can move the row repeatedly.

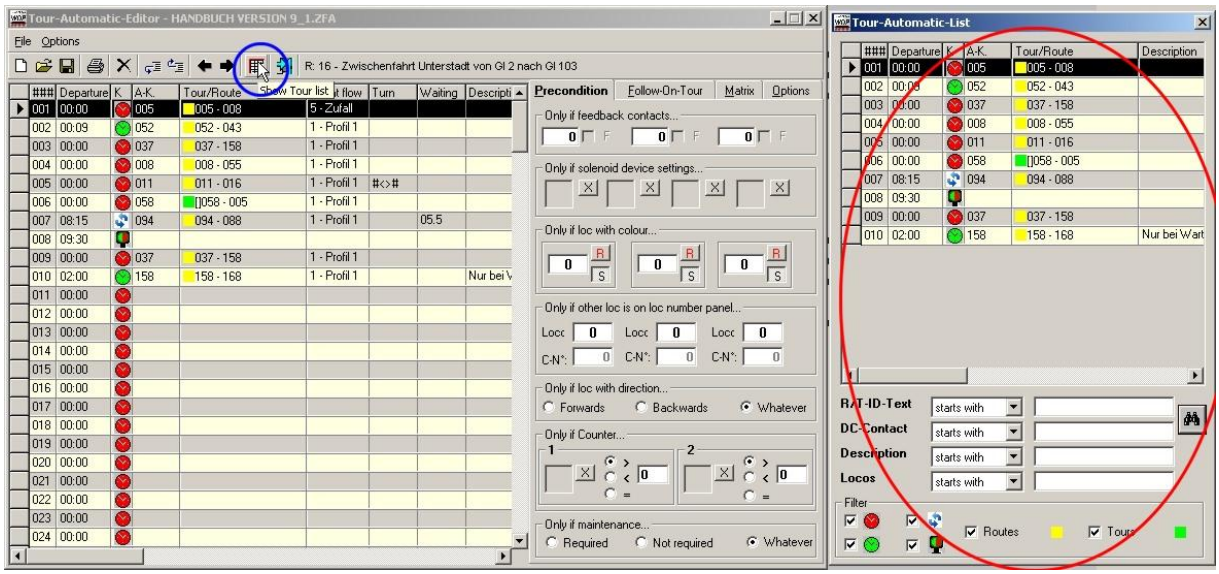
With the button left of this you can move the row down.

Important information!

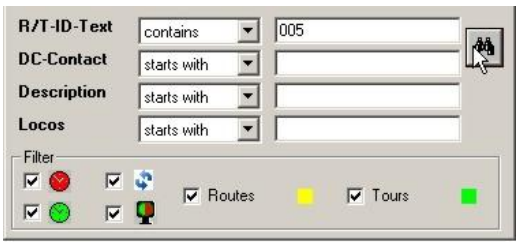
If you have a longer list, the moving process will stop at the top/bottom border of the list. You have to scroll the list before continuing the moving process.

11.20.1 The tour automatic list

The tour automatic list can be filtered very comfortably. This can be opened using the button in the toolbar of the tour automatic editor.



This list offers you several functions for searching and filtering the rows within your tour automatic editor.



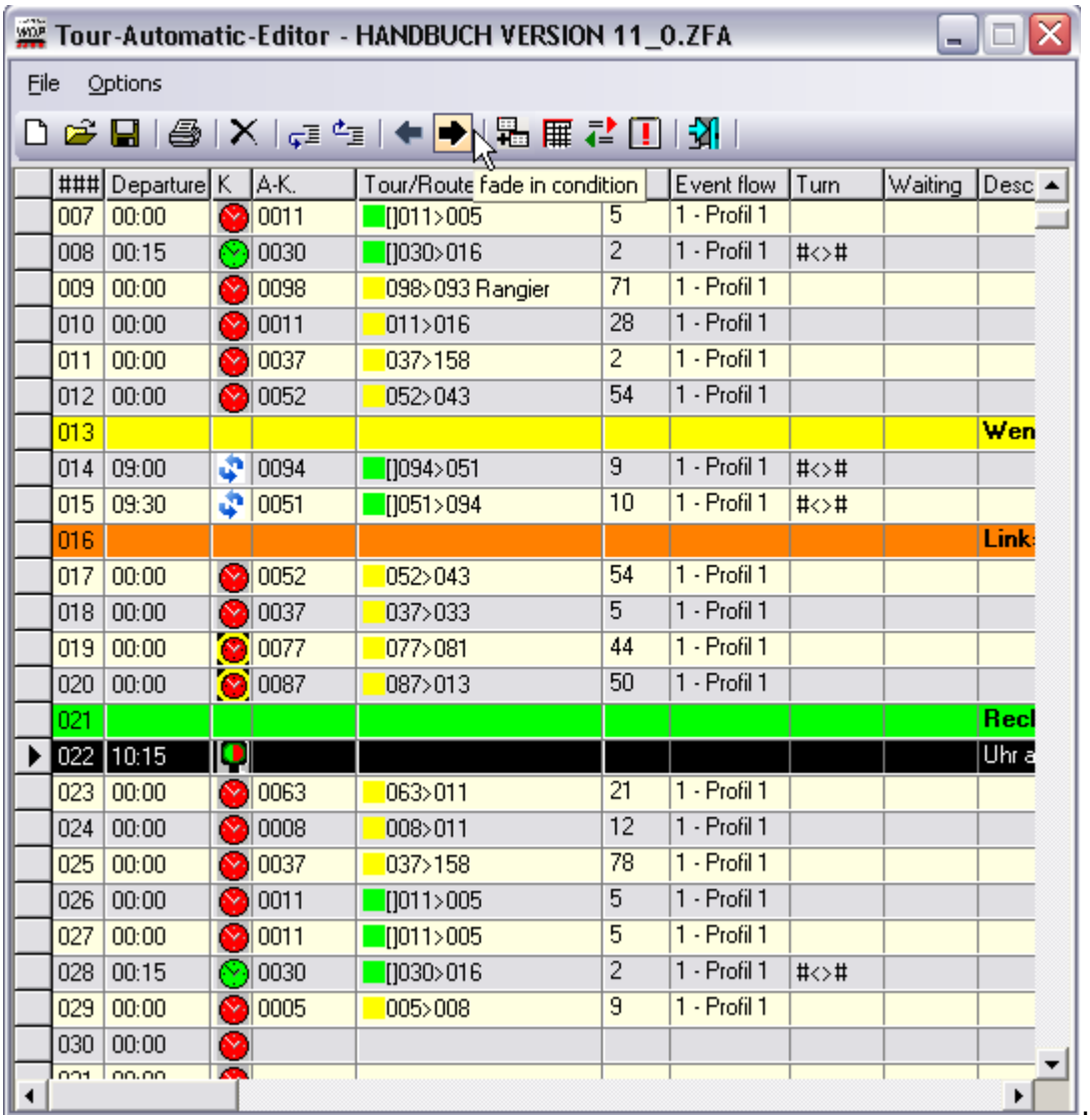
Tip!
For faster working you should arrange the two windows side by side as showed above.

You can confirm your filter selection with the button . Afterwards you can navigate to the filtered rows and edit the rows in the tour automatic by selecting them in the tour automatic list by clicking with the left mouse button.

11.21 (Un-) Hiding preconditions and options

If you don't need the four index cards (preconditions etc.) of the tour schedule editor you can hide them with a click on the button in the toolbar of the editor.

If you want the index cards do be displayed again, click on the reverse button as shown in the picture.



11.22 Influence of row order to the way of execution in the automatic

If you register several rows start at the same contact in the tour automatic and all registered routes or tours could be switched (because they are all free for example) then the following row will be executed:

When using sequential check of routes/tours (see **18.15.2**), then always the first registered route/tour for this contact will be used and only when this blocked the next will be taken into account.

When using the random generator for routes/tours (see **18.15.2**), then a random row starting at the contact will be selected and checked.

Now we will take a look at another case: Now we have several rows leading to the same destination or using the same way. For this case we can never say which row will be executed if we do not use additional options.

First of the automatic will check per check cycle one occupied starting contact (resp. the contact registered in the DC-contact-column) and within this point all routes/tours starting at this point in the way described above).

In the next check cycle it will check the next DC-contact and all rows belonging to this DC contact. Which DC-contact will be taken into account is dependent of the settings in the tour automatic execution window (see **18.15.2**). With activated random generator the next checked DC-contact will be selected randomly, in the other case the DC contacts are sorted by their first appearance in the tour automatic editor list.

With the conditions described in chapter **11.10** you exert influence on the selection of the next row which will be executed.

11.23 Miscellaneous options

Via the menu <Options> you'll get access to the following functions.

- **Always display feedback contacts** 

If you want the program to display all feedback contacts in the track diagram **every time** you open the tour schedule editor, select this option.

- **Display solenoid devices addresses** 

If you want the program the program to display all solenoid device addresses registered in the track diagram, you can select this option. Sometimes the addresses can't be read, so you can enlarge the address by pressing the left mouse button over the address (Zoom-Function).

Hint!

If you have checked in the main program the option <Options> <Display info about symbol below mouse pointer > it could be difficult to read the zoomed solenoid device address because of the appearing tool tip.

11.23.1 Automatic locomotive change in conditions and matrix

In some cases it is useful to exchange one locomotive in a timetable by another. You do this manually in a very large tour automatic this isn't very comfortable. **WIN-DIGIPET 2012** offers a possibility for automatic changes of locomotive, which is much more comfortable.

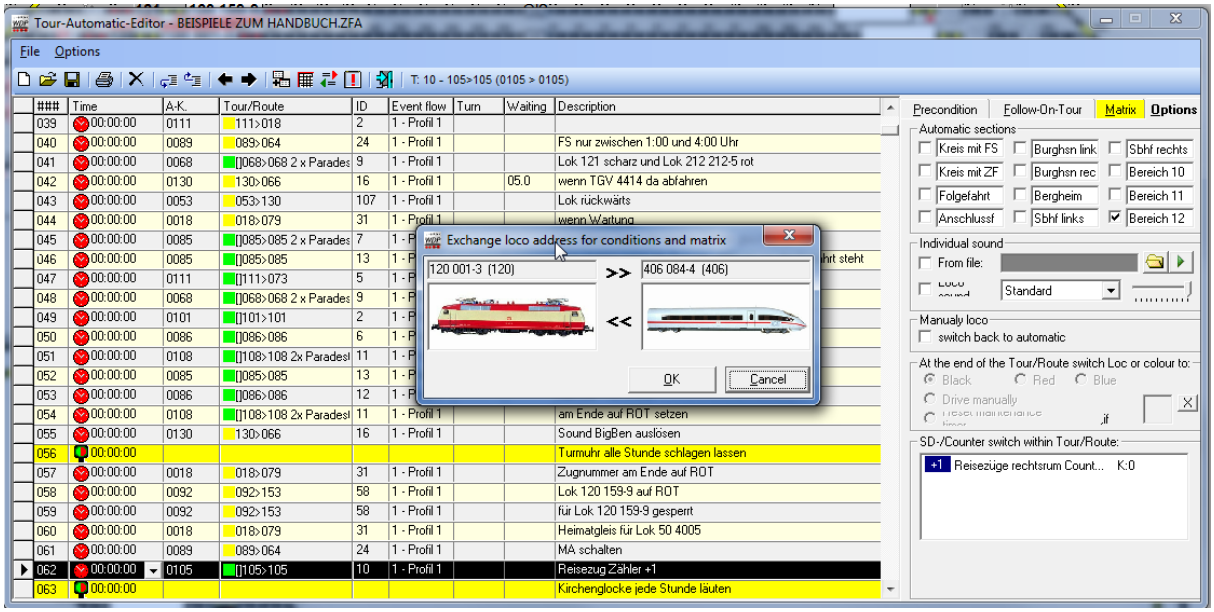
Click on the switch  in the toolbar, if you want to perform an automatic locomotive change.

A window opens. The locomotive **shown on the left** is the one to be changed.

Drag a locomotive to be changed from the locomotive selection bar, positioned by you at a screen edge, to the **left hand** picture field.

Afterwards drag the destination locomotive from the locomotive selection bar, positioned by you at a screen edge, to the **right hand** picture field.

The left-hand side locomotive is changed to the right hand side locomotive throughout the entire tour automatic, if you click **'OK'**.

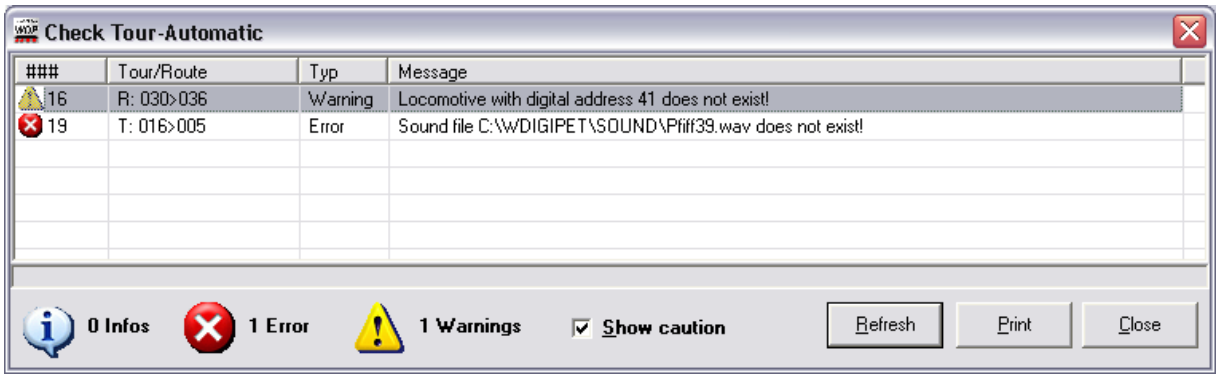


11.24 Checking a tour automatic

If you have problems with your tour automatic or if you made significant changes to your routes, tours, track diagram etc. you should check your tour automatic using the check function for tour automatics.

Open the check function with the button in the toolbar of the tour automatic editor.

The check window will show all messages and is quite self-explanatory.



You can print also all messages from list. If you want to check the errors first you can hide all warnings.

When selecting a message in the check window, the program will automatically navigate to the corresponding dataset in the editor, so that you can correct your data and afterwards actualize the check list.

11.25 Practical tips for usage of the tour automatic

The **WIN-DIGIPET 2012** tour automatic gives you the possibility - as alternative to the inflexible timetable and the automatic with demands contacts – to create also an automatic operation on your model railroad layout with functions taken from both automatics. The timetable plans every train operation very detailed and there is no

room for variation. This means the timetable can be repeated a thousand times and will always behave same. In contrast to this the automatic with demand contacts is never reproducible in all details, because many decisions in this automatic are random decisions. The tour automatic combines features of the timetable and the automatic with demand contacts. Also the tour automatic should be independent from the used locomotive and because of this an exchange of locomotives is much easier than in timetables.

When configuring a tour automatic you should remember the following points:

- As a rule the start contact of the route/tour will also be the demand contact for the tour automatic
- When controlling your hidden station, the start contact of the route/tour should not be the demand contact for the route/tour, because otherwise the hidden station will empty itself. Here you could use a contact before the hidden station and a train arriving before the hidden station will demand a track to empty itself.
- For realisation of the control of the hidden station you can also use virtual switches. For example the train arriving before the hidden station, will switch it to “green”. The “green” state is used as precondition for the execution of the tour/route for the leaving train and this leaving tour/route will also switch it back “red”.
- Sometimes it might be useful to change the order of rows in the tour automatic. The rows of one contact of the tour automatic are checked one after the other, so you can take influence to the order of checking.
- You should also use the „*Waiting time*“-function, because otherwise your passengers will not have time to leave or enter your trains at the platforms.
- When using repetitions for push-pull-trains on light railways this will cause a very interesting operation.
- You can also use your profiles in the tour automatic, when selecting the corresponded event flow via the radio-buttons. Profiles make for example sense, if you want to play a platform information message/sound before the train will depart.

The tour automatic offers thousands of possibilities for interesting operations. This manual can only give suggestions to you. With your own experiments you will find very interesting ways of automatic operations.

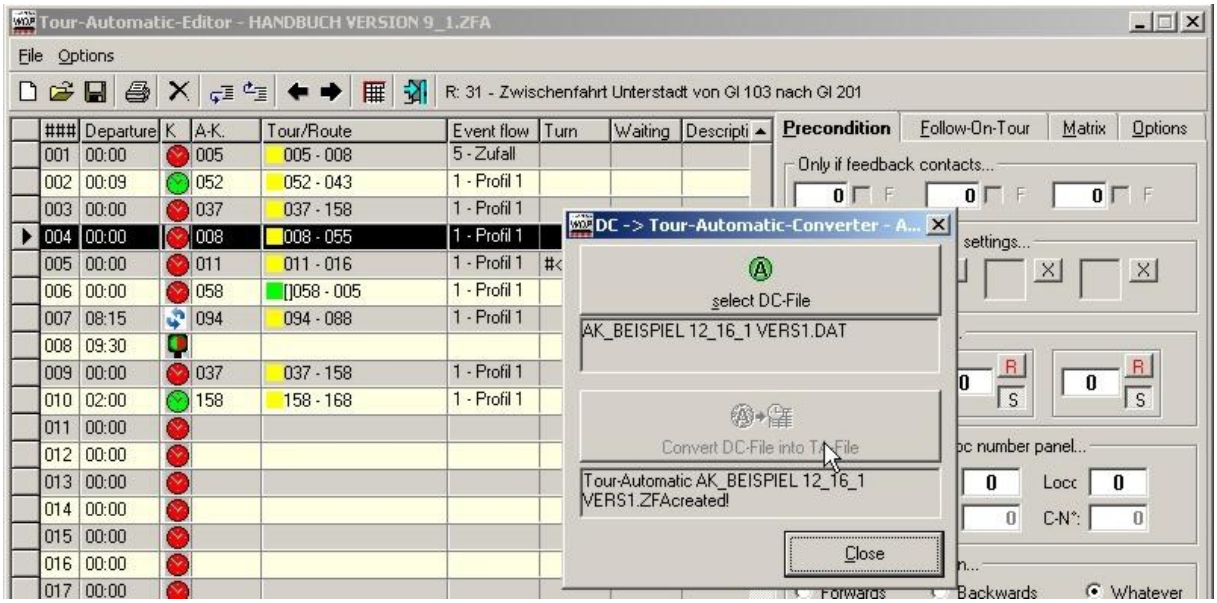
11.26 Converting DC-files to tour automatic files

If you have created your automatic operation with the old demand contact automatic you can easily convert this old automatic to the tour automatic.

Important!
You should always use the check function of the DC-editor before converting a file to the tour automatic.

The converter can be reached via <File> <Convert DC automatic to tour automatic>.

In the converter window you can select a source DC file and convert it to a tour automatic file. It will be converted to a tour automatically with the extension „.ZFA".



Afterwards you can open the converted file in the tour automatic editor as usual.

11.27 Closing the tour schedule editor

For closing the tour schedule editor select the menu command <File> <Close> or click on the symbol in the toolbar.

12 – TIMETABLE SYSTEM, TIMETABLE EDITOR

12.1 General

Through the **WIN-DIGIPET 2012 Timetable System** a practically unlimited number of train and locomotive movements respectively can take place according to your instructions, the **timetables**.

Absolute perfection and total automation- through tedious programming by the user- are deliberately not aimed at. However, **WIN-DIGIPET 2012** is apt to create operating conditions virtually in line with those ideal characteristics.

In the **WIN-DIGIPET 2012** timetable system you can implement various levels of automation on your Digital layout and modify them as you like. It is for instance frequent practice to have train movements controlled by timetables whereas shunting engines are subject to manual control.

On the other hand, shunting operations can also be controlled by or integrated into timetables. There is a wide range of operational possibilities between these two examples.

It is remarkable how fast and easily **WIN-DIGIPET 2012** timetables are created and how comfortably they are handled.

The system uses the data of your model railroad layout, recorded previously and combines them ingeniously. There, complicated and/or time-consuming preparations are not necessary.

Itineraries are recorded **routes**. WIN-DIGIPET routes do not only switch their “own“ solenoid devices, but each route is, beyond that, capable to switch up to **15** solenoid devices (signals, simple and three-way turnouts (no crossings)) at any place of the model railroad layout. This is one of the advantages, which makes the operation according to WIN-DIGIPET timetables particularly flexible and attractive.

To ensure that **WIN-DIGIPET 2012** can detect which points of your layout are just reached by trains/locomotives, you have to use feedback contacts connected to feedback modules. Routes begin at a **starting** contact and end at a **destination** contact. The relevant entries are entered in the route editor (see **8.5** to **8.10**).

In the WIN-DIGIPET timetable system you write the timetables in tabular form on the screen. One **line** of a timetable stands for the movement **of a train/locomotive** along an **itinerary determined** by a starting and destination contact. The train movement starts at a **time** you determine.

In addition to the starting and destination contact you can define up to **20** intermediary contacts and provide each of them with different actions e.g. speed changes, playing sounds, switching solenoid devices. Thus you can make each train movement an individual one.

The lines of a timetable are executed automatically one after another. In case of problems, delays or interruptions with timetables-events which happen on the model railroad layout (and in the real world)-, corrective measures for a quick return to normal operational conditions are available in **WIN-DIGIPET 2012**.

In summary, the **WIN-DIGIPET 2012 timetable system** controls the train movements **precisely** according to time **and itinerary**. Therefore, the stop sections at signals can be omitted/non –operational, in open, well accessible layout sections that are integrated into the operation with timetables. Such signals are only a visual feature.

12.2 Recording the first line in a timetable

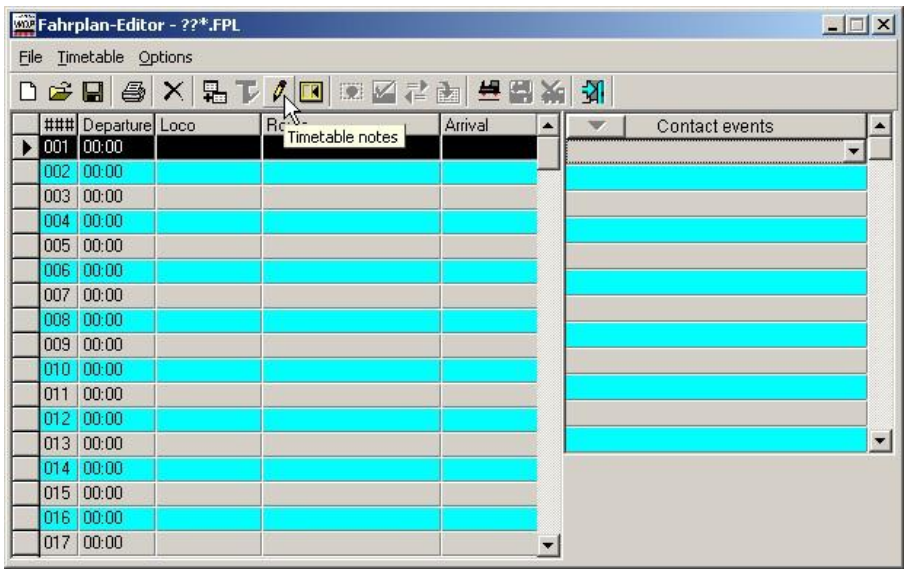
You can create an unlimited number of timetables. Each timetable can have up to **800** lines. You can set the maximum lines in the system settings. Using the possibility to append another timetable you can even create a timetable with an unlimited number of lines.

Click in the main menu on the <File> <Timetable editor> or on the switch in the toolbar.

The list window of the timetable editor is displayed in the track diagram

As soon as you click at a line it will get black underlay.

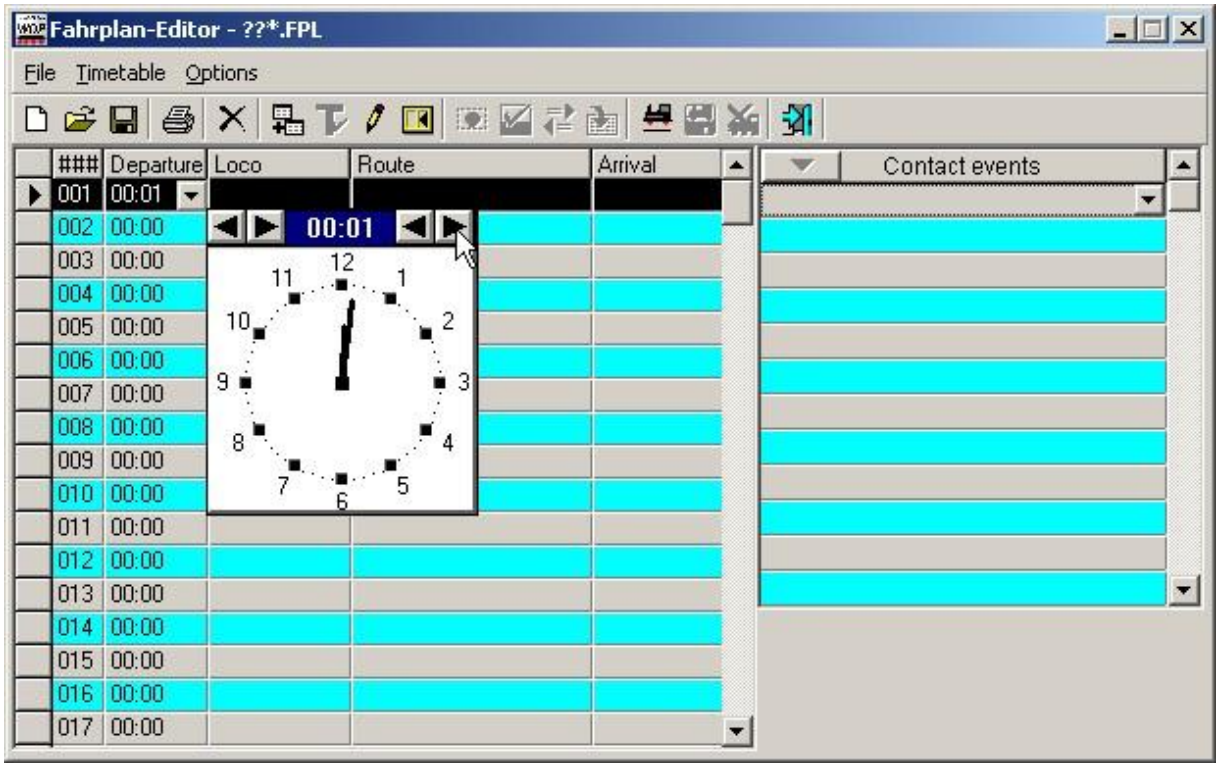
If you click at a column within a line, a selection panel with an arrow appears.



If you move the mouse over the symbols in the toolbar, tool tips appear for explanation of the symbols.

12.2.1 Time, locomotive, route, arrival time

In each line you have to enter data in the columns Time, Locomotive and Route, otherwise the line can't be executed.



The **first** column in the timetable **"###**" gives the consecutive number of the line.

In the **second** column **"Time"**, enter the starting time of the first train movement. Click on the time "00:00" and then on the selection arrow which appears. A clock to set the desired starting time appears.

Set the hour hand with the right mouse button and the minute hand with the left mouse button. You can also set the hours and minutes with clicks on the upper left hand/right hand arrows. The starting time set is displayed above the dial and in the second column in the timetable.

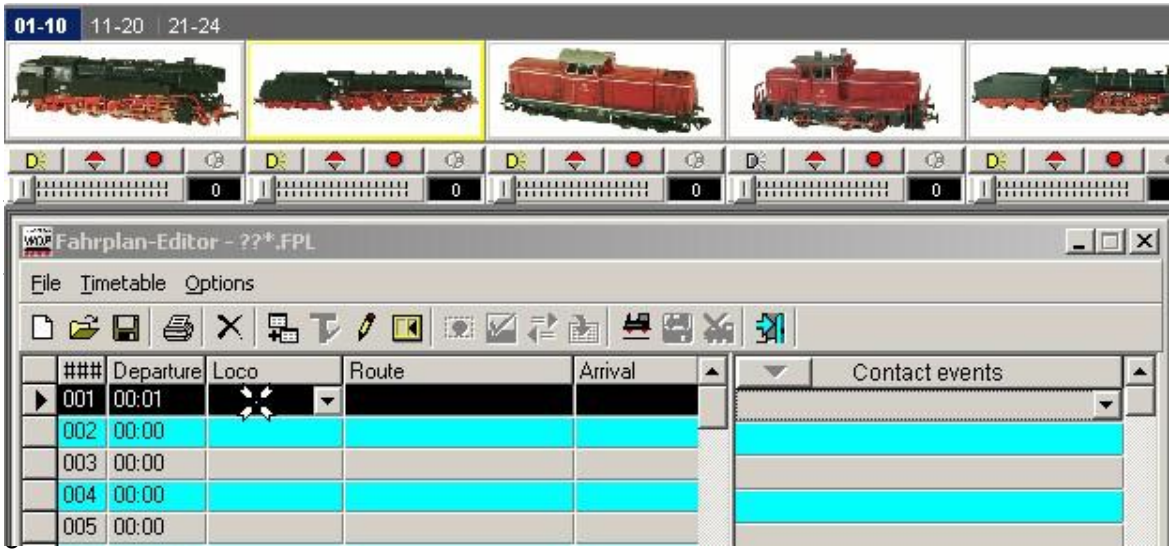
The time range extends from 00.00 hours to 23.59 hours. Timetables may not run through midnight, e.g. 22.10 hours to 03.44 hours is not permissible.

The "Model railroad clock" of a timetable starts running always **one minute prior** to the starting time of the relevant timetable. Therefore, if you want a timetable to begin at midnight, enter the starting time as 00.01hours- not 00.00 hours- in the first line.

Once you have set the starting time, click on the numbers in the second column of the timetable. The clock disappears.

When creating timetables, you have to two ways for entering data. The first method is the faster one.

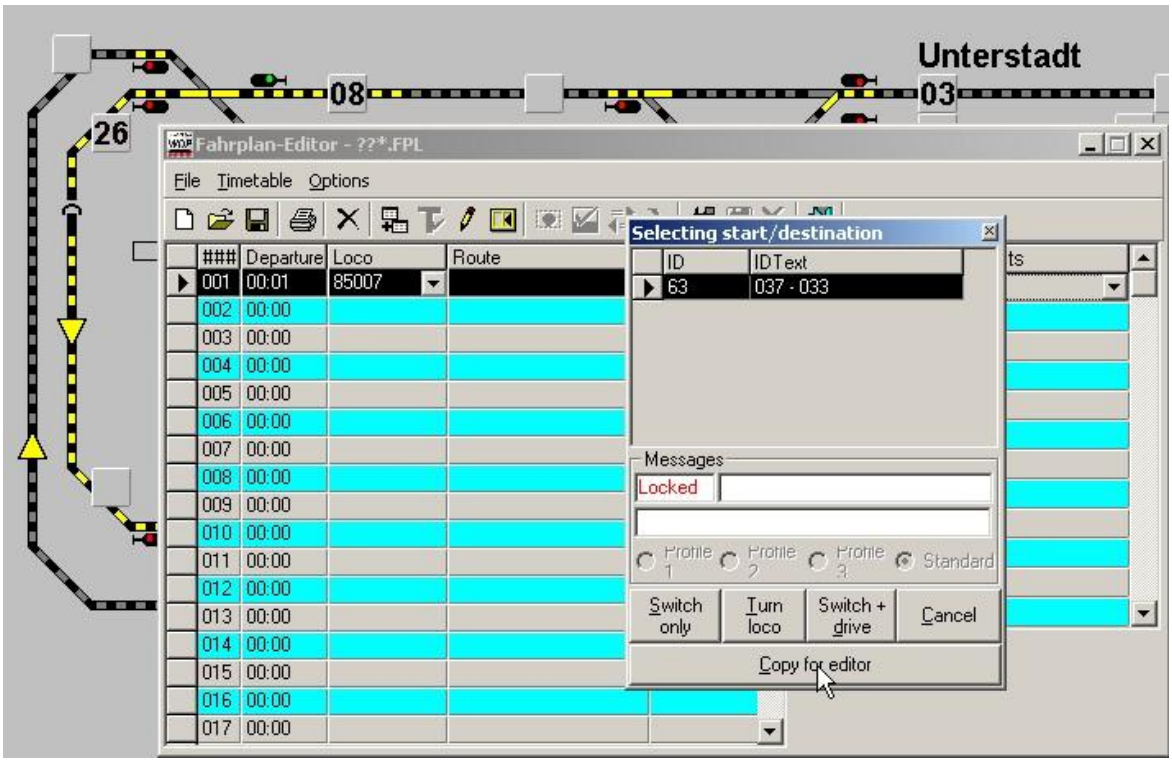
1. You can make **fast recordings** via the locomotive selection or the locomotive controls and the track diagram.



ture of the loco (locomotive selection or loco control), drag it, with the right mouse button depressed, into the column "*Loco*" in your timetable. Release the right mouse button. The picture on the loco is now displayed in the lower right corner of the editor.

The desired route is selected via the **start- and- destination function** (see **18.5.1*)***.

Select the current timetable line and execute the start- and destination function. Therefore click first on the start and second on the destination train number symbol of the desired route with the right mouse button.



A window „Start/destination selection“ in a modified form appears. All routes that the system found are displayed with their ID texts and their internal ID number.

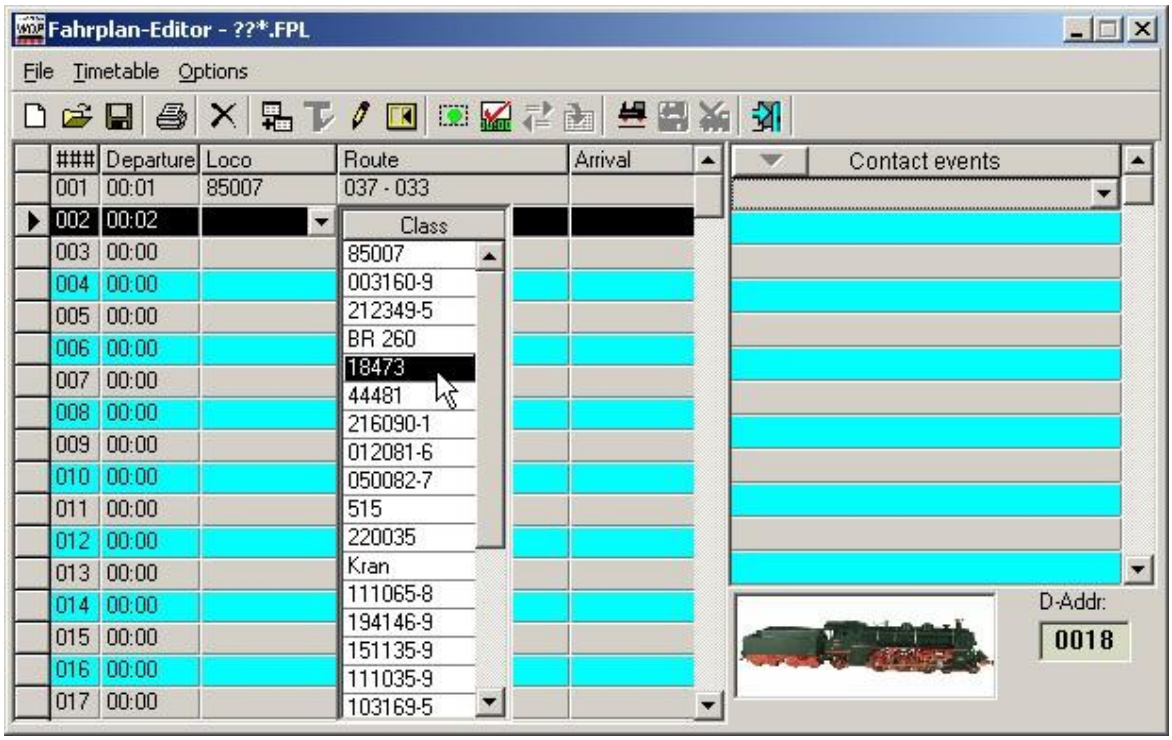
Through a click on its line in the list, select the desired route; it will light up in yellow in the track diagram.

Click on ***'Copy for editor'*** and then on the marked timetable line. This route will be automatically copied into the timetable line below “*Route*”.

Using the second possibility you enter the data via list fields.

2. Using the second possibility you enter the data via list fields.

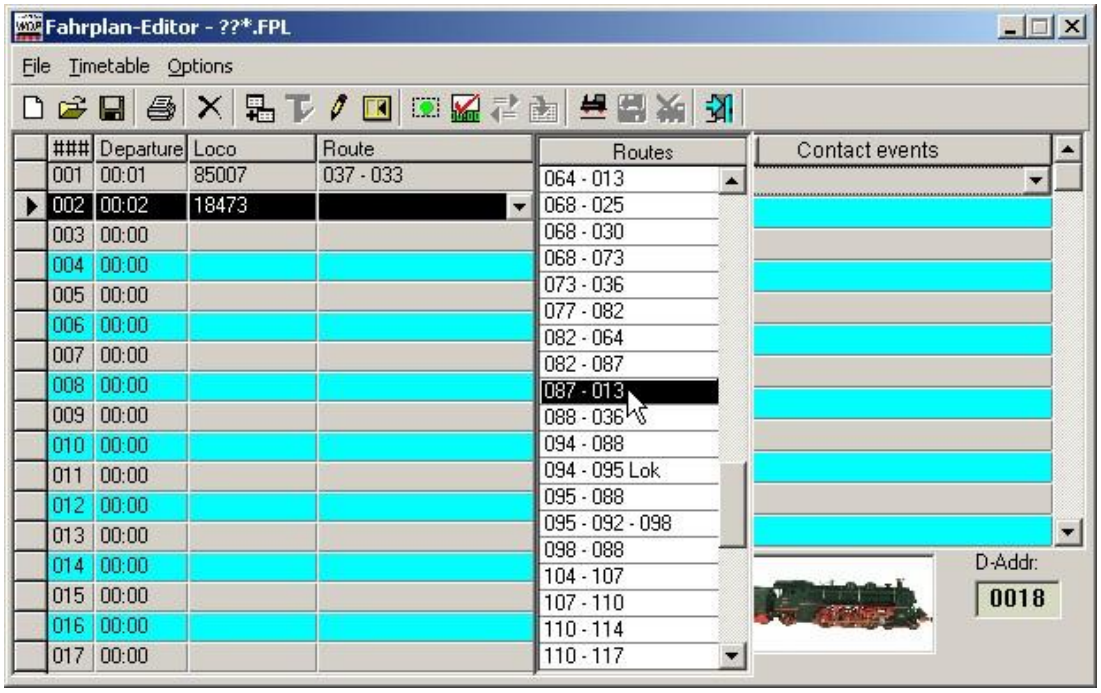
After setting the time click on the line below „*Loco*“ and the selection arrow appears. All locomotives to which you had assigned the category “*On layout*“(see chapter **5**) are displayed with their class designations.



Click once on the class designation: Its picture appears at the bottom right. Double-click on the class designation: It appears in the third column of the timetable.

In the fourth column *“Route“* you enter the route to be switched for this train movement. Click at the line below *“Route“* and at the selection arrow appears. A list with the ID texts of all registered routes appears.

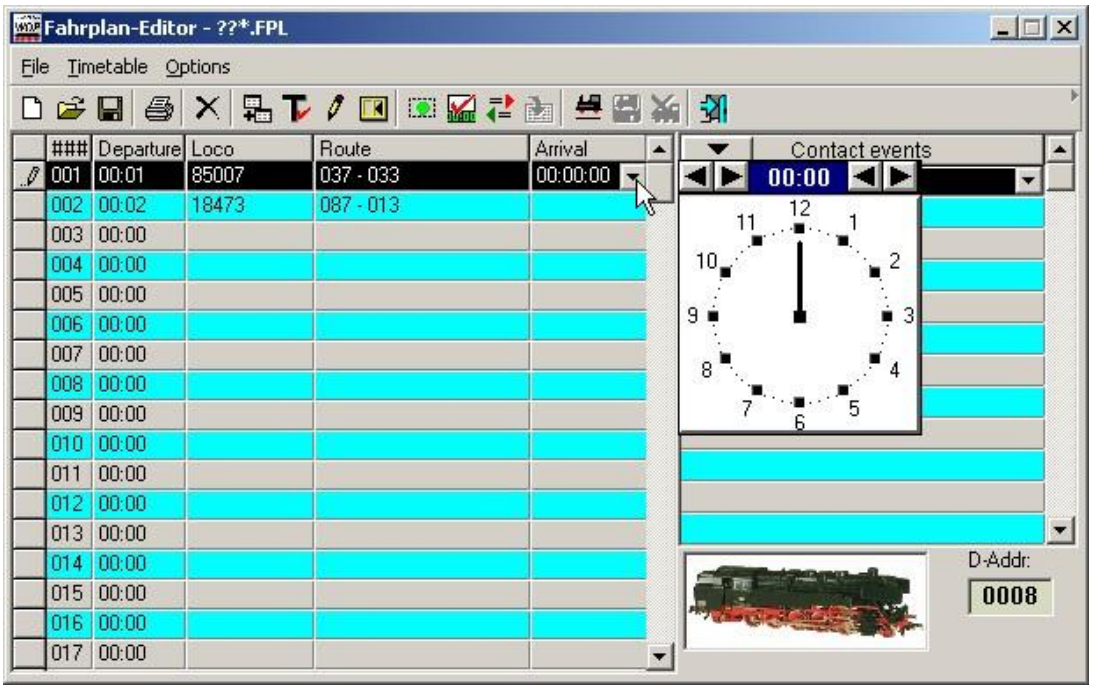
Click once on the route: The route is displayed in the track diagram.



If you selected the desired route, double-click on the selected route: It appears in the fourth column of the timetable.

The arrival time will be automatically allocated into this column *"Arrival"* after the timetable line has been tested and the arrival time is calculated. You can determine when the next departure of a train can be planned, using this function.

You can change the arrival time manually. Just click at the corresponding listing arrow of that column and a clock will appear, similar as for departure.



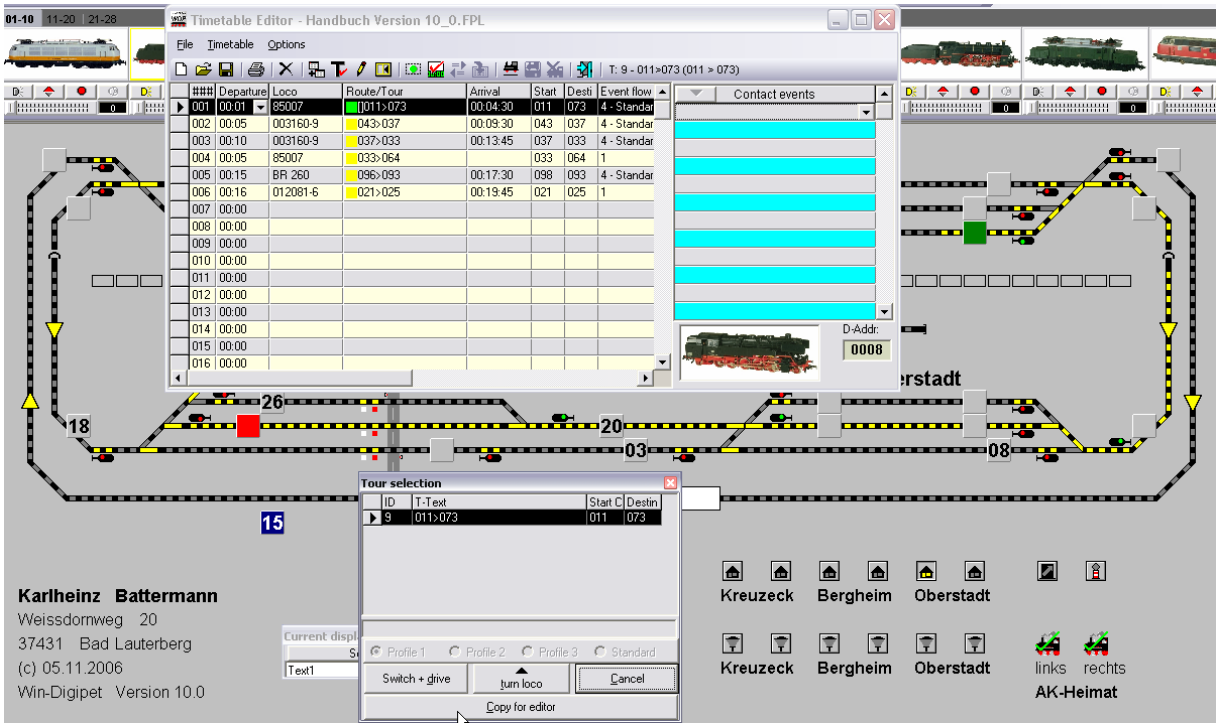
The timetable will still be operational, even though none or only some timetable lines are present and tested. The list window *"Arrival"* will be empty. All entries in the timetable must be correct; otherwise the timetable will not work.

The timetable will not be operable before contact events have been registered in the right list.

When registering tours no contact events can be entered, therefore the contact event list is disabled for tours.

12.2.2 Registration of tours in the timetable

You can also use tours instead of routes in the timetable editor. The columns Departure and Loco have to be filled according to **12.2.1**.



Now you can register tours that have been created according to section **9.2**, with the start/destination-function for tours and **'*Copy for editor*'**. A tour list as for routes does not exist.

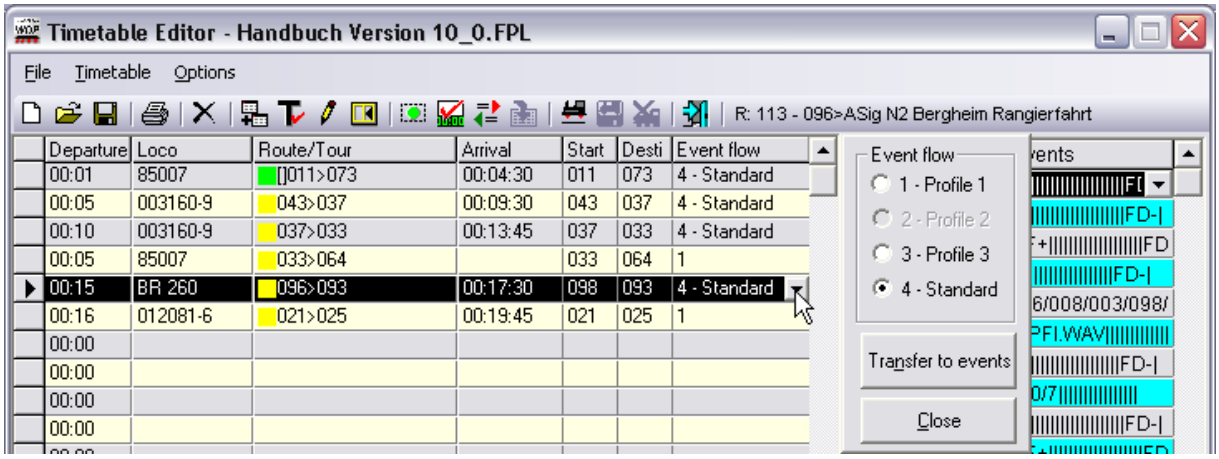
For visual separation of tours and routes, they get a green or yellow square within the list.

Tours don't provide contact events, because of this the corresponding part of the editor is disabled for timetable lines containing tours.

12.2.3 Event flow

In the column „*Event flow*" the pre-setting from the system settings normally appears according to settings on the index card "Program settings – Profiles".

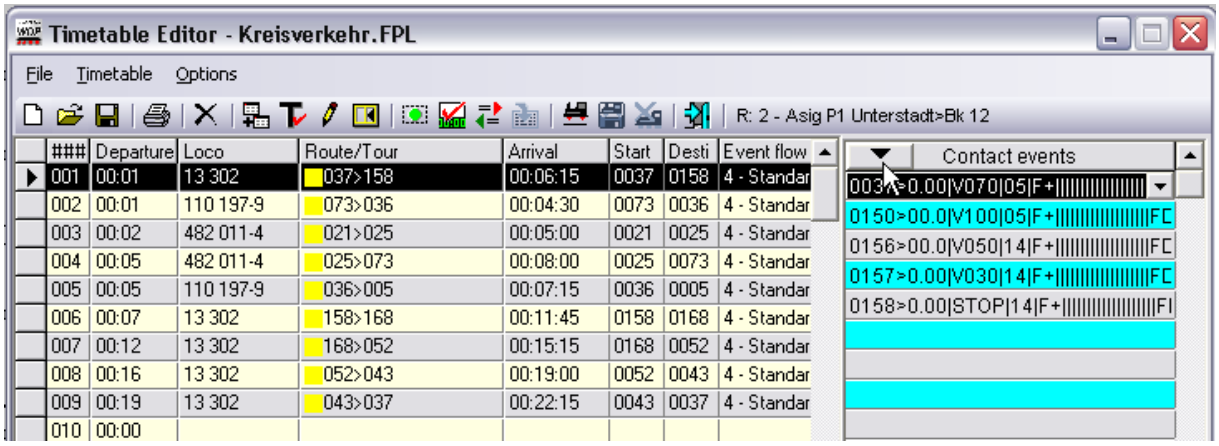
If you create a timetable row containing a route always 4 – Standard is preselected.



If you want to change the event flow, click on the small arrow in this column. In the small window you have for tours the possibility to select the event flow of the tour in this timetable line. For routes you can select Standard or one of the existing profiles of this route and afterwards you can transfer the data of the selected profile to the contact events of this timetable line.

12.2.4 Contact events

After registering of the route, time and locomotive the button Contact events is activated. If you click on this button **WIN-DIGIPET 2012** automatically copies all speed events of the route (from the index card "Start/Brake/Destination" of the routes editor) to the contact events. They are automatically converted to absolute speed values for this locomotive.



This button was introduced to reduce your work, because already registered data is reused from the routes and vehicle database. From the vehicle database also the values for deceleration and acceleration are used.

When using this buttons, empty lines in the contact events don't cause any problems. These empty lines are a result of non-registered data for route contacts K1 and K2 and are deleted after saving.

Be careful!
When editing an existing timetable, pressing this button could cause a loss of data, because your already registered contacts are overwritten.

Above the contact events the ID-Number and the description of the selected route is shown. Underneath this window, the picture and digital address of the locomotive is shown.

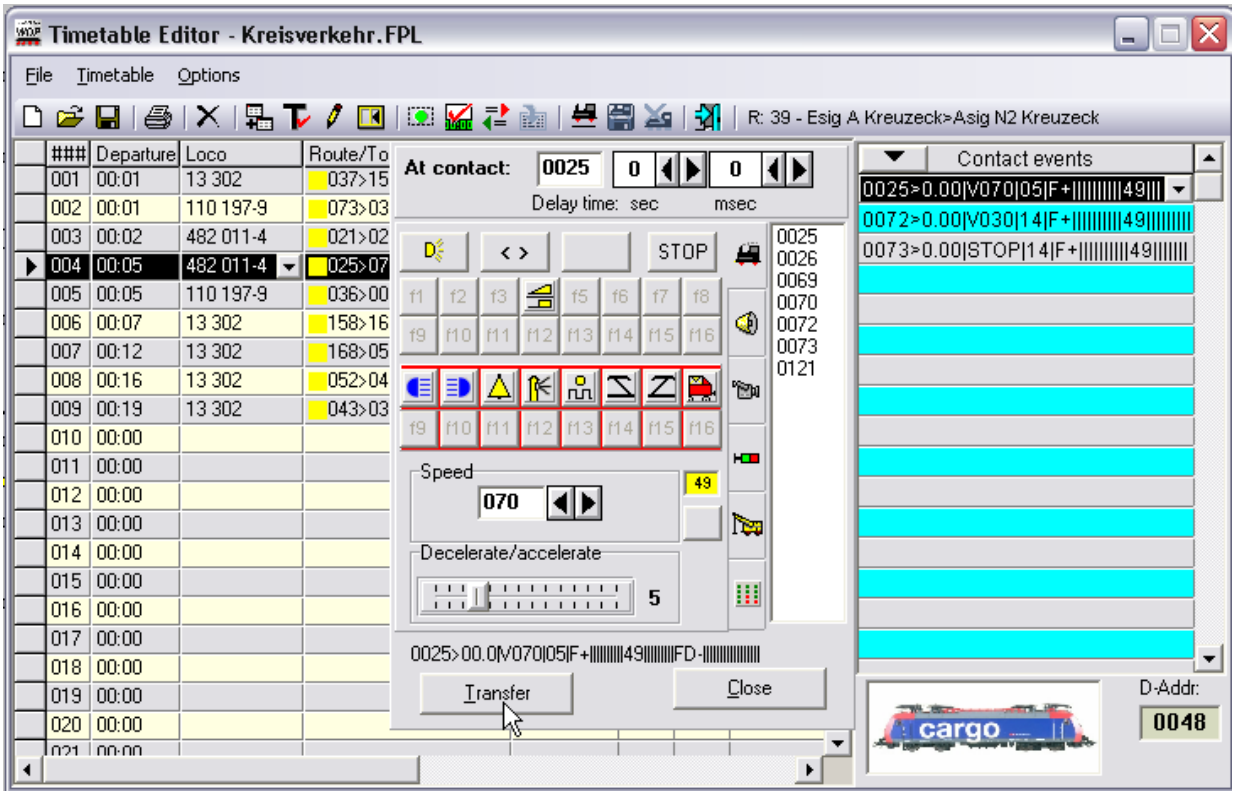
If you click at the picture of the locomotive, its Loco-control will open.

If the automatically created contact events meet your wishes, you can continue with editing the next line of the timetable. Otherwise if you want to change or add contact events, click on the line under “Contact events“ and on the selection arrow which appears.

The window “At contact:“ appears. In this window you set which events should take place when a locomotive passes over certain contacts. Five different types of commands are available.

These are...

- Command to locomotives like speed changes, switch the light etc.
- playing sound-files
- playing video-files
- switching of solenoid devices
- change of loco type
- activating crane commands.

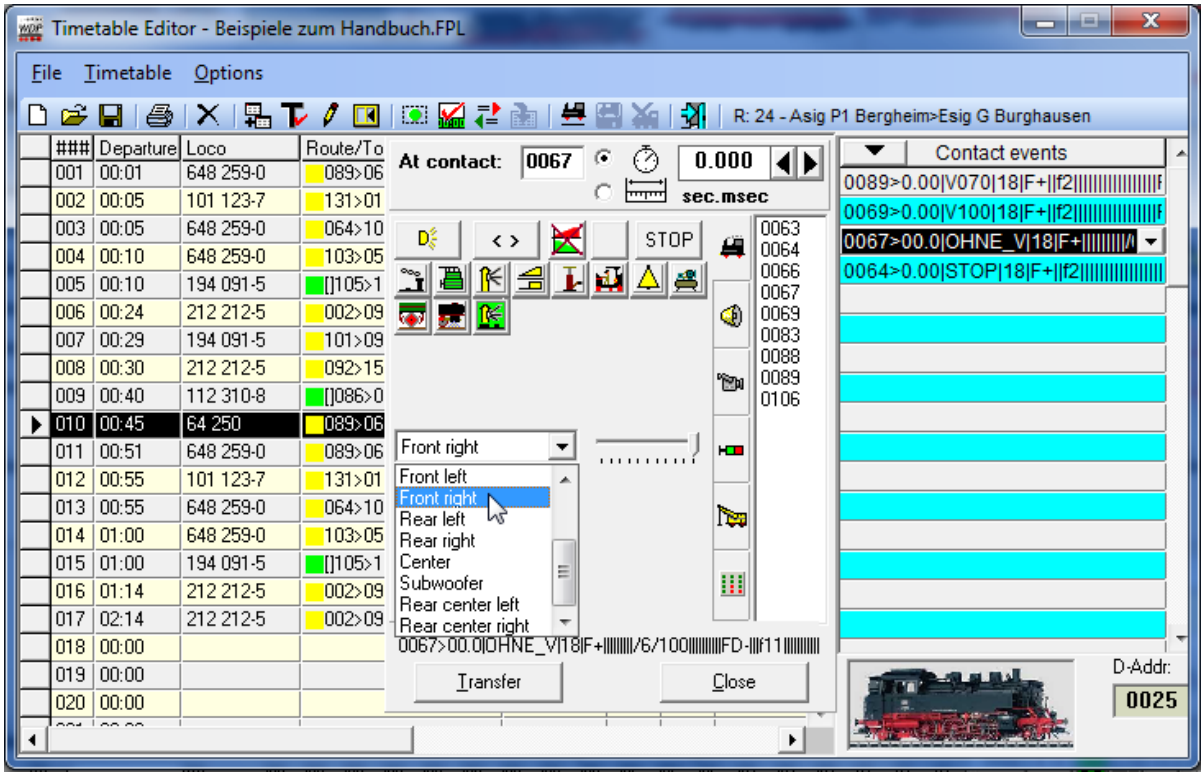


All settings in the contact event column can be made in the same way as described in chapters **10.4** to **10.4.17**.

12.2.5 Sounds assigned to special functions

If you have assigned sound files to special functions within your locomotive database (see **5.5.5**) you can set additional options for their playback for each contact event in your timetable rows.

As you can see in the following picture you can set the playback volume and you can choose which speaker of a multi-channel sound system shall be used for playback.



12.3 Recording of further timetable lines

Double-click on the second timetable line: it will be under laid with a black bar, and the starting time of the first timetable line plus one minute will appear. Thus, you have to adjust the time setting only slightly in order to enter the starting time of the second timetable line.

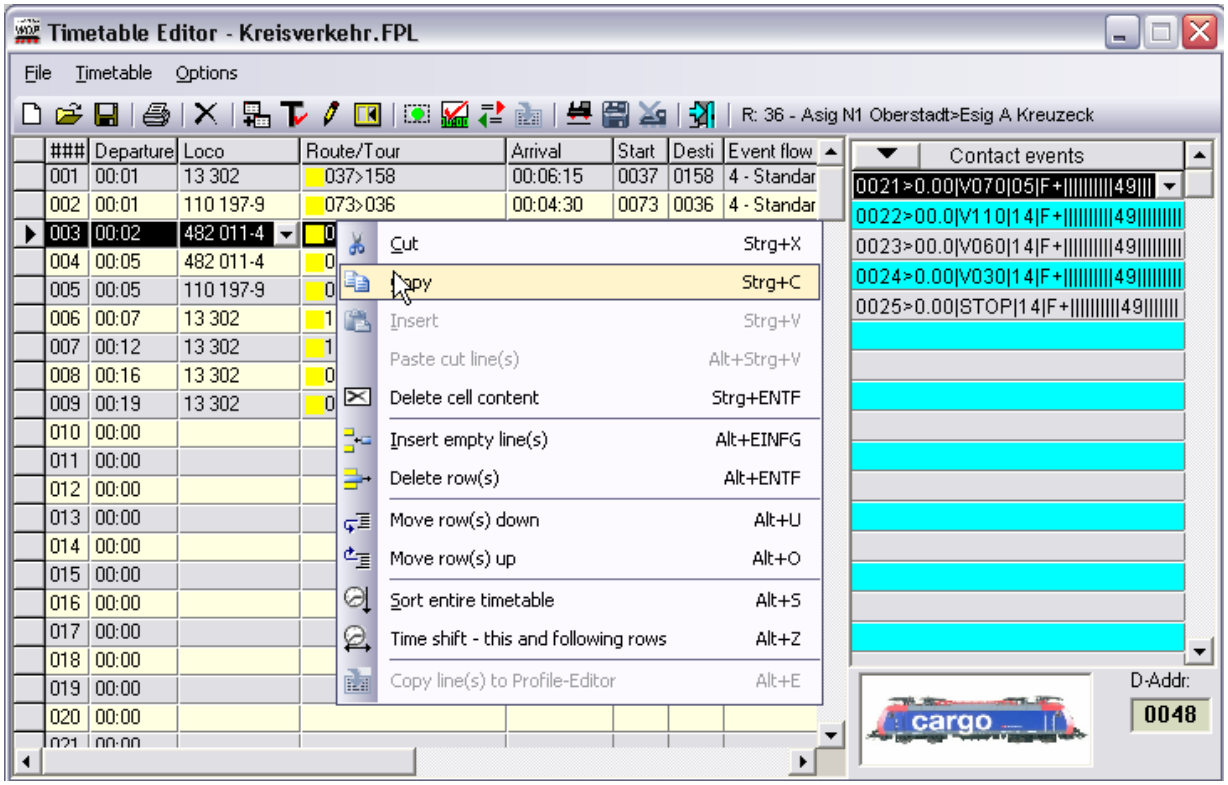
Create your timetable, proceeding line by line, as described above in **12.2**. With that, you can attribute the same starting time to several locomotives so that several train movements can begin simultaneously.

If a locomotive has to travel on two (or several) routes successively, you should allow for sufficient time prior to the timetable line with the next route. Testing your locomotives on your layout can help to find out the time interval required for proper sequential switching of several timetable lines.

12.4 Editing aids

For editing timetable lines in the timetable editor the desired line has to be marked. It will be under laid with a black bar and a click with the right mouse button opens a context menu with some commands.

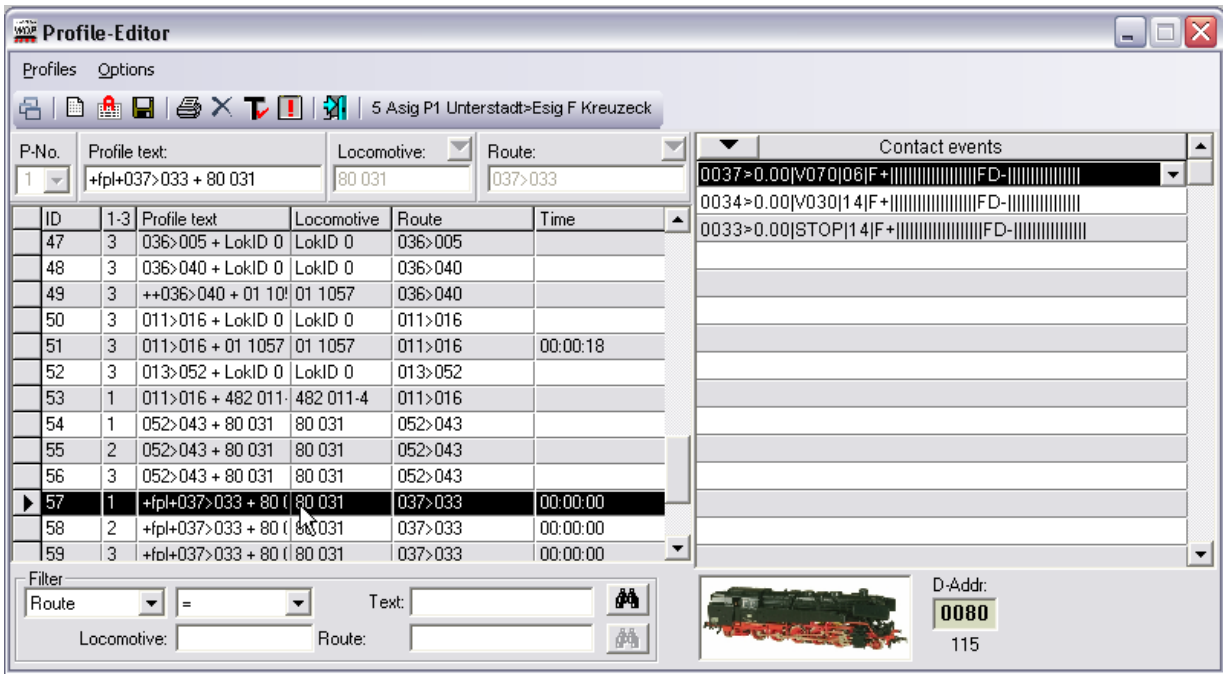
These commands are quite self-explanatory and very similar to used Office applications. You will find there also some commands to make time shifts for the selected or all following lines. In this version of the program you can select single rows the normal way or several rows using click + shift.



Timetable lines can be sorted by **departure time** (right mouse button and <Sort lines>). Therefore you can record an additional line at the end of the list and sort it afterwards.

The last command <Export line to Profile-editor> of the context menu offers the possibility to copy this timetable line to the profiles editor.

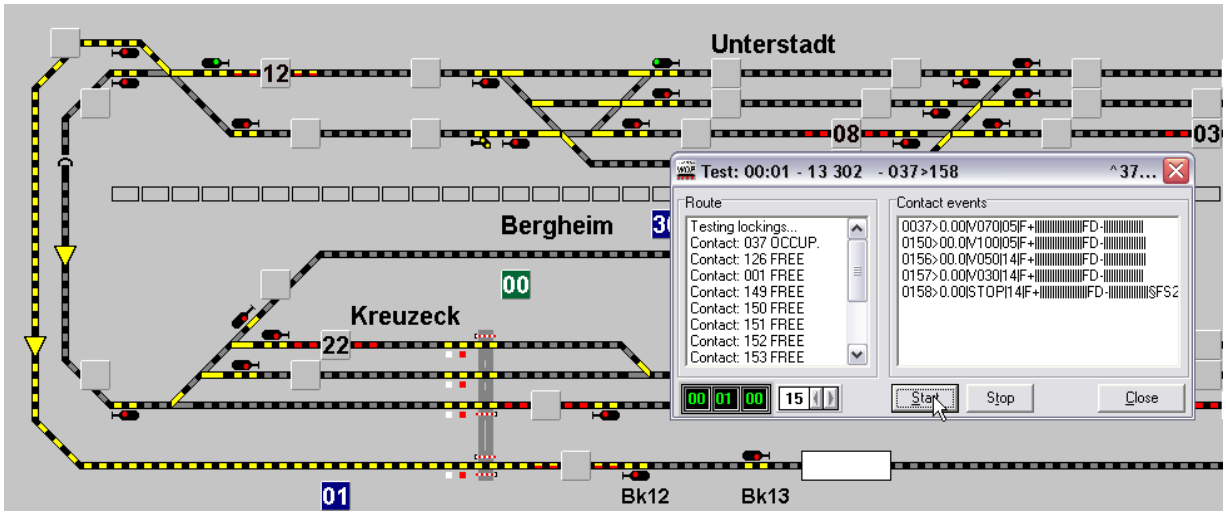
This is a very useful feature if you have many timetables. With this function you save a lot of time and work. This line is added to the profiles database with the prefix „+fpl“.



12.5 Testing timetable lines

Having made the entries “Time“, “Loco“, ”Route“ and “Contact events”, you can test the route at once. Click in the menu ‘Timetable’ at ‘Test timetable line’ or click on the switch in the toolbar. A window “Test“ will be opened.

On the left-hand side you see the switching conditions, on the right hand side the contact events of the route belonging to this timetable line. Further down, a digital clock with the starting time of this route appears. Next to it the time factor model railroad time/ real time is displayed which you had selected in the Basic System Settings.



Please do not change the time factor whilst the timetable is running, as it can disturb the arrival times.

Put the relevant locomotive on the starting contact and press ***‘Start’***. The digital clock starts running, the switching conditions are checked, the route is switched, and the contact events are masked as soon as they have been executed (by the locomotive).

Caution!

If you get the message **”Loco not on starting contact”** the relevant locomotive is not positioned on the starting contact or wrongly positioned.

The further process has already been described in section **10.6** and will not be repeated here.

12.6 Automatic locomotive change in a timetable

In some cases it is useful to exchange on locomotive in a timetable by another. You do this manually in a very large timetable this isn't very comfortable. **WIN-DIGIPET 2012** offers a possibility for automatic changes of locomotive, which is much more comfortable.

Mark the relevant timetable line, within an existing timetable, and click in the menu <Options> on <Loco change> or on the switch in the toolbar, if you want to perform an automatic locomotive change.

A window opens. The locomotive **shown on the left** is the one to be changed**.**

Drag a locomotive to be changed from the locomotive selection bar, positioned by you at a screen edge, to the **right hand** picture field.

The left-hand side locomotive is changed to the right hand side locomotive throughout the entire timetable, if you click **'OK'**.

In the above example, all timetable lines containing the locomotive 012081-6 are overwritten by 220035.

Attention!

This function allows a quick change of locomotives in a timetable. However, please bear in mind, that each locomotive has different running characteristics. You should therefore test the speed settings on the new locomotive.

12.7 Timetable notes

If you click in the menu <Timetable> on <Timetable notes> or on the switch in the toolbar, a small input window opens. There you can insert your own notes about the timetable; they will be also displayed in the main program with the selection of the relevant timetable.

Maximum length of a note: 256 characters; the "CR" key cannot be used for line spacing.

You leave the "Note"-window, by clicking on a different line in the line window.

12.8 Name/re-name and save timetables

Having carried out all entries- and test, if any-, click on <File> and <Save> or on the switch in the toolbar.

If you created this timetable right now and haven't assigned a file name yet (??*.FPL), a window appears in which you assign a name to the timetable (max. **25** chars.); Click on ***'OK'***, and this timetable will be saved.

Via <File> - <Open> you reach the window "Open" in which all timetables saved so far are displayed with their names.

If you want to rename a timetable, select it here, give a new name and save it with <Save as>.

12.9 Delete timetable

Using <File> <Delete> or the switch in the toolbar, you can delete a timetable from your Hard disk.

Prior to this, you will have to reply to confirmation check.

12.10 Print timetable

You can have the specific, active timetable printed out. For this purpose go to <File> - <Print> or via the switch in the toolbar, to the window "Print timetable".

The window is the same as for routes.

The timetable will be printed line by line, including the starting positions of the locomotives and the notes to the timetable.

The starting positions can also be printed separately, using <Options> <Display starting positions> or the switch.

12.11 Creating a further timetable

Via <File> <New> or the switch in the toolbar, you can create a new timetable. The list window "?? *.FPL" opens.

12.12 Appending a timetable

Via the menu <Timetable> <Append timetable> or the switch in the toolbar, you can enter in a loaded timetable, behind its last line, the name of another timetable, an add**-on timetable**. This means, a just finished timetable calls another timetable Instead of another timetable name you can enter the name of the just ended first timetable. It will repeat itself in a loop.

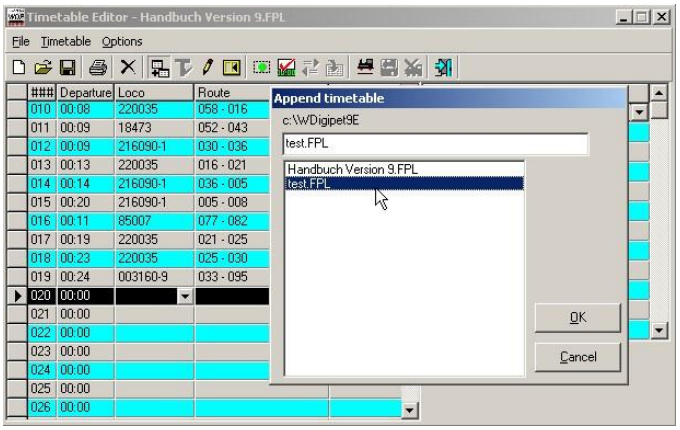
Click in the list window at the first empty line behind the last line of the loaded first timetable and enter a time.

Click on the menu <Timetable> <Append timetable> or click on the switch in the toolbar.

The window "Append timetable" appears.

On the left you see the names of all timetables recorded so far.

Click there at the name of the timetable you want to enter as add-on timetable, then on ***'OK'***.



In the "Loco" column of the activated first empty line of the first timetable an arrow **===>** appears and in the "Route" column the name of the appended timetable is displayed.

12.13 Opening timetables

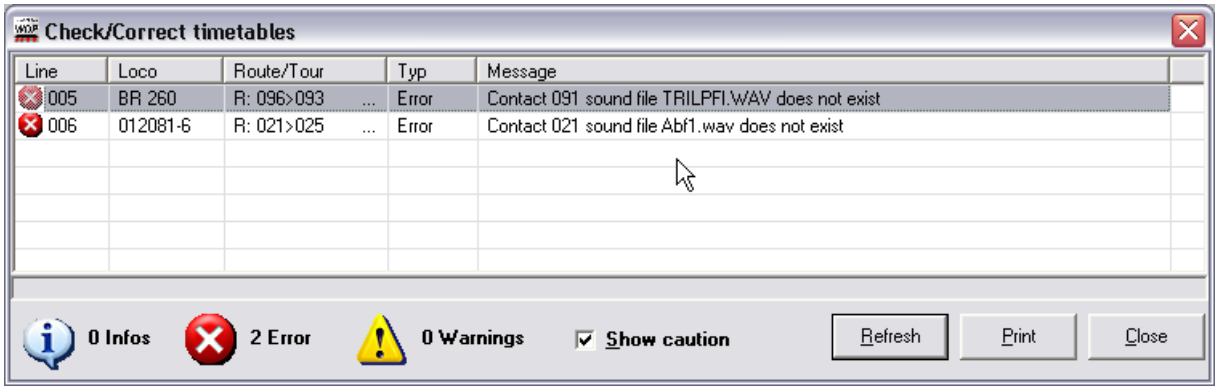
The **last created/modified** timetable is automatically opened when the timetable editor is started.

To open another timetable, use <File> <Open> or the switch in the toolbar. In the "Open" window select the timetable you want to open, click ***'OK'***- the selected timetable appears in its list window on the screen.

The recent four timetables that were active are displayed with their names under <File>. You can load them directly to the screen, bypassing the "Open" window.

12.14 Checking timetables

You can reach this function via <Options> or the switch in the toolbar. **WIN-DIGIPET 2012** will display the check results.



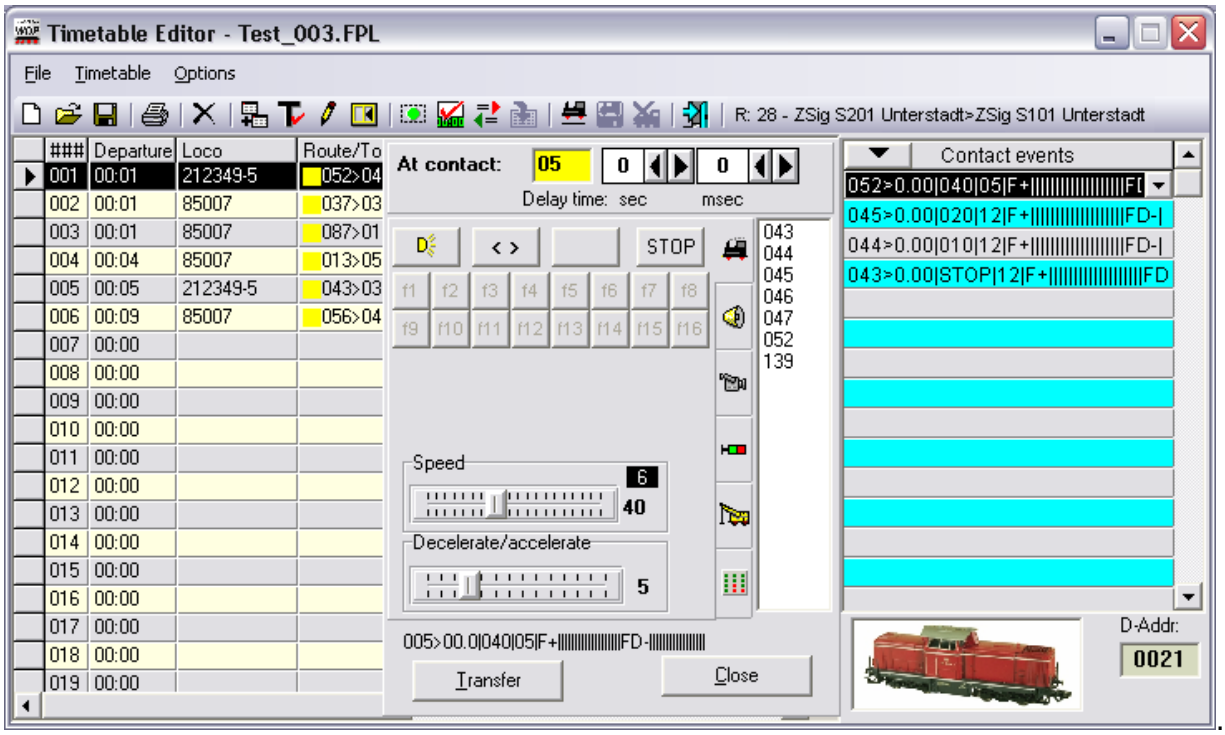
The check window is quite self-explanatory.

You can print also all messages from list. If you want to check the errors first you can hide all warnings.

When selecting a message in the check window, the program will automatically navigate to the corresponding dataset in the editor, so that you can correct your data and afterwards actualize the check list.

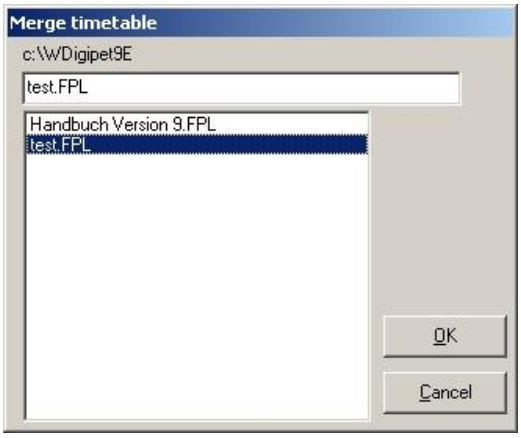
12.14.1 Warnings concerning wrong contact numbers

Similar to the route editor contacts not belonging to a timetable's route are highlighted in yellow.



12.15 *Merge timetables*

Existing timetables can be merged to the current timetable.



At the toolbar, click at the button or the menu <Timetable> <Merge timetable>.

The window "Merge timetable" opens and lists all registered timetables by name. Select the timetable you'd like to merge via a click on its name and confirm with **'*OK*'**.

After you have confirmed with **'*OK*'**, a security message will occur:

The merged timetable will be inserted at the end of the current timetable, in the first empty line after the last line of the actual timetable.

An additional request occurs.

If you confirm with **'*Yes*'** the selected timetable will immediately be merged and sorted by departure times to the current timetable.

If you reply with **'*No*'**, you are able to sort by departure time later on (right mouse click).

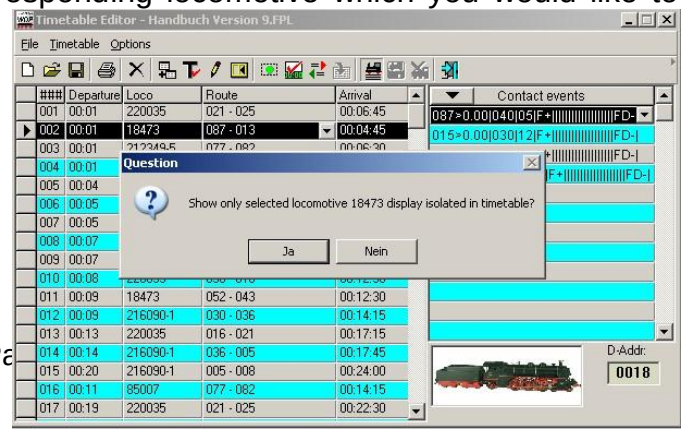
This feature makes it easy to register lines of existing timetables to an overall timetable. This feature also enables you to merge isolated loco-timetables out of existing timetables.

The departure times have to be corrected manually after merging.

12.16 Display of isolated locomotives in the timetable editor

This feature allows you to isolate and show specific locomotives in long timetables, to control or to test each line via the timetable line test.

Therefore click on a line with the corresponding locomotive which you would like to isolate and then click at the button .

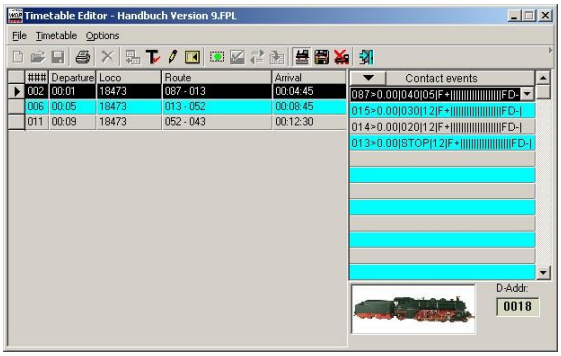


A security message will occur:

After you have confirmed with **'*YES*'**, this specific loco will be isolated out

of the timetable and just the lines with this loco will be shown.

You cannot change the locomotive, but the “routes”, “departure-“ and “arrival times” and “contact events”.



To show the complete timetable again, just click again at the button .

You can also save an isolated locomotive as a separate and new timetable.

This locomotive could be merged to another timetable later on.

Of course you have to correct the departure times again.

The button (next to) is **available only**, if a loco is isolated within a timetable.
If you want to save the currently visible isolated locomotive, as a separate timetable, just click at this button .

12.17 Miscellaneous options

You can access further functions via <Options>.

- **Display starting position** : The contacts on which the locomotives should be placed within a timetable are displayed in this window. This function is inactive as long as no timetable is loaded.
- Always display feedback contacts: Always display FB numbers
  Check this switch to display all feedback contacts in the track diagram at **every** start of the timetable editor.
- **Display solenoid device addresses:** Display solenoid devices addresses
  A check on this switch displays all recorded solenoid device addresses. These numbers/addresses are sometimes difficult to read in the track diagram. As soon as you point and hold the left mouse button pressed at the number/addresses, they will be enlarged (zoom function).
- **Export timetable to profile editor**
  With this menu command or with a click on the symbol in the toolbar you can copy your complete timetable to the profile editor. With this function you can save a lot time in the same way as with the copy method for single timetable lines.

⚠	The last option will only be available when timetable and profile editor are open simultaneously.

12.18 Leaving the timetable editor

Via <File> <Close> or the symbol in the toolbar you can leave the timetable editor.

All solenoid devices will be updated by **WIN-DIGIPET 2012**, after you have quit the timetable editor. This ensures that the correct setting will be shown after you have tested single timetable line.

13 – THE DISPATCHER

13.1 General

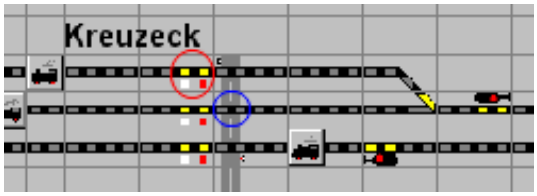
The dispatcher is a very powerful tool, which solves different control tasks:

- Control of a level crossings
- Opening and closing of shed doors
- Lifting/lowering of bascule bridges
- Turntable or transfer table control
- control of distant signals independent of routes and automatics
- sound activation at specific time (e.g. church bells)

The control of a level crossing is described on the following pages.

13.2 Drawing a level crossing in the track diagram

The control of a level crossing will be used to describe the mode of operation of the dispatcher.



Draw a multi rail level crossing in your track diagram using the new symbols 338 (**BLUE** circle).

For controlling the level crossing with the dispatcher use the new virtual switches with symbol number 314 (**RED** circle).

13.2.1 Assigning solenoid device addresses

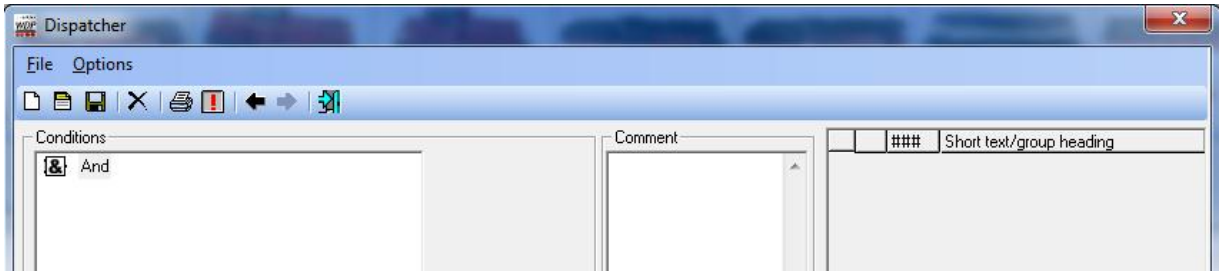
When using multi rail level crossings assign this solenoid device address to all level crossing symbols (not only to the outer ones).

An eventual error message, that you have assigned this address to more than one device can be answered with **'*Yes*'**.

Afterwards you assign to every one of the virtual switches (**RED** circle in first picture) an individual **virtual** solenoid device address, because they are important for the control with the dispatcher.

13.2.2 Opening the dispatcher

The dispatcher can be opened using the button  in the toolbar.

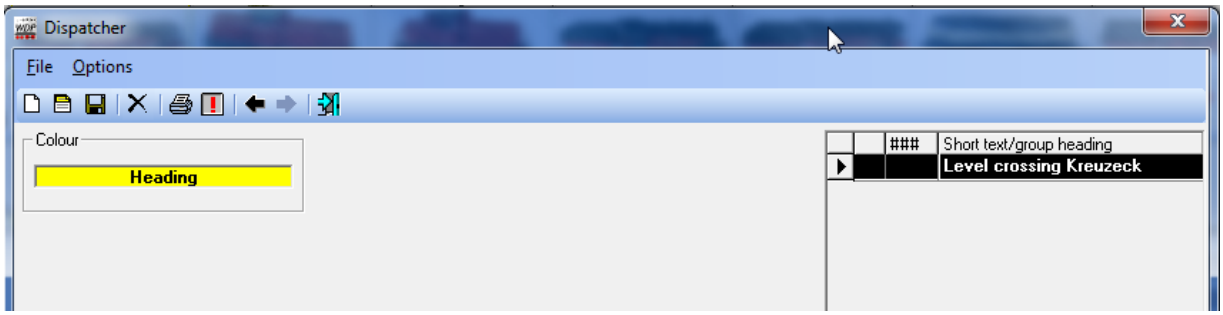


If you have used a prior version of Win-Digipet before you will notice the new face of the dispatcher. The new structure for registering the dispatcher switching actions offers you new extensive possibilities.

13.2.3 Headings in the dispatcher

We suggest to group dispatcher records for similar tasks with in the dispatcher record list. Additionally you should assign to each of these groups a heading describing the meaning of the following records.

For creating a new heading in the list just press the button in the toolbar.

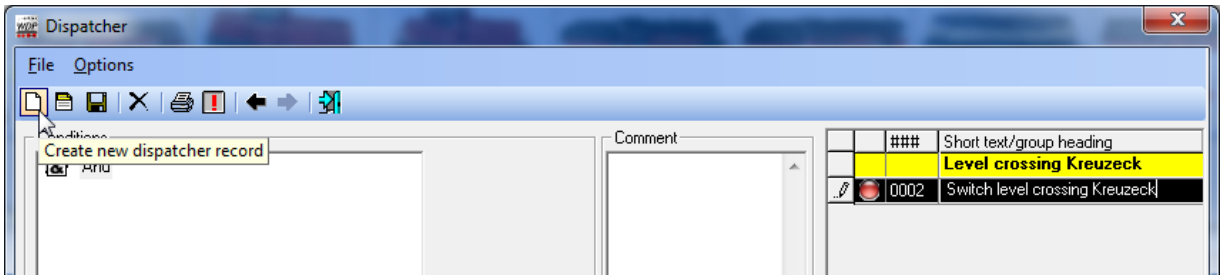


Afterwards you can enter the text in the list by selecting the new heading record and clicking with the left mouse button in the last column until you get a blinking cursor indicating the edit mode.

You can also change the appearance of the heading in the list by changing its fore- and back colour. You can open the colour dialogs by clicking with the left (back colour) or right (fore colour) mouse button into the field “Heading” in the editor.

13.2.4 Creating a new dispatcher record (explained on basis of a level crossing)

For creating a new dispatcher record just click on the most left symbol in the toolbar of the dispatcher.



Afterwards select the column “*Short text/group heading*“ in the table and enter a name for the dispatcher as described in the subchapter before.

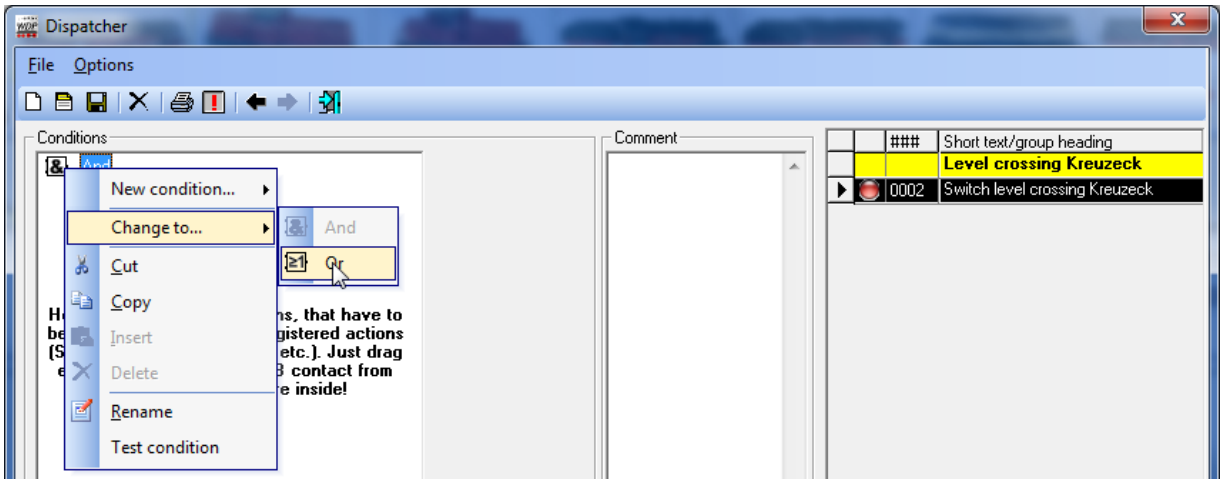
Before making the further registrations you should think about different possibilities for activating your level crossing.

Maybe you want to close your level crossing whenever...

- a feedback contact before/behind or next to your level crossing is occupied
- or a virtual switch is activated.

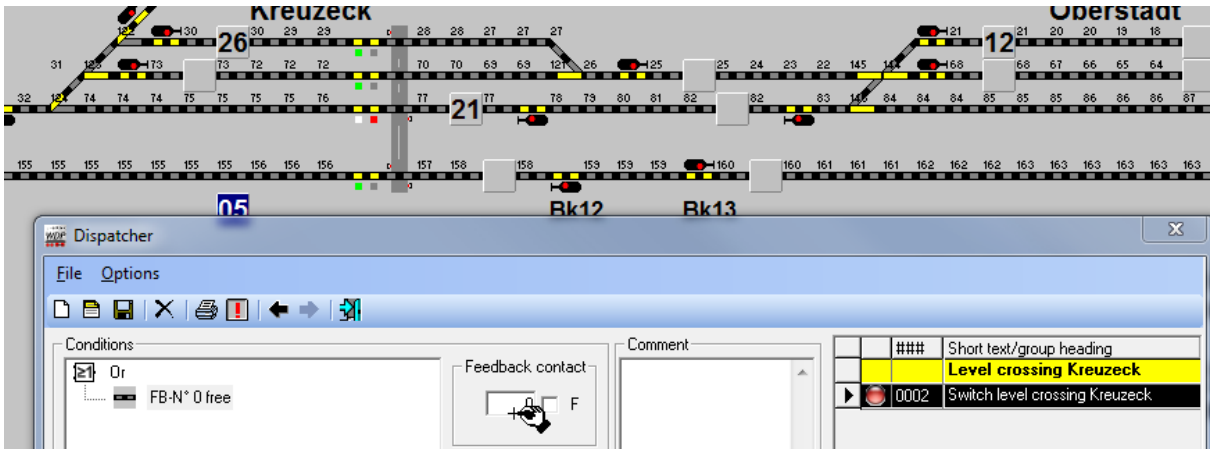
And the level crossing shall open again when all of the listed conditions are false.

Now select the AND- folder in the empty condition tree and open the context menu using the right mouse button and select the command for changing the AND to an OR-folder.



Now you can open the context menu again using the right mouse button and select <New condition > <Feedback contact>.

Now you can enter first feedback contact 28 which is next to the level crossing in the upper track.



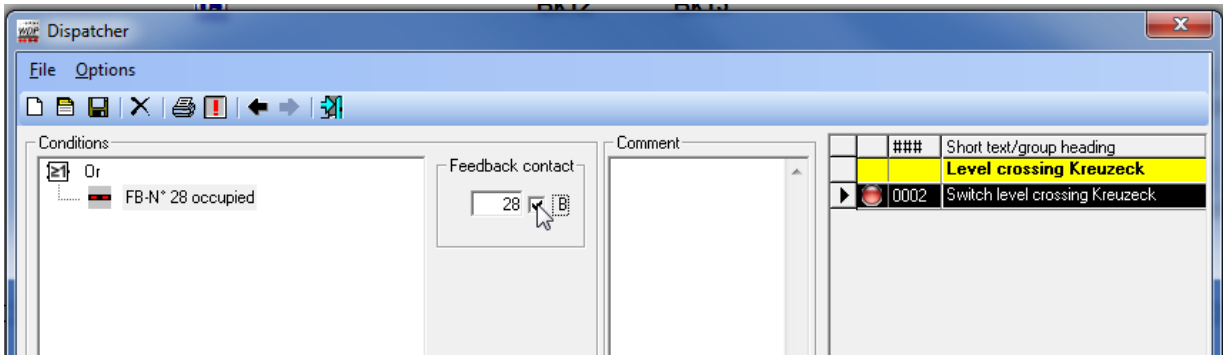
Afterwards you have to check the box next to the input field for the contact number. After making this first registration our condition for activating the switching of this dispatcher record is:

Switch on if

- *contact 28 is occupied*

Switch off if

- *contact 28 is no longer occupied*



Now you can repeat your registrations in the same ways for contacts 29, 70, 72, 77 and 76.

After registering this 6 feedback contacts your condition is:

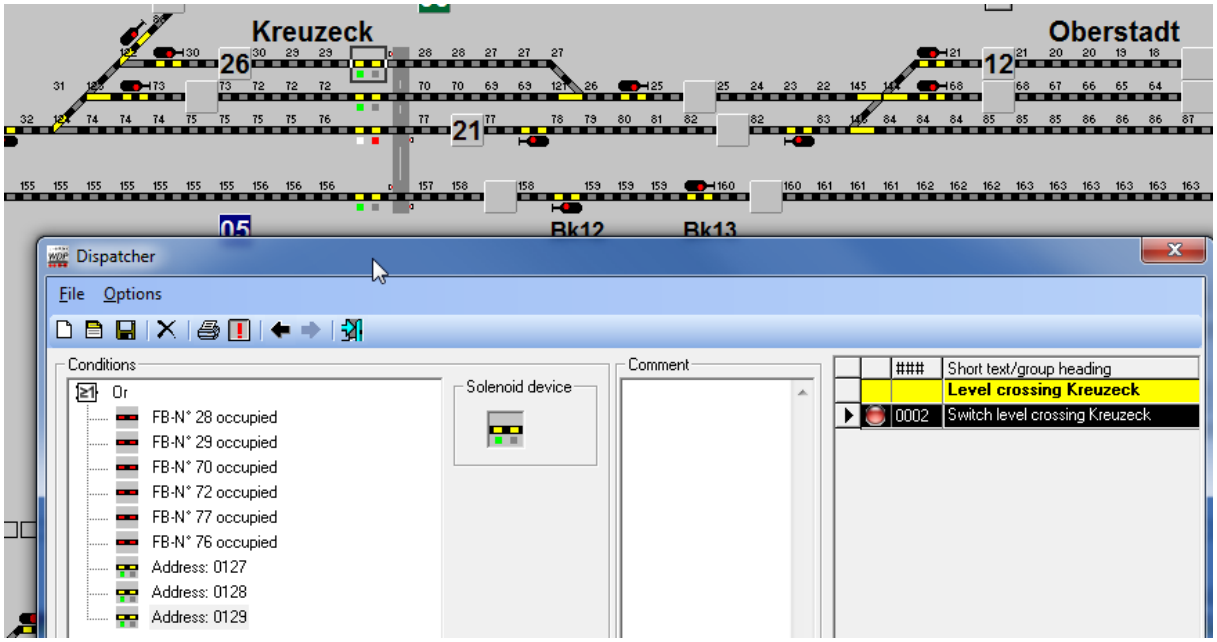
Switch on if

- *contact 28 is occupied*
- *or contact 29 is occupied*
- *or contact 70 is occupied*
- *or contact 72 is occupied*
- *or contact 77 is occupied*
- *or contact 76 is occupied*

Switch off if

- *contact 28 is no longer occupied*
- *and contact 29 is no longer occupied*
- *and contact 70 is no longer occupied*
- *and contact 72 is no longer occupied*
- *and contact 77 is no longer occupied*
- *and contact 76 is no longer occupied*

In the next step do add three additional conditions via <New condition> <Solenoid device/Counter>. Now you can assign to each of these three conditions one of the three virtual switched, that you have installed in your track diagram next to your level crossing according to **13.2**.



Switch each of the solenoid device conditions to the state showing the green lamp, see picture above. The usage of these virtual symbols will be explained in **13.2.6**.

Now the condition for activating the switching of this dispatcher record is:

Switch on if

- *contact 28 is occupied*
- *or contact 29 is occupied*
- *or contact 70 is occupied*
- *or contact 72 is occupied*
- *or contact 77 is occupied*
- *or contact 76 is occupied*
- *or one of the three solenoid devices is switched to green*

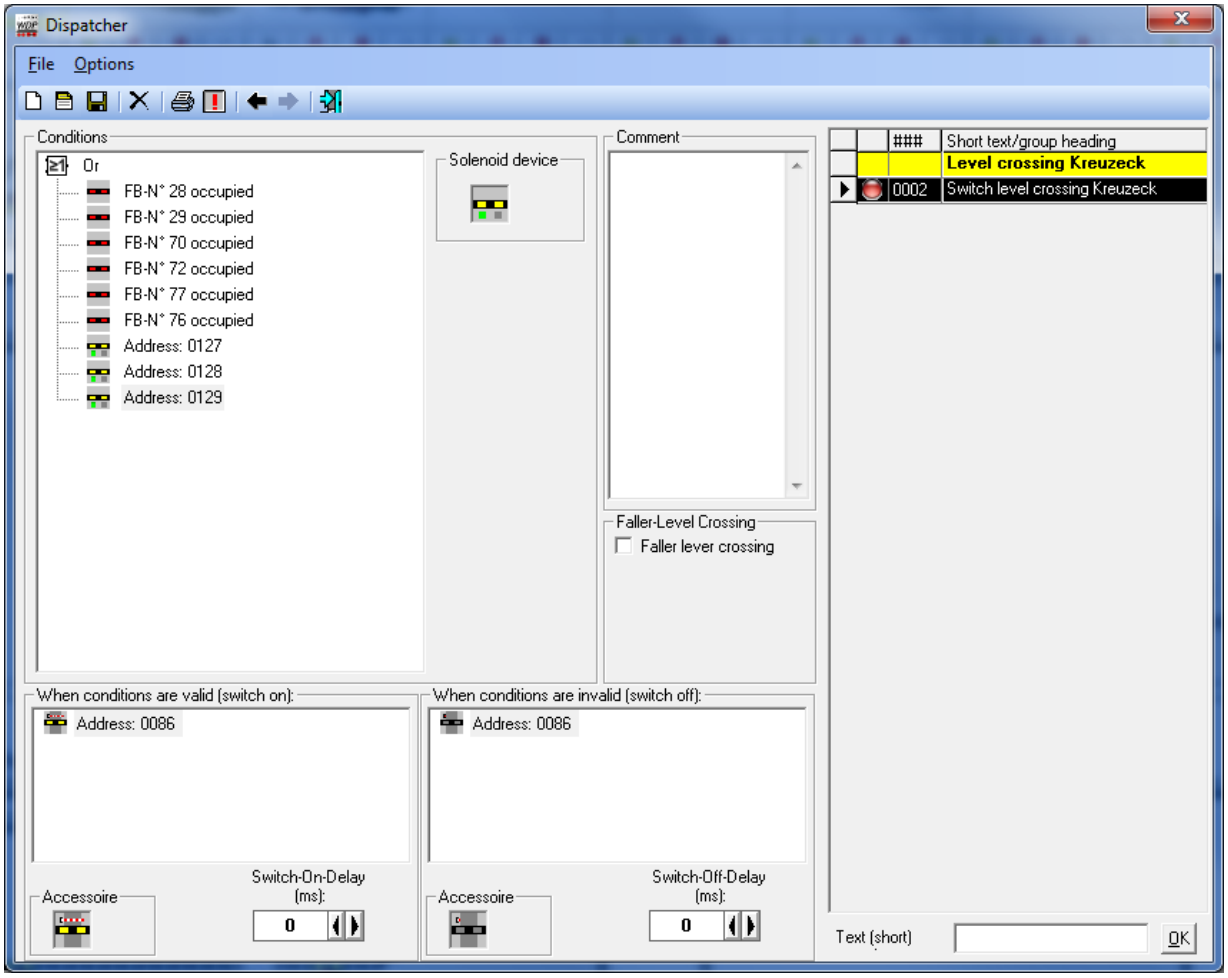
Switch off if

- *contact 28 is no longer occupied*
- *and contact 29 is no longer occupied*
- *and contact 70 is no longer occupied*
- *and contact 72 is no longer occupied*
- *and contact 77 is no longer occupied*
- *and contact 76 is no longer occupied*
- *and none of the three solenoid devices is switched to green.*

Next you can enter the actions the dispatcher shall execute when changing from condition unfulfilled to fulfilled and vice versa.

Therefore drag the level crossing symbol to the field “When conditions are valid (Switch on)” and switch it to closed state and afterwards drag the level crossing

symbol to the field “When conditions are invalid (Switch off)” and switch it to open state.



Afterwards you can enter a comment describing the dispatcher record’s function in the comment field at the bottom and should not forget to switch the record to „*Active*“ using the according check box.

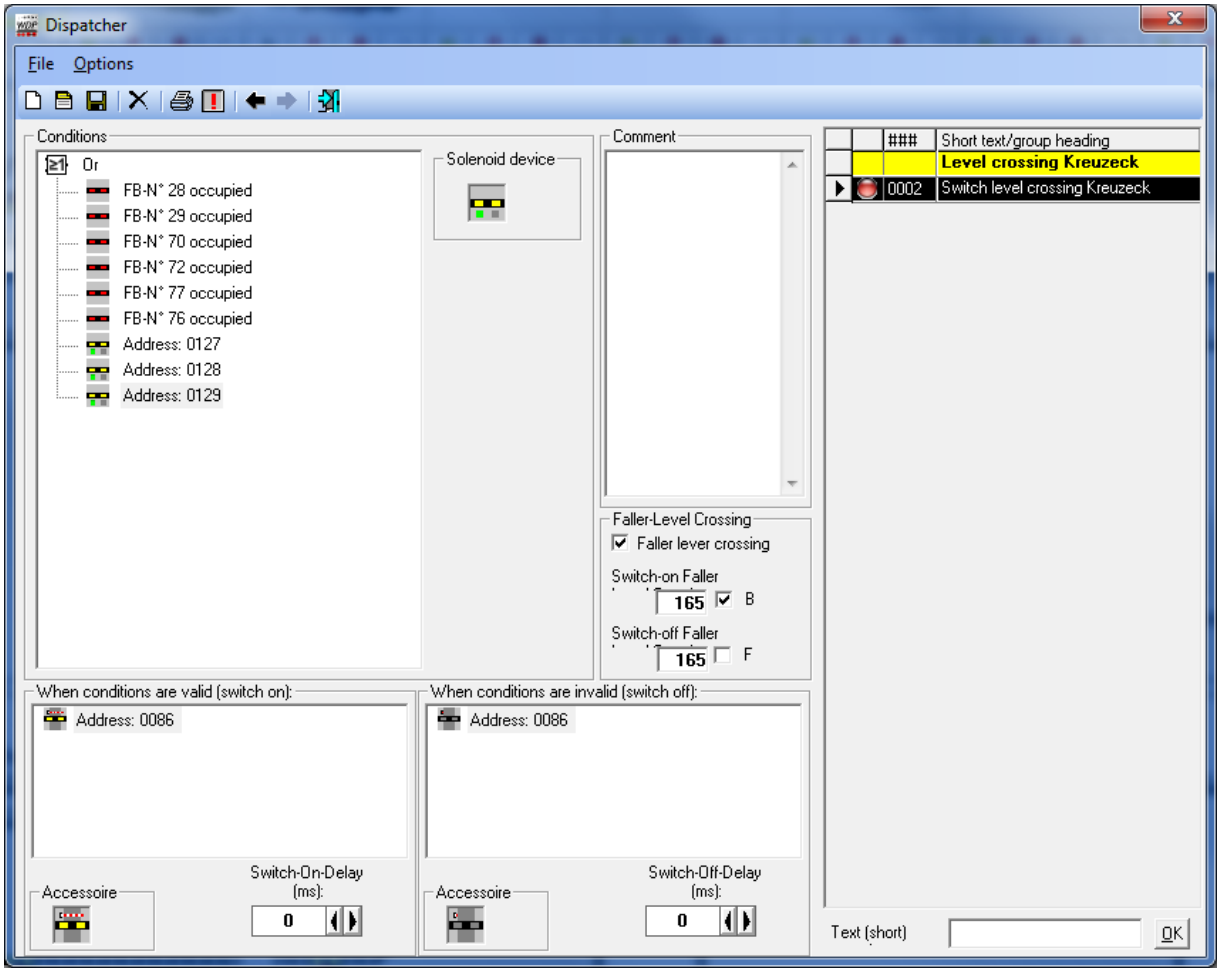
At last press to save your registrations.

Now your dispatcher record is ready for usage.

13.2.5 Faller level crossing

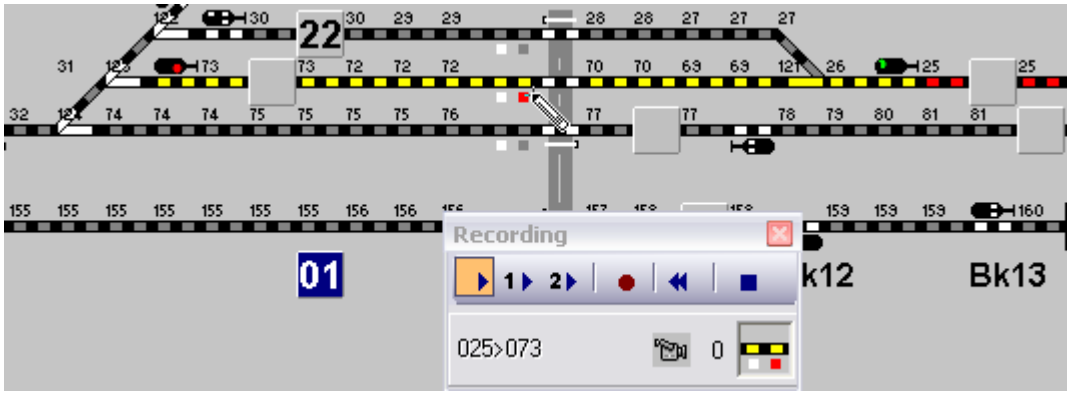
You have to make all registrations as described before.

If you use Faller „B-174“ level crossing you to check the according option and register an additional feedback contact to give feedback to the program if the level crossing is currently open or closed. See picture.



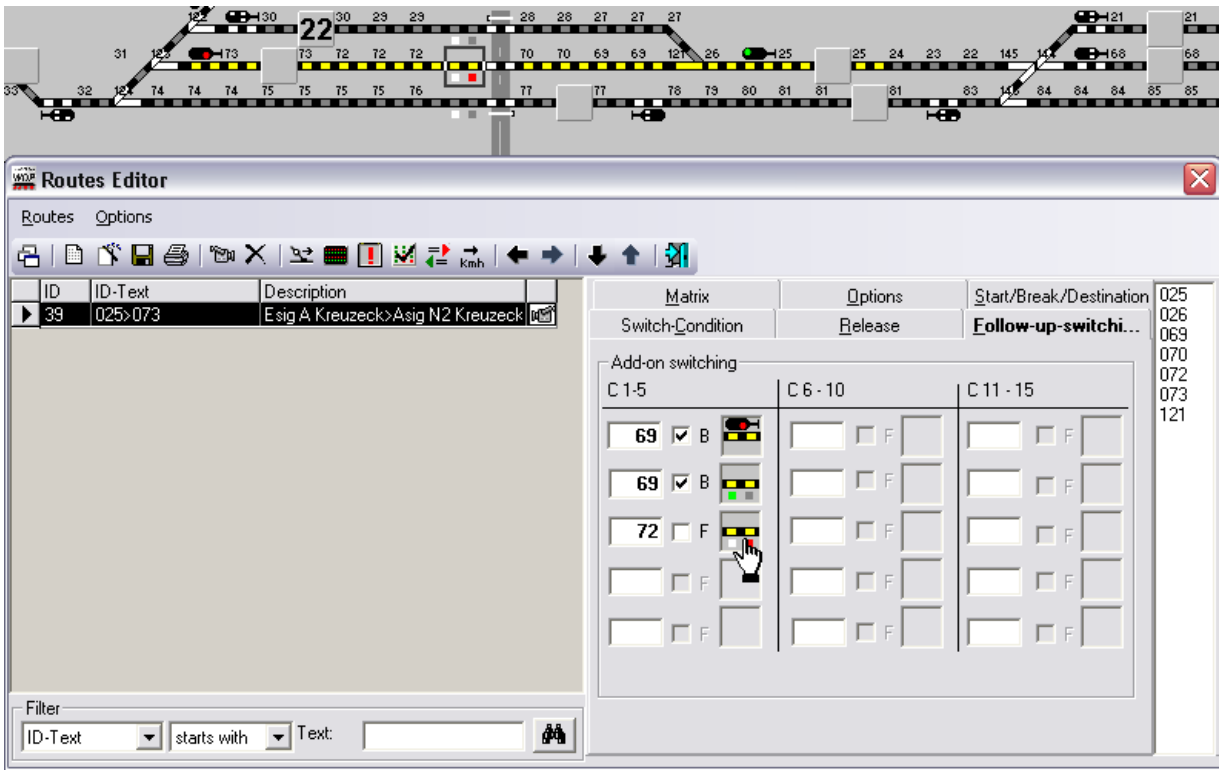
After adding a comment save the data record.

13.2.6 Controlling the level crossing using a route



Our example will show a route from the entry signal next to contact 25 to the destination contact 73. Make your route recording as showed below registering the virtual switch in red position without recording a state for the level crossing itself.

The level crossing is far away from the start contact, so we want close the level crossing not before reaching contact 69. Therefore we register an add-on switching in the route wizard for switching our virtual switch to green when reaching contact 69. This will force our dispatcher record to close the level crossing.



The virtual switch will be switched back to red by another add-on switching when contact 72 is free again. This might force our dispatcher record to reopen the level crossing (if none of the other conditions in the dispatcher condition is fulfilled e.g. a train in the opposite direction track).

The recording of the routes using the other tracks can be made in the same way.

13.2.7 Controlling the level crossing with feedback contacts

By registering also feedback contacts in the dispatcher condition as described in section **13.2.2**, it can be guaranteed, that the level crossing is also closed during manual operation in the station, because the level crossing will also be closed when one of the registered feedback contacts is occupied.

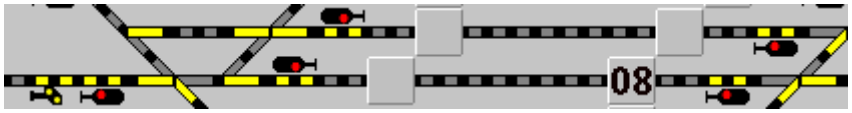
13.2.8 Multi rail level crossings

With the unlimited number of switching conditions in the dispatcher you can also control a level crossing with e.g. more than 10 rails.

The level crossing will only be reopened when none of the conditions registered for this dispatcher task are valid any longer.

13.3 Creating a more complex dispatcher task (explained on basis of a distant signal)

Take a look at the picture below. The distant in the left part of the picture shall be controlled by the state of one of the following two signals depending on the turnout state indicated the itinerary from the distant signal into the station.



For this task we need the following condition:

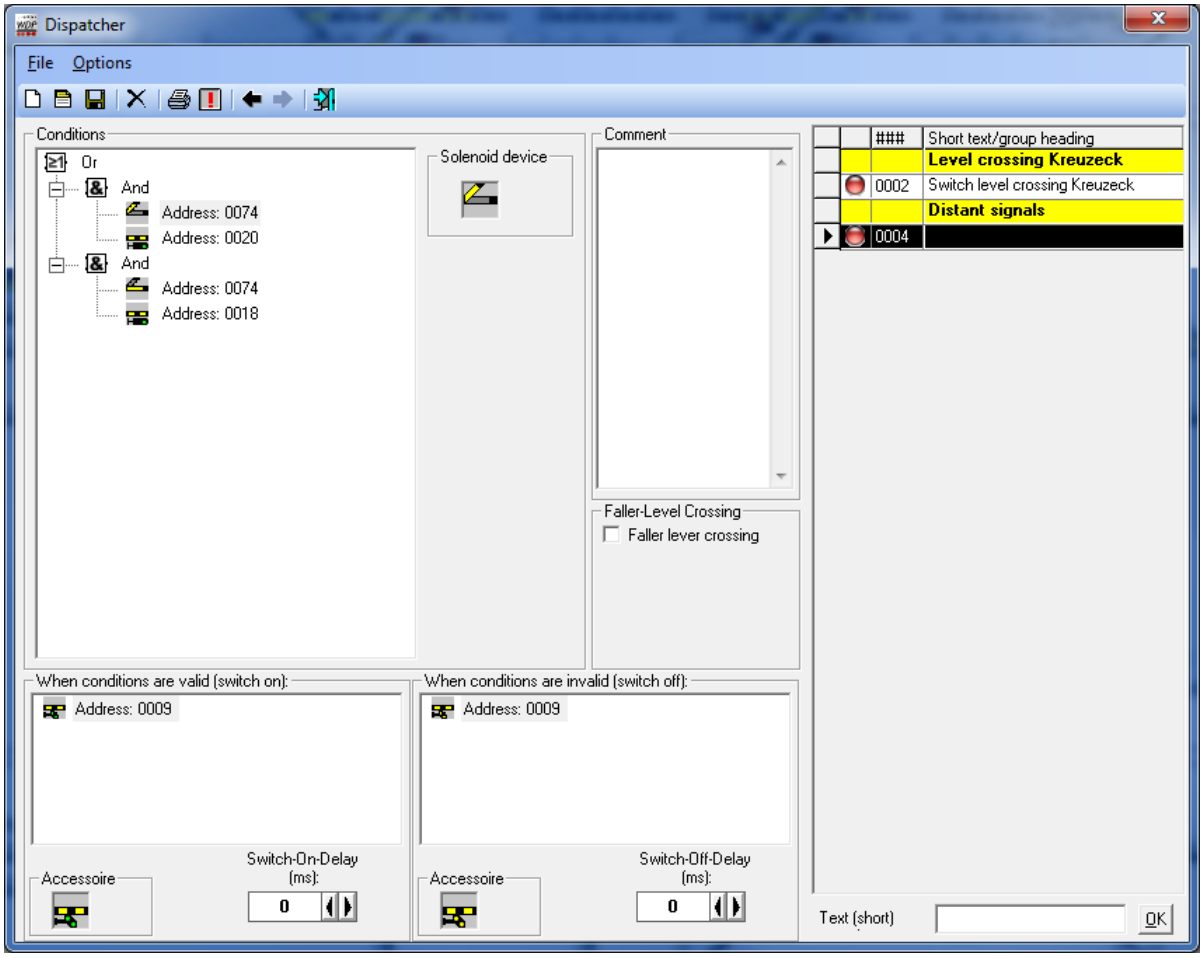
Switch distant signal to green if

- *the turnout leads our train to the upper track*
- *and the destination signal of this track is switched to green*

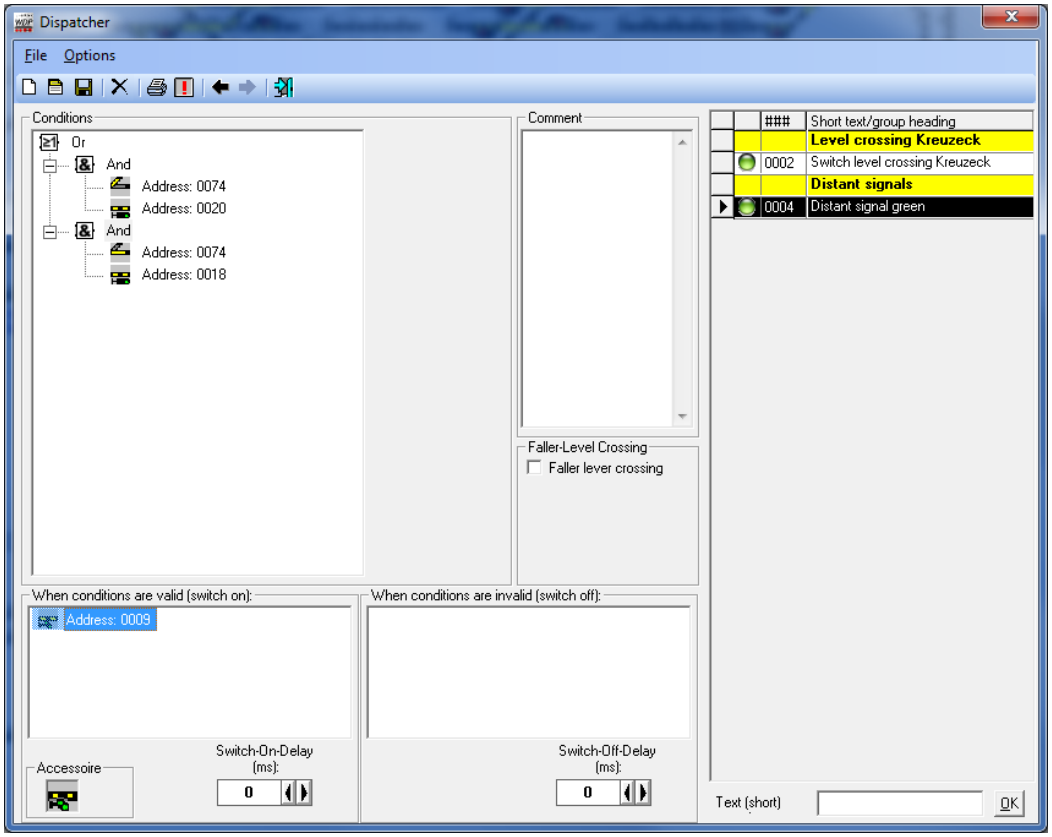
  or
- *the turnout leads our train to the lower track*
- *and the destination signal of this track is switched to green*

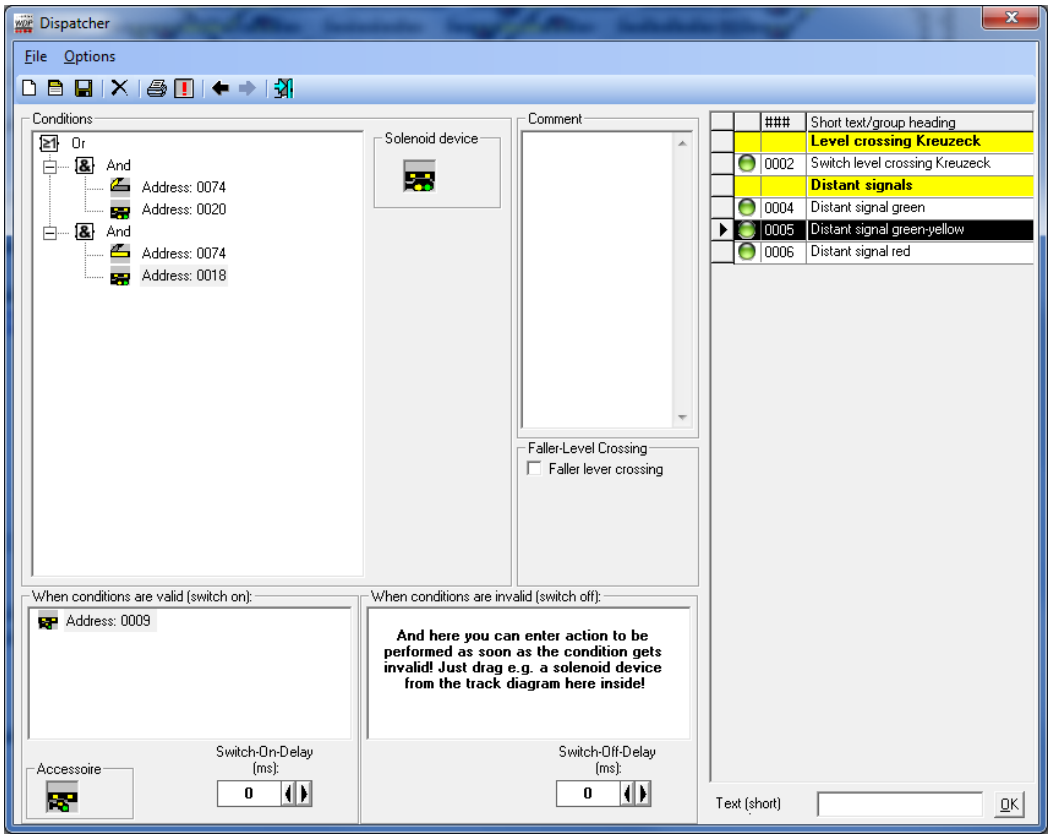
Switch distant signal to red if the condition above is no longer fulfilled (e.g. the destination is switched to red).

The complete dispatcher record for this task is showed below. This record can only be created when activating the <Expert mode> in the <Options> menu, because after activating this mode you will be able to create subfolders for grouping conditions into sub-OR/AND-groups. These subfolders can be created using the command <New folder> in the context menu of the condition tree.

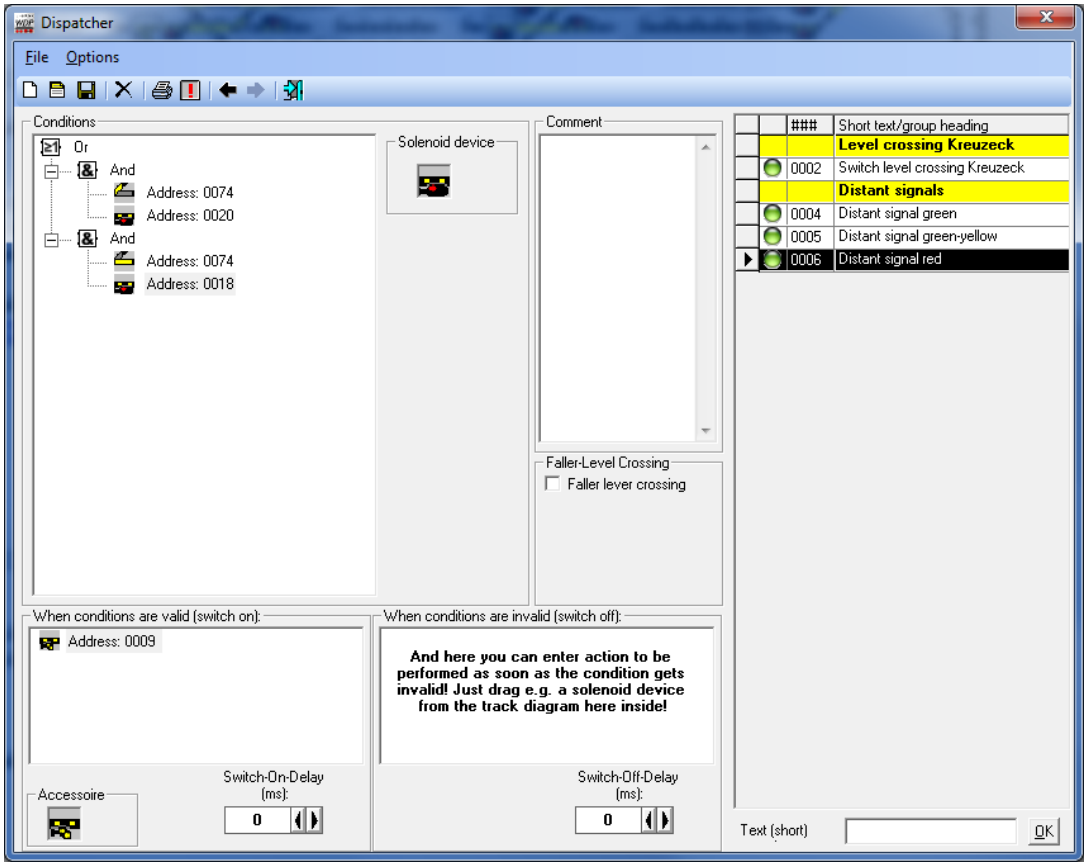


If you want to distinguish between the green and yellow green state of a distant signal, you have to use 3 different dispatcher records which do use only the on or off switching function of dispatcher. The following three pictures do show you the three complete dispatcher records.



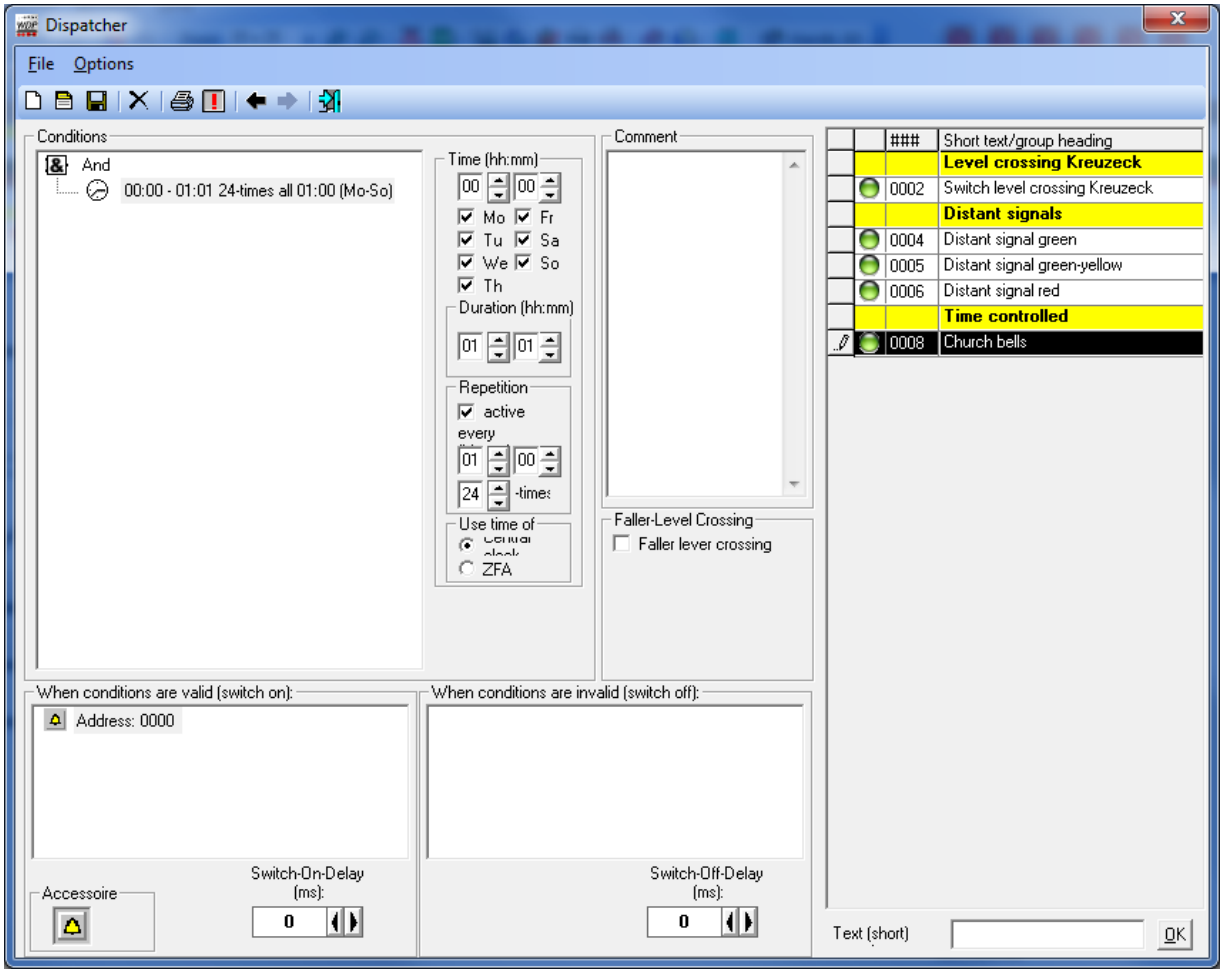


The second record was simply copied from the first record using the <Copy> and <Insert copied record> function of the context menu of the dispatcher list, see picture above. After copying the record just the three signal aspect had to be changed from green to yellow-green. The same was done for the third record.


Dispatcher
File
Options
Conditions
Or
And
Address: 0074
Address: 0020
And
Address: 0074
Address: 0018
Solenoid device
Comment
Faller-Level Crossing
Faller lever crossing
When conditions are valid (switch on):
Address: 0009
When conditions are invalid (switch off):
And here you can enter action to be performed as soon as the condition gets invalid! Just drag e.g. a solenoid device from the track diagram here inside!
Accessoire
Switch-On-Delay (ms):
0
Switch-Off-Delay (ms):
0
###
Short text/group heading
Level crossing Kreuzeck
0002
Switch level crossing Kreuzeck
Distant signals
0004
Distant signal green
0005
Distant signal green-yellow
0006
Distant signal red
Text (short)
OK

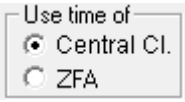
13.4 Time controlled dispatcher task

This subchapter shows you a small example how to create a dispatcher task for ringing the church bells each clock hour. The sound file itself was installed using a sound button in the track diagram. The example below shows you a dispatcher task activating these button each clock hour for 1 minute on every of the week using the condition set offered in the context menu under <New condition> <Time>.



13.5.1 Using central clock or tour automatic time

When using time controlled conditions you can selected which clock should be taken into account:



When using the clock from the tour automatic these condition can only become valid when a tour automatic is active.

13.5 Other functions controlled by dispatcher records

The dispatcher offers a great variety of conditions for example...

- occupied/free feedback contacts
- states of solenoid devices/counters
- clock conditions
- the colour of specific locomotives
- the placement of specific locomotives
- sometime completed by switch-on or –off delays

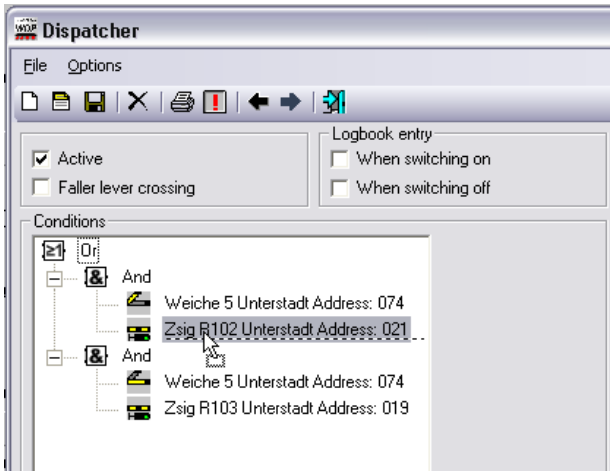
There are many more conditions available. Just make some experiments using these conditions. These conditions are in most cases to the conditions in the tour automatic. Please read chapter **11.10** for further explanations.

13.6 Editing helps in the dispatcher

When clicking with the right mouse button in the condition tree a context menu will appear, this offers you several self-explaining editing helps/functions.

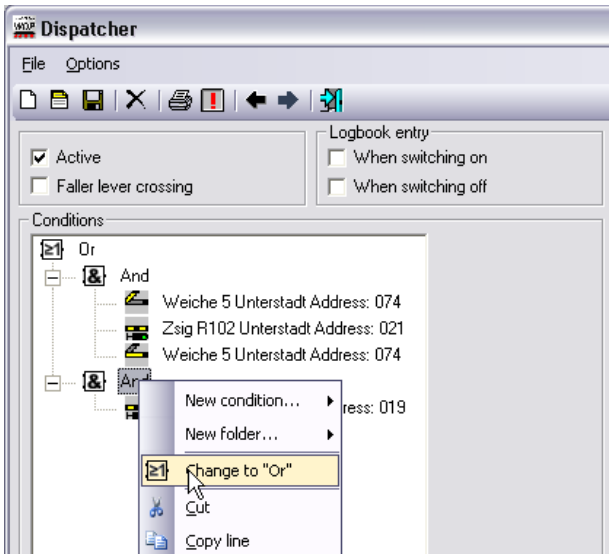
13.6.1 Moving conditions within the condition tree

Conditions or condition folders can be moved/resorted within the condition by using just dragging the condition/folder with pressed left mouse button from its old to its new position. The dotted lines help you to place the condition/folder at the desired position.



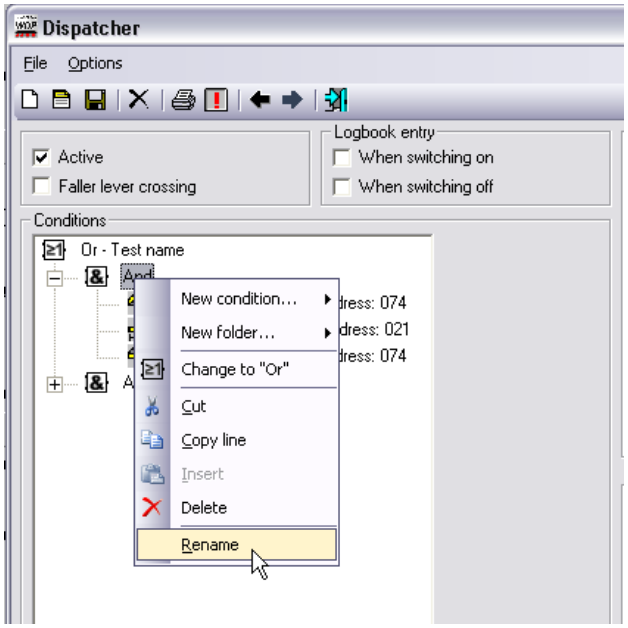
13.6.2 Changing a folder function in the dispatcher

If you want to change the folder function in the dispatcher of an existing folder from “Or” to “And” or vice versa, the context menu of the condition tree offers a function for this task. See picture below. Some folder functions are only available after activating the expert mode in the dispatcher´s options menu.



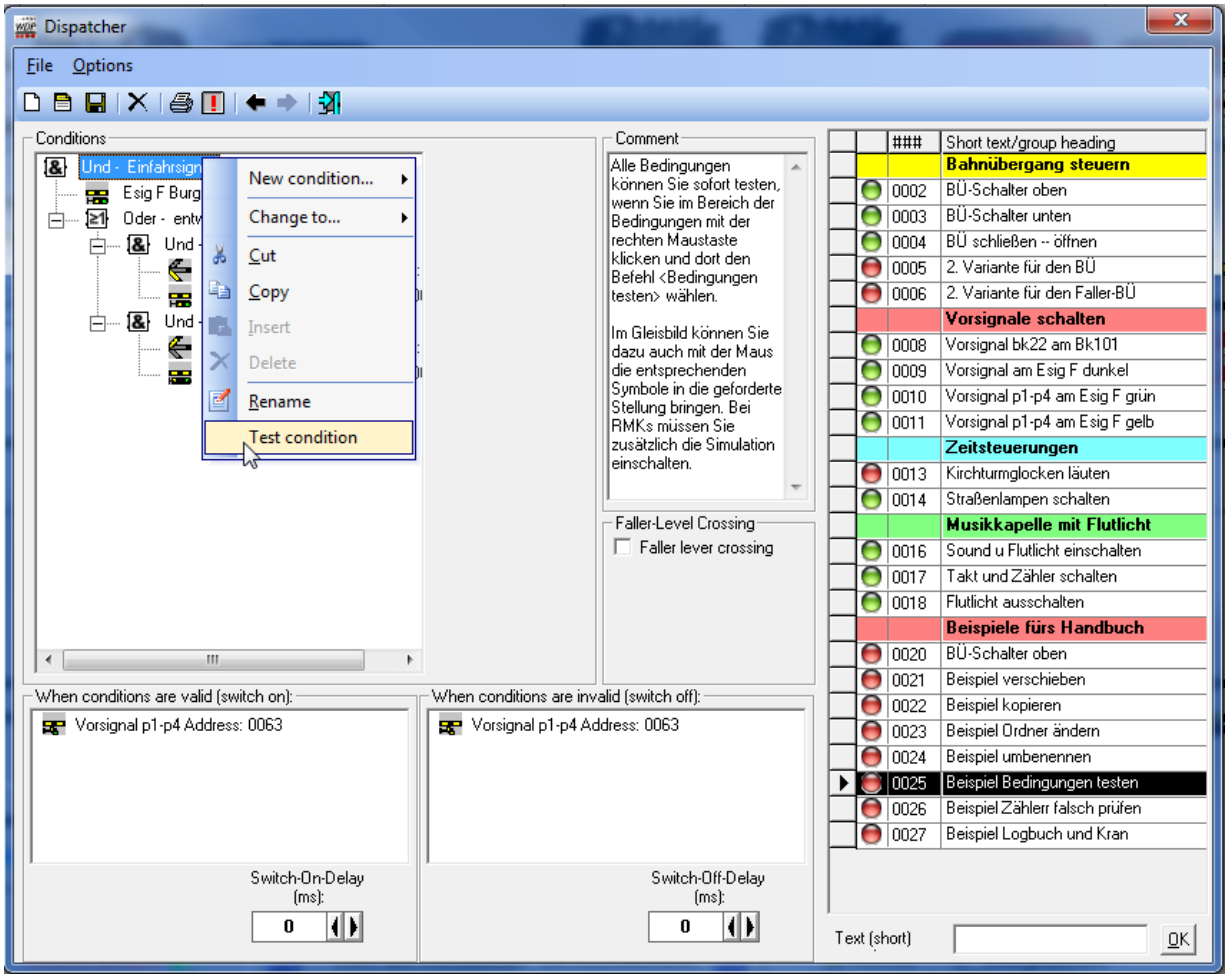
13.6.3 Adding names to folder in the condition tree

If you have created complex conditions within your condition with multiple condition folders, we suggest assigning names/descriptions to the used folder. The context menu of the condition tree offers a “Rename”-function for this task. Using this function you can add a name to each folder in the condition tree or edit its name. The beginning starting with “Or – “ or “And – “ is fixed and cannot be changed.

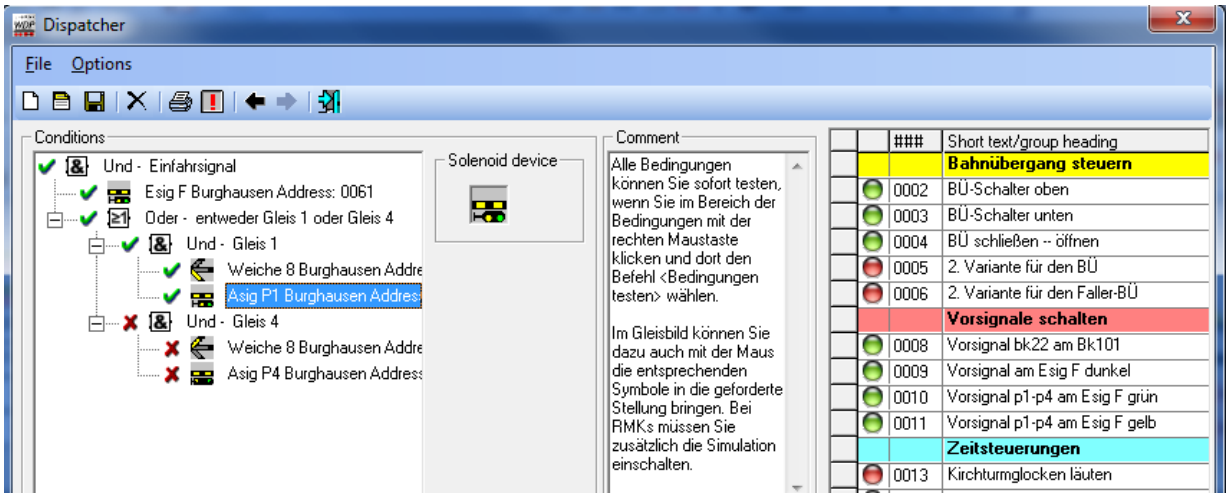


13.6.4 Testing conditions in the dispatcher

All conditions can be tested directly by activating the test mode in the context menu of the condition tree.



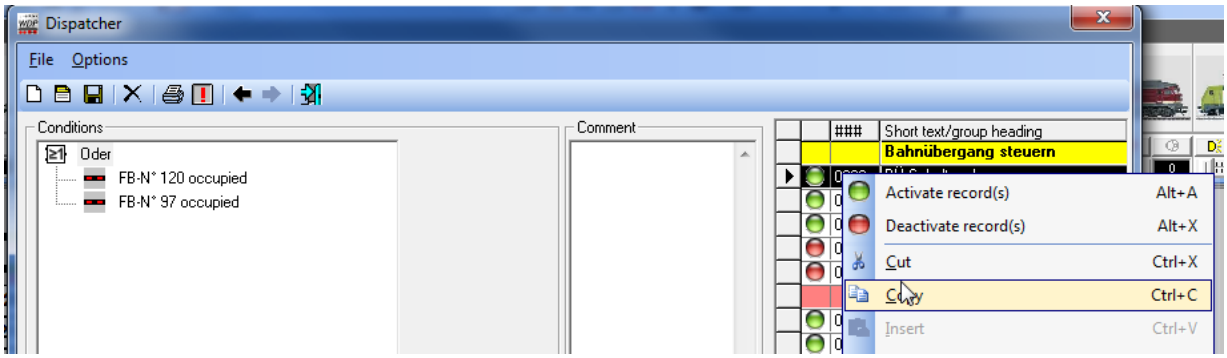
You can see directly whether your registered condition(s) (tree) is currently fulfilled or not. Every fulfilled condition is showing a green check-mark and every invalid condition a red cross.



When changing one of the condition sources e.g. the state of a solenoid device in your track diagram or the occupation state of a feedback contact, this change will result in a live update of the green check-marks and red crosses of the condition tree.

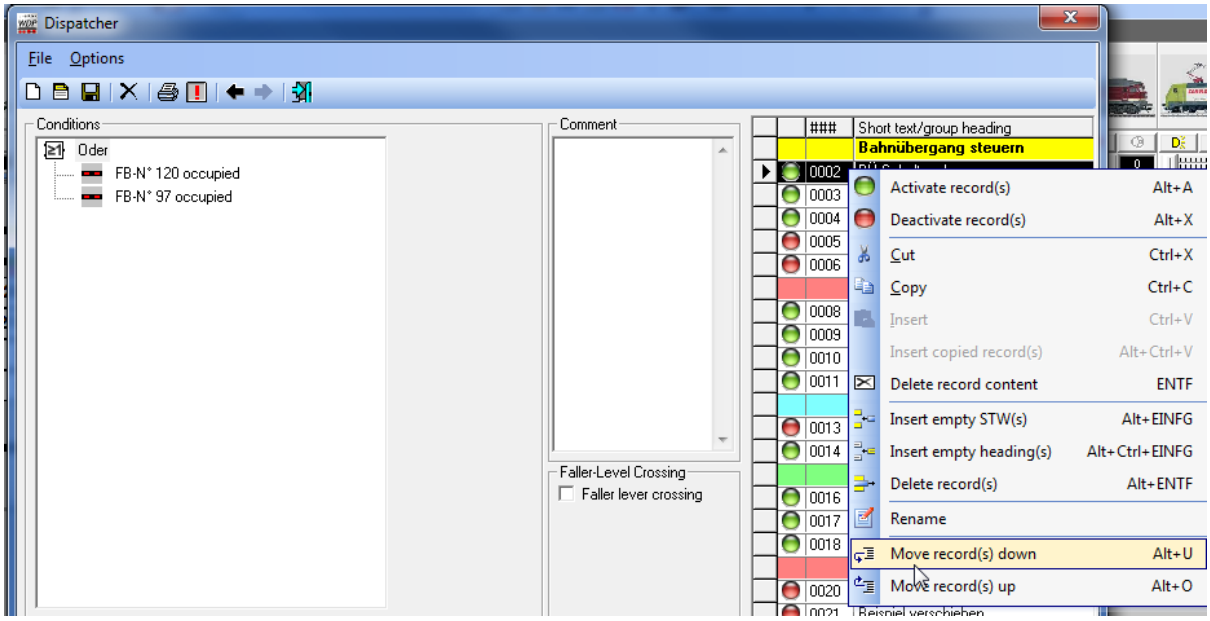
13.6.5 Copying/deleting dispatcher tasks

Using the context menu of the dispatcher task list in the right half of the window you have several options to cut/copy/paste/insert dispatcher tasks.



13.6.6 Moving dispatcher tasks

The context menu mentioned in the last sub-chapter offers also commands for moving dispatcher tasks in the list up and down.

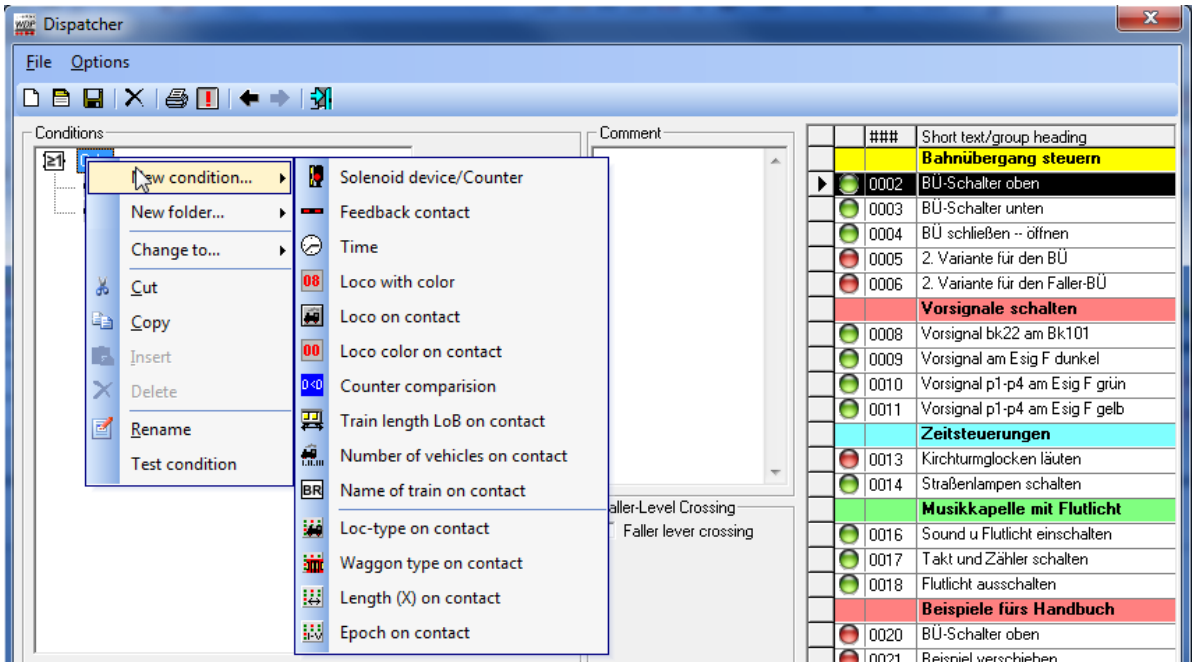


13.6.7 Activating/deactivation dispatcher tasks

If you want to disable a single dispatcher task, you can do this by selecting the according function from the context menu of the dispatcher task. You can also (de-)activate the complete dispatcher globally using the according option in the menu <Options>.

13.7 Activating the expert mode

Using the menu <Options> and <Expert mode> you can activate the expert mode...



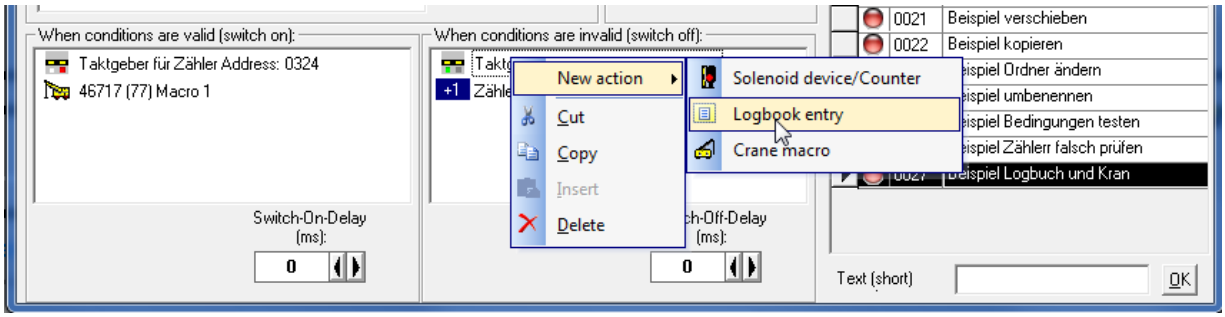
...this will offer you many more complex conditions/folder groups etc.. The are all explained in chapter **11.10** for the tour automatic and can be used here in the same way.

13.8 Activating/deactivation the dispatcher globally

You can (de-)activate the complete dispatcher with all its task globally using the according option in the menu <Options>.

13.9 Creating logbook entries/executing crane macros with the dispatcher

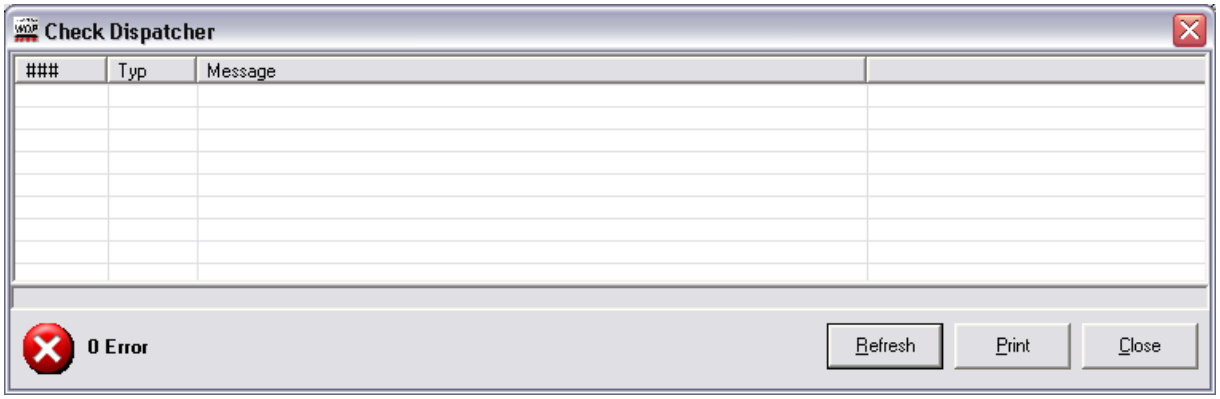
The dispatcher cannot only be used for switching solenoid devices and counters within your track diagram. Another possible action triggered by the dispatcher can be a logbook entry (e.g. useful for searching errors in dispatcher tasks) or the execution of a crane macro.



13.10 Checking the dispatcher

Also the dispatcher offers a check function. This is very useful if you have modified your track diagram etc.. You can open this window with the corresponding button within the dispatcher.

The check window will show all messages and is quite self-explanatory.



You can print also all messages from list. If you want to check the errors first you can hide all warnings.

When selecting a message in the check window, the program will automatically navigate to the corresponding dataset in the editor, so that you can correct your data and afterwards actualize the check list.

14 – DIGITAL TURNTABLE

14.1 General

This chapter explains how to control the turntable for Märklin Digital HO (ref. no. 7686 and 7286 + 7687) through **WIN-DIGIPET 2012**. This control cannot be used with other types of turntables and power supply systems.

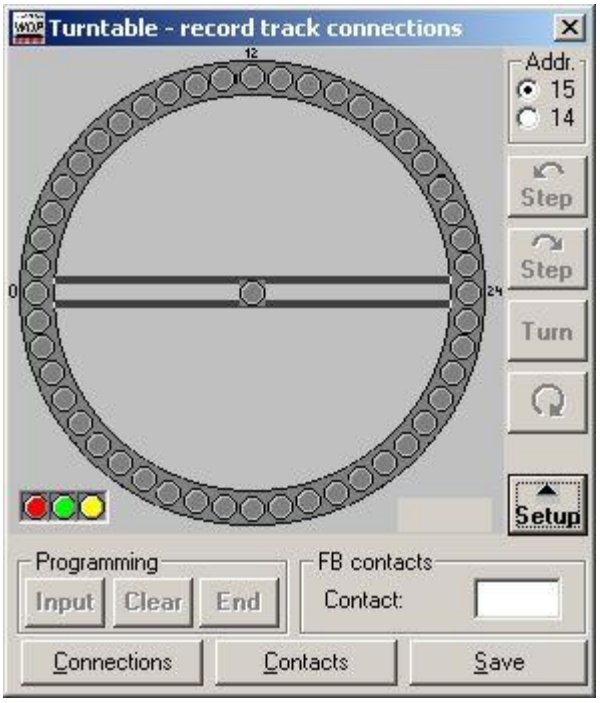
Please note the operating manual by Märklin, particularly the paragraphs on electrical connections for the turntable as well as on correcting mechanical and electrical problems.

Turntable control through **WIN-DIGIPET 2012** is not only comfortable, but also **saves** purchasing a Märklin keyboard for the turntable.

Before using the turntable you activate the turntable in the system settings on the index card “Program settings - General “.

14.2 Keyboard address

Click on <Turntable> in the menu <View> of the main program or on the turntable symbol in the toolbar.



A window with a blank turntable appears with 48 grey, unmarked track sections (spooked tracks), each having a grey circle in the middle. At the right hand side you see 5 command buttons.

In total 48 track connections are possible. Counting of the track connections starts on the left, the horizontal point **00**, proceeds clockwise and ends with **47**.

Opposite **one** connected track there is always **an associated** connected **track**: either a second connected track or a dummy track. Individual connected tracks without opposite connected or dummy track do not exist.

Start by defining the **keyboard** address of your turntable in the upper right hand frame “Addr.“.

This puts the Märklin turntable receiver “electronic 7686“ to the correct function within your system.

Märklin supplies the turntable receivers with a fixed keyboard address no.15 i.e. you operate **one** turntable on your layout.

In this case you need not do anything in the right hand frame: the keyboard address 15 (for the first turntable) is pre-set and checked by the program.

The four command buttons below that frame are deactivated at the beginning. They will be activated after you have recorded and saved your track connections.

Should you, however intend to use **two** turntables, the receiver of the **second** turntable has to be set to keyboard address no.**14 at the Märklin factory**.

First carry out all recordings for the first turntable 15 and click on address no. 14 in the upper right hand frame to record turntable 14. A blank turntable reappears, and you can carry out the recordings for it. You can switch from one turntable to the other by a simple click on the addresses in the upper right hand frame, after both turntables are recorded.

14.3 Recording and deleting track connections

Before using the turntable for the first time and after you have modified, expanded or decreased connected tracks, the positions and numbers of track connections must be recorded.

Click on the switch Setup, and the window is expanded for recording and programming. The title bar of the window reads now “Record track connections“.

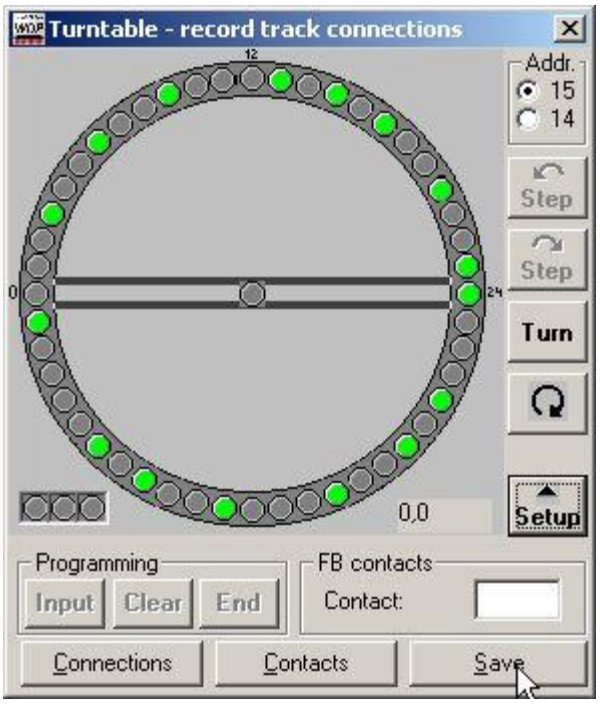
Click on ***‘Connections’*** in the lower bar.

Click on the grey circle within the first track connection you want to record: the circle will be coloured green.

In this manner you record all track connections one after another. Dummy tracks may **not be recorded**.

Should you have made a mistake, or should you want to modify your recording, delete the relevant track connection through a click of the right mouse button .

Having terminated your recording, click on ***‘Save’***. Your recording will be saved immediately.



14.4 Programming the turntable

Prior to the start of programming, **leave** the turntable ("X" in the upper right hand corner). It needs to be closed once for creating its file. Once more load the turntable (<View> - <Turntable>) and click on Setup.

Programming the turntable is done, using the computer. Click on ***'Input'***. The deck will be shown in the starting position for **WIN-DIGIPET 2012**.

Pull the **Mains plug** of your layout. **It is not sufficient**, to switch your layout off, using the red button ("stop") on a Märklin controller.

Insert the mains plug and click on ***'Input'*** within 5 seconds. The deck will rotate to the starting position last saved and indicates this with a "beep".

Important for Intellibox users:

The initialisation of the Intellibox lasts longer than the 5 seconds, which have to be used to switch the turntable to programming mode.

In this case you shouldn't switch off all digital power but only disconnect and reconnect the yellow cable of the turntable decoder, a more elegant way is to use a K84-Decoder to switch the turntable decoder on and off by a k84-symbol in the track diagram.

Click repeatedly at 'STEP right' Step or 'STEP' left Step, until the starting position of the deck coincide with the starting position as defined on the screen. After each single step a small window appears. You are asked whether the deck has reached its correct starting position, i.e. the one shown on the screen, or not. As soon as the starting positions of the deck and the turntable graph on the screen are identical, reply to the question by 'Yes', and click on Clear, followed by Input You have now fixed this position.

After that, precede clockwise '**Step**' by '**Step**' to each recorded track connection (up to max.24) and confirm with Input.

Opposite track connections are automatically included in this programming.

You terminate the programming by End. The screen display jumps to the starting position, the deck of the turntable rotates to the programmed starting position, and a "beep" signals the end of the programming procedure.

At the same time the turntable is saved; you do not need to click on ***'Save'***.

Finally, close the lower window part by a click on Setup. The turntable is now ready for operation.

14.5 Testing functions

You can now check the correct function of the turntable.

With 'Step right' or 'Step left' moves to the right or to the left from one track connection to the next.

If you click on Turn, the deck rotates 180 degrees according to the direction set.

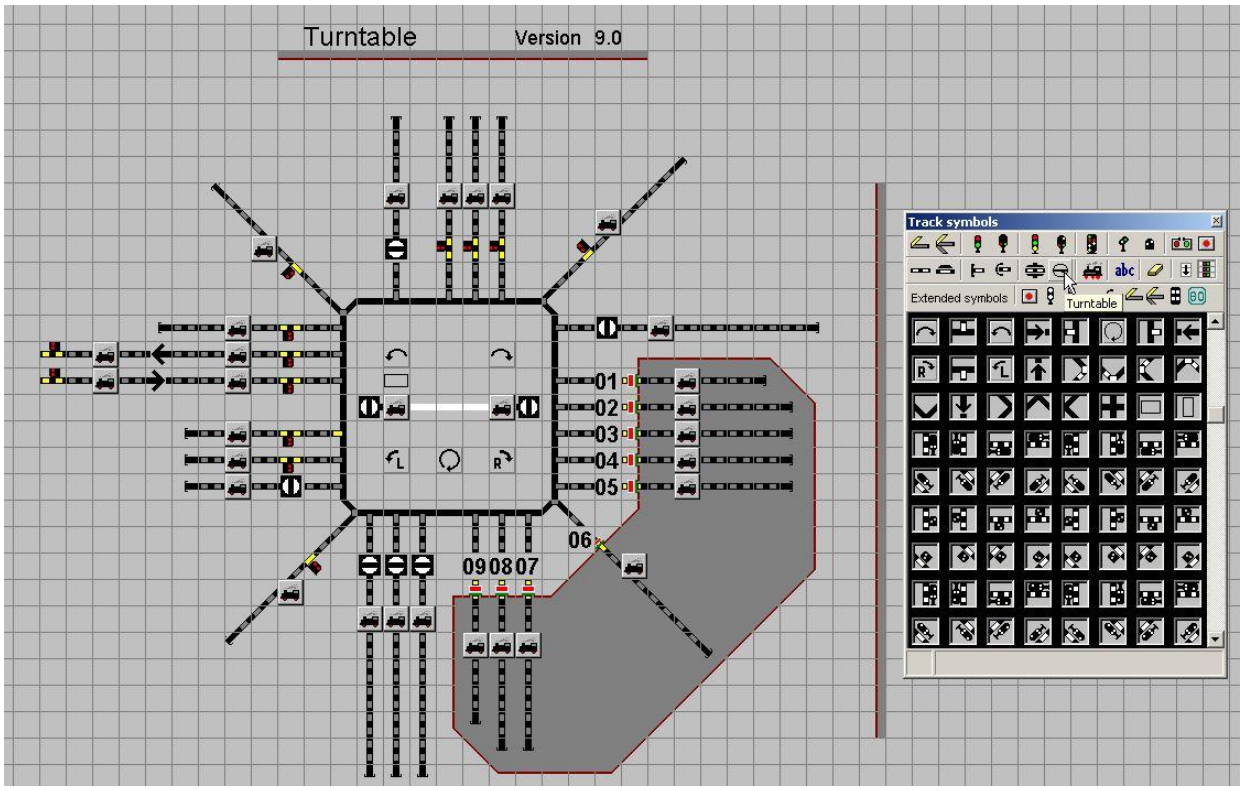
Clicking once or twice respectively at the '**Sense of rotation button**' you determine in which direction the deck will rotate with the turn command Turn. This also applies to direct access to specific track connections.

Click on the circle of that track connection if the deck has to move without a stop to a specific track connection (track **pre-selection**).

14.6 Adding the turntable to your track layout diagram

If you want add the turntable to your track diagram, you have to open the track diagram editor via the menu command <File> <Track Diagram Editor> or with a click on the symbol in the toolbar.

Select the type field "Turntable" in the symbol selection window. With these symbols you can draw the turntable into your track diagram; the picture shows an example.



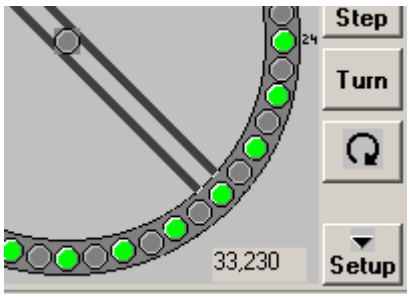
14.7 Addresses of track connections and command buttons (Märklin turntable)

After drawing your turntable in your track diagram, register all track connections registered in section **14.3** to the track connectors in the track diagram.

It is quite simple to get the needed addresses from the turntable-graphic that can be opened also opened in the track diagram editor via <Recording> <Turntable>.

Take care of the following points!

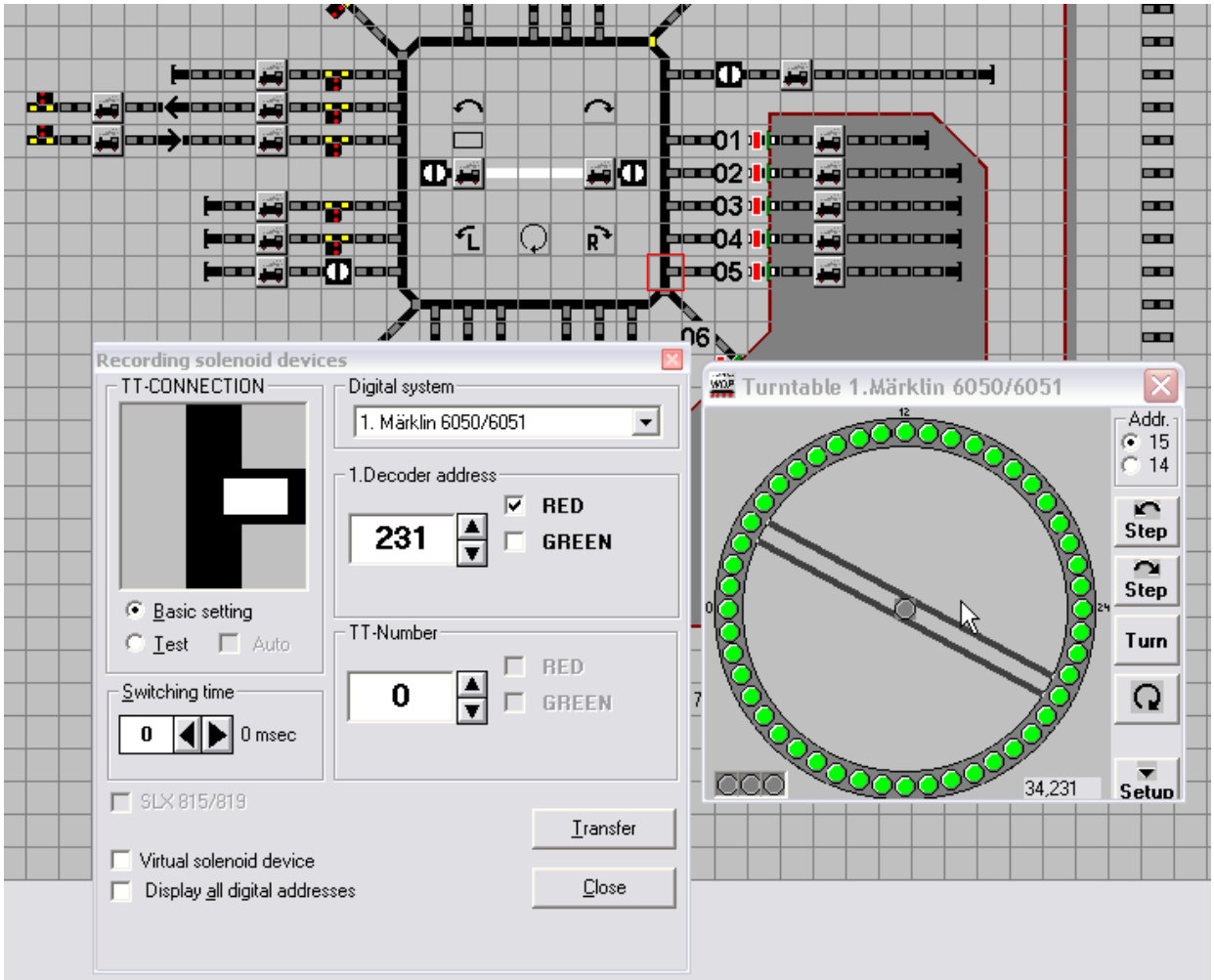
- Every track connector acts as a command button: a click results into an action.
- Your turntable should be programmed in the right way.
- At the bottom in the right of the "Turntable" window, you will see a small display "33,xxx" or "34,xxx" if you move over a connection track or if you click on a command button 33,227 ; "33" means "green", "34" means "red" and the three-digit numbers "xxx" means the addresses, which in theory would be assigned to the Märklin keyboard #15 (address range 225 – 240) or keyboard #14 (address range 209 – 224).



- The command buttons would have the following addresses, for keyboard #15:

'STEP LEFT'	= 33.227 (227 GREEN),
'STEP RIGHT'	= 34.227 (227 RED),
'TURN'	= 33.226 (226 GREEN),
'Turn RIGHT'	= 34.228 (228 RED),
'Turn LEFT'	= 33.228 (228 GREEN).

For registering of the addresses click in the track diagram editor on the track diagram editor in the same way as if you want to assign normal solenoid device addresses. A window titled "TT-CONNECTION" appears. Register the address of the selected track connector and select „*RED*" (34) or „*GREEN*" (33) depending on your settings in the turntable window. With ***'Transfer'*** you can save this data.



Important tip!

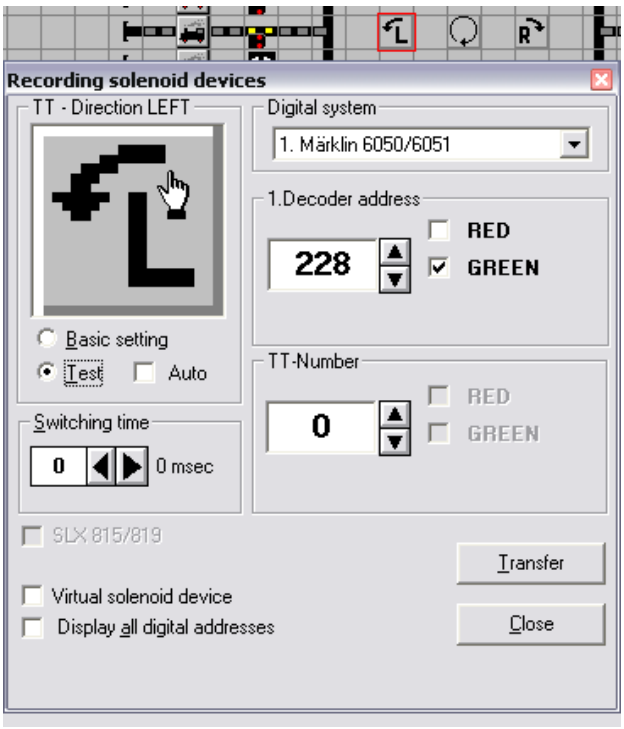
If you have more than one turntable or transfer table in your track diagram you have to assign each of them an **own number** to avoid two-way influences.

From the second turntable or transfer table on, increase "*TT-Number*" from "***0***" to the according number (e.g. "1" for the second turntable).

The message "Digital address already exists… " can be ignored.

Tip!

Check always "*Display all digital addresses"* his will help to see which addresses have already been registered.



For the registration of the command button, you have you just to enter the address, "*RED*" or "*GREEN*" is preassigned; You have just to click on '***Transfer***'.

After registering all symbols you can control the turntable very comfortable in the main program.

A click on a turntable connector will guide the turntable to this track connector and the selected connector will be marked yellow.

14.8 Possible feedbacks of the Märklin turntable

Using feedback modules, interesting feedback at and around the turntable can be obtained. For this purpose you have to do mechanical changes to your turntable in parts. These changes are described in two Workshops downloadable from the WIN-DIGIPET-Homepage (Workshops #10 and #21).

You can have the position of the turntable at each connected track displayed.

The circle of the relevant track connection lights up in **red** when the turntable is at this position, when the turntable is operated on the layout (see **14.9**).

At the left-hand plug connections of the “electronic 7686“ you will find three jacks:

- **B** = track power (+)
- **0** = return (-) for the right hand rail of the track
- **0** = return (-) for the left-hand rail.

You can utilise **one** of both **0**-jacks for feeding back the deck occupation, if you haven’t modified your turntable as described in the workshops. Connect to one input jack of the feedback module s88. Click at the centre of the deck and enter the number of the aforesaid s88 input jack in the contact number panel next to ”Deck”.

The centre of the deck will light up in **red** when a locomotive passes over it, when you selected the operation of the turntable on your layout (see also **14.9**).

To achieve this, you must, however, remove the return contact springs at the deck and supply digital power to each connected track. (See workshop #10 on the Win-Digipet Homepage)

To monitor the functions of the turntable, the receiver “electronic 7686“ is fitted with jacks i.e. red, green and yellow. You can use these jacks to connect monitoring lights. Connect those to the relevant input jack of your feedback module s88. Successively click on the three grey LED circles at the lower left  . Enter in the contact number panel at the lower right, the number of each relevant s88 input jack next to “LED...“.

With operation of the turntable on your layout (see **14.9**), the three **LED circles** will light up in the appropriate colours.

14.8.1 Registration of the position feedbacks for the turntable in the track diagram

If you have modified your turntable as described in the workshops you can realise a real position feedback for your turntable.

The position feedback contacts for each track connector can be assigned in the track diagram editor in the same way as for normal track symbols (see also **7.4**).

TIP!
Before you continuing with the next section you should not close the feedback assign window but **save** your track diagram to avoid the loss of data.

14.8.2 Registration of feedback modules in the turntable graphic

Select in the track diagram editor the menu command <Recording> <Turntable> or click on the symbol in the toolbar.

Open the turntable setup with the button Setup and click on **'*Contacts*'**.

Click on an existing, activated track connection (green circle) which is fitted with a contact track. The green circle will be marked by a black triangle, and in the panel "FB Contacts" appears. Next to „Connection", the consecutive number of the track connection (clockwise, starting as mentioned above in **14.2**, from left horizontal with "00").

In the contact number panel to the right the fictitious contact number **0** is pre-set. The correct number is keyed in here.

In the same manner, record all other contacts at track connections of your turntable.

Contact numbers can be modified by overwriting and deleting, entering the number **0**.

Having entered all feedbacks of the turntable, click on ***'Save'***.

14.9 Operating the turntable

Before using the turntable you activate the turntable in the system settings on the index card "Program settings - General " according to section **4.8.6**.

You can load the turntable through several commands: Either menu <View' - <Turntable> or with the right mouse button context menu <Turntable> or the symbol in the toolbar.

Operating the turntable is the same as described above in **14.5** – Function test.

Alternatively the turntable can be controlled in directly in the track diagram.

This requires:

- You have draw the turntable into your track diagram as described in section **14.6** and
- You've made all registrations according to section **14.7** and **14.8**.

The signals shown in the pictures above have not to be physically installed on your turntable; they are just used for locking of routes!

A click on a turntable connector will guide the turntable to this track connector and the selected connector will be marked yellow. This shows you the currently selected track connector.

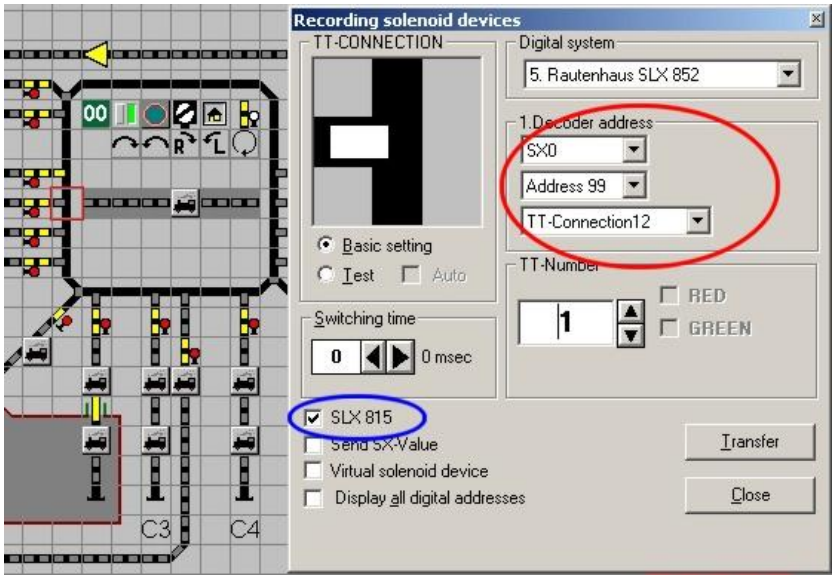
14.10 Turntable in Selectrix system

The control of Märklin-turntable described in the sections before you can also use for the Selectrix system with some additions and limitations (some users use Selectrix decoders for Fleischmann as well as for Märklin or Roco turntables).

14.10.1 Turntable decoder SLX815/819 of Rautenhaus

When using the comfortable turntable decoder SLX815/819 of Rautenhaus, you can register the turntable connector number very comfortable in the solenoid device recording window.

After selecting the option "*SLX815*" (**BLUE** circle) you can easily selected the desired turntable connection in the selection box (**RED** circle).

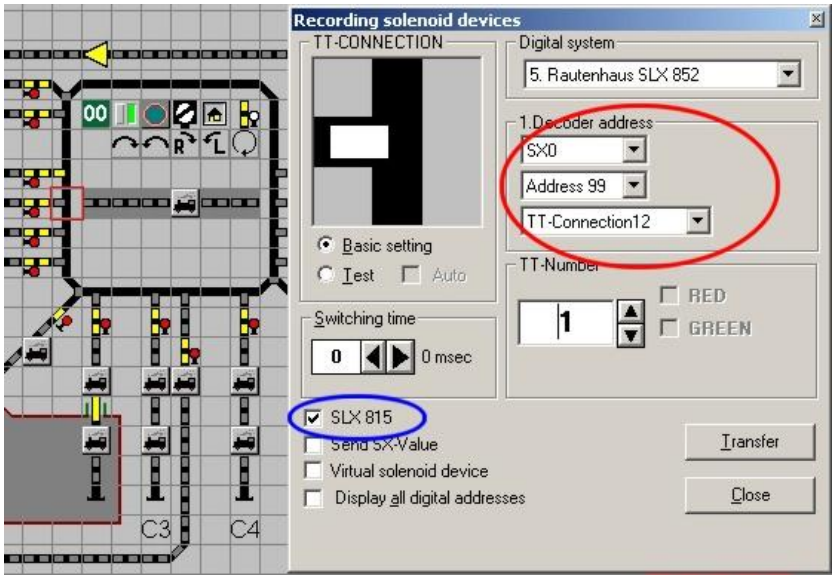


The value of the used digital system and decoder address can be set as usual.

14.10.1 Turntable decoder of MÜT Digirail

When using the comfortable turntable decoder of MÜT Digirail, you can register the turntable connector number very comfortable in the solenoid device recording window.

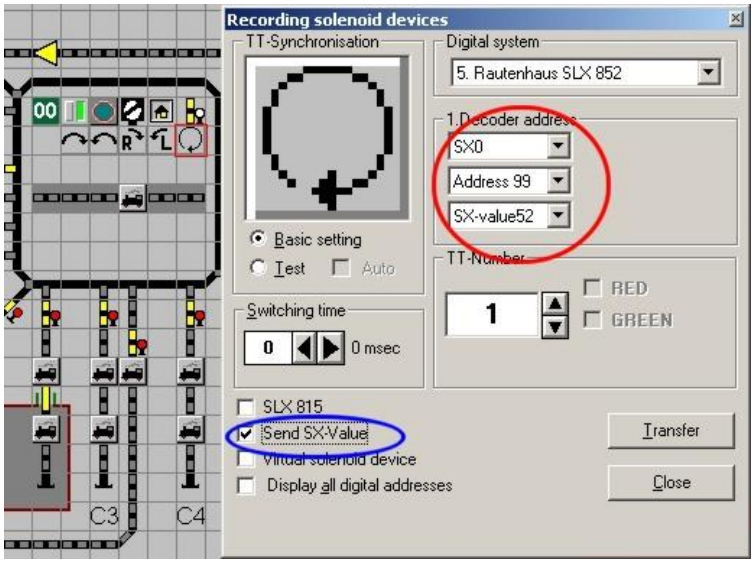
After checking the option "*MÜT*" (**BLUE** circle) you can easily selected the desired turntable connection in the selection box (**RED** circle).



The value of the used digital system and decoder address can be set as usual.

14.10.3 Send SX-Value

With a push button and the checked option *„Send SX-Value" (**BLUE** circle)* you can easily send a predefined SX-Value (**RED** circle) to an address of your Selectrix digital system.



14.11 The intelligent turn table

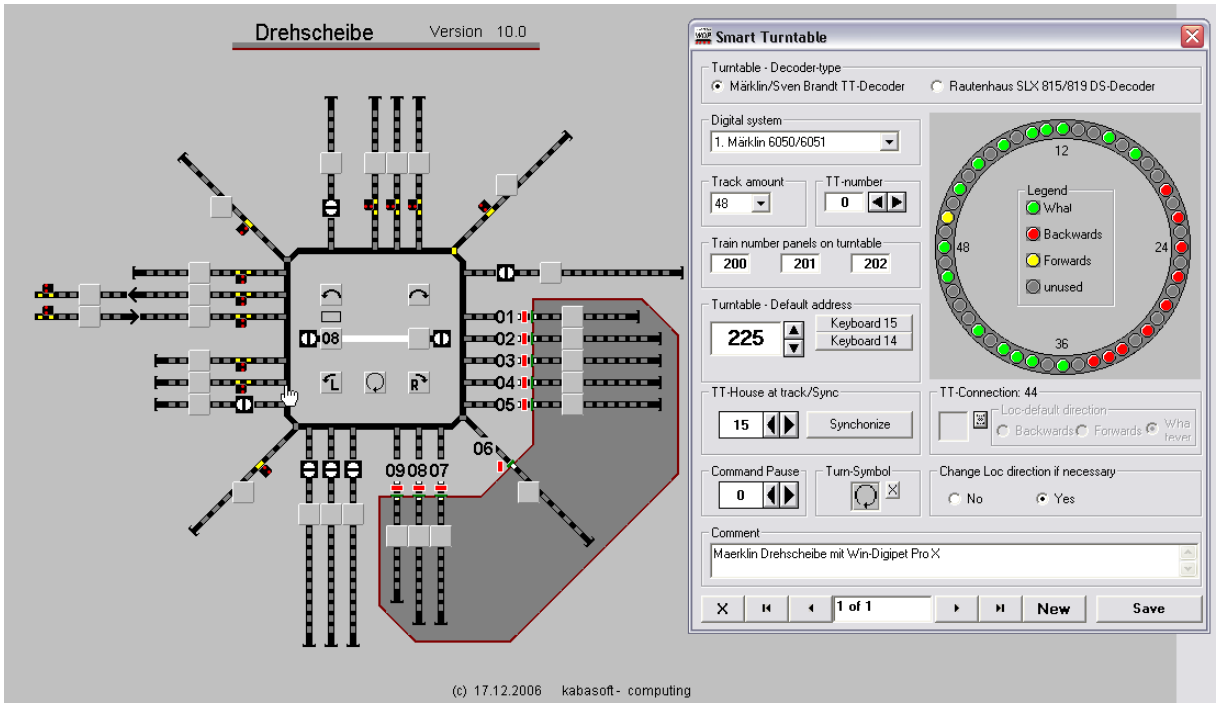
With the intelligent turntable control of **Win-Digipet 2009** you can control very comfortably your turntable. This control is usable with the turntable decoders of Märklin, Sven Brandt and Rautenhaus.

14 – DIGITAL TURNTABLE

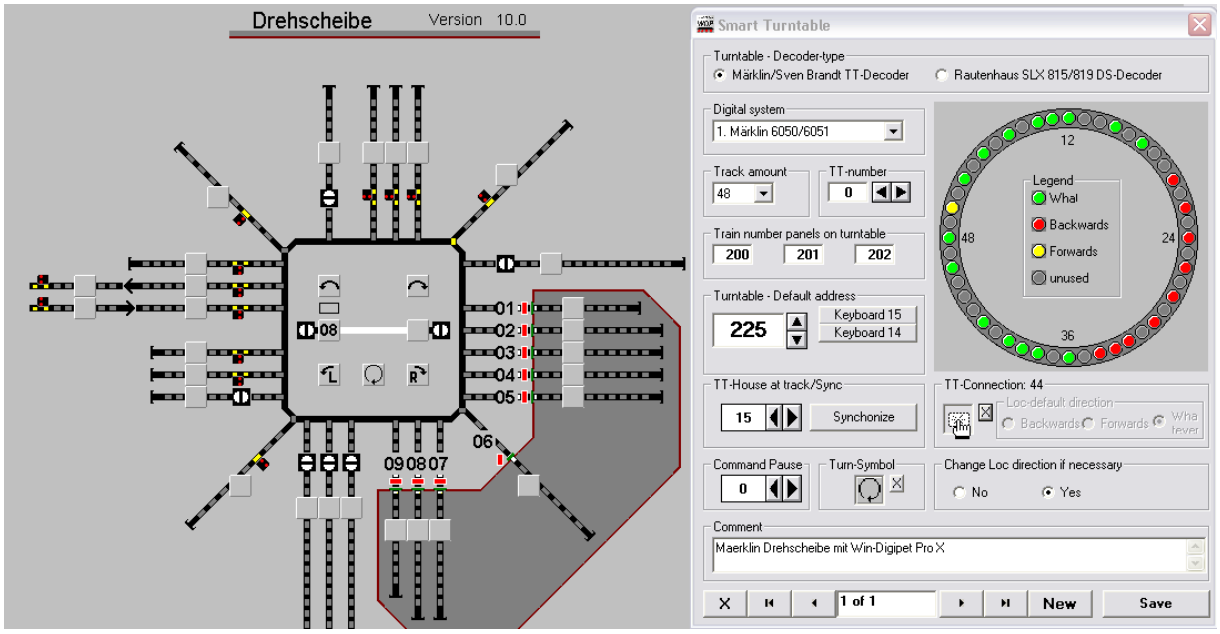
Before using the smart turntable you have to draw the turntable into your track layout and program it according to the previous sections.

For registering the data, click on the button  in your toolbar.

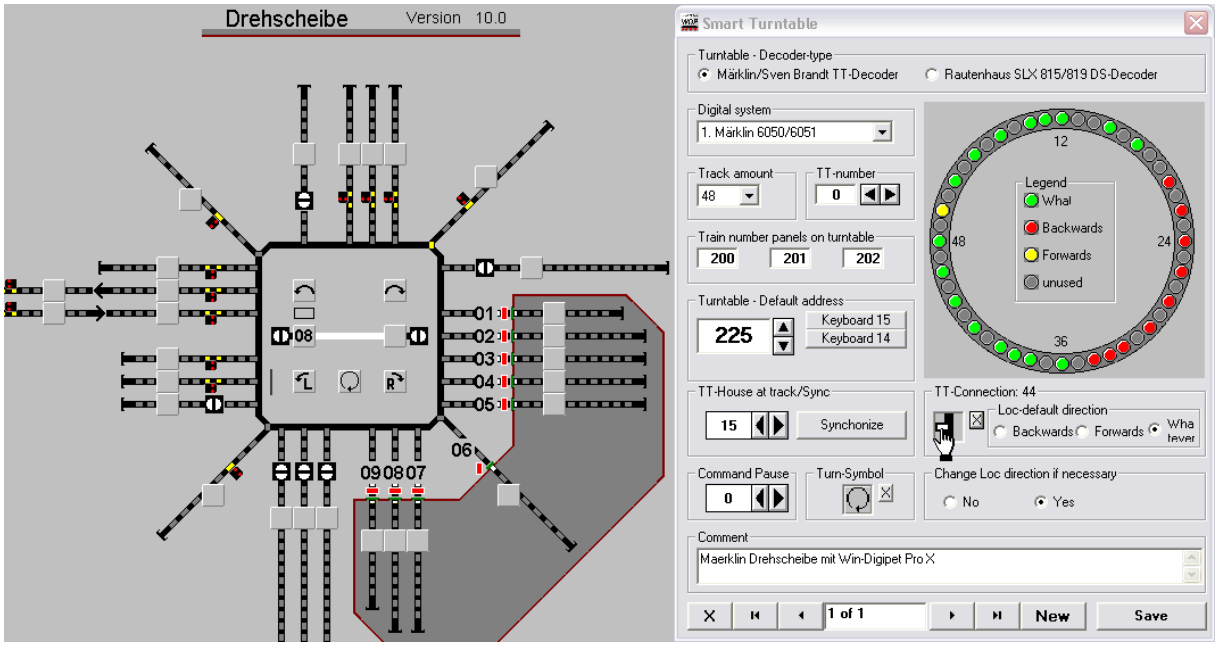
Start to register a new intelligent turntable by pressing **'*New*'**.



First of all you have to select the decoder type, the used digital system, the number of turntable connections, the feedback contact numbers of the train number displays on your turntable (Minimum 1) etc. Afterwards you can start to register your turntable connections



First of all select with a click the turntable connection in the graphic the connection to register. Afterwards use “drag & drop“ to register the according turntable connection from your track diagram into the small picture box below “TT-connection…”.



Now select the direction which shall be used for the locomotive sent to this connection.

Important!
A minimum of 1 train number display has to be registered to use the intelligent turntable control.

14.11.1 The intelligent turn table – short description

When using the intelligent turntable you have to remember the following...

- Requirements

  The turn table decoder has to be programmed (only relevant for Märklin/Sven Brandt) with a predefined address scheme.

  Example: When programmed for keyboard 15 the programming has to be following...

  - 48 connector turntable (Märklin/Sven Brandt-Decoder):
    - default address (first used address e.g. 225)
    - turning direction left 228 green (=default address +3)
    - turning direction right 228 red (=default address +3)
    - Turntable connector 1/25: 229 red (=default address +4)
    - Turntable connector 2/26: 229 green (=default address +4)
    - Turntable connector 3/27: 230 red (=default address +5)

      and so on…to...
    - Turntable connector 23/47: 240 red (=default address +15)
    - Turntable connector 24/48: 240 green (=default address +15)

  - 24 connector turntable (Märklin/Sven Brandt-Decoder):
    - default address (first used address e.g. 2255)
    - turning direction left 228 green (=default address +3)
    - turning direction right 228 red (=default address +3)
    - Turntable connector 1/13: 229 red or green (=default address +4)
    - Turntable connector 2/14: 230 red or green (=default address +5)
    - Turntable connector 3/15: 231 red or green (=default address +6)

      and so on…to...
    - Turntable connector 11/23: 239 red or green (=default address +14)
    - Turntable connector 12/24: 240 red or green (=default address +15)

- Setup for the intelligent turntable
  1. Create a new data record in the editor
  2. Select the type of decoder
  3. Select the digital system
  4. Select the number of turntable connectors, the button “PRG” can be used for reprogramming the number of connectors when using the Rautenhaus decoders
  5. Select the turntable number, this has to be identical with the turntable number registered for the turntable connections within your track layout
  6. You have to register a minimum of one train number display, because otherwise the program cannot decide whether a loco is standing on the turntable or not.
  7. Register the decoder default address (for Märklin/Sven Brandt first used address).
  8. Now take a look at your layout and select the current position in the editor (TT-House at track…) and press afterwards “Synchronize”.
  9. Now you can select for Märklin/Sven Brandt a pause between the direction and move command for the turntable.
  10. Now select with a click the turntable connection in the graphic the connection to register. Afterwards use “drag & drop“ to register the according turntable connection from your track diagram into the small picture box below “TT-connection…”. Then select the direction which shall be used for the locomotive sent to this connection, by this option you can decide if you want the turntable to turn the locomotive in such a way, that e.g. a locomotive will always be sent with direction “Forward” to this connection.
  11. At last you can decide if the program shall send the turn command to the locomotive decoder if necessary or not. Normally select “Yes”.

14.11.2 Example for using the intelligent turntable

This is an example for manual operation, but it can also be used in automatic operation. The example is made for a 48 connector turntable.

Example:

- No locomotive on the turntable
- The position of the turntable's house is connection 10
- The locomotive is waiting at connection 12 with smoke pipe next to turntable
- The locomotive shall be sent to connection 40 and for this connection you have registered the direction "Backwards" within the editor
- Now click on connector 12, the turntable will use the shortest way from connector 10 to connector 12 → two steps clockwise
- Now drive the locomotive to the turntable, so that the locomotive is displayed in one of the turntable's train number displays and don't change the locomotive's direction.
- Now click on connector 40, now the turntable will use the longer way from connector 12 to connector 40, this means 28 steps anticlockwise, because only by using the longer way the locomotive will now drive "Backwards" as wished to track 40.
- Now you must only drive the locomotive to track 40, the program has changed the locomotive's direction automatically.

Please remember to click once on the turntable connector, that is used to drive the locomotive onto the turntable. This has to be done before driving the locomotive to the turntable, because otherwise the program does not know the connector from which the turntable is starting. E.g. if the turntable was sent the last time to connection 12 and you now drive a locomotive onto the turntable coming from connection 36, the program will now imagine, that the locomotive was coming from track 12.

14.12 Using the turntable within routes

The turntable can be used within routes using its track connectors. In this focus it is important to **not** use the track connectors in the normal route recording, but only in add-on switching.

You can also use track connectors in contact event lines of the timetables or profiles.

15 – DIGITAL TRANSFER TABLE

15.1 General

This chapter explains how to control the transfer table for Märklin Digital HO (ref. no. 7686 and 7294) through **WIN-DIGIPET 2012**. This control cannot be used with other types of transfer tables and power supply systems.

Please read carefully the manual of Märklin's, especially the sections concerning the electrical connections of the transfer table and the removal of mechanical and electrical failures.

The transfer table operation with **WIN-DIGIPET 2012** is comfortable **and** makes it possible to drive the table directly to any track connector.

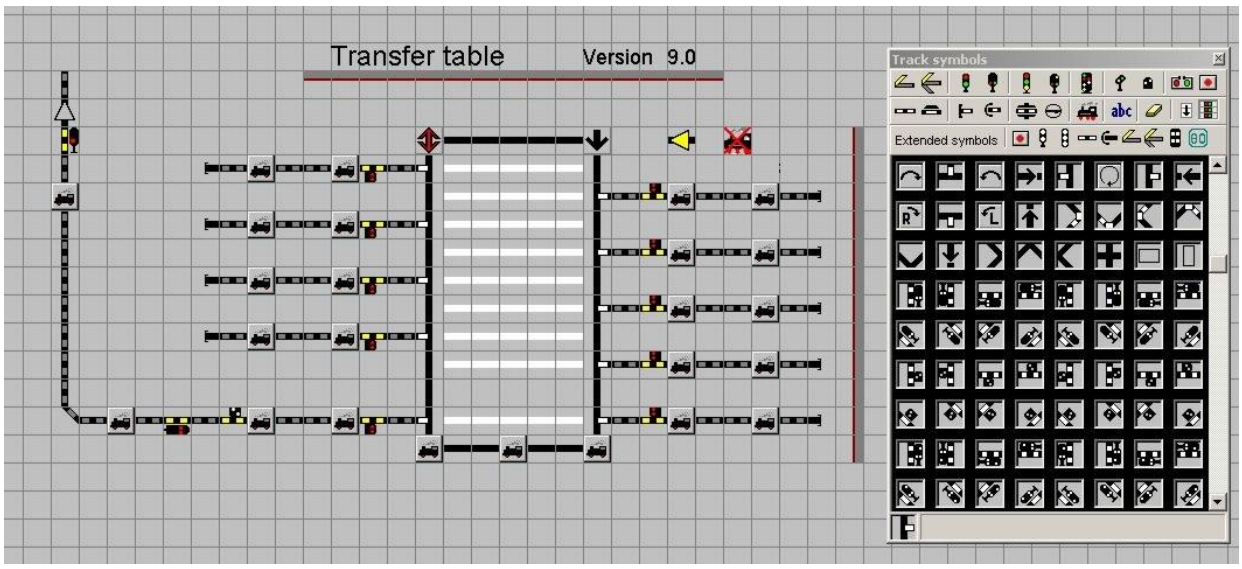
Before using the transfer table, the transfer table should be activated in the system settings on the index card "Program settings - General".

The transfer table is controlled by two switching decoders and one feedback module. The connections to the decoders are described in workshop #17 on the Win-Digipet homepage; this workshop also describes necessary mechanical and electrical changes.

15.2 Adding the transfer table to your track layout diagram

If you want add the transfer table to your track diagram, you have to open the track diagram editor via the menu command <File> <Track Diagram Editor> or with a click on the symbol in the toolbar.

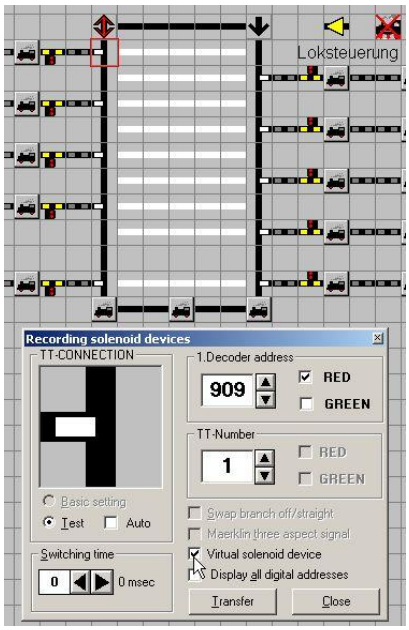
Select the type field "Turntable" in the symbol selection window. With these symbols you can draw the transfer table into your track diagram; the picture below shows you an example.



In the symbol selection you can even find symbols for drawing a locomotive shed with sheds-gates.

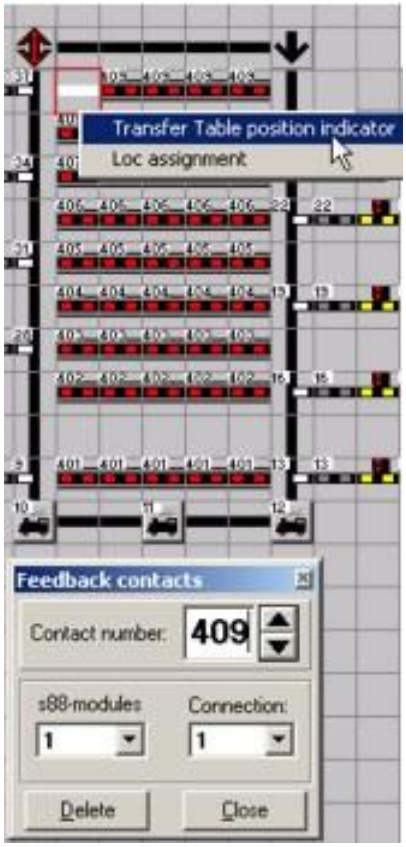
15.3 Registration of the transfer table including addresses in the track diagram

After drawing the transfer table into your track diagram you can now register the addresses and feedback module for the track connectors.



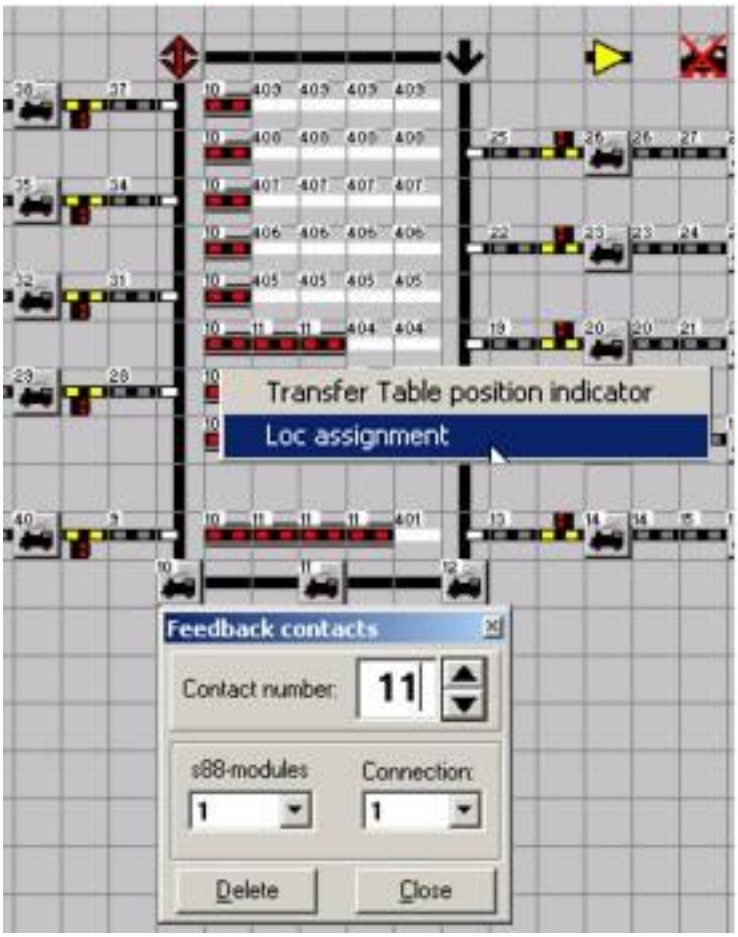
Please take care of the following points!

- Every track connector acts as a command button: a click on it results into an action.
- The addresses of the two k84-decoders and of the 9 feedback contacts (cabling according to workshop #17) have to be known.
- At first you register the solenoid device addresses of the two k84-plugs (in this example the k84-plug for controlling the direction has the address 16).
- Afterwards the 9 track connectors have to be assigned to solenoid device addresses 901 to 909 in the track diagram editor counted from the straight-through-track (901). The addresses 901-909 are prefixed by the program and **can't** be changed.
- When assigning these addresses to track connectors you should always check "*Virtual solenoid device*". To keep track of registered addresses you should check "*Red*" for the left connectors and "Green" for the right track connectors.
- For the same reason you should also check "*Display all solenoid device addresses*".
- The message "Digital address already exists…" could be ignored.
- Afterwards the feedback contacts have to assign to the 9 possible transfer table positions in your track diagram. This feature offers you the possibility to see the current transfer table position in your track diagram. In the example, feedback contact number 401 to 409 have been assigned to the transfer table tracks. In the small selection menu, that appears when you assign feedback numbers to the transfer table track symbols, you have to select <Transfer table position indicator>.



- Now you have to assign also for all 9 transfer table position tracks, the feedback numbers indicating locomotive occupation. In the small selection menu, that appears when you assign feedback numbers to the transfer table track symbols, you have to select <Loc assignment>.

- At last you should also assign all 10 possible track connector symbols to the feedback contacts for transfer table position.



After saving and leaving the track diagram editor, in the main program the transfer table should indicate its current position. In our example the transfer table is positioned at the straight-through-track.

When moving the mouse of the several transfer table symbols, a tool tip shows you all your registered data.

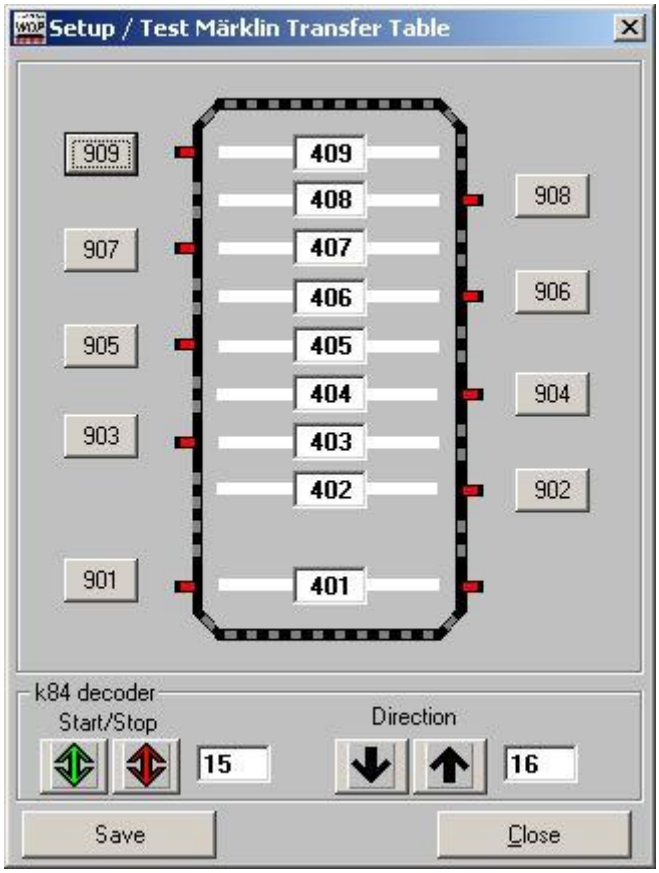
15.4 Data saving

Select in the track diagram editor the menu command <File> <Save> or click on the symbol in the toolbar.

15.5 Transfer table setup

The transfer table setup requires that you have assigned all position feedback contacts and solenoid devices correctly to the track symbols in the track diagram editor.

Afterwards you can open the transfer table setup via the menu command <Extras> <Märklin Transfer table> or with a click on the symbol in the toolbar.



In the setup/test window you can assign the solenoid device addresses of the two k84-decoders as in the track diagram editor and also the 9 position feedback contacts. Confirm your registrations afterwards with **'*Save*'**.

At this time this window also should keep you inform about the actual transfer table position.

Now press one of the 9 push-buttons and the transfer table will move to the selected track connector.

If the transfer table moves in the wrong direction when making your first tests, you have to reverse the connectors of the direction-k84.

Important!
After every change in your track diagram, the transfer table setup has to be reopened and resaved once.

15.6 Leaving the transfer table setup

After leaving the transfer table setup via **'*Close*'** the transfer table can be moved to all track connectors with a simple click on one of the track connector symbols.

16 – CRANES IN WIN-DIGIPET

16.1 General

With **WIN-DIGIPET 2012** you can control the cranes of Roco, Märklin, Trix and other manufacturers.

The following cranes are supported:

- Roco Portale-Crane
- Roco Crane-Wagon
- Märklin Goliath
- Märklin Crane 7651
- Märklin Portale-Crane 76500
- Trix Portale-Crane 66105 (similar to Märklin 76500)
- Märklin Coaling Station 76510
- Märklin Train Crane 46715, 46716 or 46717
- Uhlenbrock Gantry crane
- Märklin Tower Motor Car.

The cranes of Märklin use the Motorola-protocol only and the cranes of Roco uses either Motorola or DCC decoders.

If you own a crane with a digital-decoder (or even up to five digital cranes at the same time), this is a very nice feature for your model railroad.

Even for people, who don't own a crane this chapter is interesting, because also macros for locomotives can be recorded. These macros could be executed manually, by the timetable, by profiles or the dispatcher. The advantage of macros is that you have no limits because of routes and start/stop-commands.

When controlling locomotives by macros you can realise really nice shunting actions and you have even the possibility to use one destination contact for more than one locomotive. This is normally impossible in **WIN-DIGIPET 2012**.

The same can be said for functionality models (e.g. carousels) or other digitally controlled models that can be registered as locomotive in the vehicle database.

In the following sections the control of the Märklin Train Crane 46717 is described. The other cranes can be controlled accordingly.

16.2 Registering a crane in the vehicle database

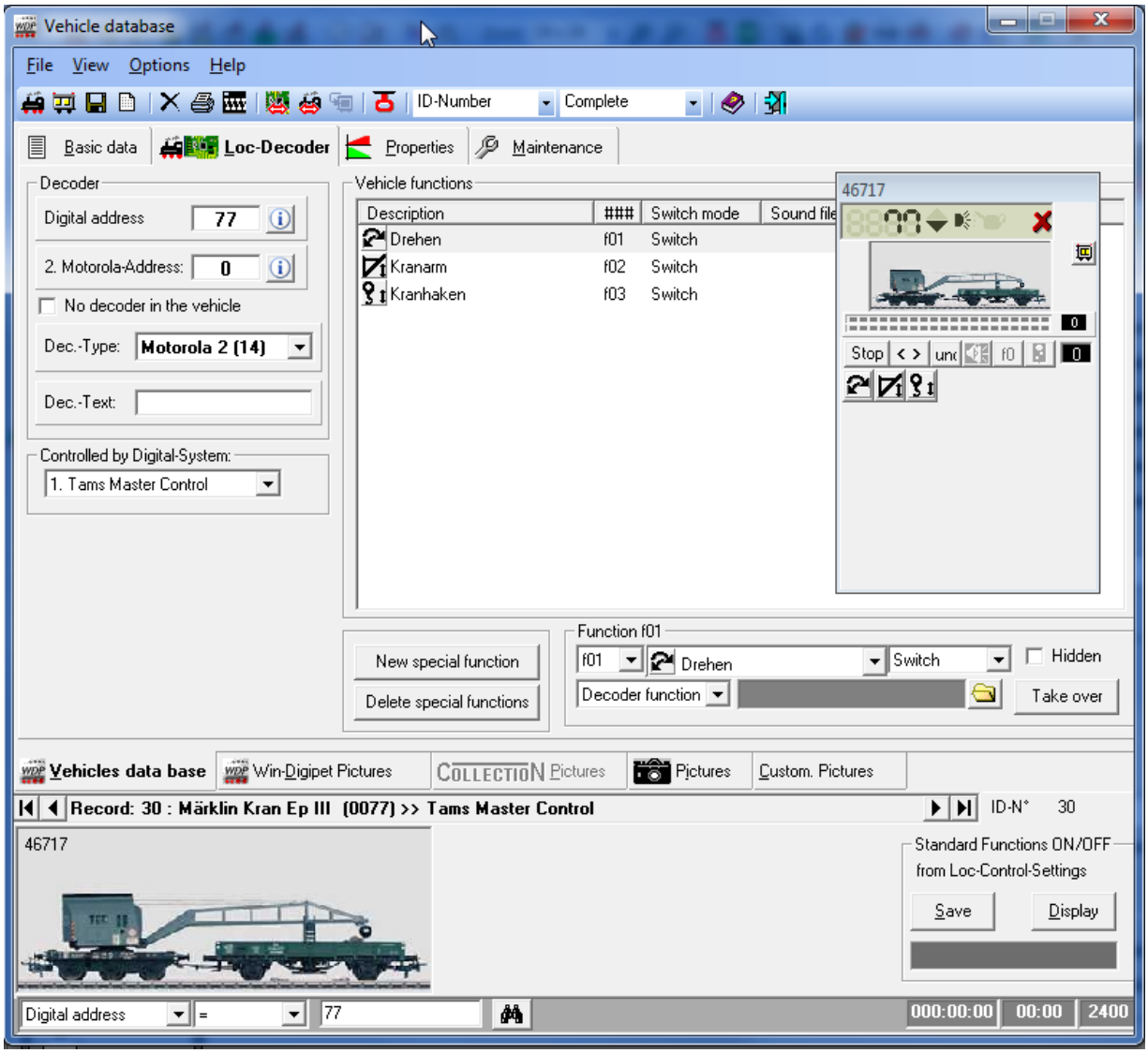
The first thing you have to do is to register the crane in the vehicle database. The registration process in the vehicle database is described in chapter **5.6.1**.

Pictures for the cranes can be downloaded from the "Download"-area of the Homepage of Win-Digipet. Download this picture to the folder C:\WDIGIPET\EIGENE. After downloading these pictures can be used in the vehicle database via „Custom pictures".

You may also register the digital addresses of the crane in the vehicle database. For the Märklin Portale-Crane these addresses are fixed by the decoder to 73 and 74.

16.2.1 Registering a crane – Index card „Vehicle-database – Vehicle-Decoder“

First you should enter the digital address according to chapter **5.5.1**.



Afterwards you should select the correct decoder type and digital system from the combo box lists.

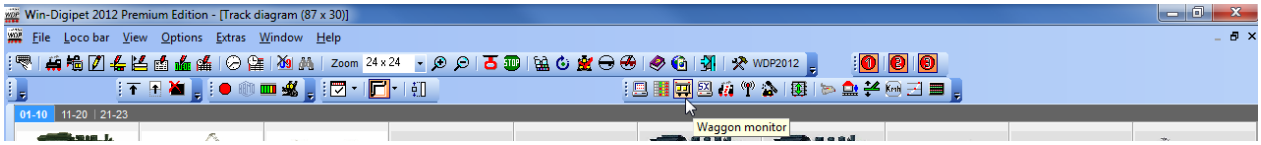
Finally you should enter the special functions of the decoder as described in chapter **5.5.5** for new locomotives. Therefor press the button **'*New special function*'**. The crane in our example uses the special function f01 to f03.

For many digital systems the registration of the cranes special function is not necessary within the vehicle database, but to be sure your digital system will receive all commands you should enter the special function here anyway.

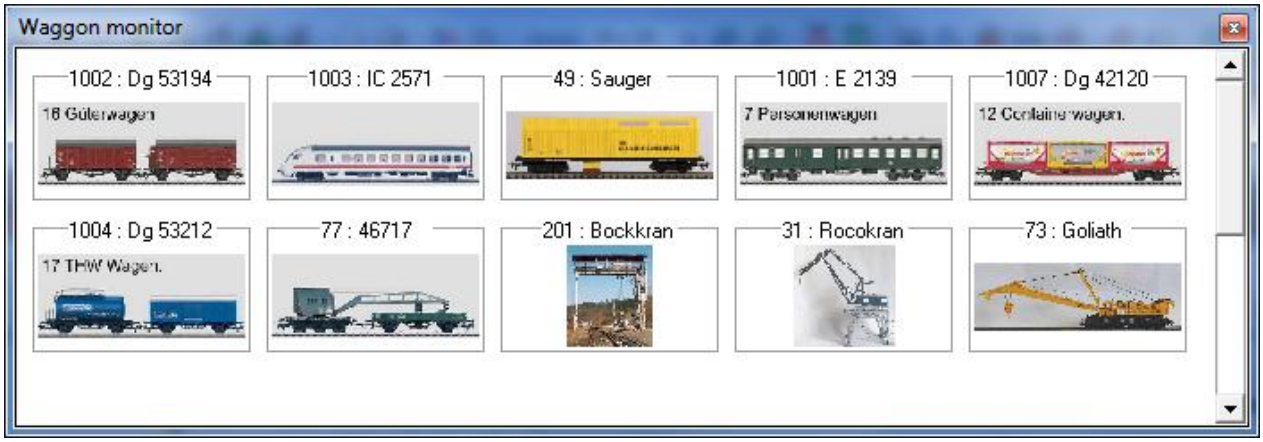
All functions of the crane types which are available in Win-Digipet are defined in the file KranControl.wdp. You should **never** change this file.

16.3 Opening a crane control

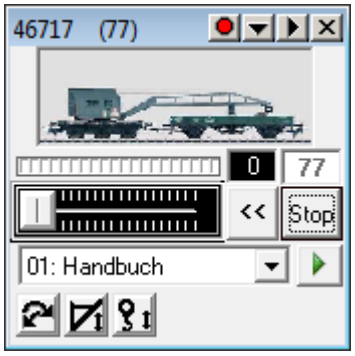
For opening a crane control you have to open wagon monitor. You can see the according toolbar symbol in the following picture.



After a click the wagon monitor will open showing all registered wagons, wagon groups and cranes.



Select the crane from the list and click onto its picture, the crane control will open...

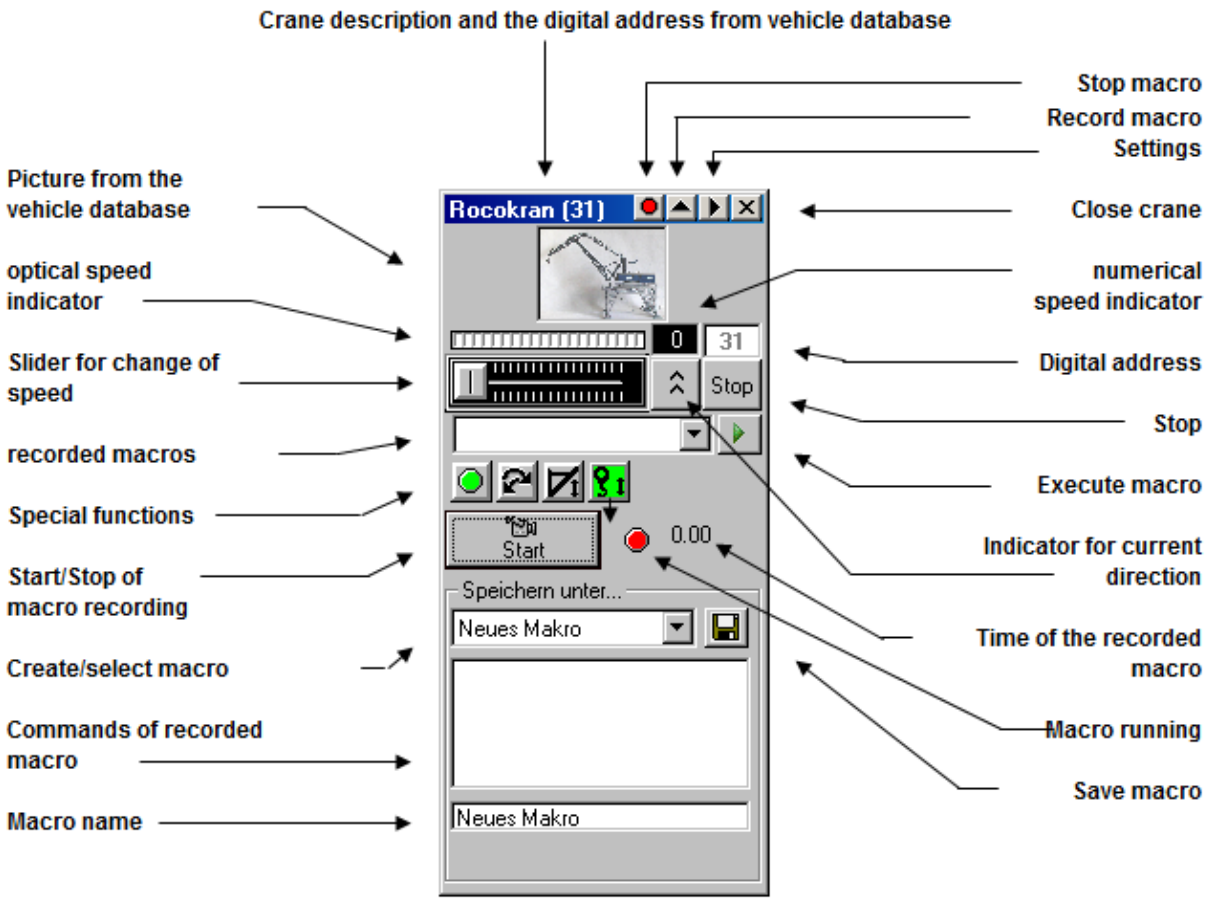


...and the crane can be control. Depending on your crane you will see different controls and buttons.

The crane can be controlled by the buttons and the slider within the control. Depending on your crane type (e.g. the 46717 in our example) the activation of one button results in the deactivation of a second button (because two functions are not possible at the same time for this type of crane). Using the button ***'Stop'*** any movement can be stopped immediately.

You should use small speeds with your crane. The arrows on the direction button change the orientation depending on the selected function between left/right and up/down.

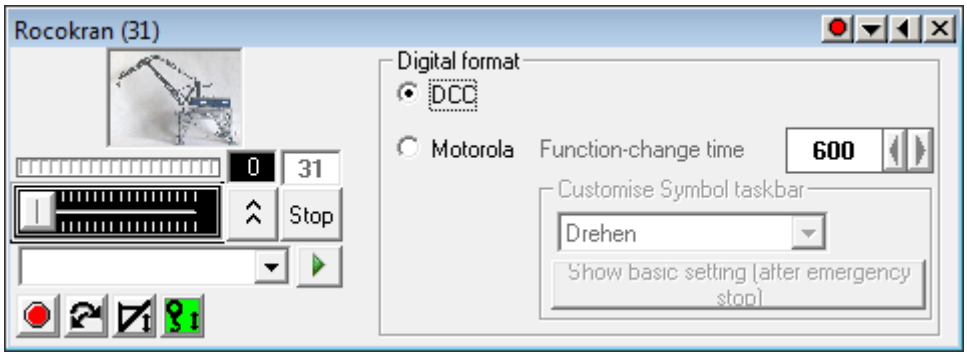
16.3.1 Crane-Control



Depending on your crane you will see different controls and buttons. Using the right arrow in the windows caption you can open the settings part of the window. Depending on the type of crane you make here several additional settings.

16.3.2 Crane-settings DCC for Roco Cranes

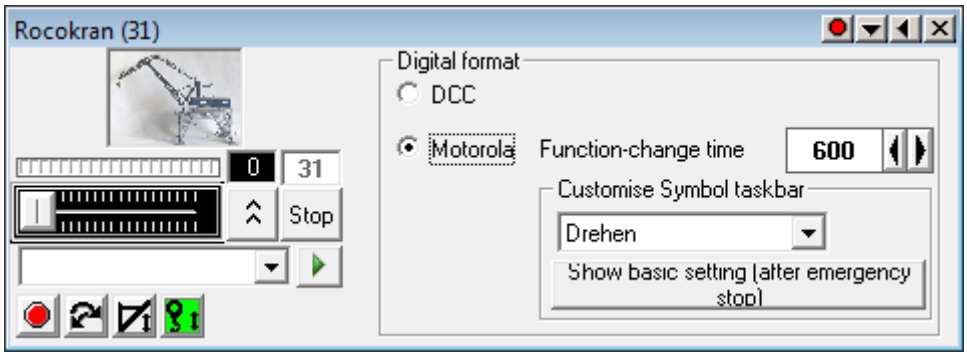
Press the button ▶ in the windows caption and the window will extend to the right.



Now select the DCC protocol. Further settings are not necessary.

16.3.3 Crane-settings Motorola for Roco Cranes

Press the button ▶ in the windows caption and the window will extend to the right.



Now select the Motorola protocol.

The next step is to adjust the '*Function-Switching-Pause'*, which is needed for the crane to switch through the different functions in sequence. Unfortunately this is design intended for Roco cranes with Motorola decoders. The usage of the different functions directly is not possible with the Roco cranes (Status June 2003). During our several test sessions we recognised that Roco cranes react in very different ways. Therefore vary the waiting time, to find the optimal settings. Do not set the delay times too short, because then it might happen that **WIN-DIGIPET 2012** sends the commands too fast and the crane "slips" some of them. If the values are too high, it could possibly happen that some of the commands will be processed in the opposite direction. A value of about **600ms** has been proven successful (in above example the value is adjusted to 400ms).

Below you find the area for synchronisation (*Display default setting after emergency stop*). *Default* for this model is the function "*raise/lower*" and "*right/up*". This means after every switch-off-on of your model railroad or after an *emergency stop* (always after power was switched off) is this the default function which the crane will start with (it will forget anything). So you just need to change these parameters if a change occurs during operation which should be compensated by this.

Please keep in mind that after EACH "emergency stop" and after each powerless session the Roco-crane will ALWAYS change to status "*Raise/Lower*" and "*Right / up*".

16.4 Testing the cranes

After these settings you can test the crane.

All crane data will be saved in the Win-Digipet vehicle database.

Press the button for basic settings after emergency Stop to synchronize the functions and moving directions between your crane and the crane control.

16.5 Information regarding Märklin cranes 46715, 46716 and 46717

If you use one of these cranes with an Intellibox or Tams Master Control you have to make some special settings.

In the Intellibox you have to set the special options 902 from 12 (Default value) to 16 and 914 from 18 (Default value) to 40.

In the Tams master Control you to set the MM-Signal-Pause from short to long (4,025ms).

As decoder type you have to select Motorola 2 (14) in your vehicle database.

16.6 Recording crane macros

Via the - button you get to the macro recording section.

With **'*Start*'** (Start) the recording begins (then the text of the switch-button will change to **'*Stop*'**).

Please proceed with all required moves manually. All corresponding commands and times will be indicated in the status window and will be recorded.

To change the direction, you have to push the **'*Stop*'**-button before. Be sure not to mess up the **'*Stop*'** and **'Record-*Stop-Button*'** by mistake.

Via **'Record-*Stop-Button*'** (Stop) you finish the recording.

Within the text-panel in the bottom you may enter an individual name for this macro. By pushing the disk symbol button you will save your crane-macro.

The macro selection should now contain the name of your macro. The leading number e.g. "01" has been assigned internally and cannot be changed.

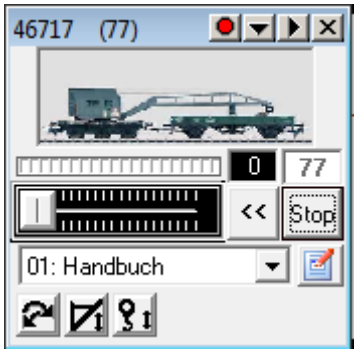
Via you are able to test the recorded macro directly as long as the recording window is still open and the command chain is still visible in the status window. If you are satisfied with your record, close this section again and the macro will be available in the list of the recorded macros and may be activated at any time you want manually or by the automatic operations.

With further macro-recordings please proceed as described above.

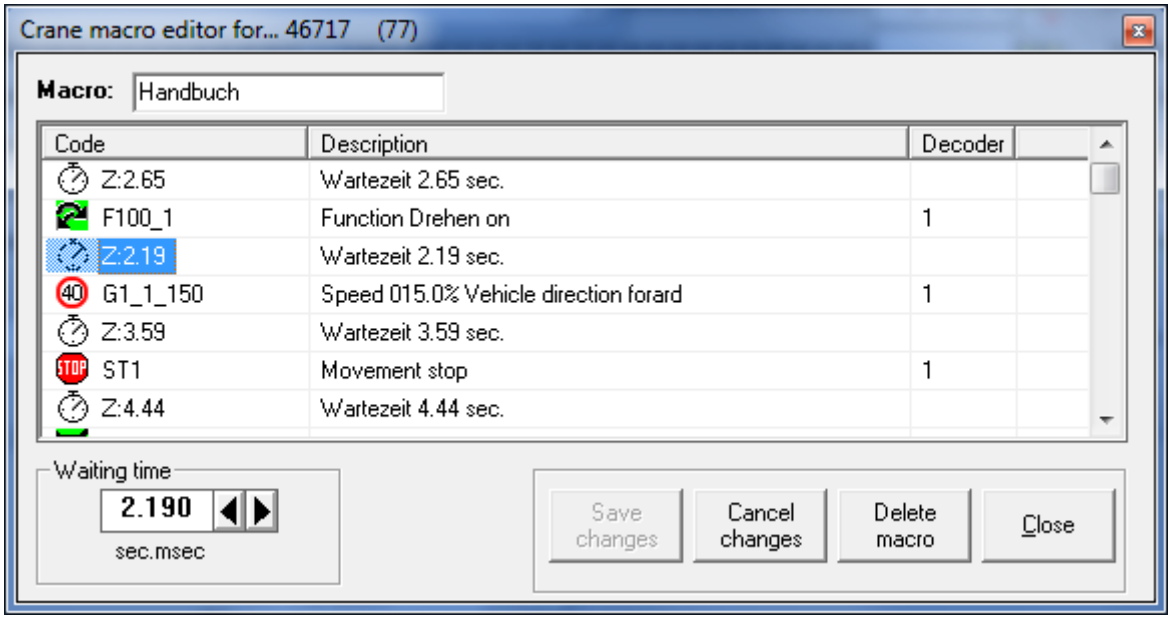
> A version of macros from older version (2009.5 and earlier) of **Win-Digipet** is **not** possible, because the new macro routines are much more powerful and do not understand the old recordings.

16.6.1 Editing and deleting crane macros

After selecting a crane macro from the list the crane control, press the shift-key and the button ...

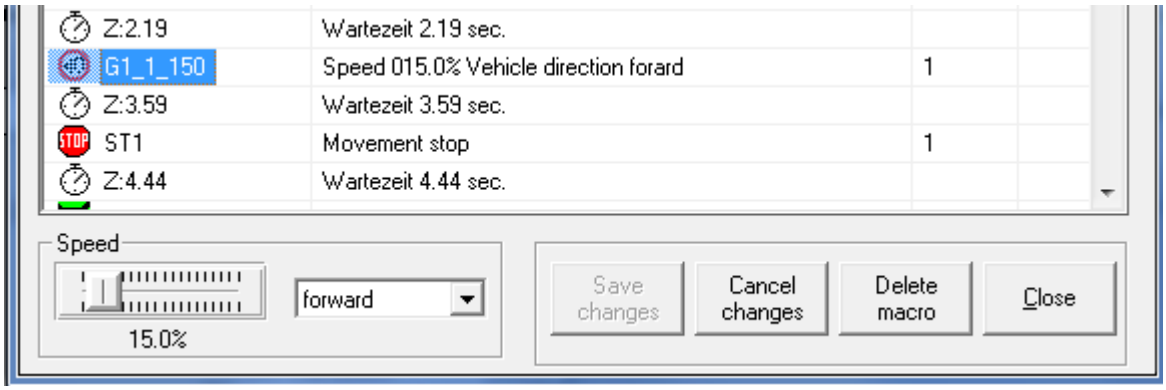


...will change to the button . After a click on the changed button the editor window will open (in our example macro 01: Manual).



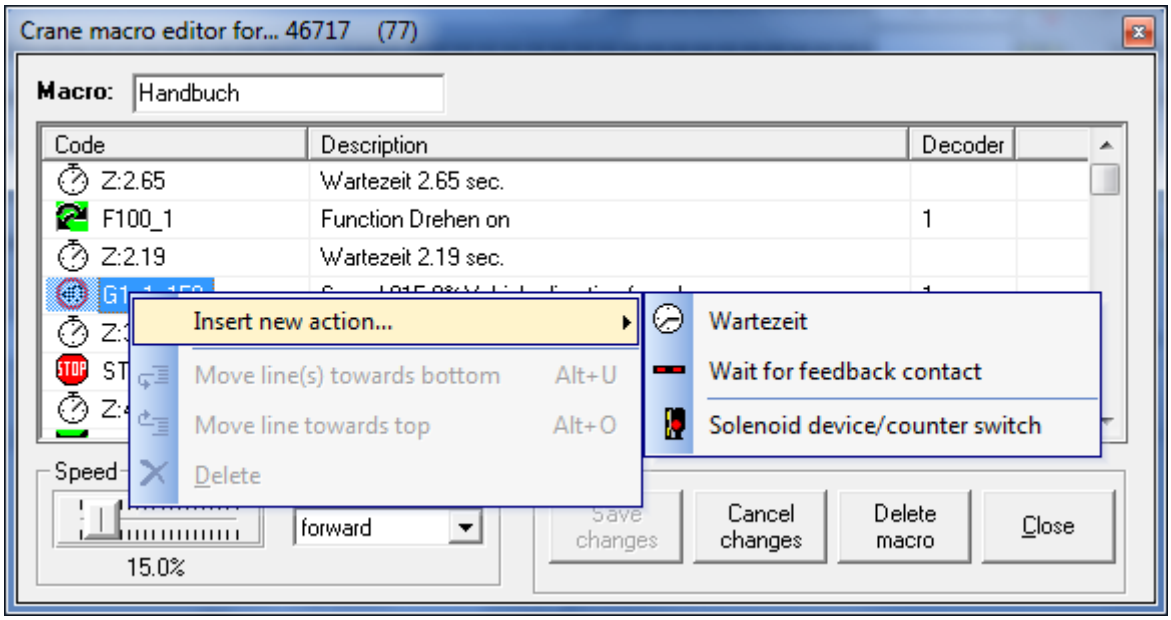
In all macro rows containing waiting times the times can be adjusted (see picture above).

In all speed rows (see picture below) the speed value and the speed direction can be changed.



Every click onto the slider changes the speeds in steps of 5%, finer changes can be made with the left and right keys of your keyboard (0,1% changes).

The following picture shows you several other editing possibilities.



In our example we added row containing the command "Wait until Contact 192 occupied". By this all further macro rows will be delayed until contact 192 has been occupied. This might be useful to bring the crane to initial position. Starting with Win-Digipet 2012 even solenoid devices and counters switching actions can be added to macros.

Afterwards you should press the button ***'Save changes'***.

If you made mistakes during the editing process you can also select ***'Discard changes'***. The window will then close and no changes will be made.

The current macro can be deleted with the button ***'Delete macro'*** and a click onto ***'Close'*** closes the editor.

16.6.2 Tips concerning crane-macros

You should remember some points when creating macros:

Before you start to record a macro, move the crane ALWAYS to a defined and fix position! Example: Default function setting as it is when you switch on power, direction 180 degrees to the tracks, hook up, boom down (or whatever you'd prefer), because the macro will always process like you have recorded it – in relation to the current position and setting. In case your macro starts first to raise the hook for 10 seconds, but the hook was already at the highest position at the beginning of the macro, then there will be no feedback and WDP starts to process to raise the hook again.

- It would make sense when a macro ends in the same setting and direction as it started, to e.g. replay a macro several times. Alternatively the first macro ends in a position which is the starting position for another macro to build a kind of macro-chain. The current direction and activated functions are indicated via the

red/green “LED’s” next to the corresponding function-buttons (Roco with Motorola-Decoder). For the DCC-protocol GREEN / TURN and the arrow (>>) to the right is the default setting. Please pay attention also for DCC, that BEFORE you start a macro, the crane is always in its default position and synchronised with the crane-control.

- Don’t try to record too *precise* macros (precise by millimetre)! The cranes do not send any feedback about their current status or condition back to **WIN-DIGIPET 2012**, this means everything is controlled by time. But also in this stage we are far away from any “Suisse-Precision”, because the crane-motors don’t stop immediately, so that after multiple replay of the same macro the crane will get more and more out of range and the result will be that the crane puts its load right beside a lorry.
- Very well works, when you e.g. have a “huge” junkyard (incl. small cars with build-in magnets under the roof) and you record the macro in a way just to turn the boom to pick up a car and turn again to put it somewhere else. You can use this kind of macro nearly endlessly to e.g. “empty” your junkyard.
- Please always pay attention to the security regulation of the manufacturers, to avoid that conductive or flammable parts are able to fall onto the tracks!
- During operation of a macro all other command-buttons of this crane control are disabled except the stop-button. By means of the “shining LED” of the crane-control you may notice that a macro is still in progress. If you want to stop a macro for any reason just push the stop-button. Please keep in mind, if you then want to restart a macro, this macro will start from scratch, but at the current position!!! Therefore you must bring the crane into its default position before and you have to reset the switching to its default setting as well which is given for any new start!

16.7 Using crane macros in WIN-DIGIPET 2012

It is very comfortable and easy to implement macros in **WIN-DIGIPET 2012**! You can call macros in conjunction with contact events, similar to event-controlled switching of solenoid devices. Certainly you can also implement the powerful timer-control to start macros e.g. with an adjusted delay.

You can use the crane macros in **WIN-DIGIPET 2012** as follows:

- Manually using the crane control
- Automatically in profiles.
- Automatically in timetables.
- Automatically in the dispatcher.

17 – INFRACAR SYSTEM WITH WIN-DIGIPET

17.1 General

The model car from the Faller Car System or from Mader could be already controlled with WDP. However, now the InfraCar system by Karsten Hildebrandt is implemented.

The known systems of Faller and Mader know e. g. only two speeds "stop" or "full speed".

The InfraCar system sends the following commands via infrared light...

- Acceleration / braking
- automatic stoplight
- variable speed regulation
- and up to 6 switch functions (e. g. Light, indicator, blue light)

… if a suitable decoder is installed in the car/truck.

With this similar operations as with a normal model railroad are possible. Therefore the functions which you know from the model road control can be used with the InfraCar system.

17.2 Settings for the InfraCar system

You have to register the InfraCar system as digital system according to **4.1.1**.

17.3 Registering cars in the locomotive's database

Next you are going to register your cars like locomotives in the vehicle database. There you also find a decoder type for the InfraCar system.

You carry out the entries analogously to the locomotives according to **chapter 5**.

Of course you can use addresses which you already use for locomotives, because **WIN-DIGIPET 2012** "notices" that it concerns not locomotives, but cars. Besides you can use up to 6 special functions (if available).

17.4 Functions for the InfraCar system

If you have installed and configured the InfraCar system, all functions known for locomotives and automatics are also available.

The "street" must be drawn similar to "rail tracks" in the track diagram.

Moreover the following symbol tables are available to you;

- Street and track symbols **Sym_Auto_Bahn**
- Track and street symbols **Sym_Bahn_Auto**
- User symbols **Sym_U**

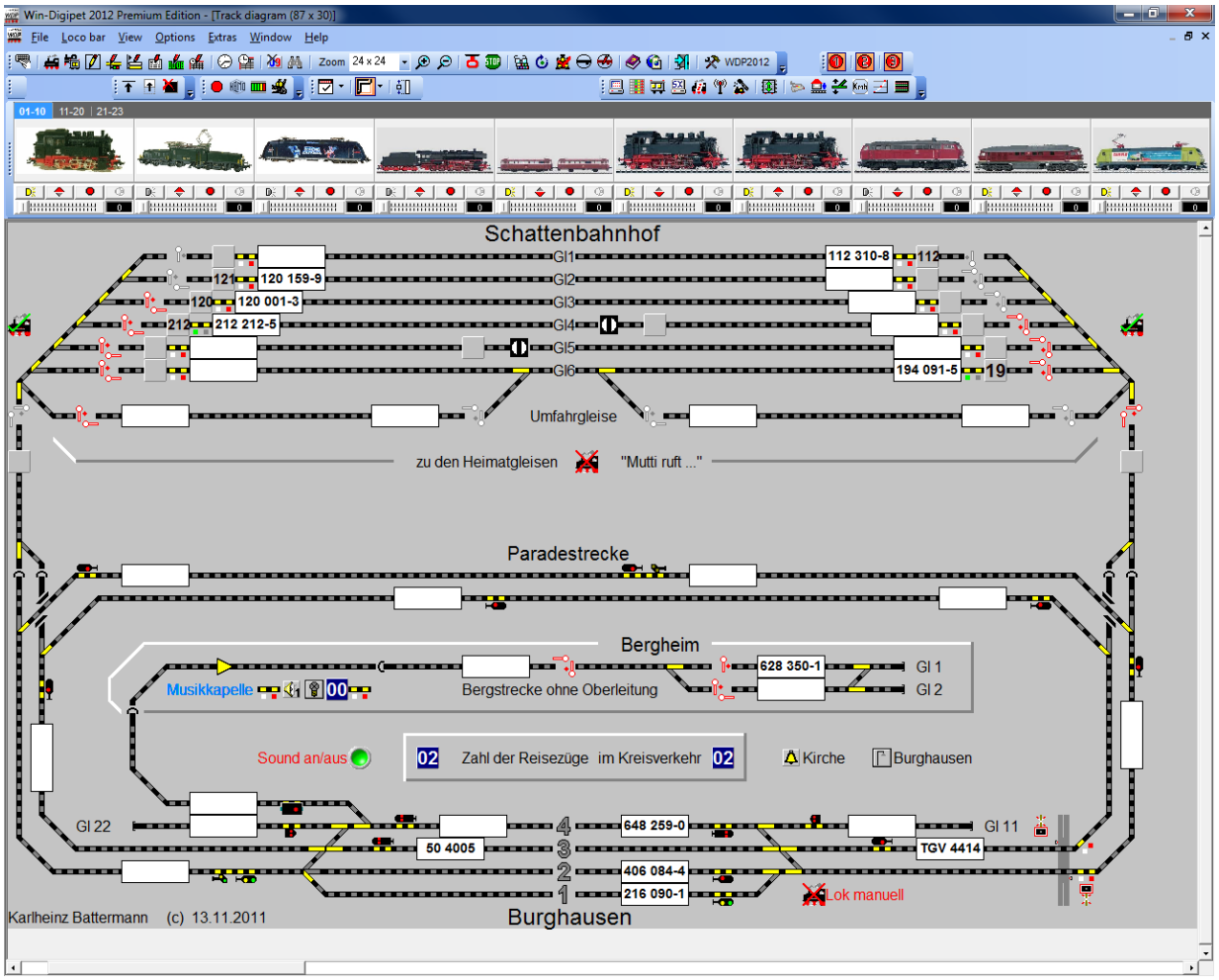
You can select the desired symbol table in the system settings according to section **4.11.1**.

18 – MODEL RAILROAD OPERATION with WIN-DIGIPET

18.1 General

By now you have recorded all individual data of your Digital model railroad, created the track diagram, determined the routes, profiles and tours and made the recordings for the operation according to timetables, automatic operation, using the tour automatic.

Thus, the prerequisites are satisfied and you can comfortably and efficiently control your layout through **WIN-DIGIPET 2012**.



In the **WIN-DIGIPET 2012** track diagram, your easy-to-handle command centre, you switch and control your model railroad.

In this chapter **18** all control functions and their handling in the model railroad operation are presented. References to other parts of this manual are made (**xx.xx**) to details already given in chapters **4** to **17**.

When you start WIN-DIGIPET 2012 your track diagram is loaded automatically, and you are in the main program.

You see everything as you left it after your previous session: the zoom factor, the loco control panels,…

- the size of the track diagram **(6.2**)
- the track diagram displayed using the selected symbol table (see **4.11.1**)
- the zoom factor (**6.2.4**)
- the loco control panels
- and the position of the locomotives selection.

In **WIN-DIGIPET 2012** 11 standard toolbars are available:

These are ...

- the main toolbar
- the toolbar for a quick selection of screen sections
- the toolbar to operate the loco controls
- the toolbar for changing the loco bar
- the toolbar for extras
- and the toolbar for external hardware
- the loco bar
- the logbook
- the central clock
- and the status of digital systems.

Also user defined toolbars can exist. A detailed description will be presented in **18.9**.

Toolbars are either visible or not, depending on the settings.

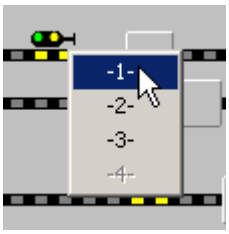
18.2 System settings

You can access the system settings via <File> <System settings> or switch in the toolbar. This program part is described in chapter **4**.

While you control your model railroad, you should not make changes to the basic system settings.

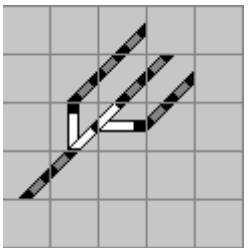
18.3 Switching individual solenoid devices and counters/SX-Displays

Point the mouse pointer in the track diagram at the solenoid device you want to switch: the mouse pointer changes to a hand. Press the left mouse button as often as necessary until the desired position of the solenoid device is reached.



Three-way and double- slip turnouts may require three or four clicks. You can switch an unlimited number of solenoid devices successively.

When switching signals with three or four aspects, you can open a context menu with the right mouse button and select the desired state directly.



The switching position of solenoid devices with equal addresses – for example: Two signals at the same decoder input –will automatically be synchronised at the track layout.

If you have represented three-way turnouts in inclined position in the track diagram by one vertical and one horizontal normal turnout (**6.4**), each with its own address, you should ensure that both turnouts are switched to “straight“ prior to any “branch” switching (**7.2**).
For counters/SX-Display click on the symbol, a new window will open. In this window you are able to change the symbol’s value.

18.4 Basic settings of the solenoid devices

<Options> <Execute basic settings> or switch in the toolbar, switches all solenoid devices to the basic settings determined in the solenoid device recording (**7.2**).

Via the menu command <Options> <Execute current switching> all solenoid devices are switched to the settings displayed in the track diagram.

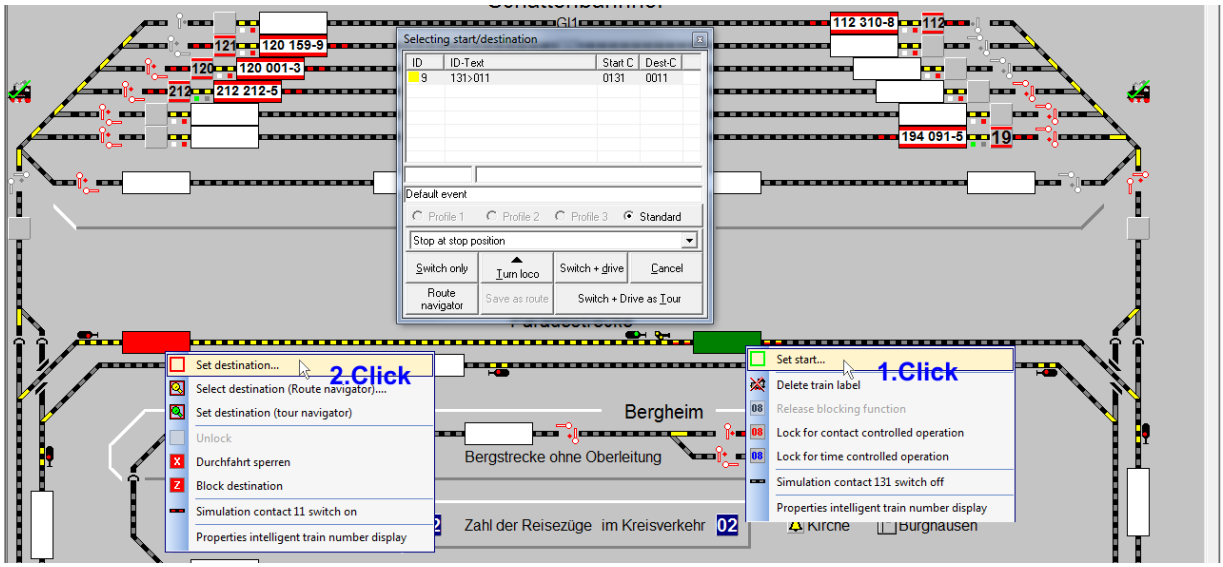
These functions are always useful if you want to switch your solenoid device into a determined state for example after manual intervention.

18.5 Switching of routes/tours

In **WIN-DIGIPET 2012** routes can be switched manually or automatically. The timetable or the tour automatic will only switch routes, where all switching conditions are fulfilled.

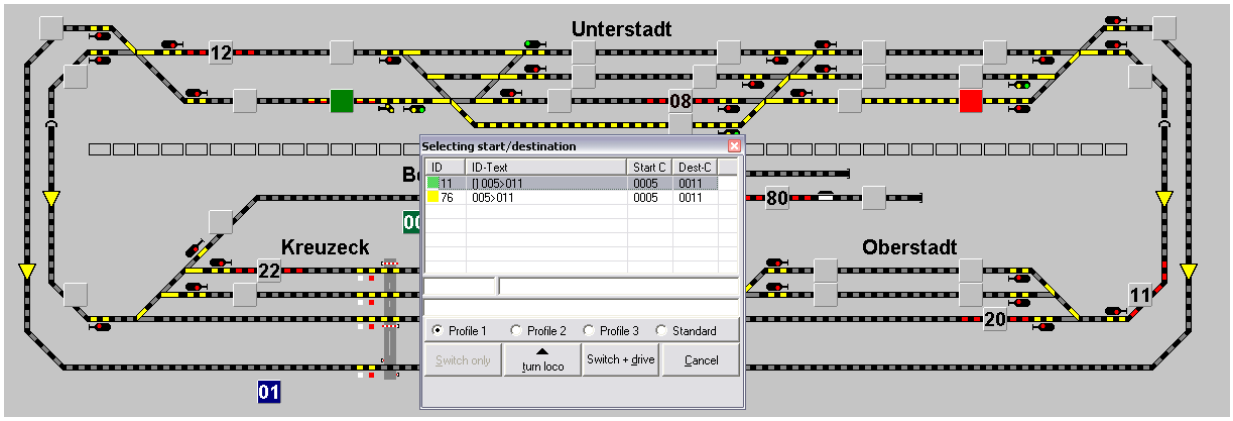
18.5.1 Using Start/Destination function

The first possibity is using the context menu of the track diagram, first click on the start train number display with the right mouse button and select <Set start> from the context menu and afterwards click on the destination train number display with the right mouse button and select <Set destination>...

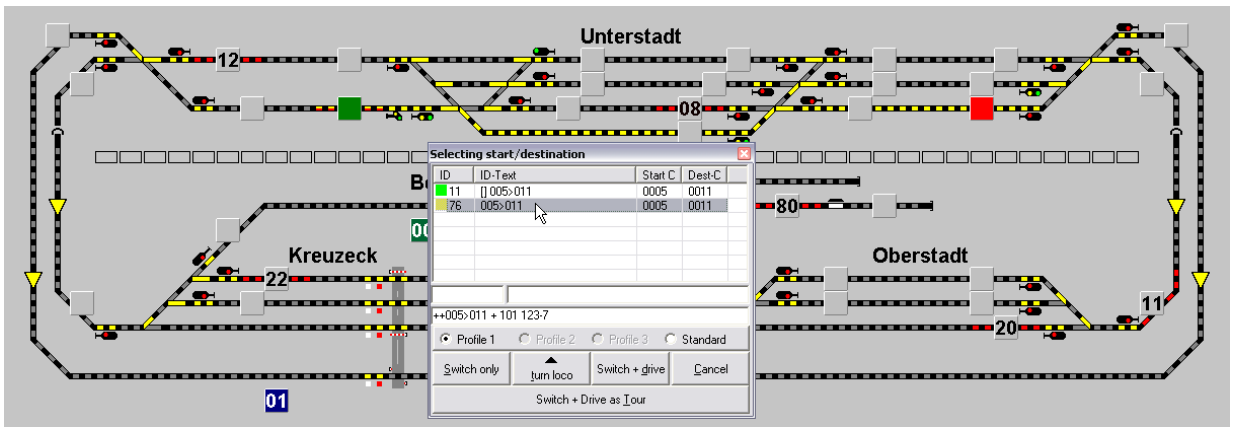


…or click with middle mouse button on the **starting** point of the desired route and again with the middle mouse button on the **destination** point (**starting** contact, **destination** contact).

The window “Selecting start/destination“ appears. All routes and tours that the system found are displayed in a list, with their ID text and their internal ID number.



In this example the program has found a route and a tour.



If you do select now a route or tour the start- (green) and destination contact (yellow) as well as the itinerary (yellow) will be highlighted. If you select a route in the list start/destination window will be extended with the button ***'Switch + Drive as tour'***.

In our example the locomotive 212 212-5 is registered on the start-train number display.

For this locomotive is for the selected a profile available and because of this you can choose between "*Standard*" and "*Profile 1*".

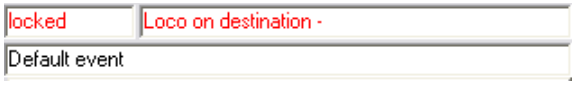
The following "Messages" are possible...

- "No route/tour found!",
  if the desired itinerary is not registered as route

- Warning because of crossing routes
  the ID-Text and ID-Number of the crossing route is displayed
- and warnings because of locked routes
  - because the route is not free e.g. caused by an occupied contact

  - because there is no locomotive on the start contact

  - because the route is not free caused by a destination train number display that is occupied by a locomotive number



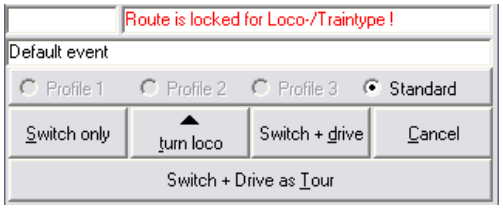
- This message says, that everything is OK.

Now select the desired route or tour from the list; the route appears in yellow and blinking, this means “Ready for switch“. The button **‘*Switch + Drive*’** will be enabled automatically, if a locomotive number is registered on the start contact. If you select a route in the list start/destination window will be extended with the button **‘*Switch + Drive as tour*’**.

You can choose between two options for routes:

- **A)** Click on **‘*Switch only*’**; the route will be switched and stops blinking und can drive **manually** along the route with a train/locomotive.For this purpose you can control the locomotive with the control panel of your digital system or with a **WIN-DIGIPET 2012** locomotive control.
- **B)** If the button **‘*Switch + Drive*’** is enabled, because of a registered train number on the start contact, so you can also choose between several driving options now.
- 1. You choose *“Profile 1”.*
  Then the locomotive will start running **automatically** by clicking on **‘ *Switch + Drive*’**. The values for the starting speed and the further driving behaviour will be taken from the profile registered for this locomotive/route-combination.
  As soon as the locomotive has reached the destination contact, the locomotive will be **stopped automatically**..
  - 2. You don’t choose “*Profile 1*“, but “*Standard*“. The values for the starting speed and the further driving behaviour will be taken from the locomotive and route database.
    As soon as the locomotive has reached the destination contact, the locomotive will be **stopped automatically**.

In both operation modes - **A)** and **B)** – warning messages will be displayed, if the selected route is not allowed for the locomotive-/wagon-type/length of the train registered on the start train number display (see also **4.7.1** and **8.10)**. But you can force to use routes even if this message is displayed by clicking on **‘*Switch + Drive*’**.



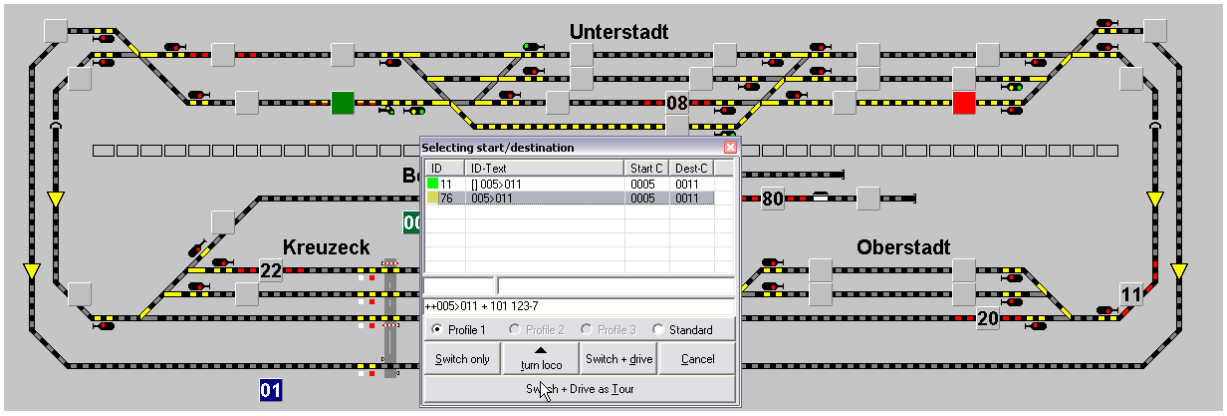
But be careful with this, because an un-allowed train is now using this route

If you want the loco to change its direction before executing the route/tour press **‘*Turn loco*’**.

According to your setting on the index card “Program settings – Locomotives“ in the system settings, the click on **‘*Switch + Drive*’** will also cause the control of the locomotive from the start contact to be opened automatically and closed automatically when reaching the destination contact(see **4.6.1**).

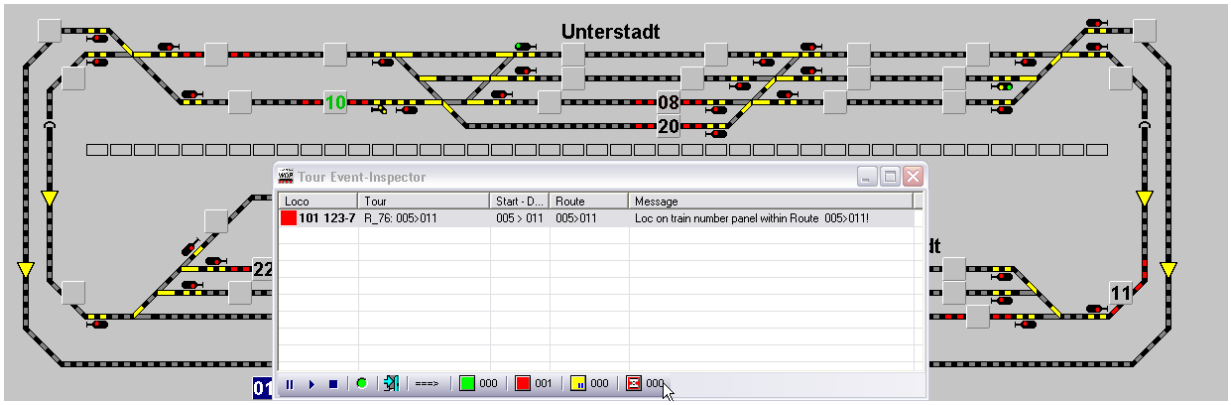
18.5.2 Switch + Drive as tour

The manual start/destination select for routes will be extended with the button ***'Switch + Drive as tour'*** if you select a route in the list.



With this window you can pre-select a route that cannot be executed at the moment due to switching conditions or crossing routes but it will be executed as soon as all conditions for switching are fulfilled. This is the same as if you would create tours containing only one route and executing them with start/destination-function for tours.

After pressing the button ***'Switch + Drive as tour'*** the route will appear in the tour inspector and executed as soon as possible.



You can select ***'Switch + Drive as tour'*** only for locomotives, that are actually not part of a route or tour. This means you cannot pre-select the route for a moving locomotive.

18.5.3 Using virtual keyboard

The most frequently used **32** routes can be switched extremely fast; the preparations are described in **8.17**.

Click in the menu on 'Options' - 'Virtual keyboard with route assignment' or on the switch in the toolbar.

The virtual keyboard appears.

Point to the command key with the ID number of the route you want to switch: Its description is displayed in the bottom display line.

Click on the command key.

The route is switched, if all the switching conditions are met and checked. If not, a message will be displayed.

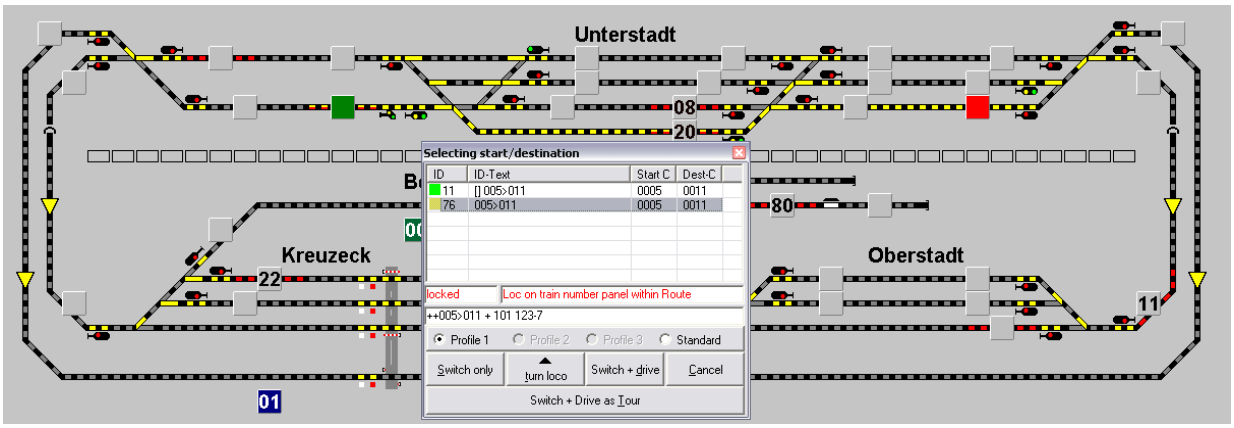
Hint!

Important!
You have to control the locomotive manually in this mode.

18.5.4 Loc on train number panel within route

Because of problems with sometimes bad and unreliable feedback information especially for two rail users the safety of routes has been enhanced.

In **Win-Digipet** it is now impossible to start a route covering a train number display showing another train number/class.

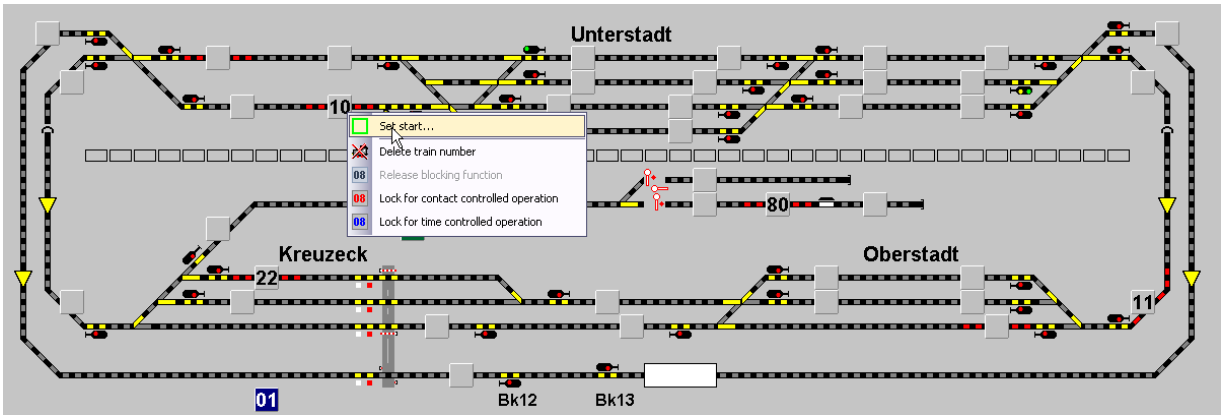


In our example we want to switch a route for loco 50. But the train number display showing loco 21 is also part of the selected and because of this the start-destination function will report this as error/problem "Loc on train number panel within route" and in automatic operations this route will never be switched.

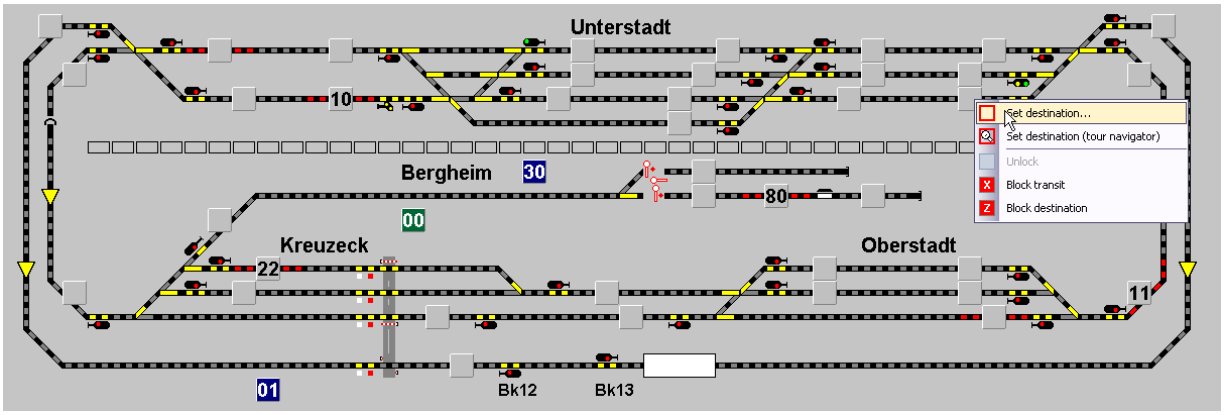
18.5.5 Using the start/ destination -function for tours

If you want to select a route or tour you have two opportunities...

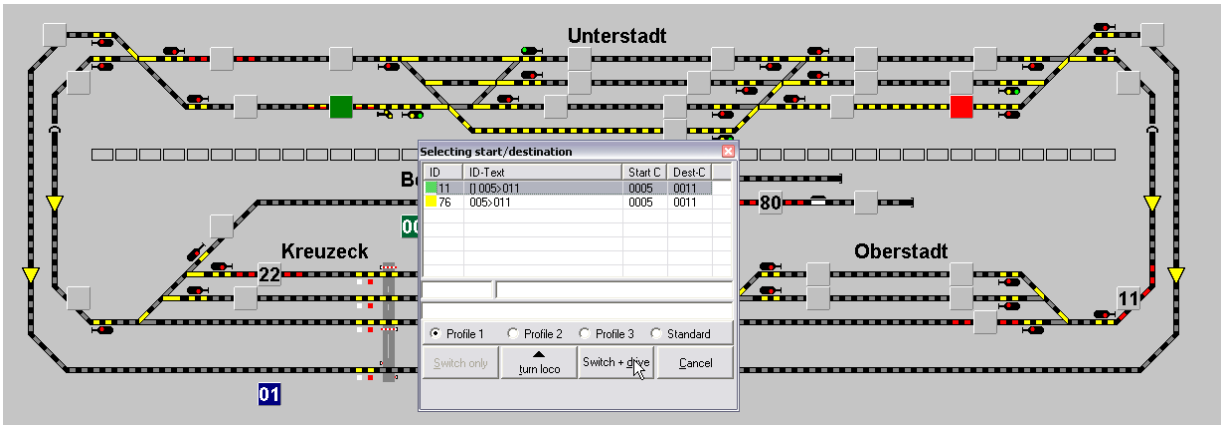
Step 1



Step 2



Step 3



If you want to select a route tour, click with the middle mouse button on the start train number display und again with the middle mouse button on the destination train number display. Alternatively click with the right mouse button on the start- and destination train number display and select the options “Start” or “Destination” from the context menu.

If no tour is found for this start-/destination-contact-combination the message “Tours not found” will be displayed.

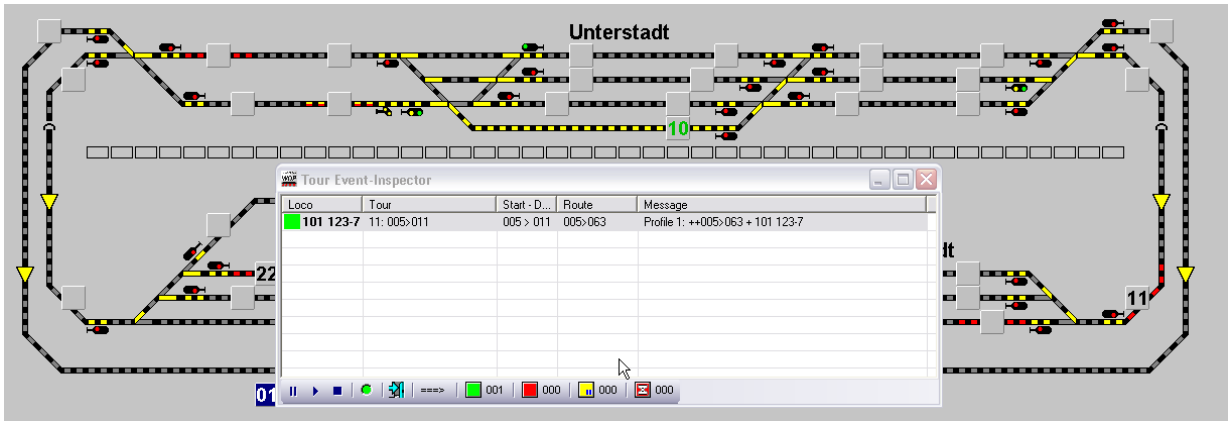
If the program has found (a) tour(s) according to your selection, the window “Tour selection“ will appear. This window displays the found tours with its ID-Number, ZF-text, start- and destination contact.

Select now the desired tour, it will be marked yellow in the track diagram (not blinking), this means “Ready for switching”. The button ***‘Switch + Drive’*** will be enabled automatically, if a locomotive number is registered on the start contact.

Now select the way of execution (“*Standard*“, “*Profile 1*“ to “*Profile 3*“) for the tour. As default given is the way of execution selected in the system settings on the index card “Program settings – Profiles“ according to section **4.5.4**.

If you want to change the driving direction of the locomotive **before the start** click on ***‘Turn loco’***.

After selecting all options the tour will be activated via ***‘Switch + Drive’*** and the locomotive will start running as soon as the switching conditions for the first route of the tour is fulfilled.



The route will be marked yellow, the train number colour changes to “GREEN“ and the window “Tour event inspector“ will appear. This window informs you about the actual state of the tour.

As soon as the train reaches the check contact (**Check next tour at contact:)** of the tour, the switching conditions of the next route will be checked and the route will be switched, if the switching conditions are fulfilled.

In the system settings it is possible to register a maximum waiting time for tours according to section **4.12.3**. In the tour is blocked longer than the waiting time and the next route can’t be switched, the program reacts as follows…..

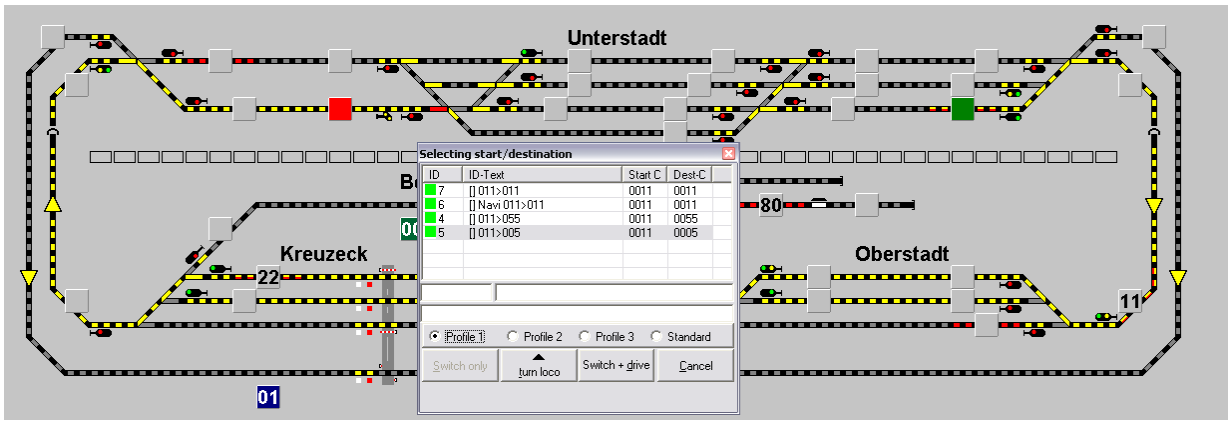
- the tour is stopped
- the tour is marked with a red hour glass in the tour event inspector
- the train number is still green
- **no** acoustical or textual warning will appear/played.

You have to fix the reason for the “blocked” tour and afterwards you can force the tour to be reactivated with by the button ▶ or killed by the button ■.

18.5.6 Starting tours manually only with the start train number display

If you have created many tours you may have forgotten, which tours start at a specific train number display. To get a list of all tours starting a specific train number display

just click **twice** with the middle mouse button on the desired start train number display.



If the program has found (a) tour(s) according to your selection, the window “Tour selection“ will appear. This window displays the found tours with its ID-Number, ZF-text, start- and destination contact.

In this example the program found four tours.

Select now the desired tour, it will be marked yellow in the track diagram (not blinking), this means “Ready for switching”. The button ***‘Switch + Drive’*** will be enabled automatically, if a locomotive number is registered on the start contact.

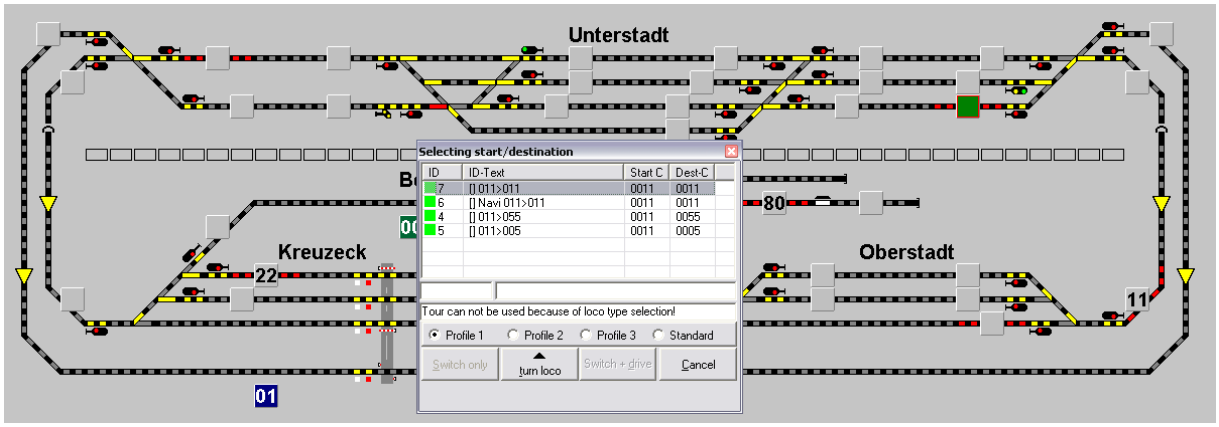
Now select the way of execution (“*Standard*“, “*Profile 1*“ to “*Profile 3*“) for the tour. As default way of execution selected in the system settings on the index card “Program settings – Profiles“ according to section **4.5.4**.

If you want to change the driving direction of the locomotive **before the start** click on ***‘Turn loco’***.

After selecting all options the tour will be activated via ***‘Switch + Drive’*** and the locomotive will start running as soon as the switching conditions for the first route of the tour is fulfilled.

18.5.7 Tour locked for locomotive type

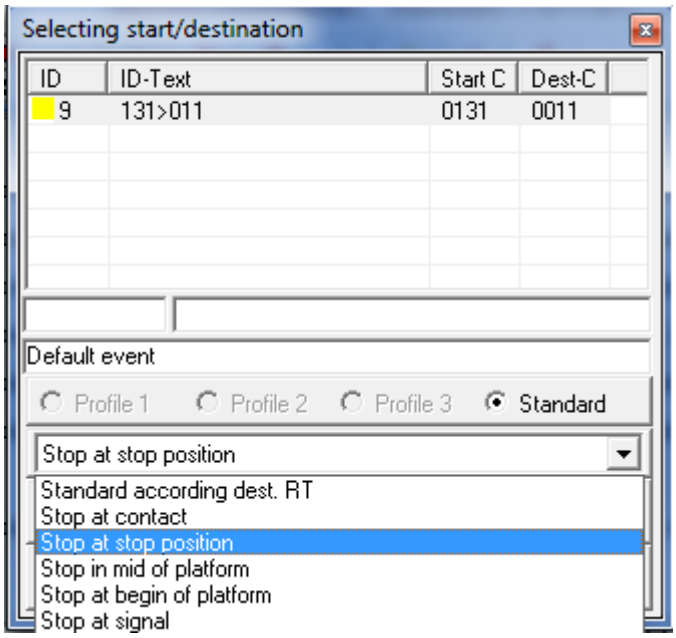
If you execute routes manually according to section **18.5.6** it is possible to get the following message.



This message will be displayed if this tour cannot be driven end-to-end for the locomotive-/wagon-type/length of the train registered on the start train number display.

18.5.8 Selecting the intelligent stop options when using start/destination function

Starting from Win-Digipet 2012.1 an additional input box has been introduced within the start/destination-window. You can now select for routes/tour which will end at an intelligent train number display if the train shall stop according to the selection in the route or you can select another stop option.

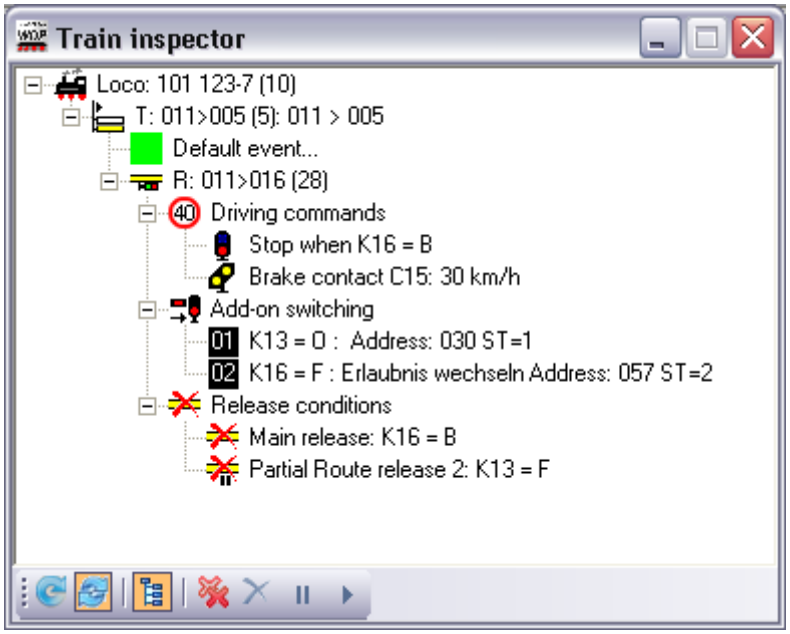


18.6 Train inspector, Inspecting/Resetting/Cancelling active routes or tours

Switched routes/tours can be inspected/reset/cancelled via...

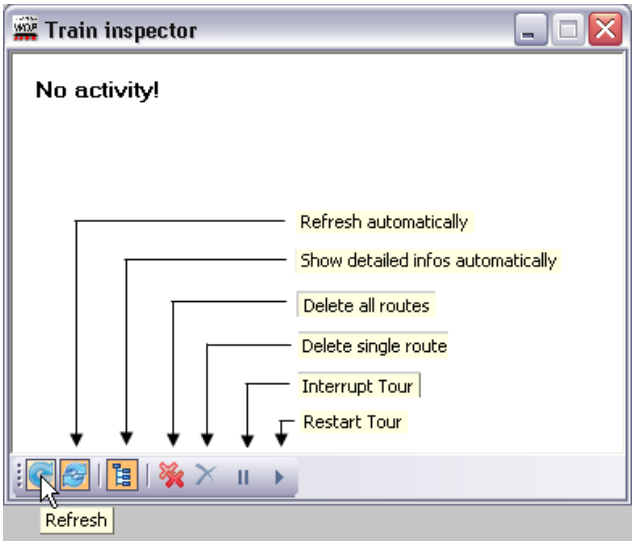
- the short menu of the right mouse button, selection: < Train inspector >
- or the function key **F7**
- or the menu <View> <Train inspector>
- or the button in the toolbar.

The window “Train inspector“ with all currently executed routes/tours will appear.



The tour inspector offers some option for the display in the toolbar at the bottom of the window and also some button to get influence on the currently selected tree nodes.

The button functions are explained in the right beside picture.



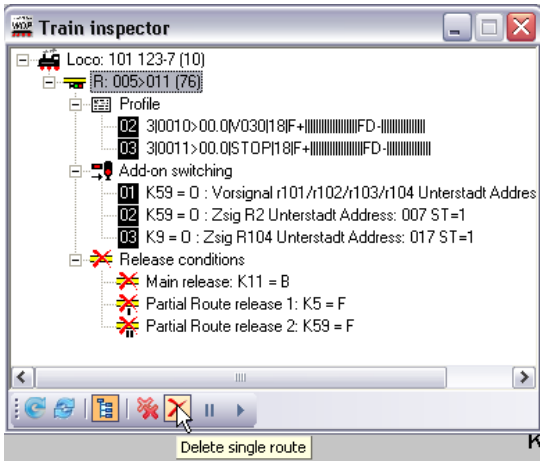
You will find e.g. a button for activating the automatic update mode of the window as well as for manual update of the tree. You can also select whether you want to displayed all sub items of the route automatically with expanded nodes or not.

The train inspector does not only list the currently active routes and tours grouped by the locomotive using the route/tour. It does also list the outstanding driving commands/profile contact events/add-on switching etc.

Because of this the train inspector is an extremely powerful tool for monitoring the execution of all details of your routes/tours. Here you can see the detailed execution the listed items and you can also see for example a missed activation of a contact due to contact problems e.g..

18.6.1 Cancellation of routes/tours/driving commands etc.

You can select in the train inspector tours or routes or a driving command group or add-on switching-group etc. and after the selection the button  will change to  .



Now cancel the execution of the selected item by pressing . If e.g. a tour includes also currently executed routes you might be asked if you want to cancel these also or not.

This function used for routes cancels all parts of the selected routes including locked solenoid devices, driving command, profiles, release conditions and add-on switching etc..

18.7 Blocking of tracks or destination contacts

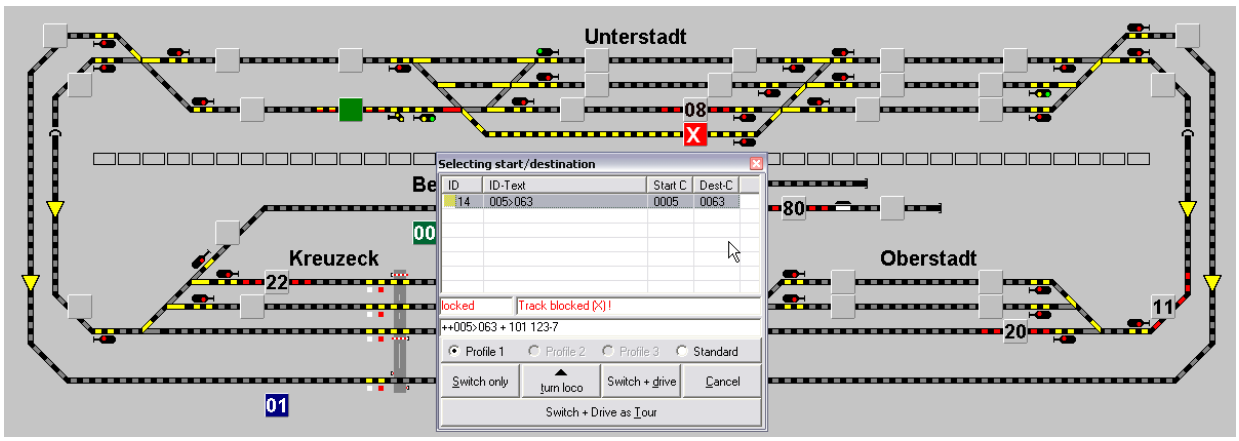
With **Win-Digipet** you have the possibility to block complete tracks or single destination contacts.

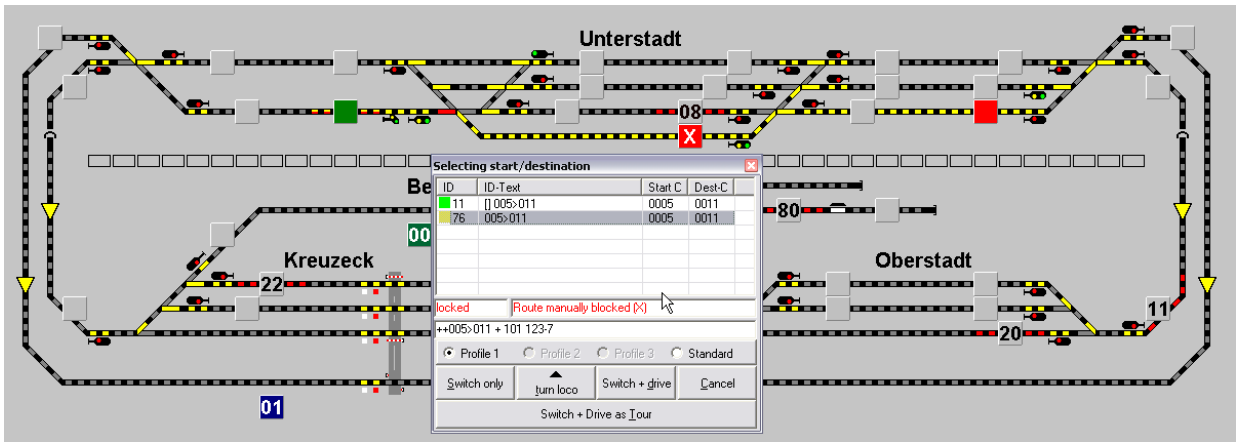
18.7.1 Blocking of tracks

In this example track 102 in Unterstadt shall be locked for any trains passing this track. Click with the right mouse button on the train number display to block and select the X-option or press with Shift + right mouse button **once** on the **empty** train number display with contact 51, as shown below.

The second possibility is to use the command <Block track> from the track diagram´s context menu.

Important!
The train number display **has to be empty**, because otherwise the train number would be deleted.





After the **first** click the train number display will contain a white X with red background.

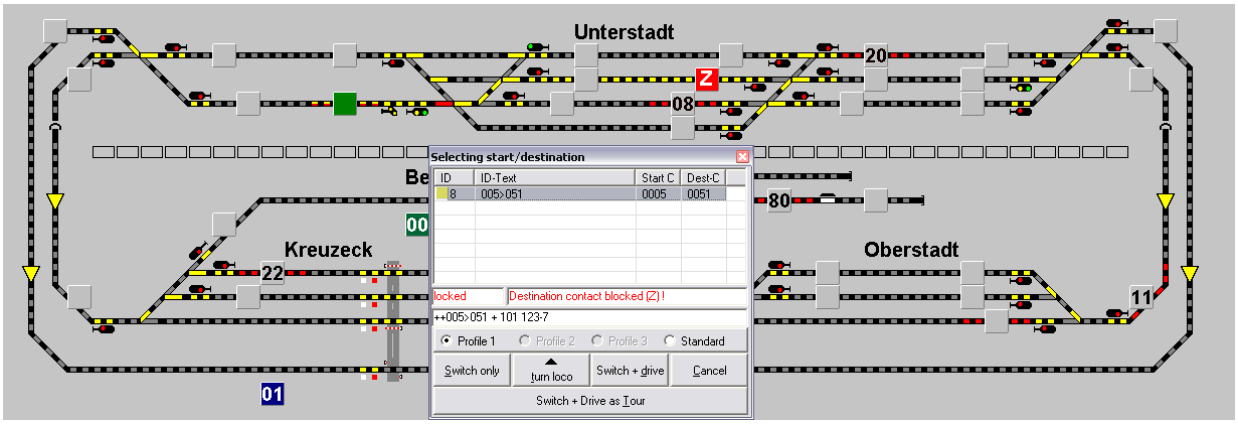
If you now try to start a route containing this train number display you will get the message „Route manually blocked (X) !“.

And if you want to start a route to the train number display containing the X you will see the message „Track blocked (X) !“

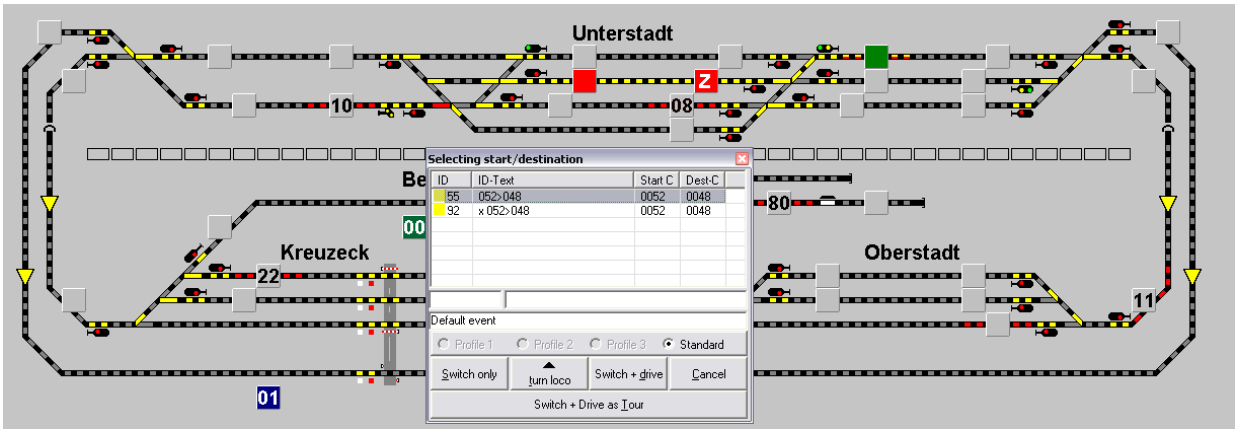
18.7.2 Blocking destination contacts

In our next example track 102 in Unterstadt shall **only** be locked for trains directly travelling to right train number display, all trains to the left train number display shall be allowed. Click with the right mouse button on the train number display to block and select the Z-option or press with Shift + right mouse button **twice** on the **empty** train number display with contact 51, as shown below, after the **second** click the train number display will contain a white "Z" with red background (when using the Shift version).

The second possibility is to use the command <Block destination> from the track diagram´s context menu.



If you now want to start a route to the blocked train number display you will see the message "Destination contact blocked (Z)!".



If you now try to start a route using the start-destination-function for routes to the left train number display this is no problem and no error message will be displayed.

This "blocking" will be considered also in automatic operation.

In manual operation you can knowingly ignore this error message and start the route in any way by pressing ***'Switch + Drive'***. In this case the route would be switched and the train started; but if you use ***'Switch + Drive as tour'*** the route wouldn't be started/switched.

18.7.3 Releasing the block of tracks or destination contact

If you want to release the block of the train number displayed blocked by “X“ or “Z“ click with the right mouse button on the train number display to block and select the Unlock-option or press with Shift + right mouse button **once/twice** on the **empty** train number until the train number display is empty.

The second possibility is to use the command <Unblock> from the track diagram´s context menu.

18.8 Changing the appearance of the track diagram

You might like to change the appearance of the track diagram according to your own wishes. Therefore **WIN-DIGIPET 2012** offers several opportunities.

First of all we take a look at the possibilities to scroll our track diagram. The most common way is to use one of the scroll bars. A more comfortable way is to press with the middle mouse button into a free part of your track diagram. While holding down the middle mouse button, moving the mouse will also scroll the track diagram.

18.8.1 Changing zoom settings

You change the zoom setting of the track diagram by...

- by the menu <View> <Zoom plus/minus>
- or by the right mouse button and the context menu <Zoom plus/minus>
- or by clicking on the symbols in the toolbar.

You get access to all zoom settings directly by the combo box 20 x 20 in the toolbar.

18.8.2 Selecting parts of track diagram

Sections of the track diagram, recorded in the track diagram editor (**6.5**), can be fetched onto the screen by clicking on the symbol <Screen sections> in the toolbar or via the short menu with the right mouse button.

This function is very helpful if you have a big track diagram and by this function you directly jump to different parts of your track diagram.

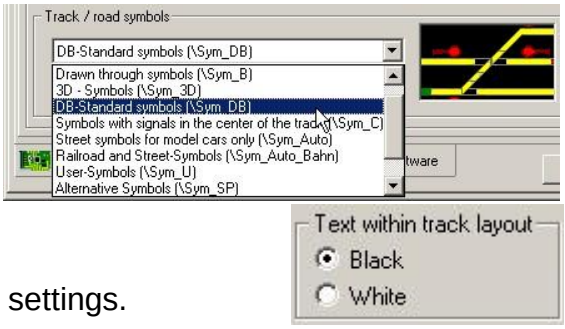
18.8.3 Changing the symbol table

In **WIN-DIGIPET 2012** you have the possibility to change the colours and the symbol in the symbol tables according to your own wishes/ideas.

WIN-DIGIPET 2012 has 18 different symbol tables included.

You can pick your preferred symbol table in the system settings, that can be opened via <File> <System settings> or by the symbol in the toolbar.

In the system settings select the index card “Program settings – General“ and in the selection box the desired symbol table.



You should also select on this index card whether the text in your track diagram should be displayed in black or white.

After these changes you can leave the system settings.

Because of this you should **never** open the system settings while trains are running on your layout.

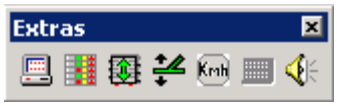
18.9 Change toolbars in the main program

Definition:

A toolbar is "docked" if it is placed at one of the edges of the application window and has on the left two vertical bars, it is not “docked “ if the toolbar "floats" as a freely movable window over the application window.

18.9.1 How to convert a docked into a undocked toolbar

- Position the mouse pointer at the outer left border of a toolbar (two vertical bars).
- Drag the toolbar from the docked position to the desired position.



Tip!

If you double-click on the title bar of a not docked toolbar, it returns to the position, where it has been docked recently.

18.9.2 Moving undocked toolbar

- Position the mouse pointer on the title bar of the toolbar window.
- Drag the toolbar window to the desired position. If you drag the icons window to a border of the application window, it is docked there automatically as a toolbar.

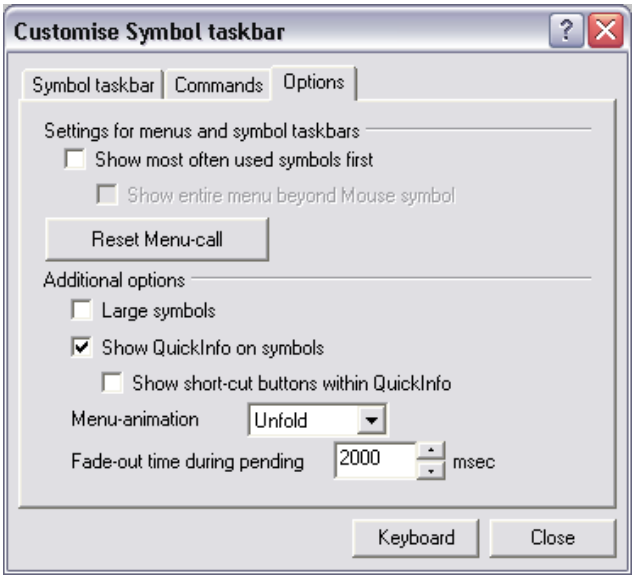
18.9.3 Transparency of undocked toolbars

All undocked toolbar gets transparent after they aren’t used for a while.

You can change this behaviour as follows:

- Click within the menu bar or toolbar with the right mouse button.
- Click on **‘*Customize toolbars*’**.
- A new window appears.

- Select the tab “Options”. There you can change the fading time.



Here is the toolbar “Extras“ completely visible...

...and becomes transparent after a while.

18.9.4 Making toolbars (un-)visible

- Click within the menu bar or toolbar with the right mouse button.
- Uncheck the toolbars which should be hidden.

Tip!

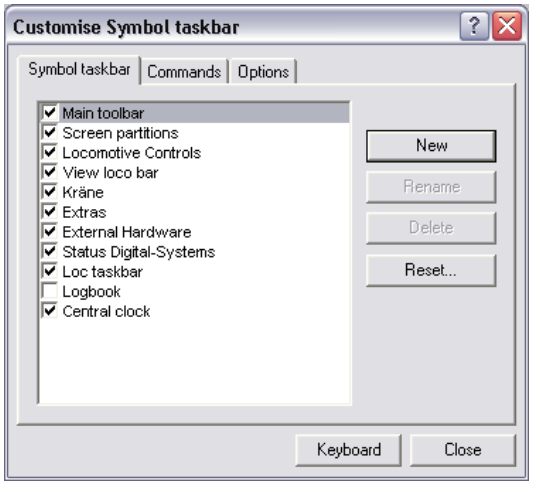
Every toolbar you set visible again is displayed either at its normal position or the position, where it was moved last.

18.9.5 Customizing toolbars

You can customize toolbars by removing not required icons by dragging with the mouse or adding a new icon or a new command.

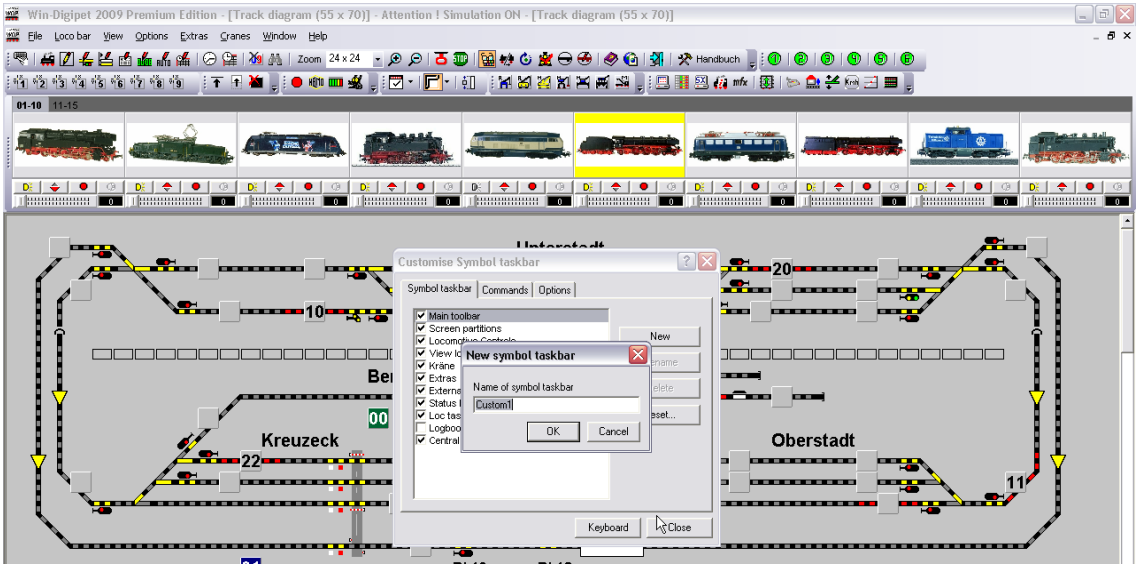
- Click within the menu bar or toolbar with the right mouse button.
- Click on **'*Customize toolbars*'**.
  A new window appears.
- Click on the tab "Commands".
- Drag the icon, which you want to remove, out of a toolbar with the mouse or

  Drag from the tab "Commands" another icon in the toolbar which you would like to add.



18.9.6 Creating own toolbars

- Click on the tab "Toolbars" on ***'New'***.
- Assign a name for this toolbar and click on ***'OK'***.
- Drag from the tab "Commands" the desired icons in the new toolbar.



Tip!
Only the user-defined toolbars can be deleted or renamed.

18.9.7 Resetting all toolbars

- Select a toolbar on the tab "Toolbars".
- The button ***'Reset'*** is activated.
- Click on **'*Reset*'**.

Tip!
All toolbars are reset always and also the user-defined toolbar is deleted.

When leaving **WIN-DIGIPET 2012** all toolbars with their position, size and the dock state are saved.

Tip!

If the icons are not displayed properly any more, you should quit **WIN-DIGIPET 2012**. Afterwards you delete **in the WIN-DIGIPET 2012** main directory of your hard disk the file USERLAYOUT_2009.TB3 and launch **WIN-DIGIPET 2012** again, the standard toolbar from the file DEFAULT_2009. TB3 will be displayed.

Because of this **the file DEFAULT_2009.TB3 may never be deleted**!

Be careful!
Your user-defined toolbars are also deleted by this action!

18.9.8 Important information concerning toolbars

During operation of your train layout you should not modify the toolbars otherwise all trains and operations will be stopped. Some toolbars have special functions and can't be changed because of this.

18.10 Train number display

Train number displays are important parts of the track diagram. They are used to display locomotive positions. The program's routes will move the trains from train number display to train number display.

18.10.1 General

Prerequisites for the train numbers display are as follows:

- You have placed train numbers symbols within the track diagram (**6.4.2**)
  You have entered a feedback contact number into **each of these symbol panels** (**6.4.2**, **6.4.3**, **7.4.3** and **7.4.5**). If "**0"** has been entered as feedback contact number to a train number panel, a loco address cannot be entered via drag and drop. A feedback contact number (greater than "0") has to be assigned to a train number panel (mandatory).
- You have entered in the routes editor, per route, one feedback contact number as a number of the starting contact, and another feedback contact number as a number of the destination contact (**8.7.3**).

The train numbers display works correctly if trains/locomotives run through **routes** switching, i.e. with the route switched by the start-and-destination function or with operation according to timetables or in automatic mode using demand contacts or the tour automatic.

On the other hand, if you set a train/locomotive in motion after you had set the solenoid device of its itinerary by **individual** switching; the train number display would not work properly or not work at all.

If you quit the vehicle database, the train numbers at the train number panels will be updated automatically, even if you have changed the sorting within the loco database or you have moved some locomotives to the *"showcase"*.

A peculiarity is the display of train numbers with **four digits**. Due to the fact, that four digits do not match to the train number panel (or the size of the types would be too small / not visible), the first digit of the address will be characterised with a colour code, equal to the international colour code for resistors.

Therefore the meaning for the first digit is:
1 = brown
2 = red
3 = orange
4 = yellow
5 = green
6 = blue
7 = violet
8 = dark grey
9 = white

If – for example – the loco address is 4234, the number 234 will be displayed at the train number panel, with the colour code **YELLOW** at the top and the bottom of the panel.

If you place 3 train number displays horizontally or vertically side by side in your track diagram and assign the same feedback contact number to them you will get a bigger train number display showing the name of the locomotive instead of its digital address.

TIP
You can cover two different train number panels of your track layout with the same feedback contact number. Train numbers which you enter in one panel will also be displayed in the other panel; they also will be deleted both, if one of both panels receives the deleting command.

This could be advantageous for certain operations situation, for example:
Train number panels of fiddle yard sections, which are not visible at the usual display range of the track layout, can be placed in addition as a "duplicate" train number panel in the visible range. You can then notice if a train has reached its destination in a not visible section.

If you combine big and small train number displays you can also see the name of digital address of the locomotives separately...

18.10.2 Train number display without feedback contacts

Ensure that *'Jump from start to destination without feedback contacts'* is selected with *"Train numbers display"* in the basic system settings.

Proceed as described in **18.11.1**: Upon the command 'Switch route', the train number jumps from the starting contact panel to the destination contact panel of this route. The same applies for operation with timetables, automatic mode with demand contacts and the tour automatic.

18.10.3 Train number display with feedback contacts

Ensure that *'Blank, if start contact is free, display, if destination contact is occupied'* is selected with *"Train number display"* in the basic system settings.

Click in the loco selection (**18.11.1**) you want to control. Keep the left mouse button pressed, drag the mouse pointer to the relevant train number symbol and release the left mouse button. The digital address of the locomotive- which is also the train number- appears at once in the train number panel.

If **this** train number is already available at your track layout, you will get a message *"train number already exists"* and the position will be marked **red** at your track layout. This eases the finding of an already existing entry of a train number.

Put the train/locomotive onto the train number panel that is also the starting contact of the desired route.

If you have ticked *'Display picture autom. when mouse moves over train label'* (**4.5.2**) in the basic system settings, the picture of the locomotive appears at once when you point to the train numbers panel with the mouse pointer, otherwise the digital address or the class of the loco will be shown as a tool tip.

If you click on a train number symbol with a train number assigned the loc control of this loc appears.

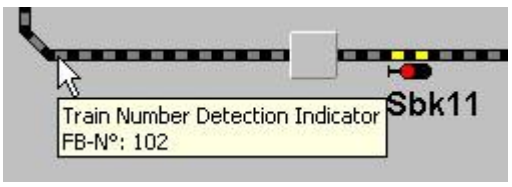
The entry into a train number panel can be deleted through Shift + right mouse button without any confirmation request.

All entries in the train number symbols can be deleted via <View> <Loc activate/ deactivate/delete > or the switch in the toolbar.

Switch the route and run a train over it: The train number will be masked in the starting train numbers panel the moment the train leaves it. It will be **displayed** in the destination train numbers panel the moment the train reaches the destination contact. The same happens automatically in the operation with timetables and the tour automatic.

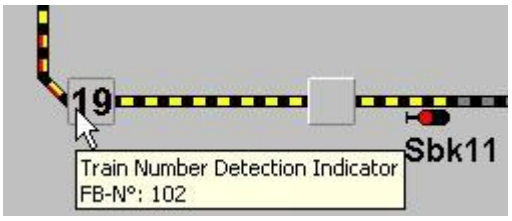
18.10.4 Train number tracking

For the first time you can use **in WIN-DIGIPET 2012** train number tracking symbols on long distances of your track diagram. They cannot to be seen in the track diagram, because they look



like a quite normal rail piece. When you move the mouse over them, a help card ("tool tip") is displayed.

If a train occupies the feedback contact assigned to the train number tracking symbol the train number appears in the track diagram and disappears when the feedback contact is free again.



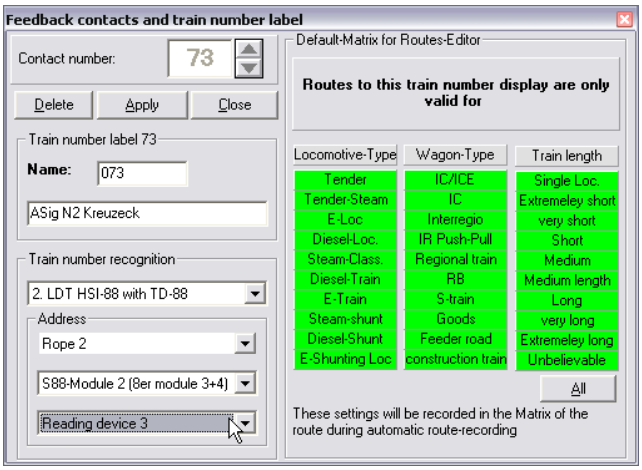
You must draw the train number tracking symbols in the track diagram's editor and assign them to a feedback contact number according to section **7.4.6**.

18.10.5 Train number detection with Littfinski TD-88

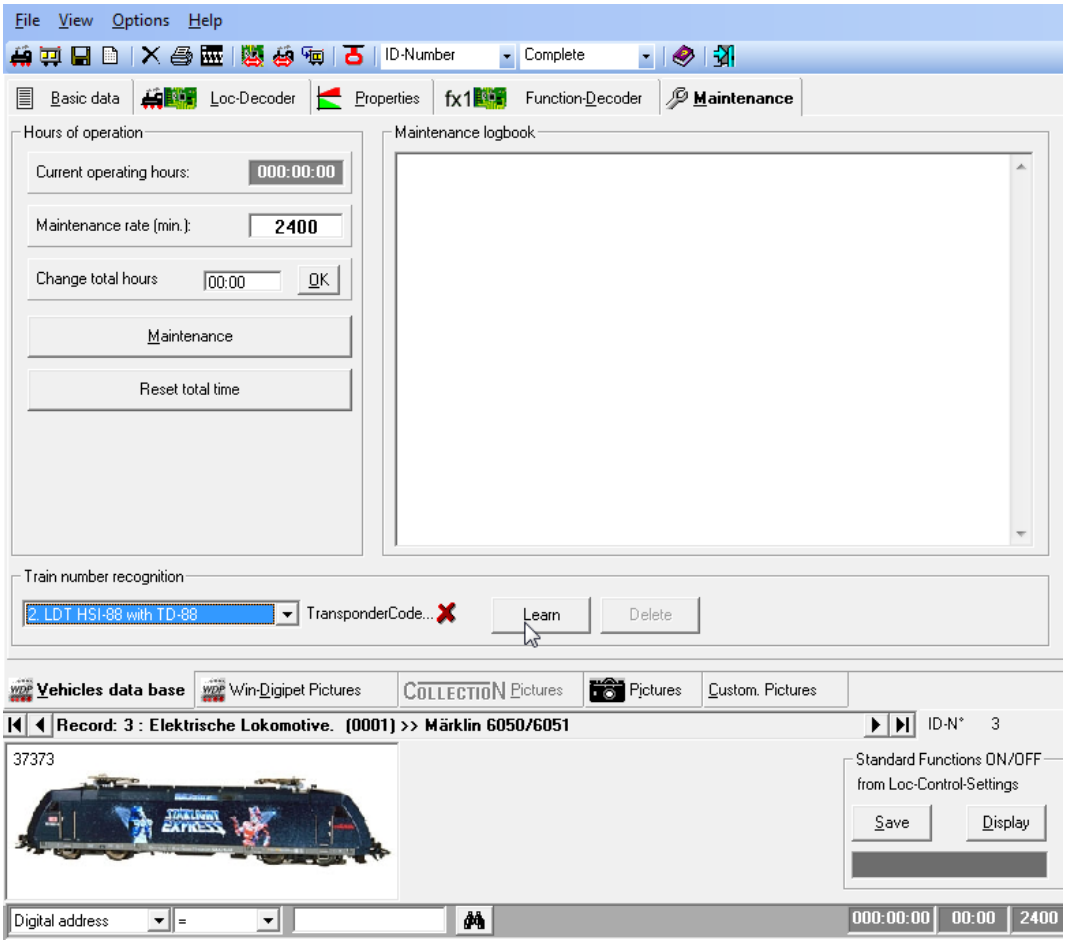
In **Win-Digipet** you can use the TrainDetect TD-88 of Littfinski Daten Technik (LDT).

A prerequisite you have to install Transponders type TRANS-1 or -2 in your locomotives. These are small electronically etiquettes. Further information can be found at http://www.ldt-infocenter.com.

Now open the track diagram editor open the feedback contact registration window for the train number display, that you want connect to a train detection system. There you can select which train detection system you want to use and the “addresses” where the program can “find” the train detection system. This is quite self-explanatory and window is already known from the registration of feedback contact numbers and descriptions.



In the vehicle database you have to select which train detection system shall be used for one of your locomotives and you have to learn there the transponder data, this is quite self-explanatory.

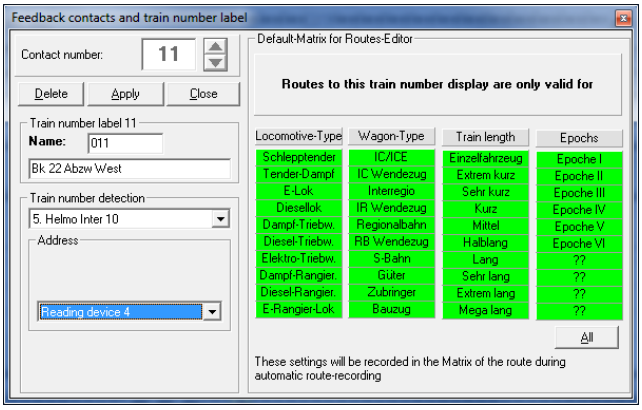


After selecting the TD88 system of the index card “Maintenance” in the vehicle database two buttons will appear. The button ***‘Delete’*** will not be enabled before you have learned transponder data. To learn which transponder is installed in the locomotive press ***‘Learn’*** and move your locomotive over one of the previously installed detectors. After one detector recognizes the transponder the red cross will change to a green checkmark and this transponder is now linked to your locomotive.

18.10.6 Train number detection with Helmo Inter-10

In **Win-Digipet** you can use the Inter-10 of Helmo. First of all have to register this system as separate digital system according to chapter **4.1**.

Now open the track diagram editor open the feedback contact registration window for the train number display, that you want connect to a train detection system. There you can select which train detection system you want to use and the “addresses” where the program can “find” the train detection system. This is quite self-explanatory and window is already known from the registration of feedback contact numbers and descriptions.



For this system you can proceed with your registration analogously to chapter **18.10.5**.

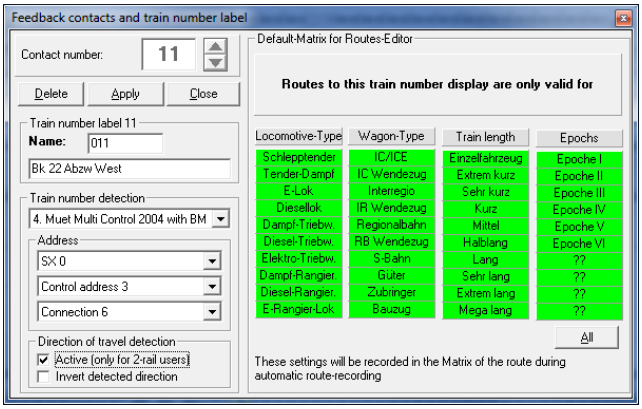
The System Inter-10 supports 99 detectors.

18.10.7 Train number detection with MÜT BM 8i

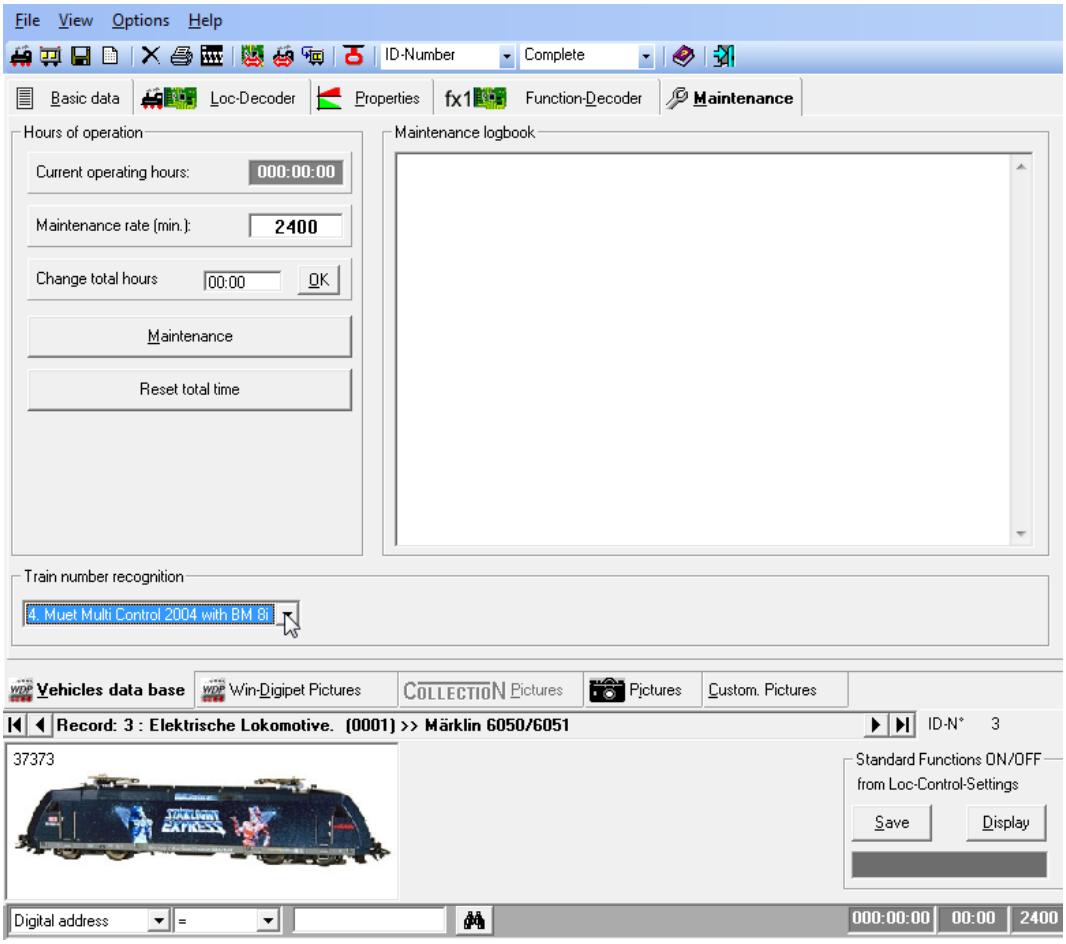
In **Win-Digipet** you can use the train number detection enabled occupancy detectors BM8i of Müt.

A prerequisite is that you have installed Selectrix decoders in your locomotives which support this kind of train number detection. Further information can be found at http://www.muet-digirail.de/modellbahn/public_html/index.php.

Now open the track diagram editor open the feedback contact registration window for the train number display, that you want connect to a train detection system. There you can select which train detection system you want to use and the “addresses” where the program can “find” the train detection system. This is quite self-explanatory and window is already known from the registration of feedback contact numbers and descriptions.



In the vehicle database you have to select which train detection system shall be used for one of your locomotives.

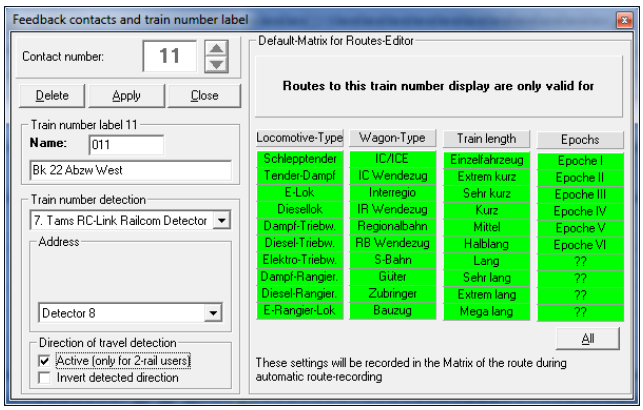


18.10.8 Train number detection with Tams RC-Link Interface

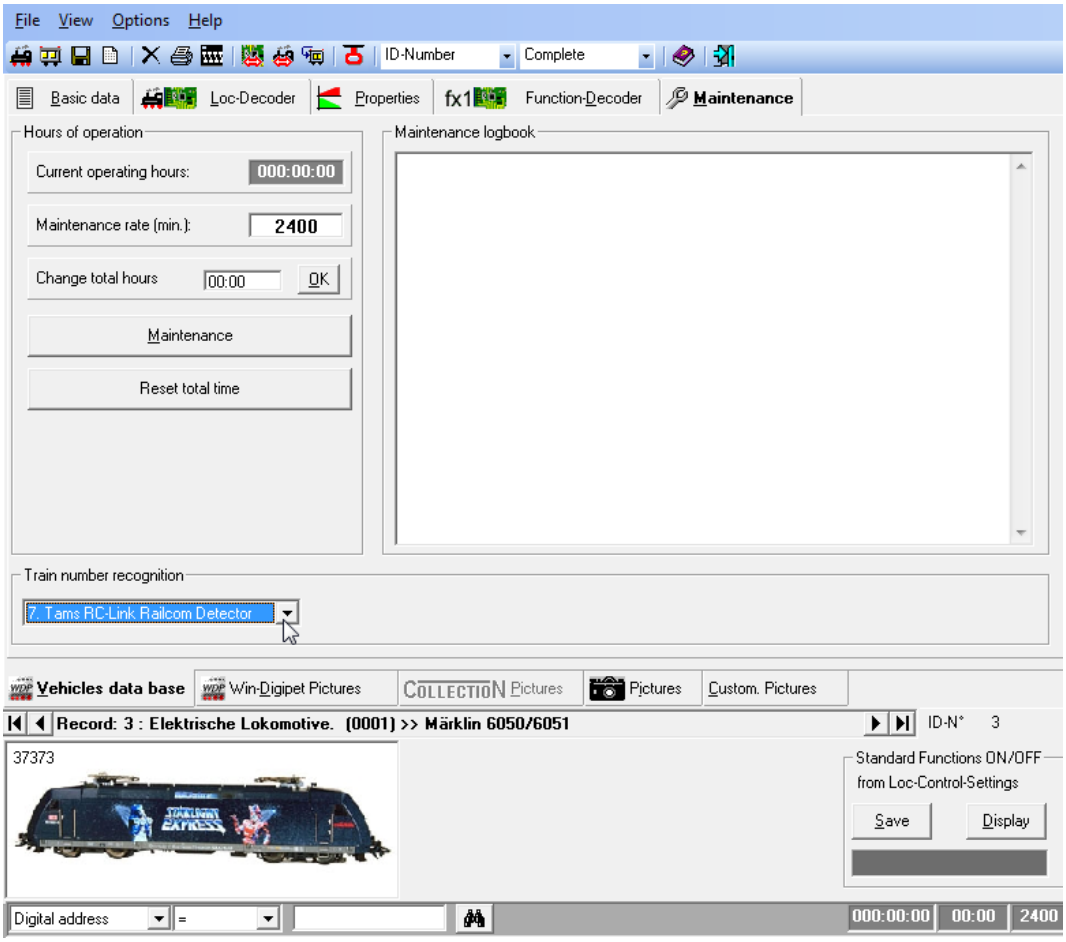
In **Win-Digipet** you can use the Tams RC-Link Interface. First of all have to register this system as separate digital system according to chapter **4.1**.

A prerequisite is that you have installed DCC decoders in your locomotives which include Railcom. Further information for this system can be found at http://www.tams-online.de.

Now open the track diagram editor open the feedback contact registration window for the train number display, that you want connect to a train detection system. There you can select which train detection system you want to use and the “addresses” where the program can “find” the train detection system. This is quite self-explanatory and window is already known from the registration of feedback contact numbers and descriptions.



In the vehicle database you have to select which train detection system shall be used for one of your locomotives.



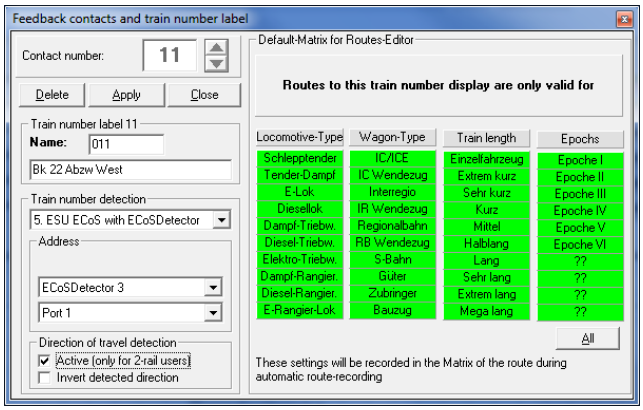
Please make sure you have activated Railcom in your decoder.

18.10.9 Train number detection with ESU-Detector

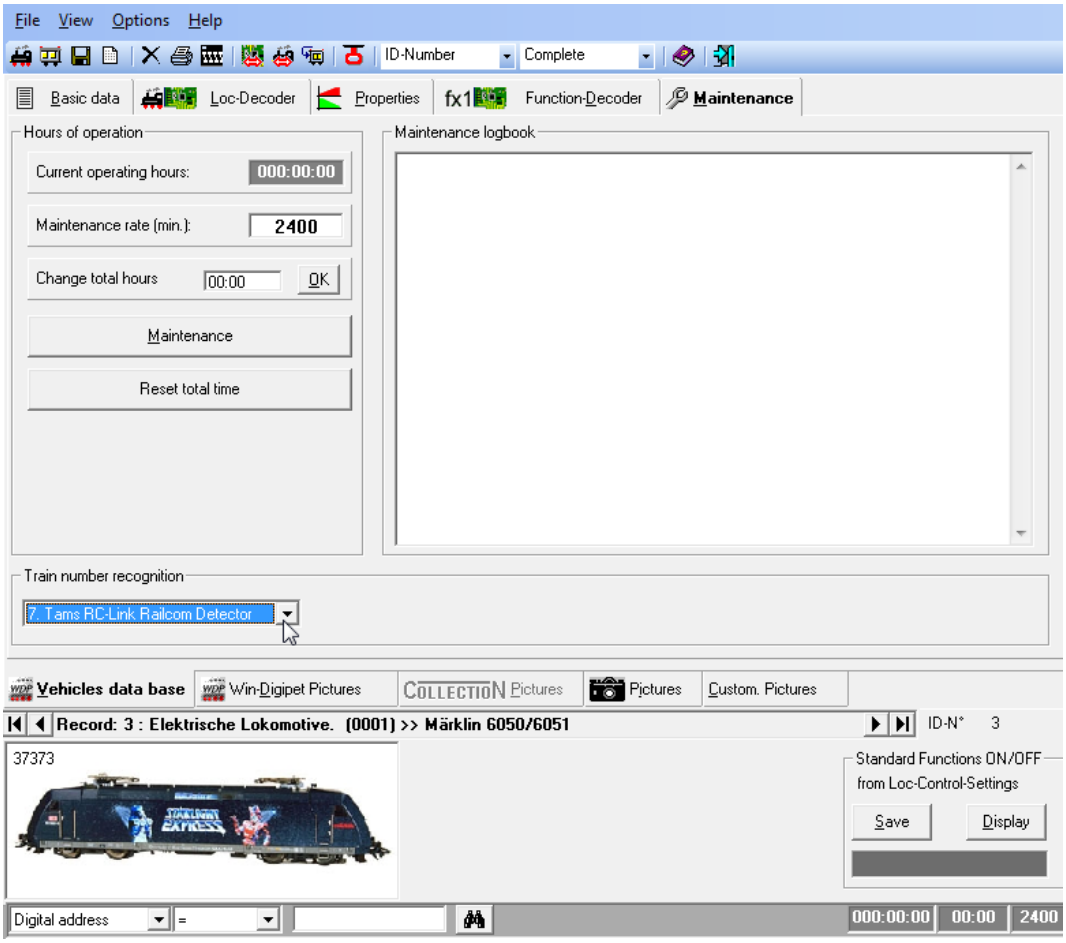
In **Win-Digipet** you can use the ESU-Detectors.

A prerequisite is that you have installed DCC decoders in your locomotives which include Railcom. Further information for this system can be found at http://www.esu.eu/.

Now open the track diagram editor open the feedback contact registration window for the train number display, that you want connect to a train detection system. There you can select which train detection system you want to use and the “addresses” where the program can “find” the train detection system. This is quite self-explanatory and window is already known from the registration of feedback contact numbers and descriptions.



In the vehicle database you have to select which train detection system shall be used for one of your locomotives.



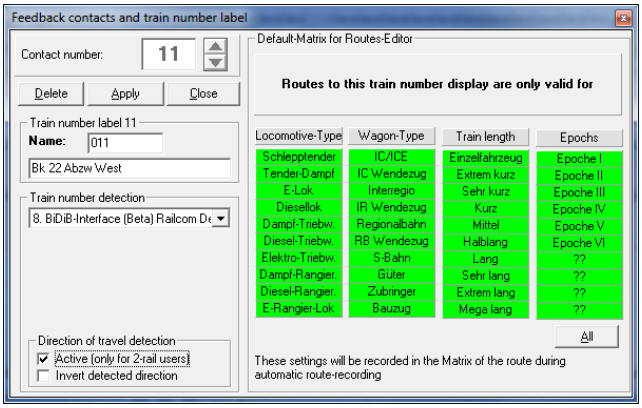
Please make sure you have activated Railcom in your decoder.

18.10.10 Train number detection with BiDiB

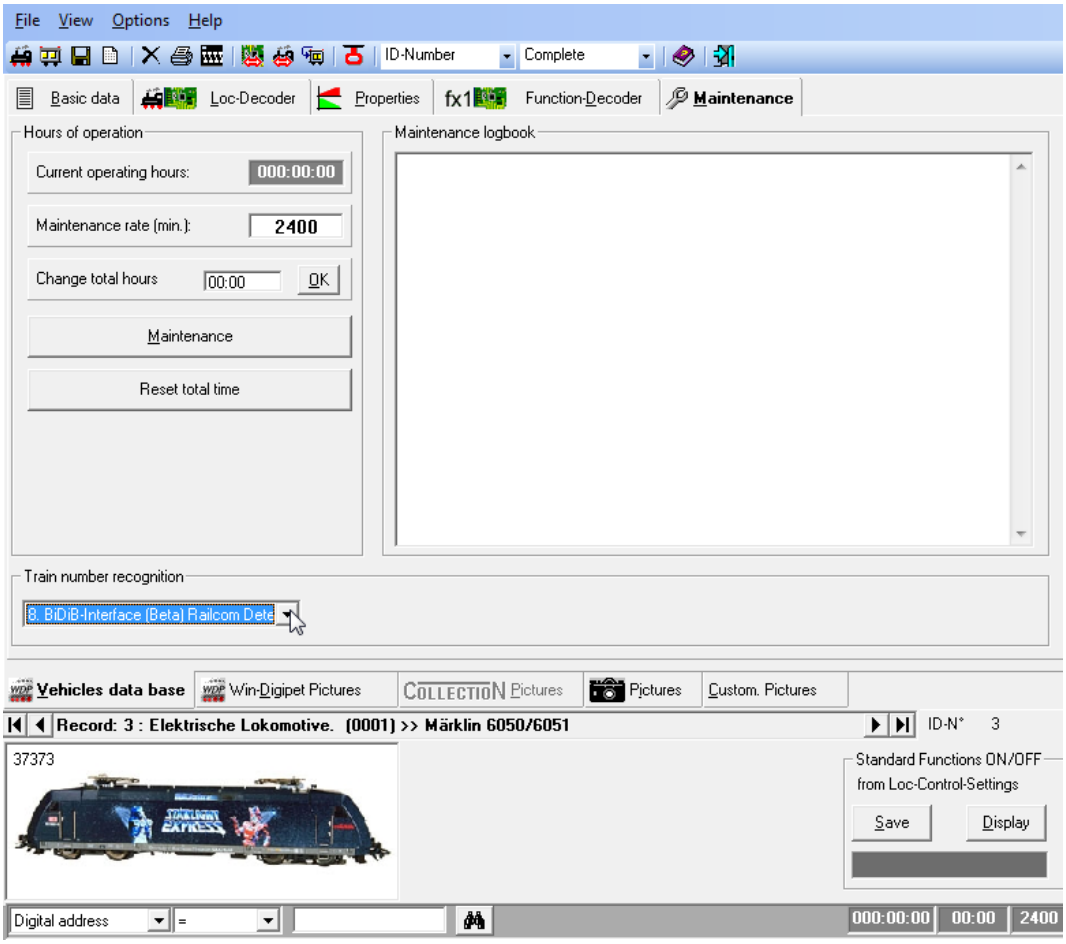
In **Win-Digipet** you can use the BiDiB-Detectors.

A prerequisite is that you have installed DCC decoders in your locomotives which include Railcom. Further information for this system can be found at http://www.esu.eu/.

Now open the track diagram editor open the feedback contact registration window for the train number display, that you want connect to a train detection system. There you can select which train detection system you want to use and the “addresses” where the program can “find” the train detection system. This is quite self-explanatory and window is already known from the registration of feedback contact numbers and descriptions.



In the vehicle database you have to select which train detection system shall be used for one of your locomotives.



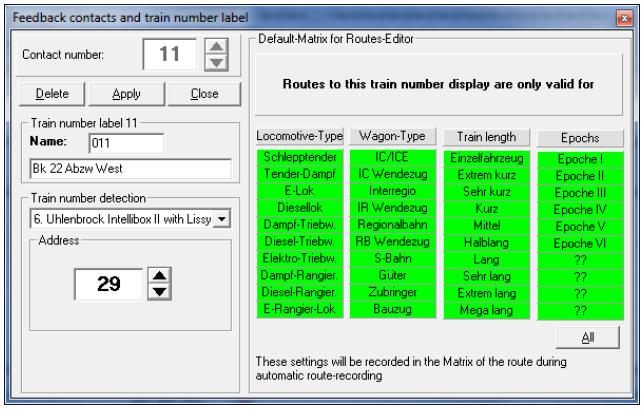
Please make sure you have activated Railcom in your decoder.

18.10.11 Train number detection with Uhlenbrock Lissy

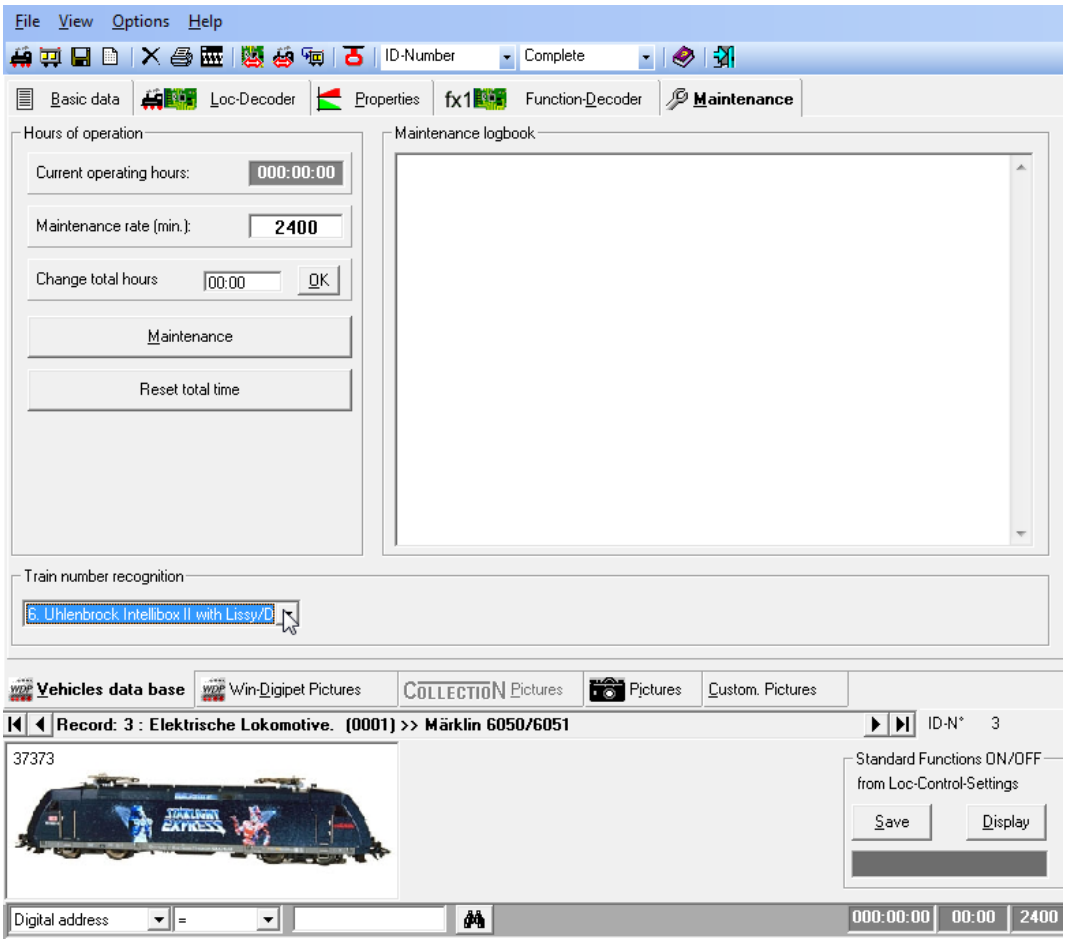
In **Win-Digipet** you can use the Uhlenbrock´s Lissy system.

A prerequisite you have to install Lissy transponders in your locomotives. These are small electronically etiquettes. Further information can be found at http://www.uhlenbrock.de.

Now open the track diagram editor open the feedback contact registration window for the train number display, that you want connect to a train detection system. There you can select which train detection system you want to use and the “addresses” where the program can “find” the train detection system. This is quite self-explanatory and window is already known from the registration of feedback contact numbers and descriptions.

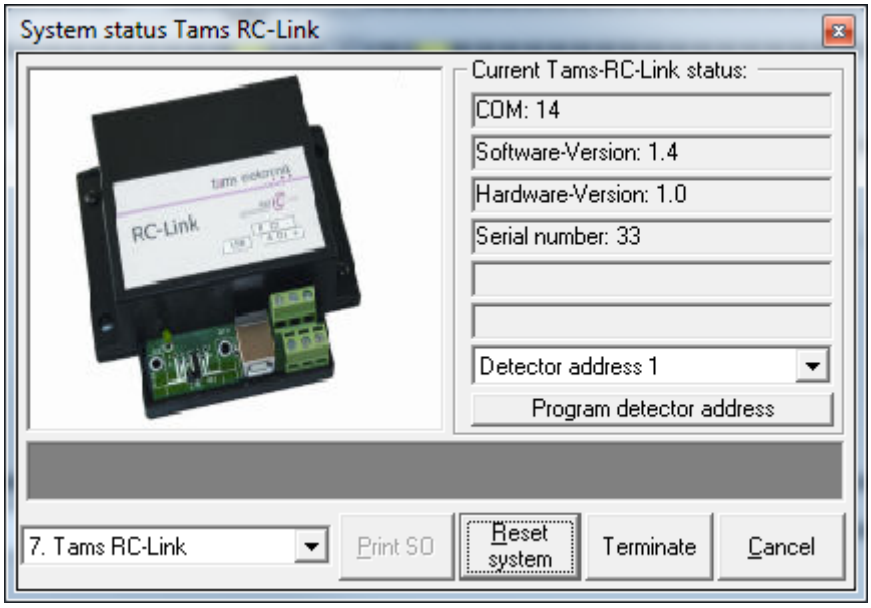


In the vehicle database you have to select which train detection system shall be used for one of your locomotives.



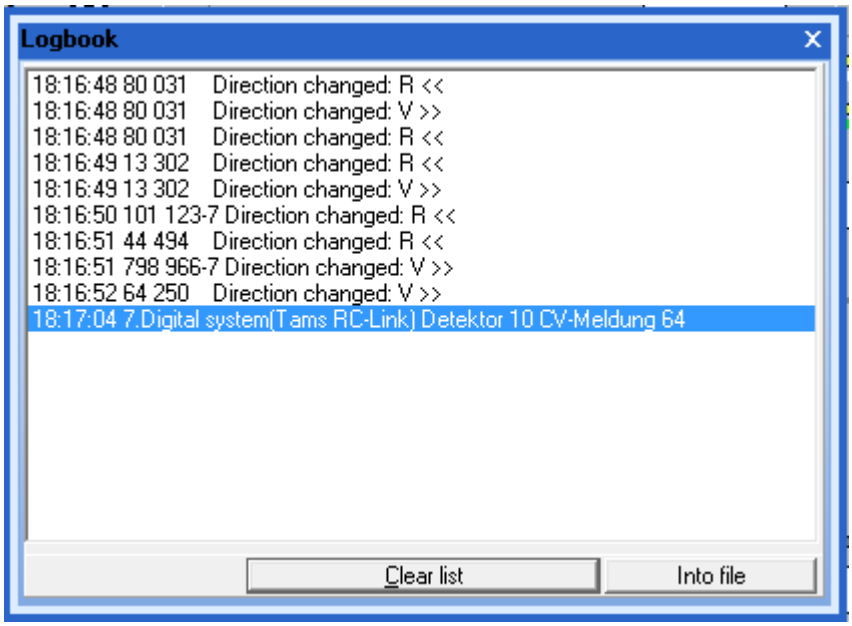
18.10.12 Programming Tams RailCom-Detectors

The Railcom-Detectors can be programmed to different addresses using the status window for this digital system which can be opened via <Extras> <Status digital system>. Before programming the new detector address you have to enable the programming mode in the detector you want to program (see detector manual).



18.10.13 CV-Values detected by a Tams RC-Link RailCom-Detectors

If one of your detectors receives a Railcom-CV-value message (which you requested e.g. via your digital system), this value will appear in the Win-Digipet logbook.



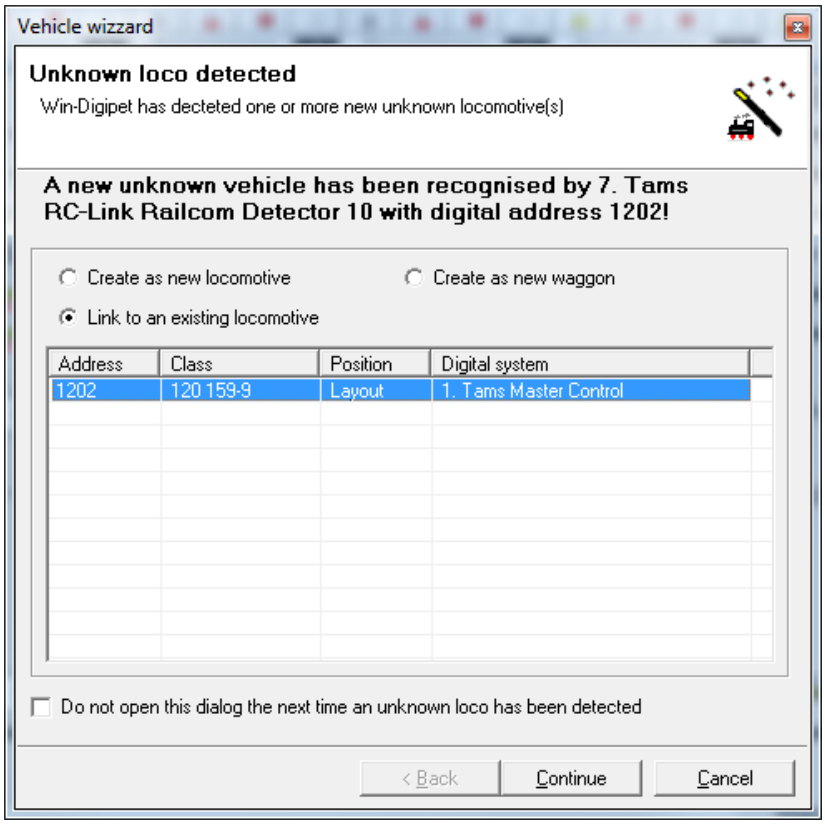
18.10.14 New locomotive with Railcom enabled decoder detected

If a **new** locomotive which a Railcom enabled decoder has been detected by a Railcom detector on your layout and this decoder is unknown to your locomotive database the Win-Digipet Vehicle wizard will pop up telling you which detector has detected which decoder address.

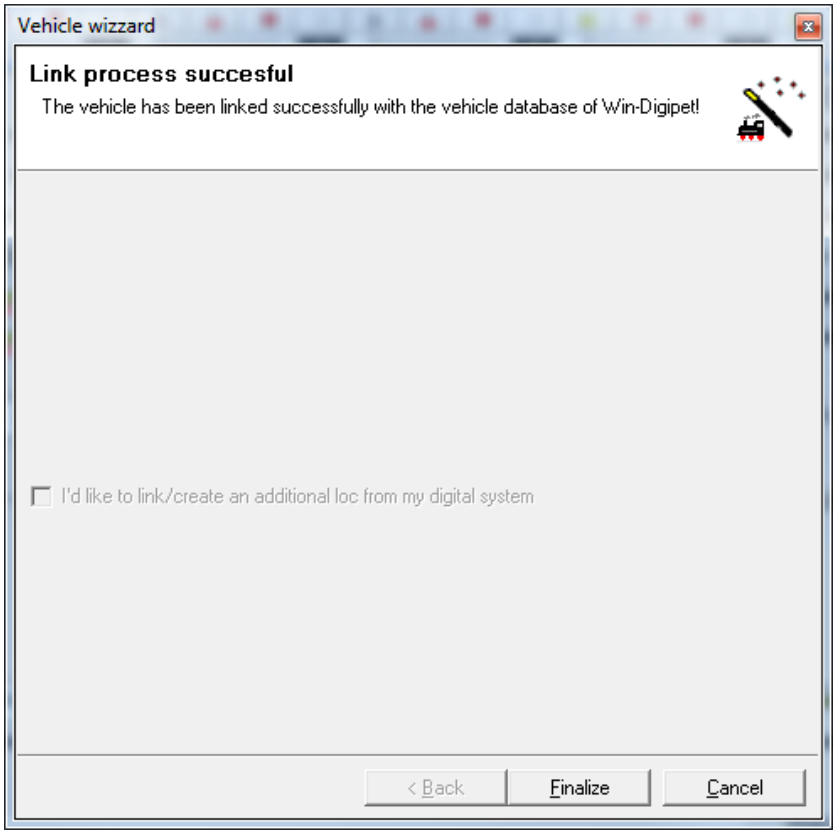
You can now choose between two options:

- If the locomotive containing the detected decoder is already listed in the vehicle database you can establish a link between the detected decoder and the locomotive dataset.
- And if the locomotive is not already listed in the locomotive database you can create a new dataset using this decoder.

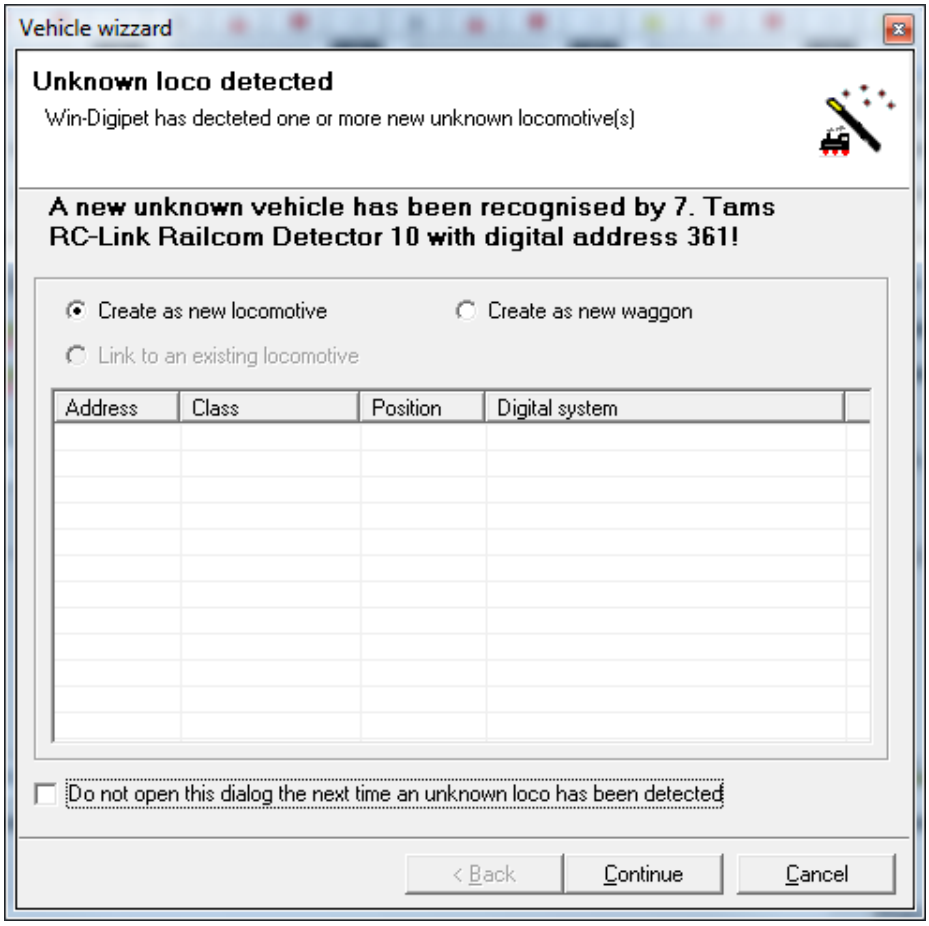
18.10.15 Linking detected Railcom decoder with an already existing locomotive



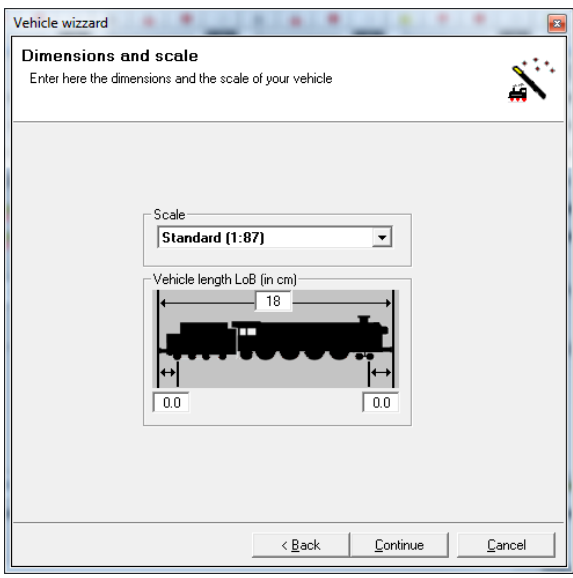
Select the locomotive you want the decoder to be linked with and follow the instructions of the wizard.

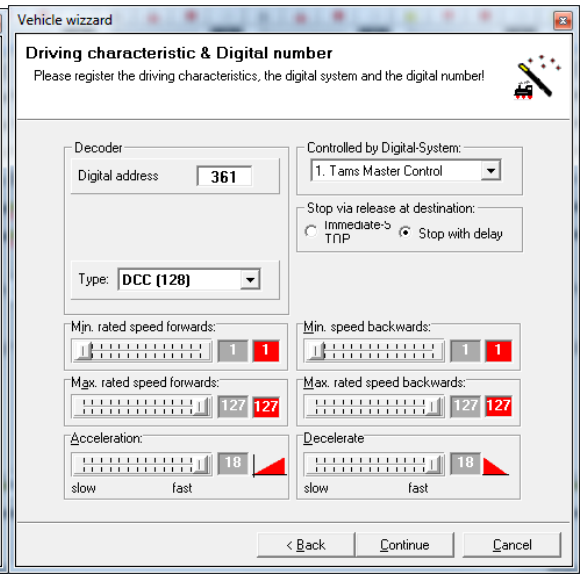

Vehicle wizzard
Link process succesful
The vehicle has been linked successfully with the vehicle database of Win-Digipet!
I'd like to link/create an additional loc from my digital system
< Back
Finalize
Cancel

18.10.16 Creating a new locomotive using the detected Railcom decoder



After selecting this option proceed with ***'Next'***.





On the next index cards you can make the same registrations for your new vehicle as described for the vehicle database in chapter **5**. But: the wizard does only support the most important and most frequently used parameters from the vehicle database. For further registration open the new vehicle within the vehicle database.

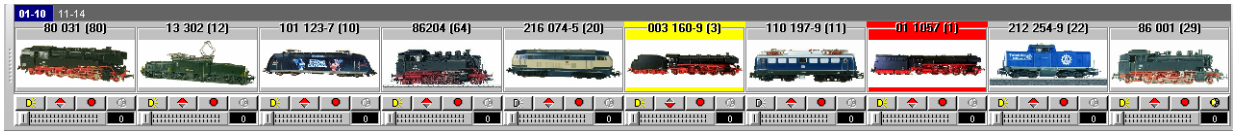
18.11 Locomotive control

For the control of your locomotive you have many possibilities e.g...

- The loco selection
- The loco monitor
- The locomotive controls
- A joystick
- Your digital station/command throttle
- The timetable or tour automatic
- One of Win-Digipet Mobile Apps

18.11.1 Loco bar

All locomotives recorded in the vehicle database with the category “On layout“ (**5.4.3**) are displayed in the “Loco selection“. This is a bar at the lower/upper/left/right screen edge with pictures of your locomotives list.



Max. **10** locomotives are displayed – similar to an index card- for faster access. The index card is automatically updated when new locomotives are added/deleted or they are temporarily put into ‘Display case’. A click on the index card, above the picture, displays the locomotives for your selection

You can (de-)activate the loco selection via <Loco selection> - <Locomotive bar>. And if the loco selection is activated you can (de-)activate the quick command bar via <Loco selection> - <Command bar>.

You can change this bar via <Loco selection> - ‘Position’ or in the toolbar ‘View loco bar’.

There you can select: <Horizontal bottom> or <Horizontal top> or <Vertical left> or <Vertical right>.

Through <Loco selection> - <View> you can change the kind of display in the picture panels: <Pictures only> or <Text only> (these are class designations) or both: <Pictures and text>.

It is possible that the locomotive selection bar becomes very small, if you are using a higher screen resolution.. You can adjust the locomotive bar with <Adjust height of locomotive bar> . This is done in 6 steps to your own taste.

Locomotives needing a maintenance cycle are framed with a yellow border in the toolbar. And all locomotives switch to manual mode have a red border.

18.11.2 Usage of the quick loco bar

The quick loco bar is normally controlled with the mouse. Therefore just click on the according function buttons (function(f0), change direction, stop and sound). To set the

rated speed, click on the relevant speed step on the graduated slide scale, or drag – with the left mouse button depressed- the slide button from zero to the desired speed.

After the **first** click on the quick loco bar of a locomotive, the speed of the locomotive can also be controlled by keyboard.

Arrow **right** and arrow **up**	=	increase speed
Arrow **left** and arrow **down**	=	decrease speed
Key **end**	=	accelerate to top speed
Key **POS 1** and **space**	=	Stop

18.11.3 Locomotive-Controls ("Maxi" ,"Mini" or "Micro")

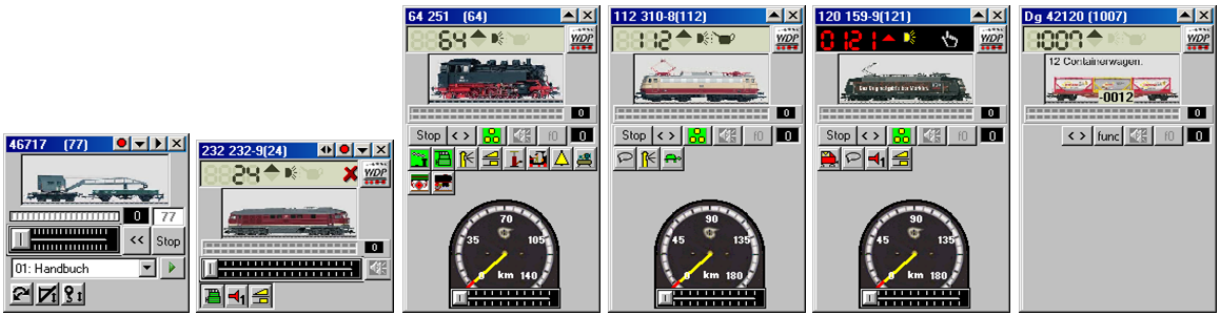
The size of the locomotive controls depends on your choices on the index card „Program settings – Locomotives" in the system settings. You will always get the small locomotive control if you have checked „*Open always with small loco controls from loco bar*". In the other case you will get the big locomotive control.

Position and size of these panels can be modified via the menu <Window> or the toolbar <Loco controls>.

- <Arrange controls at top> or symbol .
  All control panels displayed in the track diagram are shifted to the upper edge of the screen and reduced. The same is achieved with the function key **F2** on your computer.

- <Minimise all controls> or symbol .
  All control panels displayed in the track diagram are reduced to „Small loco controls". The same is achieved with the function key **F3** on your computer.
- <Close all controls> or symbol .
  All control panels are masked and closed. The same is achieved with the function key **F4** on your computer.

With the drag/drop function you can position the loco control panels anywhere on the screen.



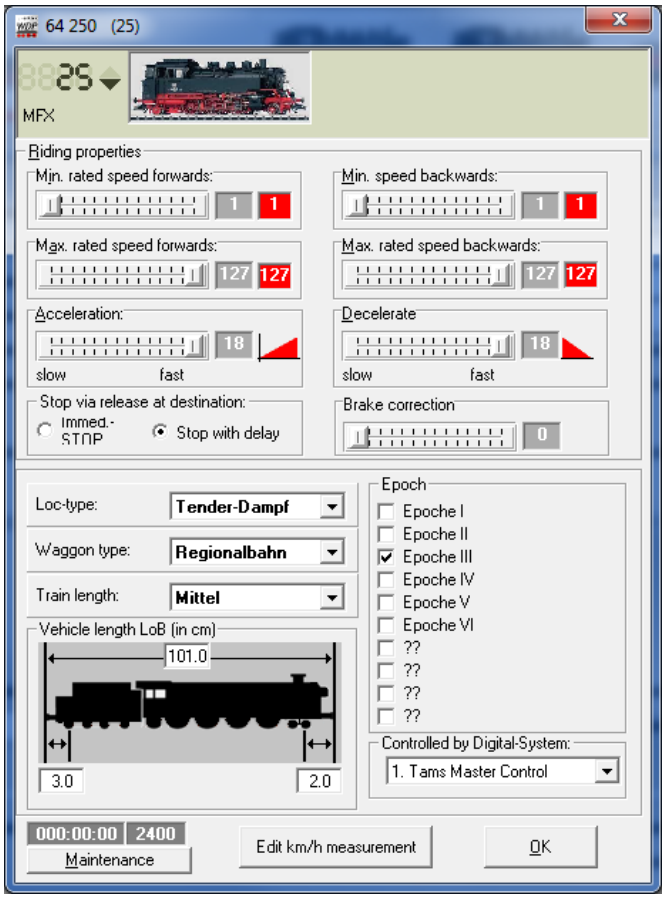
Crane control | Loco-Control mini Loco unmeasured | Loco-Control maxi LCD | Loco-Control maxi Maintenance necessary | Loco-Control maxi LED | Waggon-Control in traction with loco

18.11.4 Changing locomotive data out of a locomotive control

By a click on the symbol in the locomotive control you can open a window to change some of the locomotives parameters without the need to open the vehicle database.

All sliders and combo boxes have the same functions as the according sliders and combo boxes in the vehicle database (see chapter **5**).

In this window you can also take a look to the hours of operation and the maintenance interval. If a maintenance is necessary the button ***'Maintenance'*** will be activated and you can press to register a maintenance.

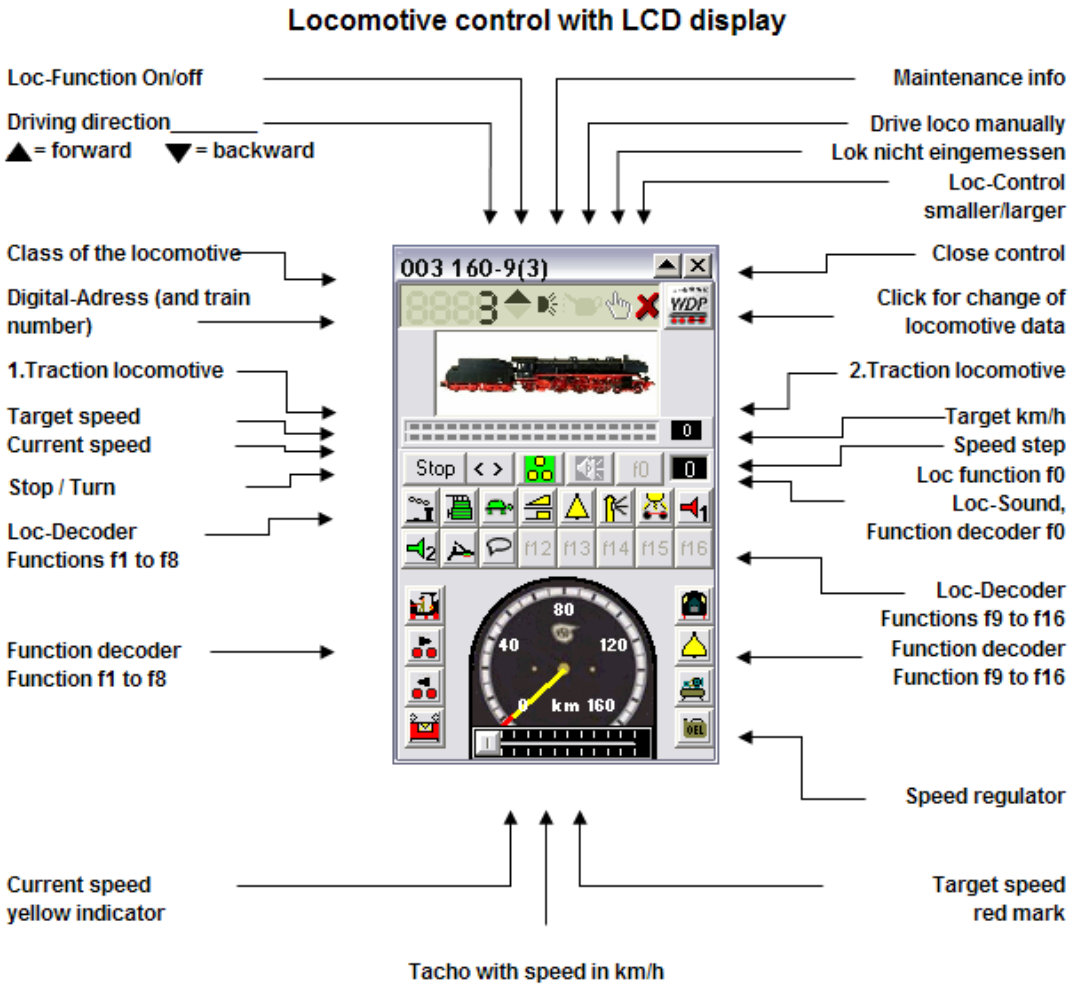


18.11.5 Description of the Locomotive-Controls (“Maxi“ ,“Mini“ or “Micro“)

WIN-DIGIPET 2012 offers three different sizes for the locomotive controls:

- Big locomotive control „Maxi“,
- Small locomotive control „Mini“
- The Locomotive-Monitor („Micro“), that needs very few space on the screen and is therefore a good alternative to arranging several locomotive controls.

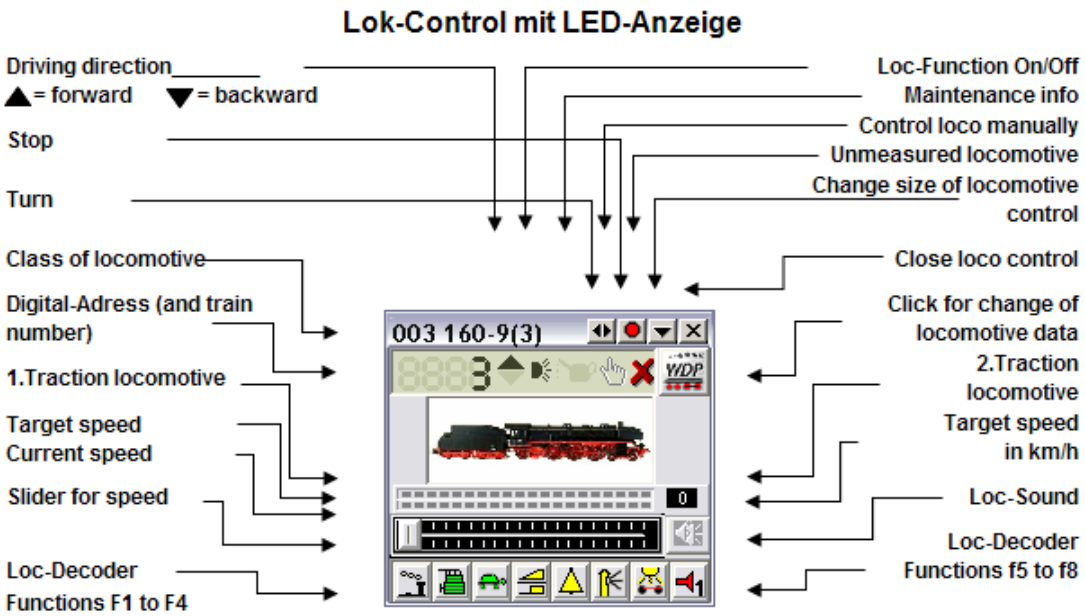
18.11.6 Big locomotive control („Maxi“)



With a double-click on the title bar you change the size between the big and the small version.

The displayed icons in the locomotive control depend on your setting in the vehicle database (see **5.10**).

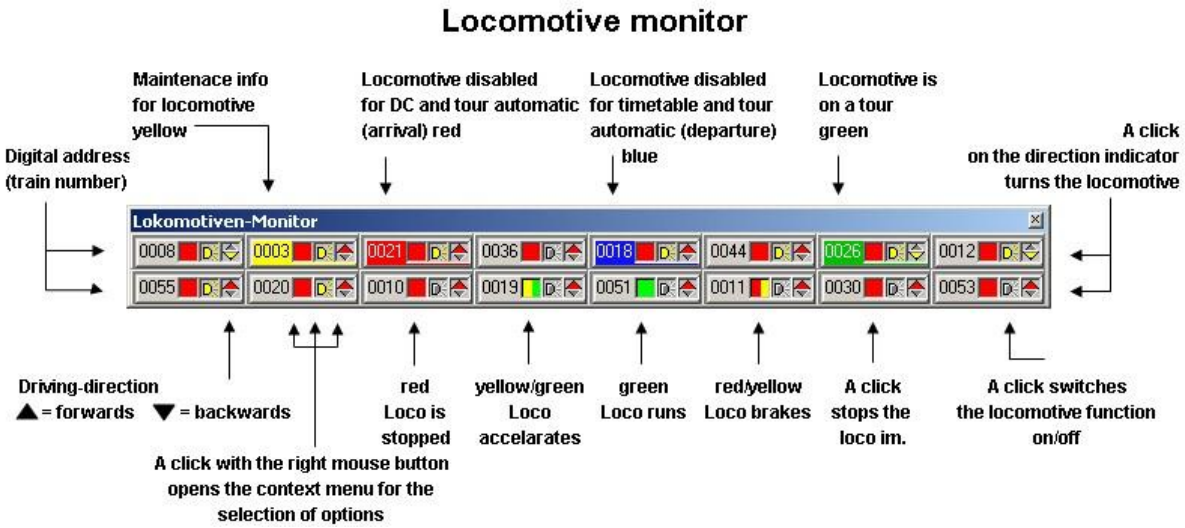
18.11.7 Small locomotive control („Mini“)



In the small locomotive control the icons of the possibly built-in function-decoder are **not** displayed.

18.11.8 Locomotive-Monitor („Micro“)

The locomotive monitor can be opened from the toolbar ( ) or the menu and is a very useful tool to get an overview over all locomotive's actual state.



If you float with the mouse about the monitor, the pictures of the corresponded locomotive is displayed if you have enabled this function.

18.11.9 Usage of the Locomotive-Monitor

You can just stop a locomotive with the Locomotive -Monitor, for further controlling of the locomotive click on the digital number of the locomotive to open the locomotive control.

The locomotive controls and the Locomotive-Monitor can be moved to every position on your screen(s). For moving a control or the Locomotive-Monitor click the title bar, hold the left mouse button, drag it to its new position and release the left mouse button in the new position (Windows – drag & drop). By closing and reopening they will be always displayed at the last position.
The Locomotive-Monitor offers a great opportunity to get an overview over all locomotives (Locomotive running, accelerating, decelerating and stopped). You can even see if a locomotive needs maintenance. When clicking into a free space of the locomotive monitor with your right mouse button a context menu will open, that offers you some options.

18.11.10 Usage of the locomotive controls

The illustrations explain all functions. All commands are issued with mouse clicks. To set the rated speed, click on the relevant speed step on the graduated dial/ slide scale, or drag –with the left mouse button depressed- the dial pointer/ the slide button from zero to the desired speed.

Alternative you can also send commands via the keyboard of your computer, for the following functions, if the locomotive control is selected (blue title bar):

Arrow **right** and arrow **up**	=	increase speed
Arrow **left** and arrow **down**	=	decrease speed
Key **end**	=	accelerate to top speed
Key **POS 1** and **space**	=	Stop
Key „**D**“ and key „**R**“	=	change direction
Key „**F**“	=	Loco-function on/off
Key „**S**“	=	Loco-sound on/off
Keys „ **0**“ to „**8**“	=	Special functions F1 to F8 on/off

18.11.11 Dragging/deleting train numbers into/from train number display

You can drag a train number while holding down the right mouse button...

- from a picture in the locomotive
- from a picture in a locomotive control
- from a train number in the locomotive monitor

...into a train number display.

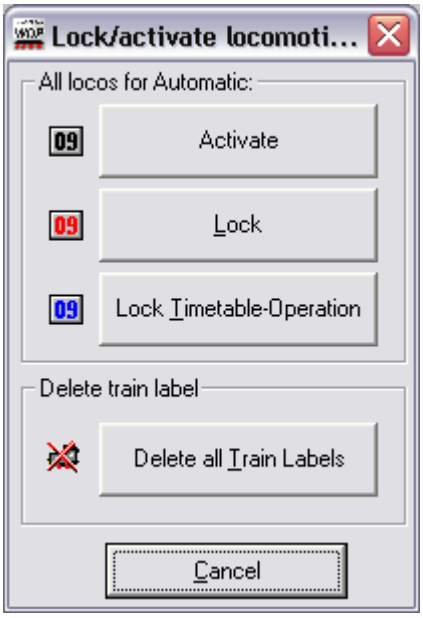
There will appear the locomotive's digital address (small train number display) or its class (large train number displays).

If you want to delete a train number from its display, click with the right mouse button onto the train number display and selecting and select the delete command from the menu.

18.11.12 Activate/Deactivate/Delete all locomotives from train number displays

Select in the main program the menu command <View> <Loc activate/deactivate/delete> or click on the symbol in the toolbar. A new window "Lock/activate locomotives" appears.

The colours of the train numbers have the following meaning within **WIN-DIGIPET 2012**.



If the colour of the train number is...

- BLACK/WHITE, the train can be used in the timetable and any automatic operation
- RED, the train will not continue driving when using the automatic with demand contacts and also not in all lines of the tour automatic with the symbol ("By Arrival")
- BLUE, the train will not continue driving when using the timetable and also not in all lines of the tour automatic with the symbols or ("Departure Time")

The buttons are self-explanatory. The first three buttons change the colour of the locomotives in for **all**

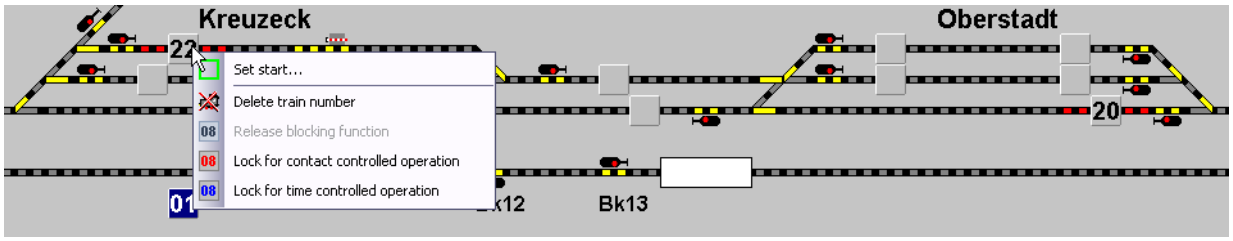
train number displays.

The button '***Delete all train labels***' will remove the train numbers from all train number displays in your track diagram.

The button '***Cancel***' closes the window again.

18.11.13 Activate/Deactivate/Delete single locomotives on train number displays

You can activate/deactivate/delete single locomotives on train number displays. If you want to do this, click with the right mouse button onto the train number display and select the according command from the menu.



You can do this also via keyboard/mouse operations…..

Move your mouse cursor over the train number display to change between...

- RED 08 and BLACK 08 — ALT-key + right mouse button
- BLUE 21 and BLACK 21 — ALT- and Shift-key + right mouse button
- For deleting a train number — Shift-key + right mouse button

You **have to** hold the key down while pressing the mouse button.

With the key-button-combinations described above you can switch between the colour in both directions (e.g. RED->BLACK; BLACK->RED).

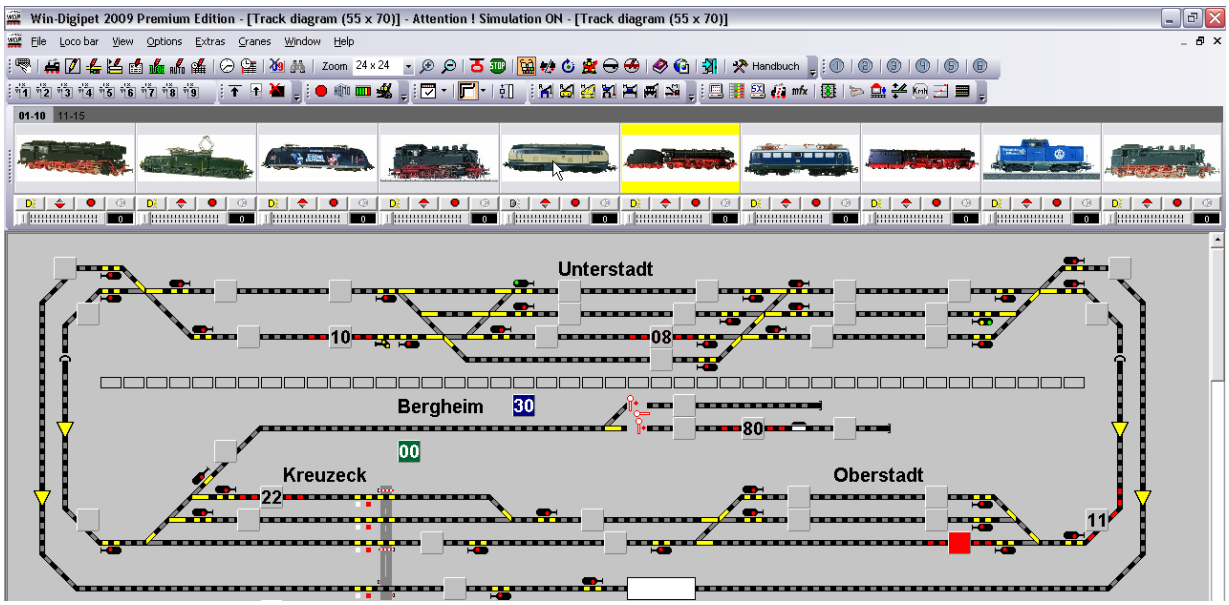
The basic settings to choose between the normal train number colours BLACK and WHITE can be chosen in the system settings according to section **4.11.2**.

Important tip!
The deletion of a **single** train number will **not** cause a security request.

18.11.14 Showing a single locomotive within you track diagram

If you have a big track diagram and many locomotives it is often difficult to find a single locomotive within the track diagram.

Now you can highlight a single locomotive by clicking with the middle mouse button on the picture of a locomotive in the loco bar or on a locomotive control. The same effect can be used with the middle mouse button and a digital address in the locomotive monitor.



As you can see in the picture, the train number display containing the locomotive becomes red as long as you hold down the mouse button.

Tip!

If you don't see any red train number display when using this function, press the Shift-button while clicking with the middle mouse button. This will force the track diagram to scroll if the red train number display is outside the visible window.

18.11.15 Controlling locomotives with control panels of the digital system

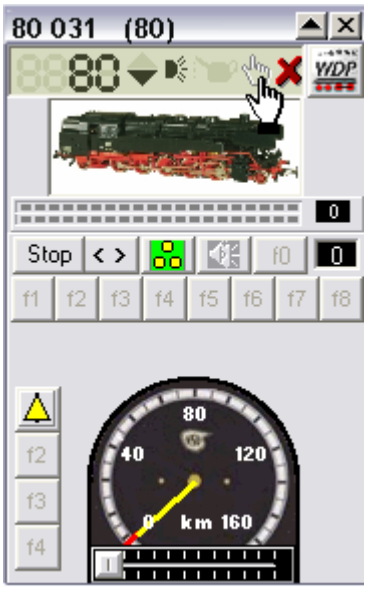
You can always control your locomotives with control panels of your digital system.

Important for the Märklin-Digital-System (6021/6020):
The locomotives address **68** may never be used because it is reserved for internal program usage. You should never activate a locomotive on a Märklin control panel that is controlled by the program, because while this locomotive is activated on a Märklin control panel it can't be controlled by the program. For other digital systems this causes no problem.

When using the Lenz-System you will receive an error message "Locomotive already under control", if you want to control a locomotive with a locomotive control and the locomotive is already activated on one of your manual control panels.

18.11.16 Driving locomotives manually

If you have activated the according option (see **4.6.2**) in the system settings you will see an additional button on your locomotive controls.



With a click on the button  **Win-Digipet 2009** will be forced to deactivate all automatic driving control by the program, the locomotive already be used in routes/tours and automatic operation, but you have to activate all driving commands manually by locomotive control, digital system or joystick.

Locomotives in manual mode are indicated in the locomotive bar with a red border (a yellow maintenance indicator will be covered).

18.12 The vehicle wizard

Every time you bring a new MFX-locomotive to your model railroad layout this locomotive will be detected automatically by your Märklin Central Station/ESU ECoS and the vehicle wizard will be opened.

You can use the vehicle wizard also to register a new locomotive or wagon without the need to open the vehicle database.

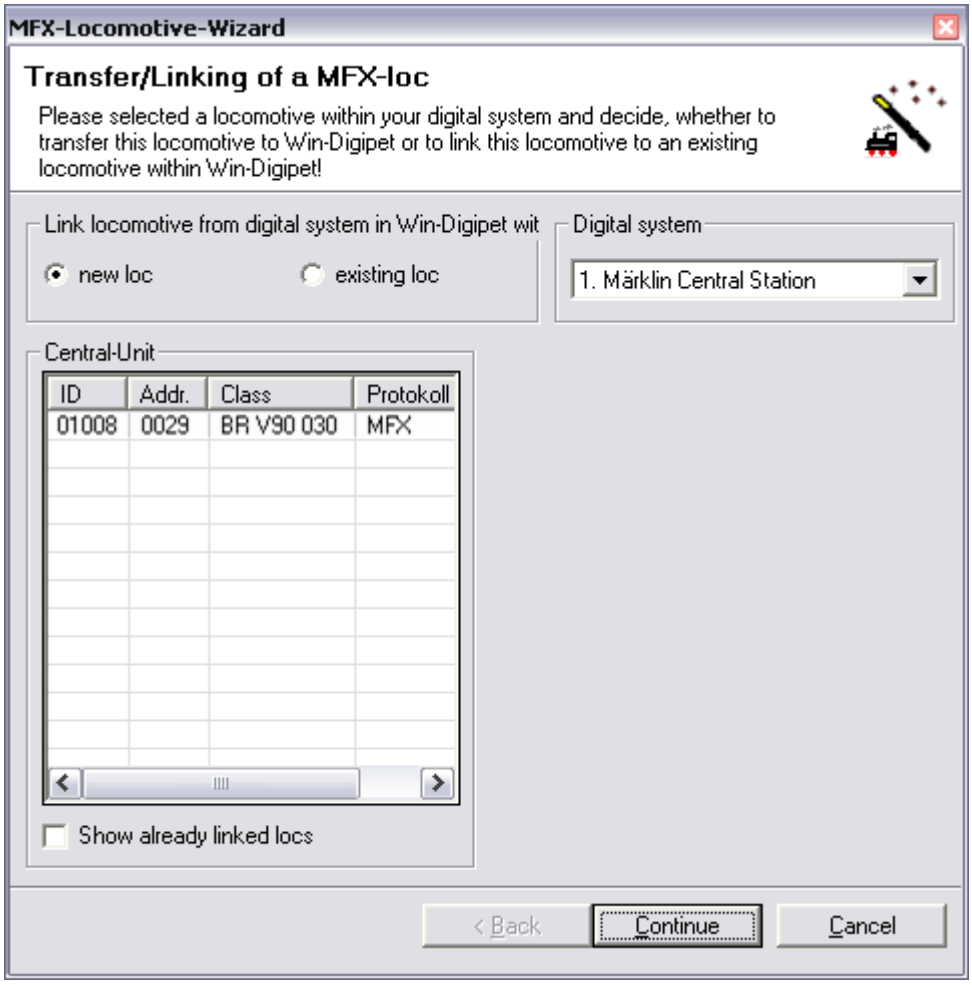
18.12.1 MFX locomotive assistant for the CS 1/ECoS

Every time you bring a new MFX-locomotive to your model railroad layout this locomotive will be detected automatically by your Märklin Central Station 1/ESU ECoS. This will be also indicated by the MFX-symbol on the CS 1/ECoS.

After a short while **Win-Digipet** will recognize this also and will start the MFX-Locomotive-Assistant.

After complete detection of the locomotive by the CS press ***'Next'***.

In the next picture above you see one MFX-locomotives that has not been linked to **Win-Digipet** until now.



To control locomotives using **Win-Digipet** these locomotives have to be linked between the vehicle database of the CS 1/ECoS **and** the database of **Win-Digipet 2009**.

Now you can decide whether you want to create a new locomotive in the database of **Win-Digipet** basing on the CS 1/ECoS data or if you want to link the new locomotive in the CS 1/ECoS with an **'existing locomotive'** within the database of **Win-Digipet** .

The following pages of the MFX-locomotive assistant are similar to the vehicle database (functions of the locomotive, picture, driving characteristics etc.), therefore read chapter **5**. When creating a new locomotive in the database of **Win-Digipet** based on a locomotive in the CS 1/ECoS, as much information as possible will be transferred from the CS to the program, but you will have to make fine adjustment e.g. for the function symbols, because Win-Digipet has much more different function symbols than the CS 1/ECoS.

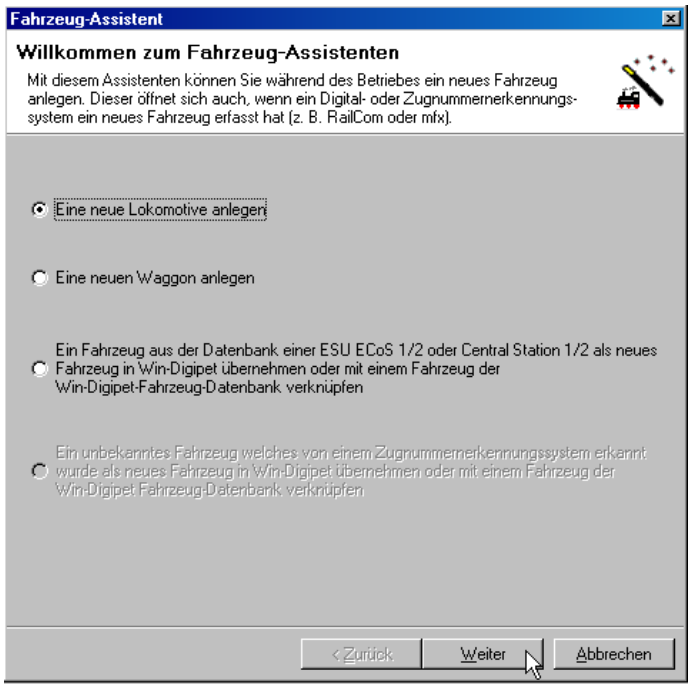
18.12.2 MFX locomotive assistant for Märklin Central Station 2

The behaviour is very similar to the one described in chapter **18.12.1** and will not be described again.

The linkage of locomotive is only necessary for MFX locomotive when using the CS2. For DCC and Motorola decoders no linking is possible and necessary.

18.12.3 Creating new locomotives or wagons using the vehicle wizard

Using the vehicle wizard you can register new locomotives and wagons very quickly with their basic settings without the need to interrupt your model railroad operation, which would be necessary if you would the vehicle database. Therefor just press the button in the toolbar of the main program.



Afterwards select if you want to create a new locomotive or wagon.

On the next index cards you can make the same registrations for your new vehicle as described for the vehicle database in chapter **5**. But: the wizard does only support the most important and most frequently used parameters from the vehicle database. For further registration open the new vehicle within the vehicle database.

18.13 Train composition

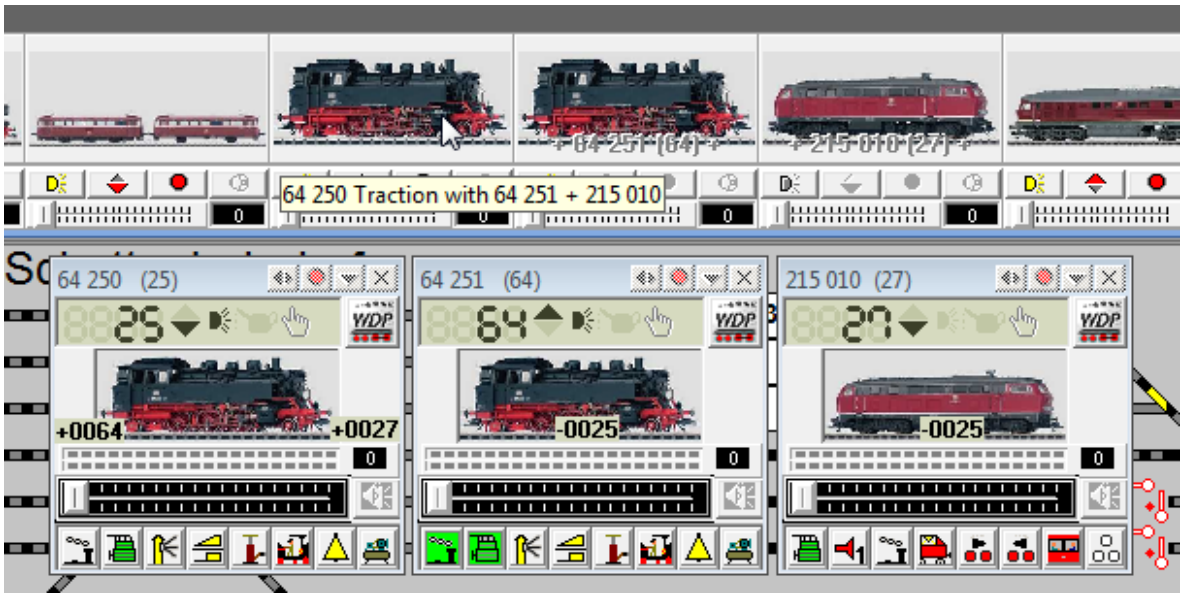
In previous versions Win-Digipet only supported multi-tractions. In Win-Digipet 2012 now real train compositions of up to three locomotives and wagons or wagon groups are available.

18.13.1 Multi-tractions

First of all we like to describe shortly what is meant by multi-traction. In large-scale operations we distinguish the main/leading locomotive of the train, additional locomotives at the front of the train are called prefix engines and additional locomotives at the end of the train are called helper engines.

We will use the same terms in our descriptions. As general term for prefix and helper engines we will use traction locomotives.

The main locomotive is always the locomotive who´s train number will appear in small train number displays and this locomotive is the starting point for the whole train.



In our example we see a three part traction with the main/leading locomotive 64 250 and the locomotives 64 251 and 215 010 as traction locomotives.

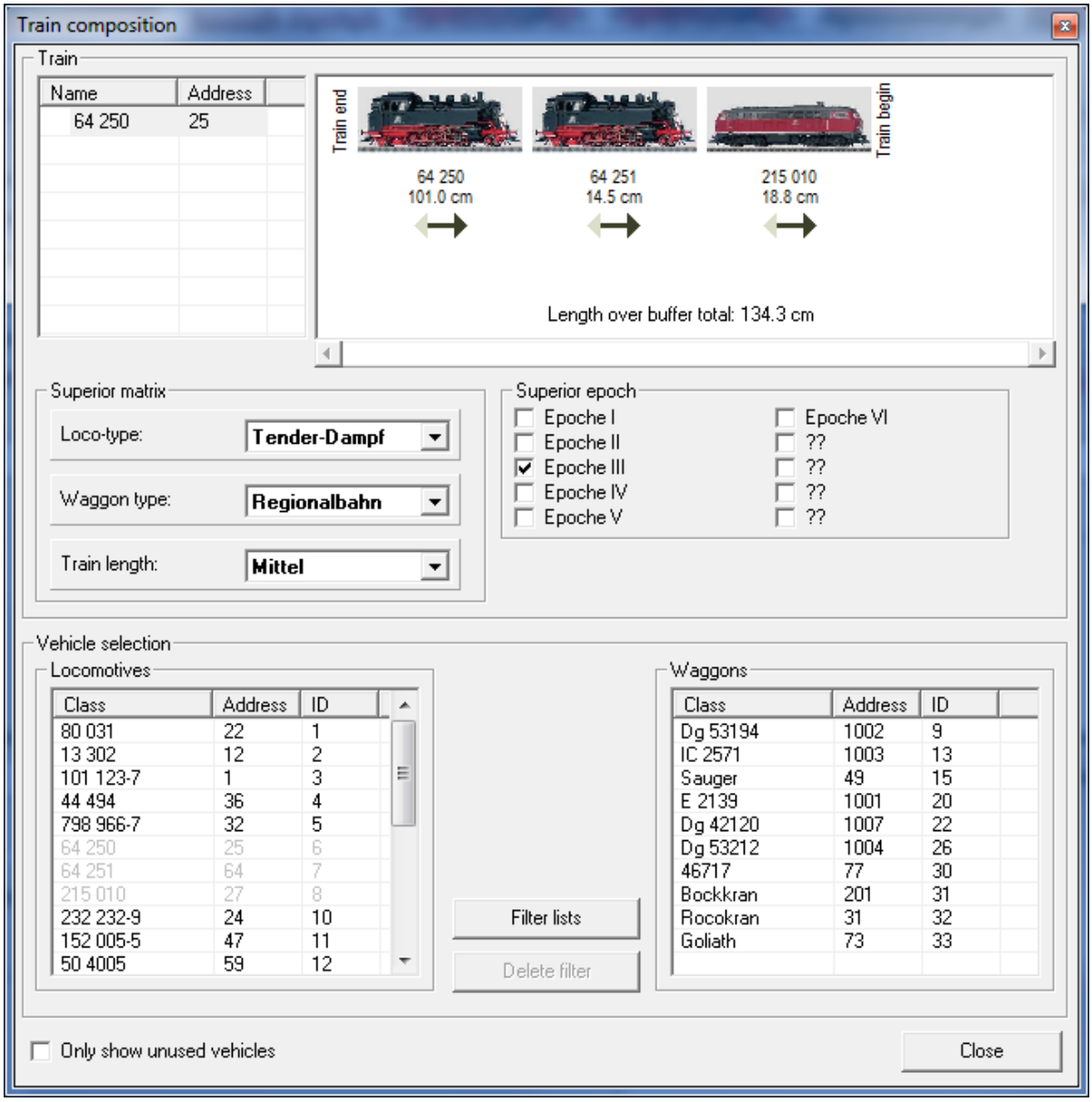
All traction locomotives are greyed out in the locomotive bar and cannot called directly any more.

The digital addresses of the traction locomotives appear as small numbers in the lower left and right corner in the locomotive picture of the main locomotive´s control. This helps you identifying this three part traction.

We recommend using locomotives with a 15-point measurement for traction. This will help you achieving a good driving behaviour, see also **5.9.4** to **5.9.7**.

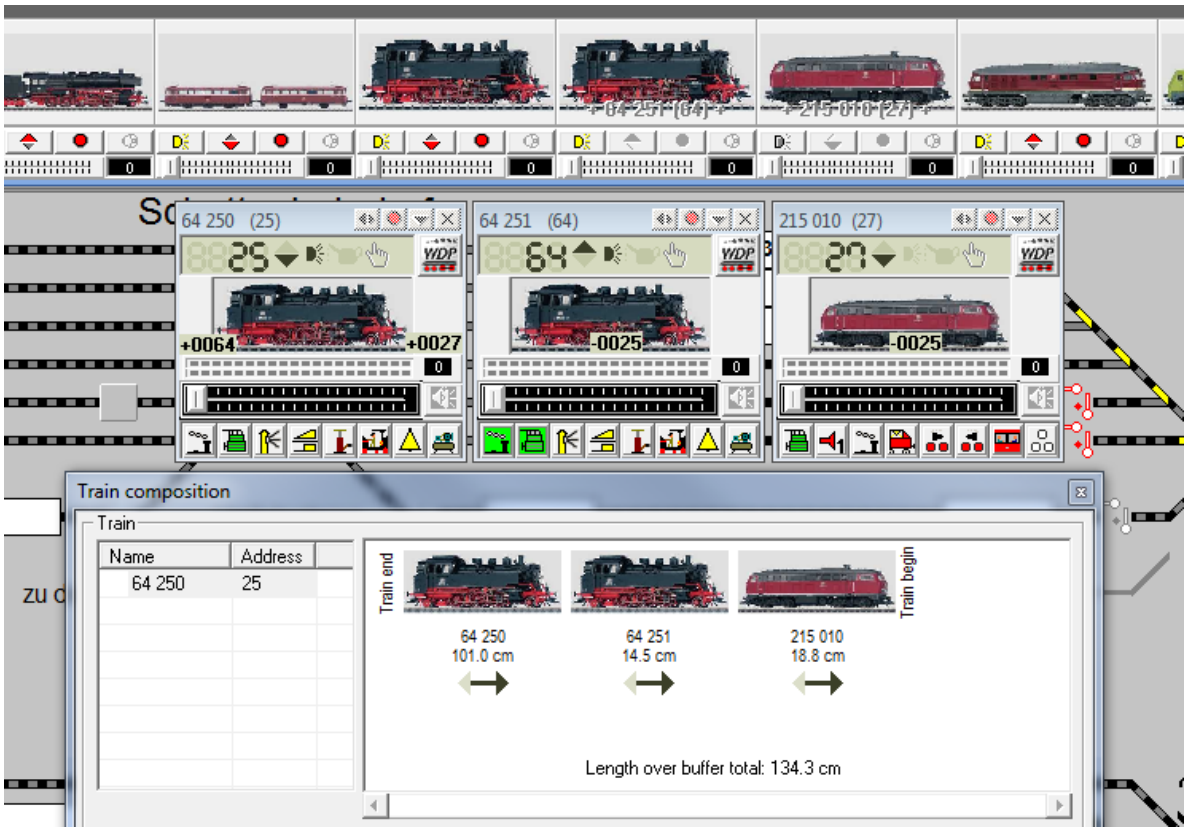
A traction can only be released using the train composition. The train composition window can be opened using the button in the toolbar of **Win-Digipet**. You can

also open the train composition by clicking with the right mouse button into the picture of the main locomotive´s control.

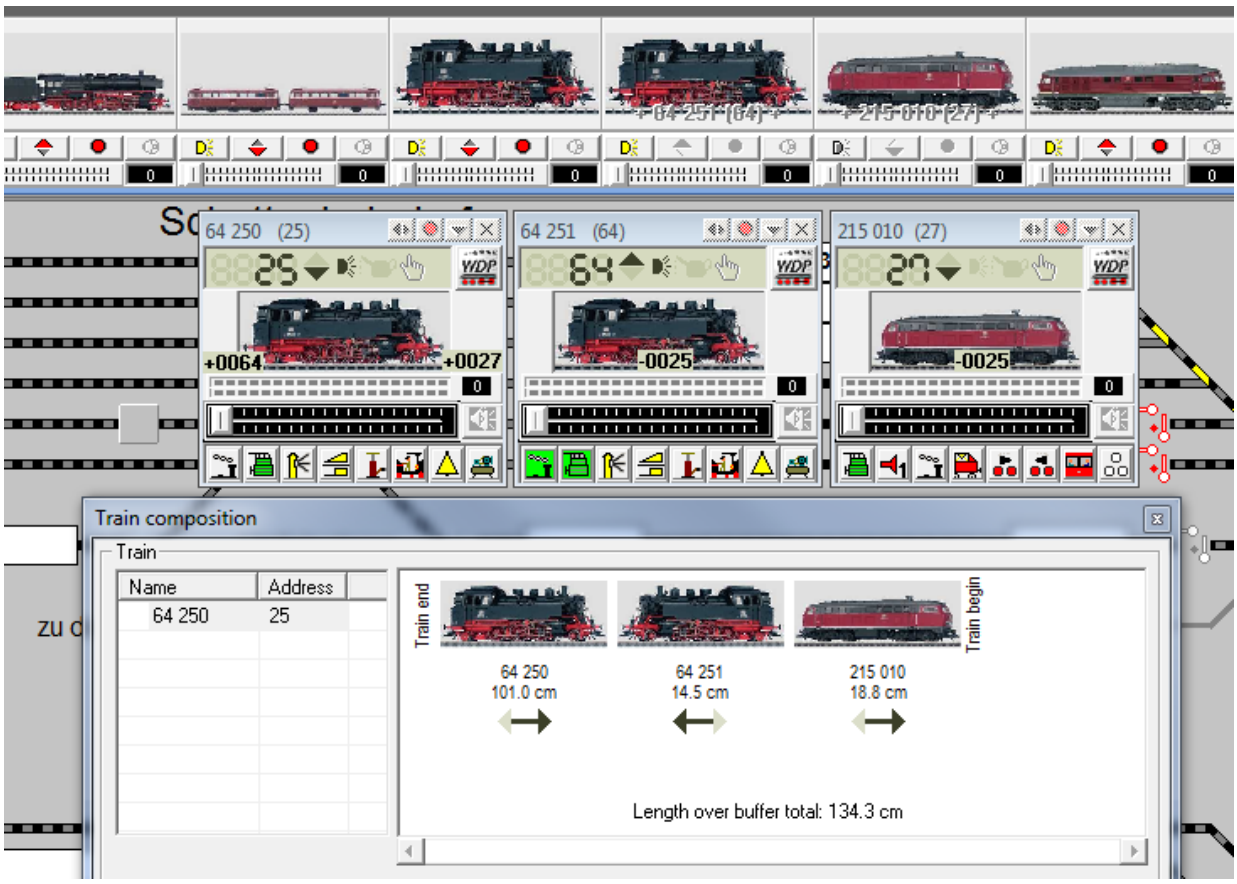


18.13.2 The train composition editor

Already registered multi-tractions from previous from former versions will appear in the window similar as in the following picture. Please check that all locomotive are displayed with the right direction relatively to the train.



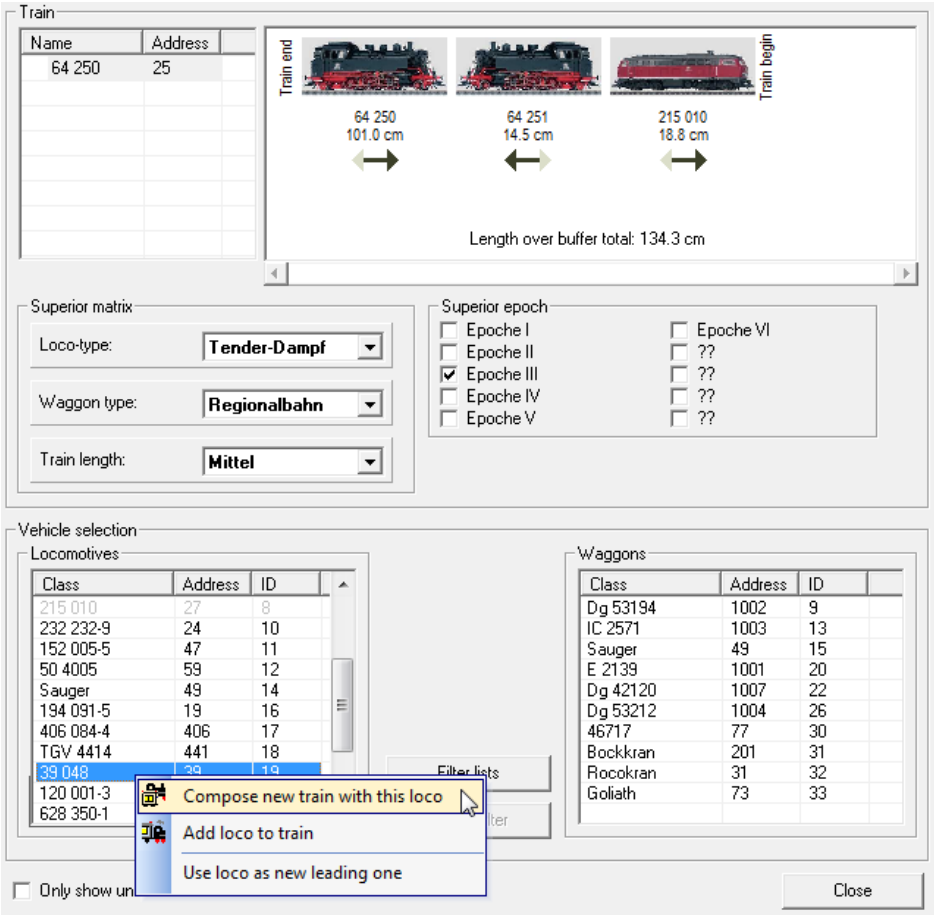
Please make sure, that your train is displayed showing all vehicles with their correct direction. Take a look at the following picture and compare it to the one before. It is a great difference in the second locomotives 64 251 is oriented in the train forward or backward relatively to the main locomotive 64 250. You change the direction orientation by clicking on the small arrows below the locomotive pictures.



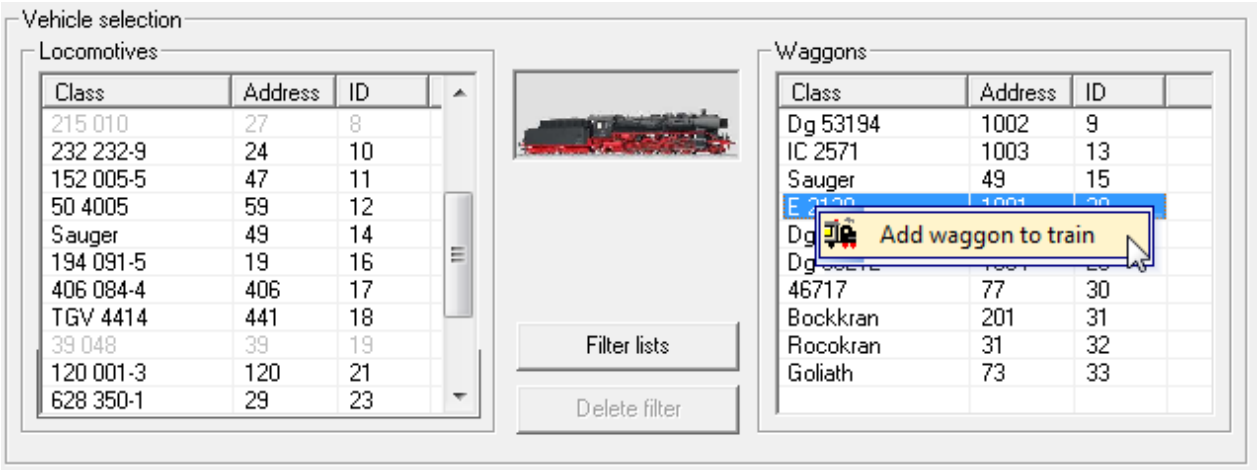
If you haven´t done yet, you should browse through all datasets of your locomotive database to check if all picture are displayed with the correct driving direction left -> right.

18.13.3 Composing a new train

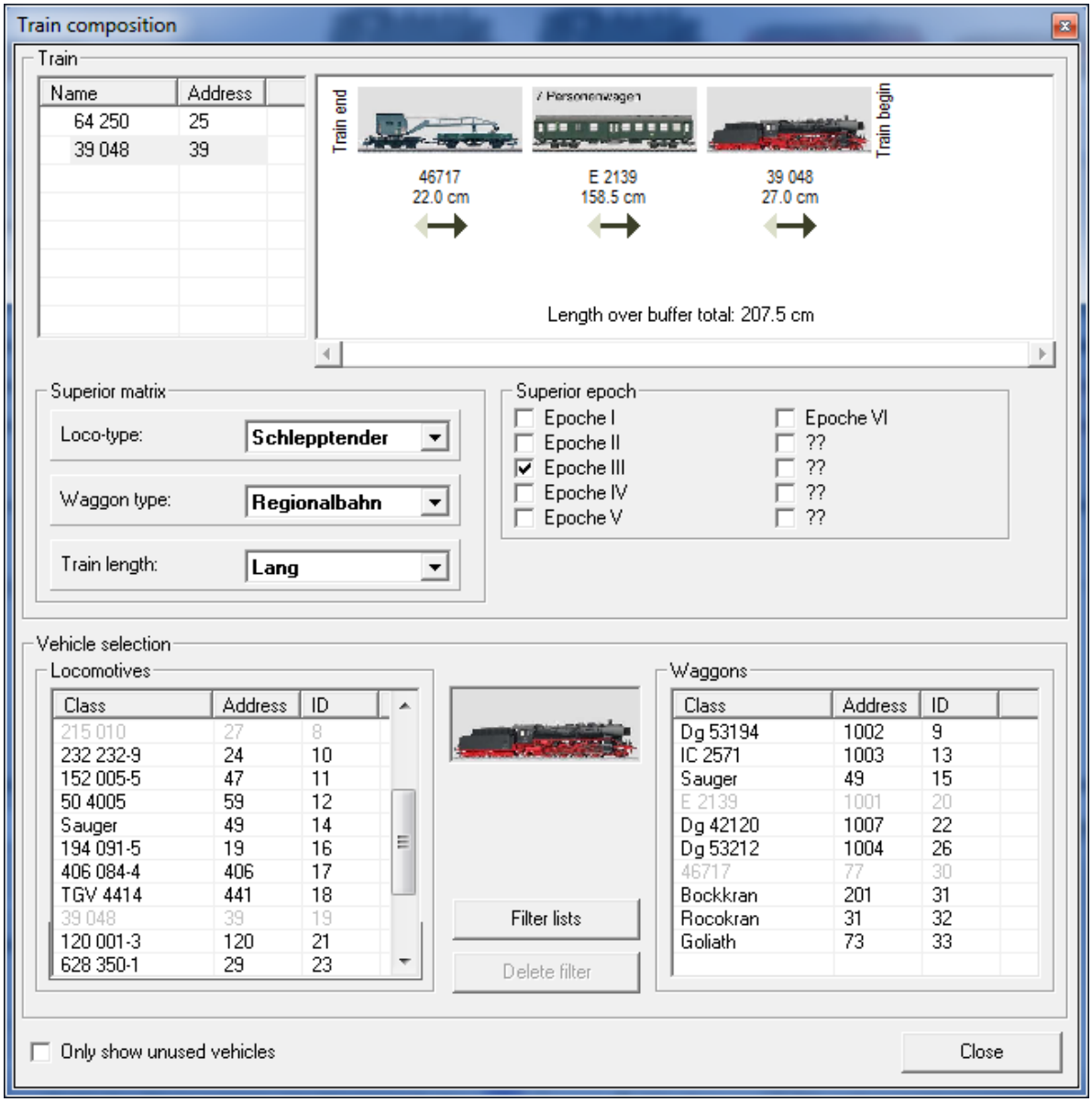
For composing a new train select in the locomotive list at lower left part of the window the main locomotive for the train. Now open the context menu of this list with the right mouse button and choose the command <Compose new train with this loco>. A new train with this locomotive will be created.



Now we want to the wagon group E 2139 to the previously selected main locomotive 39 048. Therefor we choose in the wagon list in the lower right part of the window the wagon group E 2139. Now open the context menu of this list with the right mouse button and choose the command <Add wagon to train>. The wagon group will be appended to the train right after the locomotive.

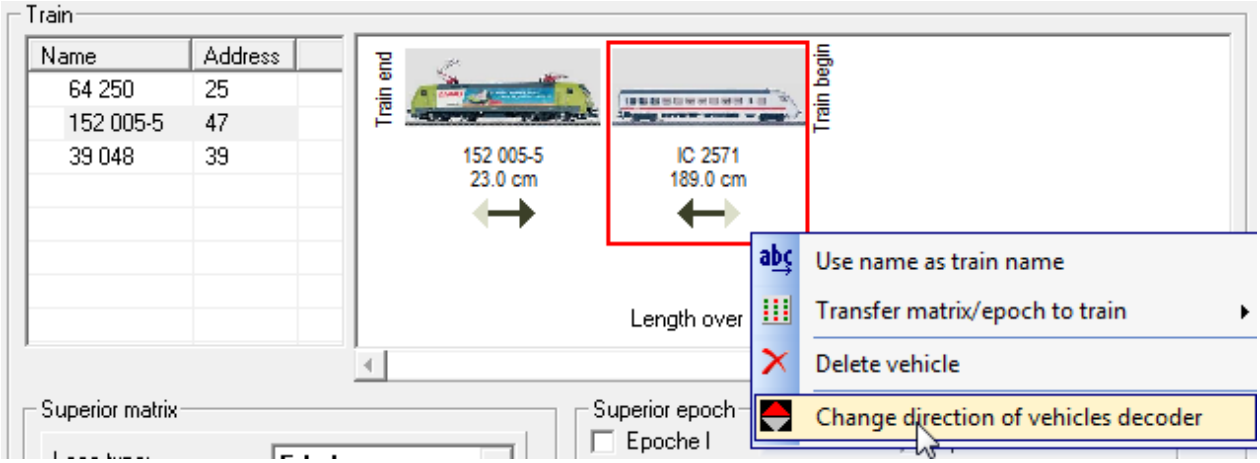


After adding also crane 46717 the train is complete and will look as follows:



The locomotives and wagons can also be added to train via drag & drop from one the list to the train composition picture at the open. With drag & drop you can also change the order of vehicles in the train. Using the small arrows below the picture you can change the direction of each vehicle within the train relatively to the complete train.

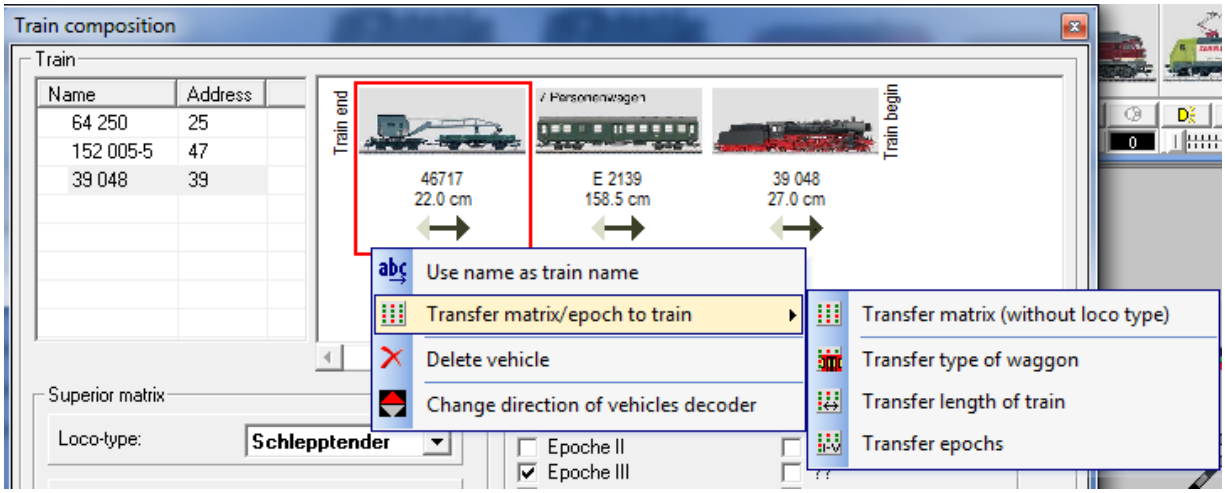
The following picture shows you the example of a train composed of a locomotive and a wagon group IC 2571 with a control cab coach. After composing the train you should check if the headlights/backlights of the control cab coach are glowing correctly when changing the train's direction via the main locomotives control. If they are reverse you can reverse the direction of the control cab coach´s decoder by clicking with the right mouse button onto the control cab coach´s picture in the train composition and select <Change direction of vehicles decoder> from the appearing context menu.



18.13.4 Editing the new train

As initial train name always the name of the leading/main locomotive will be used e.g. 152 005-5. But you can also use the name IC 2571 of the wagon group by clicking with the right mouse button onto the control cab coach´s picture in the train composition and selecting <Use name as train name> from the appearing context menu. You can even assign a custom name to the train by clicking with the right mouse button onto the trains old name in the train list at the left and selecting <Rename> from the appearing context menu.

With drag & drop you can also change the order of vehicles in the train. Using the small arrows below the picture you can change the direction of each vehicle within the train relatively to the complete train. You can remove vehicles from your train by clicking with the right mouse button onto the vehicle´s picture in the train composition and selecting <Delete> from the appearing context menu. This can be done except for the main locomotive of the train. You can delete whole trains using the context menu of the train list on the left side. The editor also calculates the actual complete train length over buffer LoB and displays the value in the train composition picture.

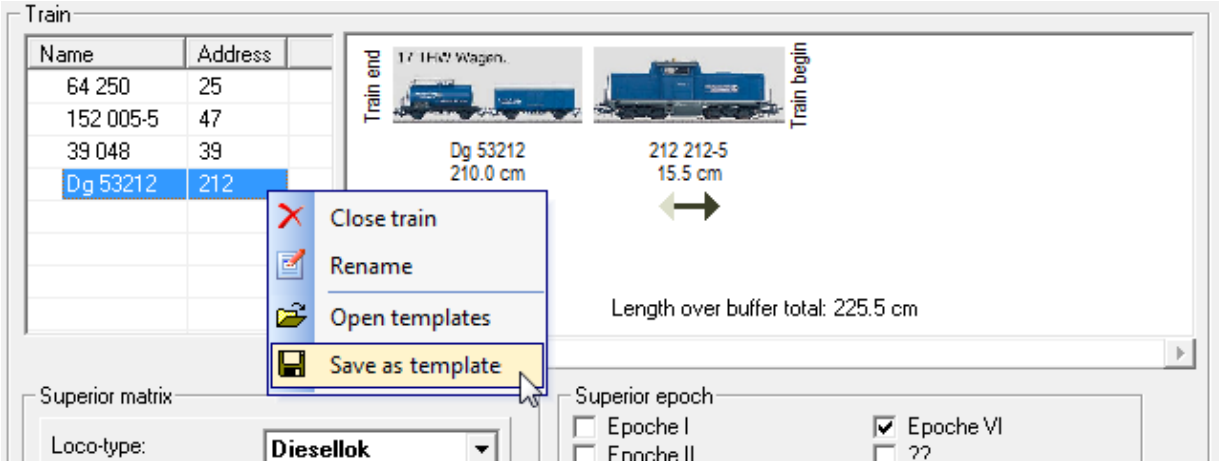


You can also transfer parts of the vehicle´s/locomotive´s type using the context menu of the train composition (see picture above).

Please keep in mind that for locomotives which are part of train, the train matrix will be taken into account and not the locomotives matrix.

18.13.5 Saving/recalling a train template

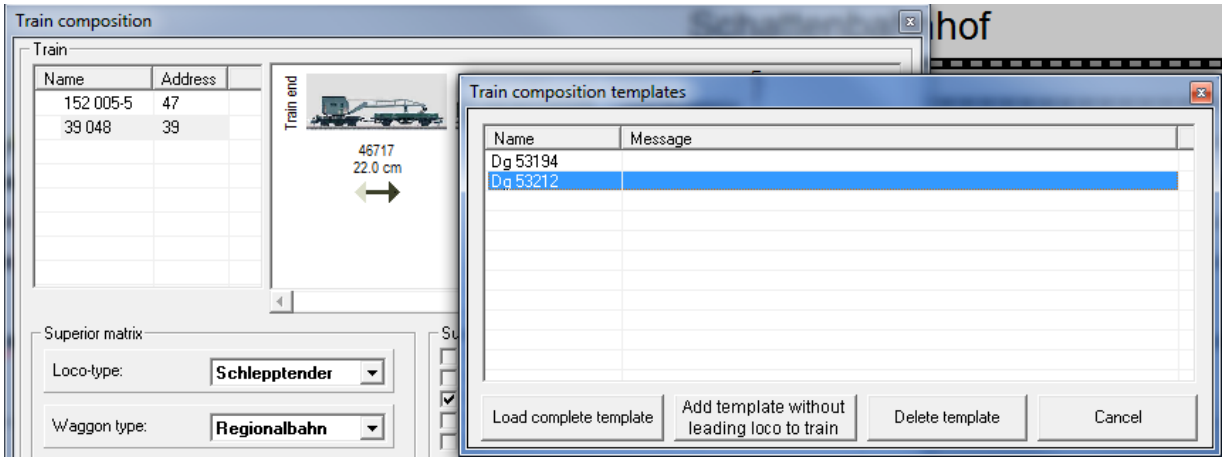
A train composition can be saved as template by clicking with the right mouse button onto the trains name in the train list at the left and selecting <Save as template> from the appearing context menu.



A previously saved train composition can also be used with a new main locomotive. Therefor create a new train with the desired main locomotive and select it in the train list. Now click with the right mouse button onto the trains name in the train list at the left and select <Open template> from the appearing context menu

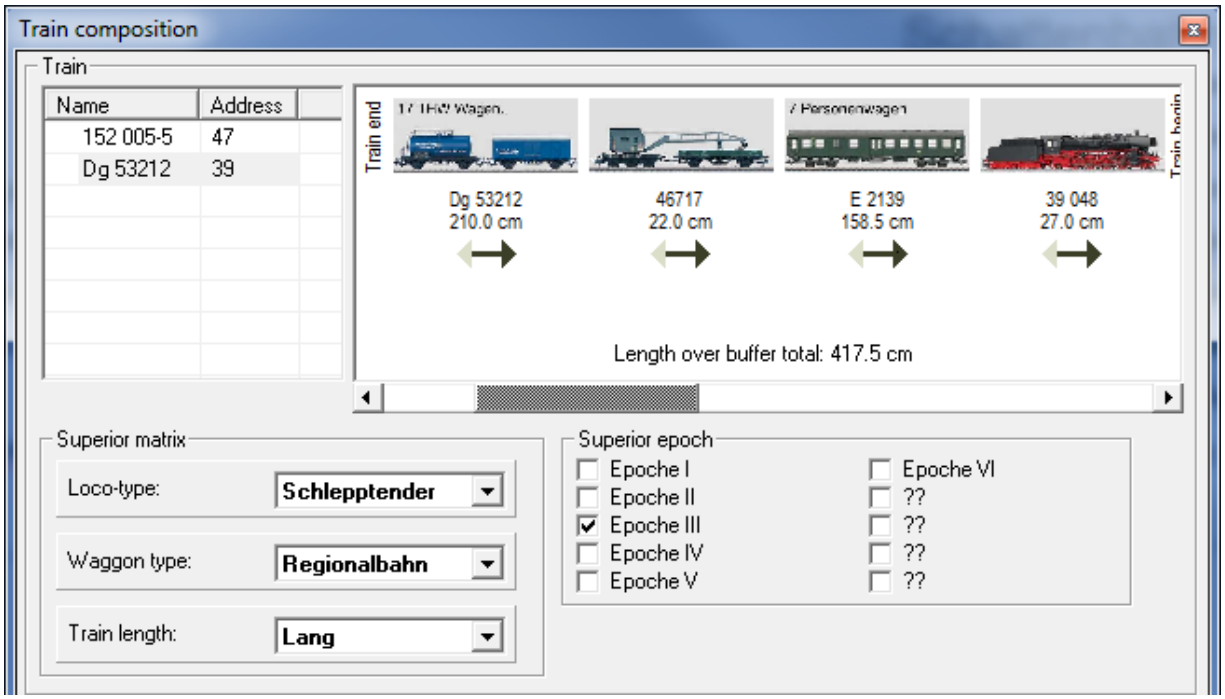
In the new appearing window all previously saved train compositions will be listed.

In our example we want to append the previously saved train composition without its old main locomotive to the new main locomotive 44 494. Therefor select the template in the list and press the button **'*Add template without….*'**.



After using templates please check the trains name to make sure you use a proper name for the new train.

The new train composition is shown in the following picture:



You should now check the superior matrix because from the old composition the Loco-type has been set to diesel and should now be changed to steam.

18.13.6 Train length LoB total

Every time you change your train composition you will recognize, that Win-Digipet automatically recalculates the train´s total length over buffers. The train length from the train´s matrix has to be set manually because the options from the according list are not bounded to fix lengths in cm.

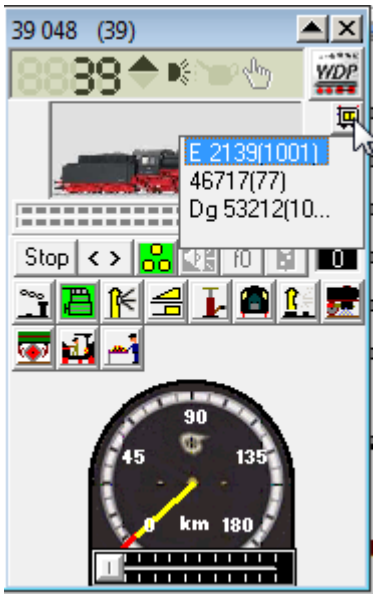
The train lengths in cm and from the matrix will be used in the routes editor according to chapters **8.10** and **8.10.2** and will affect the route execution later on. Therefor we

suggest changing the old matrix types from values like short and long to real cm-ranges like 101-120cm.

The matrix length values can be changed in the system settings according to chapter **4.13**. The changed texts will be automatically available in all editors.

18.13.7 Extended locomotive control for train compositions

In chapter **18.13.1** you learned how the second and third locomotive of a train are indicated in the main locomotive´s control. All wagons of train are represented by a small wagon symbol in the upper right corner of locomotive picture in the main locomotive´s control. When clicking the button all wagons, that are part of the train appear in a list.



By clicking onto one wagon in the list the wagon´s control will open and you will be able to switch special functions of an eventually installed decoder in the wagon.

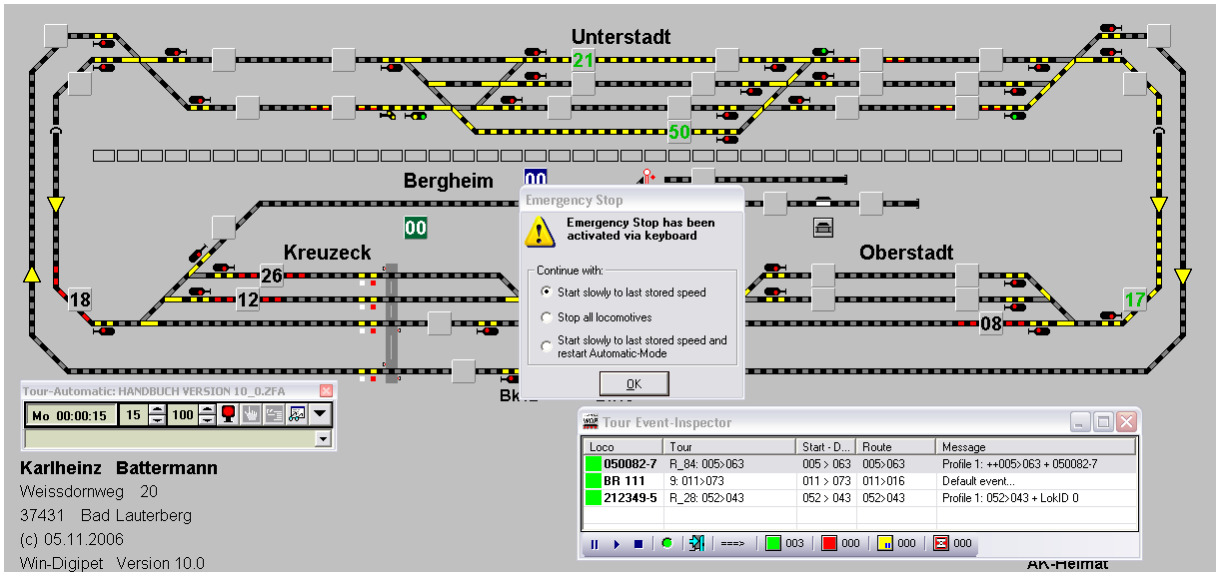
18.14 Emergency stop

Sometime dangerous situations of the train layout may occur, so that you want to stop your trains as fast as possible. In these situations an emergency stop might be a good idea.

18.14.1 Emergency stop via F9, menu or toolbar

At any point of the program you can perform an emergency stop by pressing the function key **F9** of your computer. You can reach the emergency stop also via <Options> - <Emergency stop> or the switch in the toolbar.

An “emergency stop” window will open.



After an accident, you can adjust the speed of all involved locomotives to zero at the Loco-Control-Bar or with the loco controls, before you click at ***‘OK’***. However all operation of solenoid devices is closed, until the “emergency stop” window is closed again.

You have got three options to continue after an emergency stop:

- *“Start slowly to last stored speed“ .*
  All locomotives will be adjusted to their last stored speed with their registered acceleration delay.
- *“Stop all locomotive“ .*
  If you click at ***“OK”***, all locomotives will be stopped and you have to control their speed manually again.
- ”*Start slowly to last stored speed and restart automatic mode“ .*
  All locomotives will be adjusted to their last stored speed with their registered acceleration delay and the automatic will be restarted.

This option is only enabled if an automatic was a running at the moment of the emergency stop.

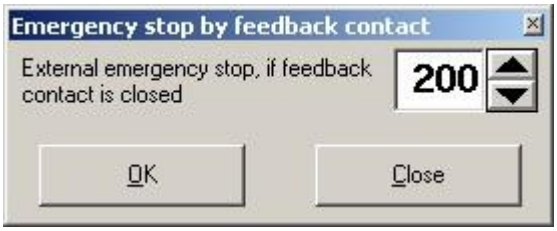
These **Options** can also be selected **directly** with the **keys 1, 2** or **3**.

18.14.2 External emergency stop by feedback contact (key)

You can register this contact in the menu below <Extras> <External emergency stop by feedback contact> or via the button in the toolbar.

Here, you can register the feedback contact number for the emergency stop key.

You can install a key-button for the external emergency stop at any place you like on your model railroad. This key-button will cause the emergency stop by a designated contact to your PC. In case of emergency this will save long ways.



18.14.3 Stop/Go all locomotives

Under the menu <Options> – as well as by the toolbar – you can stop or start all locomotives Stop/Go all locomotives F8.

Your layout is not switched off, contrary to the emergency stop, but all locomotives are switched to speed 0 (STOP symbol then RED) or acceleration to the pre-determined speed (STOP symbol then GREEN). Before this a confirmation query will be displayed

At any point of the program you can initiate this function by pressing the function key **F8** on your computer.

18.15 Tour automatic

The term is described in section **11.1** in all details.

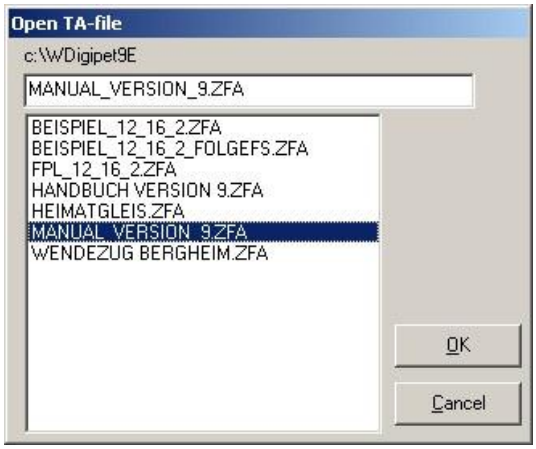
The registrations in the demand contact editor have all been described in this chapter. This will not be repeated. We also will not list **all** possibilities, how to start/stop the automatic operation.

In the next sections we will always describe and explain the **suggested** possibility.

18.15.1 Selection of a tour automatic

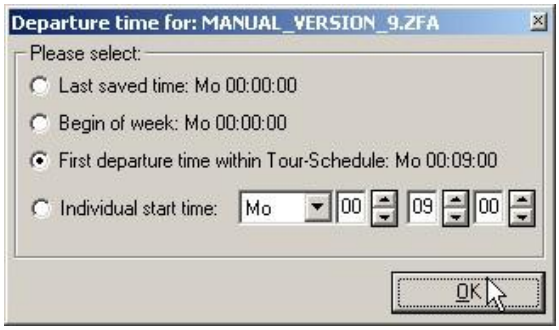
Click on <File> - <Tour automatic> or on the switch in the toolbar.

Select the TA automatic file to open and confirm your selection with ***'OK'***.



18.15.2 Start and event flow of the automatic operation

After the selection of TA file a window called “Departure time for:…ZFA” will appear.



You can select between...

- Start with last saved,
  If you have interrupted the tour automatic and want to continue at the same time
- Start at beginning of week, e.g. if you have a layout for presentation and you want to present always the same automatic
- Start with time of central clock
- Start with first departure time within tour schedule, if you have created a tour automatic similar to the timetable
- Start with individual time, the selected time is the point of time at which the first train could start.

The window described above will only appear when your tour automatic contains rows with departure time.

Having made all selections, you confirm them with the button **‘*OK*’.**

The Control Center of the tour automatic will appear now.

Here you can set several options concerning your tour automatic. All buttons and field are also explained by tool tips.

In the headline you will see the name of the opened tour automatic file and below on the left side the current day of week and time.

Next to it, the white panel displays the time factor (1...360).

You can alter it with the arrows at its right, even while the tour automatic is running.

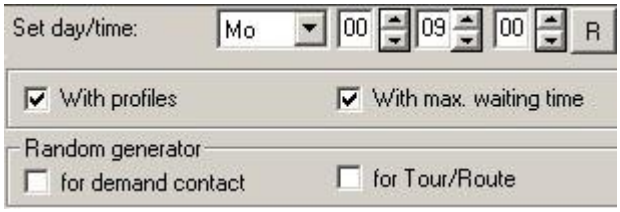
In the field in the middle you can see the interrogation, which has the same function as in the DC automatic, you can select a value between 100 and 1000 msec.

In the comment panel below with the selection arrow the contents of the route/tour buffer are indicated. The buffer contains routes/tours that were not executed until now due to a delay.

The symbols  have the following functions (left to right):

- Start/Stop of the tour automatic (green = Start command, red = Stop command)
- Switching routes/tours manually from the buffer
- Delete routes/tours from buffer
- Open tour automatic inspector
- Show or hide setup/options.

If you click on the right button, the window will enlarge and offer additional options.



Day and time can be reset to Monday 00:00:00 with the button R.

If you have created profiles for your locomotives/routes you can also de-/activate them with the check box "*With profiles*". If (de)activated the trains will (not) use profiles.

The check box "*With max. waiting time*" is very useful when using tours in your automatic with demand contacts. This waiting time can be set in the system settings (see **4.12.3**). Then tours that cannot continue due to a blocked situation etc. will be killed after the waiting time has expired.

If you checked this option, a tour with exceeded waiting time will be treated as follows...

- in the tour automatic with **unchecked** "*With max. waiting time*"...
  - the tour will be stopped
  - the tour will be marked RED in the tour event inspector
  - the train number remains GREEN
  - **no** audible or visible warning will appear
- in the tour automatic with **checked** "*With max. waiting time*"... **without** alternative route/tour within the tour automatic...
  - the tour will be stopped
  - the train number will be switched from GREEN to BLACK/WHITE
  - the tour will be marked RED in the tour event inspector with a hourglass
  - a sound warning will be played and a message will appear for a short time, if not disabled in the system settings
  - you have to remove the blocked situation, afterwards select the tour in the tour event inspector and restart the tour with the button ▶

- or you have to continue the train manually with a tour or route, then the tour will be deleted automatically from the inspector

- in the tour automatic with **checked** "*With max. waiting time*"...**with** alternative route/tour within the tour automatic...
  - the tour will be stopped
  - the train number will be switched from GREEN to BLACK/WHITE
  - the tour will be marked RED in the tour event inspector with a hourglass
  - a sound warning will be played and a message will appear for a short time, if not disabled in the system settings
  - the tour will remain in the tour event inspector until the train is continued by the tour automatic

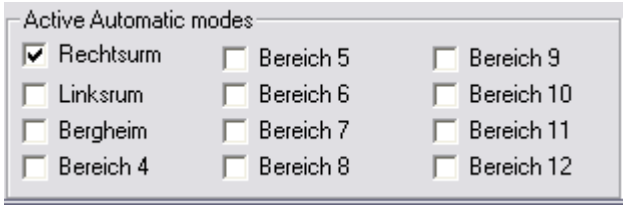
Via the two check boxes "Random generator" you will create a very varied tour automatic.

You can activate random generators for...

- Demand contacts
- Routes /Tours.

If you just activate **demand contact**, the contacts are demanded in random order. The routes at one contact are checked one after the other. The first, that can be switched, will be switched and all other routes will be left out.

If you check the **routes**, the routes are chosen randomly. If one route couldn't be switched, the next one will be selected randomly. If you have registered many routes, it can last rather **long** until a route can be switched.

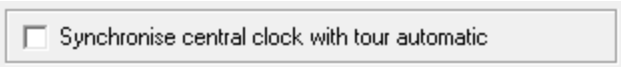


You can also activate both random generators at the same time and you will achieve a complete random operation.

In the lower part of the expanded window you can select the automatic sections to be used.

Epochs will only be taken into account if you have activated the use of epochs in each tour automatic row (see **11.11**).

If you want to sync the central clock with the tour automatic clock you activate this here. If you stop the tour automatic or it stops automatically the central clock will then be stopped too.



All settings made for your tour automatic will automatically be saved when closing the tour automatic and reloading when opening the tour automatic again.

If you made all your selections, you activate the automatic operation by click on the red button ; it will change to green.

With the same (now green) button you can stop the automatic operation later.

18.15.3 Tour event inspector

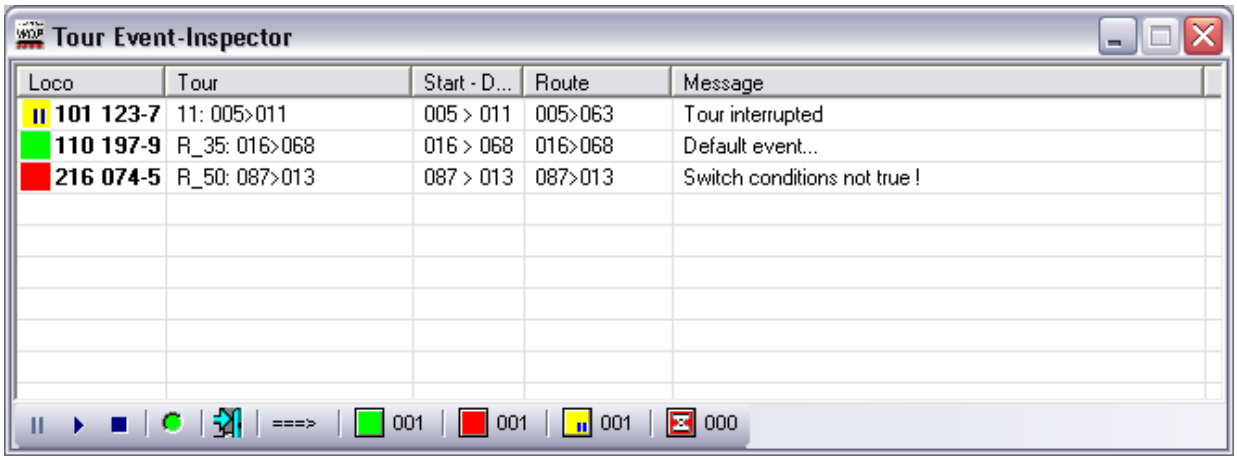
Every time you the first tour/route of your tour automatic have been started, the tour event inspector will appear.

The column “Loco“ indicates the current state of the locomotive...

- green/red = drives/stopped and
- yellow = tour manually stopped (pause)
- red hour glass = tour stopped because of expired waiting time

The column “Route“ indicates the currently requested route.

The window of the tour event inspector can be resized windows typically in the same way as many of the program’s windows (windows typical).



With the buttons at the left bottom, the selected tour from the list can be paused, restarted and killed. Besides the buttons you see status displays showing how much tours are the moment red/green/yellow etc.

With the round green button **all** tours can be paused and restarted (see **9.10**).

With a double click on a line in the inspector the locomotive control of the corresponded locomotive can be opened.

Never drive a train of an **active** tour manually or delete the train number in the track diagram, before you have killed or paused this tour.

18.15.4 The “Inspector” for automatic

The Inspector supports you to check the order of events and to find bugs. Click at the button . The “Inspector” window will open then.

You can **close** the Inspector by clicking at the **same symbol** or by ending the automatic operations.

The Inspector should just be used for fault detecting. It is not recommended to use the Inspector during a correct and smooth operation. Due to additional messages and queries timely delays would affect automatic operations.

The Inspector provides you with important messages in case of irregular operations within a tour automatic. He just provides you with messages, during active automatic operation (green button), the queries and messages will stop immediately, if you stop the automatic (red button).

The Inspector is very useful for fault detecting. You can also divert the content of the inspector to a text file. With this, you have the possibility to check this file in detail later on.

To do that, click at ***'Into file'*** and a window will open "Save as...". Enter any name and click at ***'Save'***.

Messages of the inspector ("R" = Route, "C" = Contact number and „EXIT" = Check next demand contact)

- Inspector from: 07.03.2005
- Mo 00:00:00
  Demand: C 011
  Check route: 011 - 016
  By arrival: 00:00:00
  Check: 011 - 016
  Route: 011 - 016 will get started !
- Mo 00:00:00
  Demand: C 030
  Check route: 030 - 036
  By arrival: 00:00:00
  Setting for solenoid device #1 addr: 37 WRONG
- Mo 00:00:00
  Demand: C 037
  Check route: 037 - 033
  By arrival: 00:00:00
  Check: 037 - 033
  Route: 037 - 033 will get started !
- Mo 00:00:00
  Demand: C 043
  Check route: 043 - 037
  By arrival: 00:00:00
  Check: 043 - 037
  Switch conditions not true !
- Mo 00:00:00
  Demand: C 058
  Check route: 058 - 016
  By arrival: 00:00:00
  Check: 058 - 016
  Loco: 050082-7 blocks destination contact !
- Mo 00:00:15
  Demand: C 077
  Check route: 077 - 082
  By arrival: 00:00:00
  Check: 077 - 082

Route: 077 - 082 will get started !

These are just some examples for inspector messages.

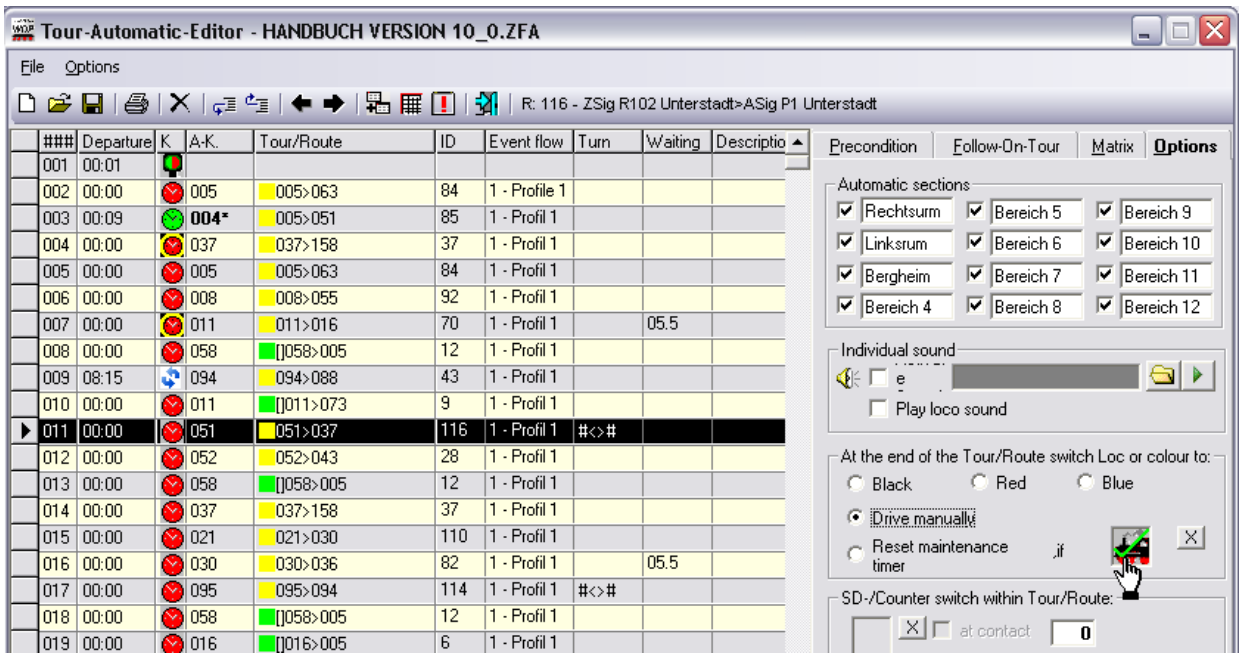
18.15.5/6 Manual control of a locomotive during automatic operation

If you have activated the corresponding option in system settings on the index card “Locomotives“ according to section **4.6.2** an additional command button will be visible within the locomotive controls.

With a click on the button **Win-Digipet** will be forced to deactivate all automatic driving control by the program, the locomotive already be used in routes/tours and automatic operation, but you have to activate all driving commands manually by locomotive control, digital system or joystick. This is similar to a locomotive driver, the PC controls routes, signals etc., but you have to drive the locomotive yourself.

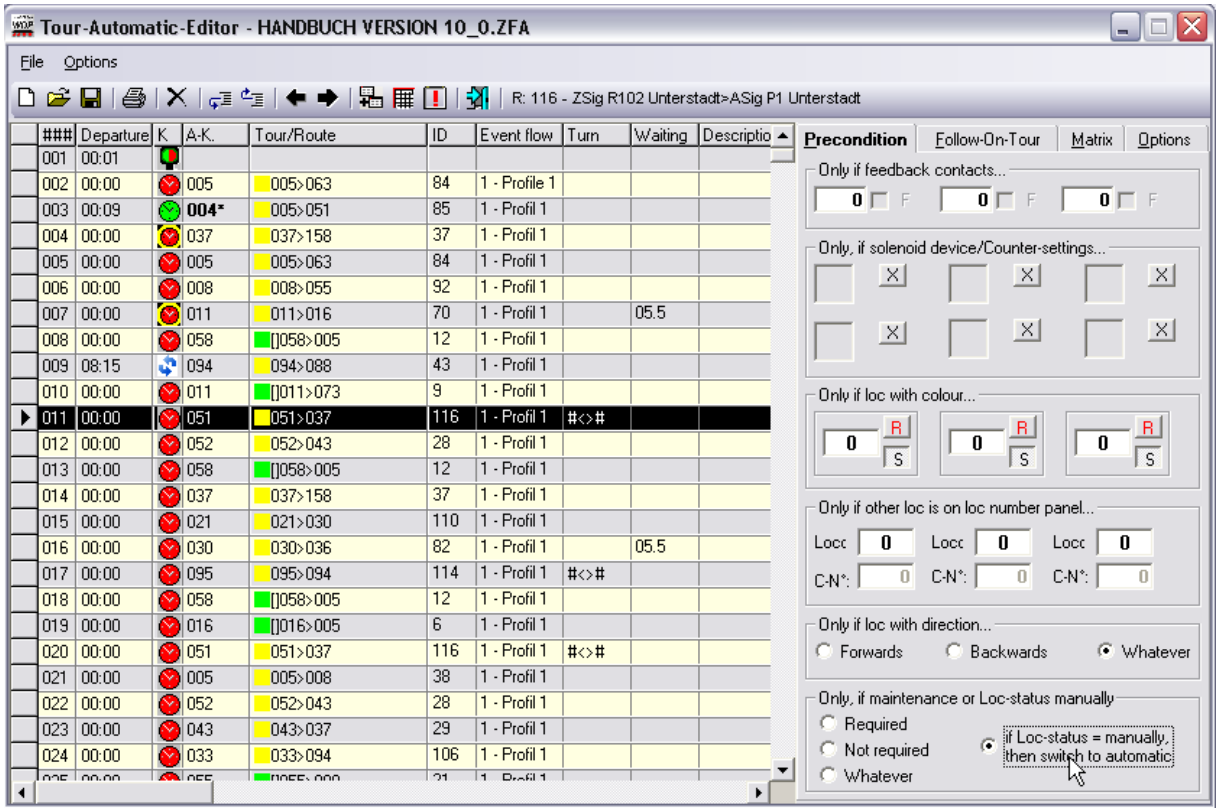
Locomotives in manual mode are indicated in the locomotive bar with a red border (a yellow maintenance indicator will be covered).

In the same as you can switch locomotives to red/blue or black within the tour automatic you can also switch it to manual operation as shown in the picture below.



This registration will force the program to switch the locomotive to manual operation when this line has been completely executed and the registered switch is set to green.

If you want to get automatic control back you can also force the tour automatic to this with the following registration:



This will set the locomotive on the start contact of this tour automatic row back to automatic operation when is currently in manual mode.

18.15.7 Accidents, end of operations, delays

The system helps you to resume quickly to the correct operation on your layout, in the event of operating problems.

If an **accident** occurs, e.g. a derailment or a collision, you can simply stop the operations by a click at the green starting switch on your computer; the green button changes to red and the automatic is stopped.

Having removed the cause of the accident, you resume operation by clicking once more at the (red) starting switch.

The tour automatic operation can be closed at any time by a click on the symbol ☒ in the right top corner. If you have still active tours at this moment, a security query will appear. If you click then on ***'Yes'*** these tours will be killed, the tour automatic ends and trains just drive to the destination of their active routes and then the operations on your model railroad layout will come to an end.

If you want to stop the tour automatic temporarily click on the button (the button will change to red).

The system fills all routes/tours which, due to **train delays** and other **operating troubles,** could not be switched as per specification at the given time, in the routes/tours buffer. The buffer display tells you how many routes and which ones are therein. But only tours/routes with *"Departure time"* and the symbols or in the column "C" will appear in the buffer. This buffer is treated similar to the timetable operations.

Tours/routes with selected *"By arrival"* and the symbol will not appear in the buffer.

Through you can carry out or begin the actions for emptying the buffer. It is your decision, how the tour automatic should continue.

Routes/Tours which are switched manually out of the buffer ( ) will be deleted, if they have achieved their release conditions. Follow-on-switching will also be carried out. If you want to **delete** routes/tours out of the buffer you can use the button . Via the combo box displaying the buffer, you can select which buffer rows to switch or delete.

If you have problems/irregular situations etc. during tour automatic operation you should use the train inspector (see chapter **18.6**).

18.16 Timetable operation

The main concept of the time table operation is explained in section **12.1** in detail.

Also the required registrations in the timetable editor have been explained in chapter **12**. Reading chapter **12** is a prerequisite for using timetables.

In the following sections the manual gives and describes always **recommended** possibility.

Before starting a timetable you should switch all solenoid devices to their basic settings (see **18.4**).

This helps you to avoid faults during the timetable operations, because of wrongly-switched solenoid devices caused by manual intervention.

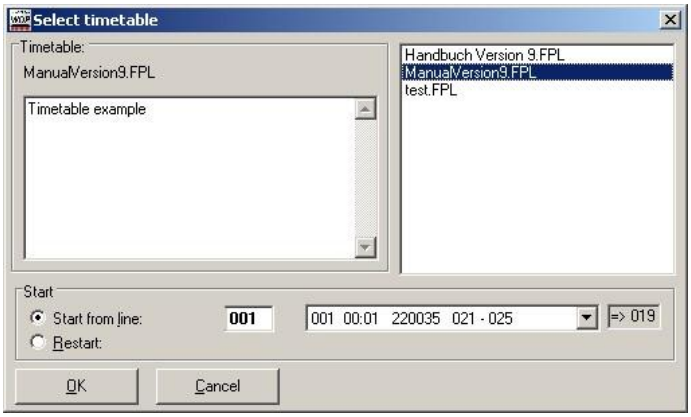
18.16.1 Selecting a timetable

Click on <File> <Timetable operation> or on the switch in the toolbar: This is how you reach the operation according to timetables. A window "Select timetable" appears containing the names of all timetables recorded so far

For selection click at the name of the timetable you want to have executed. The line will be shown with a blue background and the name of the timetable will be displayed in the upper left. Below this the belonging remarks (if existing) will be shown.

If you would like to start this timetable from the first line, please select *"Restart"*. In the panel right next to *"Start from line*" and the number "001" will be shown. In the listing panel right next to it you can see the departure time, the locomotive and the route for this starting line.

In the grey panel next to it, the total amount of lines for this timetable will be shown.



Confirm with **'*OK*'**.

If, however, this timetable had previously been interrupted and stored as of a given line number, this will automatically appear in the right hand rectangle.

You can start each selected timetable as of any desired line number.

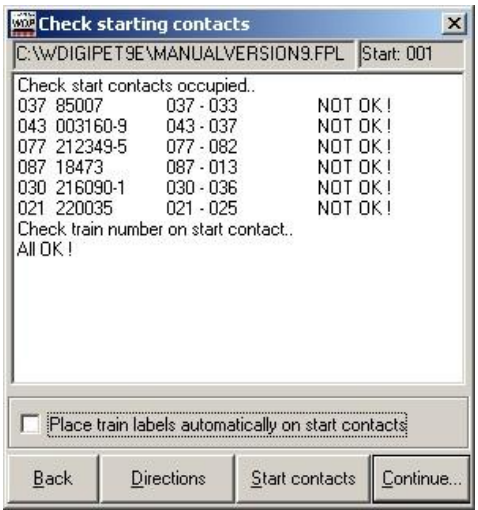
- To do so, select "Start as of line". Activate, by a mouse click the right hand rectangle and overwrite the contents, via the keyboard, with the line number from where you want the timetable to be executed. Confirm with **'*OK*'**.
- Or – for a better view – you click at the down arrow of the listing panel and you will get all timetable lines of this timetable for a free selection. With a click at one of these lines you can select the starting line of this timetable. Confirm with **'*OK*'**.

18.16.2 Checks before starting a timetable

Checks carried out by the program before you start the timetable ensure that you have placed each locomotive concerned in its specified starting position, i.e. on its correct starting contact.

In this context, the **check of starting contact** function is of particular importance and the window "Check starting contact" opens automatically after every timetable selection- ***'OK'***. All contacts that are not occupied by a locomotive are displayed 'NOT OK'. If all contacts are occupied by a locomotive the message 'All OK' is displayed in the window.

This is not possible in some timetable structures; examples: Different locomotives move off at different starting times, but use **one** starting contact. **One** locomotive moves off at different starting contacts at different times, etc. In this case ignore the messages "NOT OK".



To correct this you will use all displayed non-occupied starting contacts ("NOT OK") to occupy with locomotives (if it does not interfere with the

timetable structure). Click again on ***'Starting contacts'***. As a result of this check the message "All OK" is displayed.

Furthermore the program already checks at this stage, if all train number panels for the start of this timetable are covered by the correct train numbers. Due to the outcome of this check, you can change some locomotives manually to their correct position.

The correct occupation of the starting contacts is also checked before the new start of the same timetable, before the start of another timetable and before passing to an add-on or self- repeating timetable ("Appending a timetable", see **12.12**).

If a timetable should start with a subsequent line instead of the first one ("Start as of line...", etc.), the system checks the correct occupation of all contacts which have to be regarded as starting contacts of that line.

All locomotive addresses are **automatically** transferred into the train number display fields of the starting contacts, by clicking ***'Continue'*** and if the switch *"Set train numbers automatically on starting contacts"* is activated (checked) You do not have to concentrate on the correct occupation of the train number display fields.

You have to select the digital addresses of locomotives from the locomotive selection and transfer them to the train number symbols (as described in **18.11.11**) at the beginning of each timetable time, if the timetable structure does not allow the above function or you have deactivated it.

Important!
To prevent crashes it is very important that all train number symbols are occupied with the correct train numbers.

You return to the selection of another timetable- without starting the selected timetable- via ***'Back'***.

18.16.3 Start and normal execution of timetable

Click on ***'Next'*** in the window "Check starting contacts".

The timetable command panel appears at the upper right hand side of the screen, which can be moved to every desired position on your screen.

On the outer left you see the model railroad clock (displaying hours: minutes: seconds). It starts running with the starting time of the first timetable line. Next to it, the white panel displays the time factor (1...15) you had determined in the basic systems settings (**4.8.1**).

You can alter it **temporarily** with the arrows at its right, even while the timetable is running. This, however, does not influence the setting of the time factor in the basic system settings, and the latter will appear in the time factor panel each time the main program is loaded. The arrival times doesn't correspond anymore if they are temporarily changed, as explained in **12.5**.

In the comment panel with the selection arrow, next to the time factor panel, the contents of the route buffer are indicated (see below in **18.16.5**). Its maximum size is defined in the basic system settings (**4.8.3**).

Every line of the routes buffer, shows the loco and the route (separated by #).

You will see the actual processed route next to the headline of the timetable window.

 The symbols from left to right have the following functions:

- Start/Stop of the timetable (green = Start command, red = Stop command)
- Switching routes manually from the buffer
- Delete routes from buffer
- Display of contacts not reached
- Open timetable inspector
- Block and release locomotives in the current timetable
- Close timetable

The info fields stand for the following:

- Starting time of timetable line executed next
- Locomotive's class
- Description of the route
- Number of routes in the routes buffer
- The item number of the "line" displayed to the left and the total number of lines

At first, ensure that **all** locomotives of the selected timetable are positioned in the correct **direction of travel**, avoiding that they move off inadvertently backwards at timetable start. Make certain, that **no** locomotive of the selected timetable is called at a Märklin **control unit**.

Start the timetable by a click on the starting switch. It changes its colour from red to green, and the timetable starts running.

You can also use the function key **F12** on your computer to start and stop the timetable.

As soon as the model railroad time is equal to the starting time of the timetable, that line will be executed. The turnouts and signals of the relevant itinerary are switched; the relevant locomotive starts, moves along its itinerary, performs the given commands at intermediary contacts (if any) and stops at the end of the itinerary.

This operating sequence is subjected to certain conditions.

- A timetable line will only be executed, if the condition to switch, stipulated for the relevant route are fulfilled. If they are not, the route will not be switched.
- A timetable line will only be executed after the relevant locomotive has correctly made/switched all contacts assigned to the preceding route. As long as this is not complied with, the route will not be switched.
- All routes which for the above – mentioned reasons could not be switched as per specification at a given time, are stored in the "Routes buffer" (see below **18.16.6**).

In this way the **WIN-DIGIPET 2012** executes the first timetable.

At the same time the next timetable line is shown in the execution display. It will be executed as soon as the model railroad time is equal to the starting time of the second timetable line.

Thereafter, display and execution of the third timetable line will follow, etc.

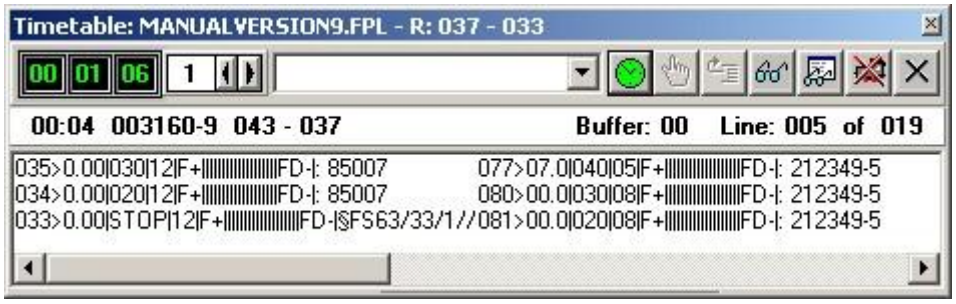
You can stop the operation with timetables at any time by clicking at the green starting switch; it changes to red. A second click puts the starting switch back to green, and the operation with timetables is resumed.

After the last line of a timetable or of an add-on timetable respectively has been completely executed, the message “End of timetable“ appears in the execution window.

Thereafter, you can start the timetable again via the starting switch, or you can return to the main program and select another timetable.

18.16.4 Contacts activated by train

You can display which contacts were not yet made/switched. Click on : The timetable command panel expands in the lower half, displaying all contacts still to be processed.



In this window you can see easily which contacts have been occupied until now.

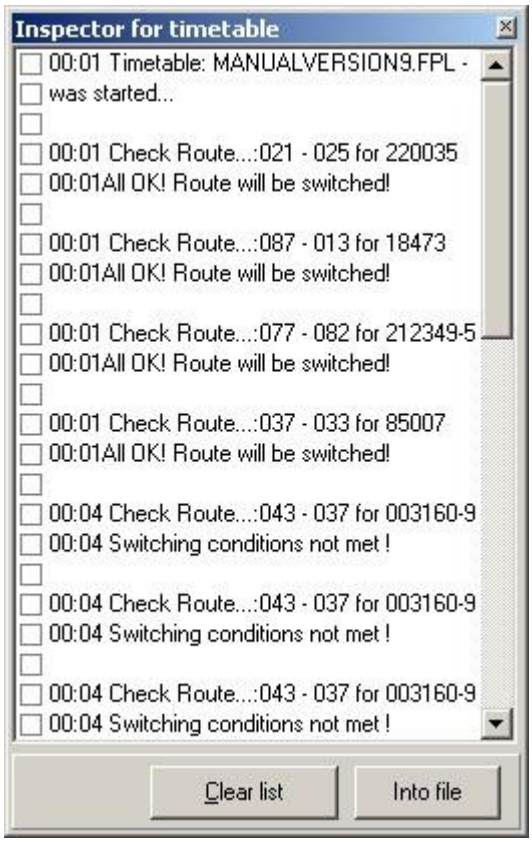
18.16.5 The “Inspector” of timetable operations

The Inspector supports you to check the order of events and to find bugs. Click at the button in the timetable command centre. The “Inspector” window will open then.

You can **close** the Inspector by clicking at the **same symbol** or by ending the timetable operations .

The Inspector should just be used for fault detecting. It is not recommended to use the Inspector during a correct and smooth operation. Due to additional messages and queries timely delays would affect timetable operations.

The Inspector provides you with important messages in case of irregular operations within a timetable. He just provides you with messages, during active timetable operation (green clock), the queries and messages will stop immediately, if you stop the timetable (red clock).



You can also divert the content of the inspector to a text file. With this, you have the possibility to check this file in detail later on.

To do that, click at ***'Into file'*** and a window will open "Save as...". Enter any name and click at ***'Save'***.

Example Messages of the Inspector ("RT" means „Route")

- 00:01 Timetable: (Timetable-Name) –
  was started.....
- 00:01 Check route... : (Route-Name) for (Loc-Class)
  00:01 All OK ! Route will be switched!
- 00:05 Timetable: (Timetable-Name) –
  was stopped.....
- 00:08 Check route... : (Route-Name) for (Loc-Class)
  00:08 Switch conditions not true !
  00:08 Route not yet released !
- 00:12 Check route... : (Route-Name) for (Loc-Class)
  00:12 Other loco blocks destination contact: (starting contact)
  00:24 Route not yet released !
  00:24 Loco still active !
  "STOP ! BUFFER OVERFLOW ..."

18.16.6 Accidents, end of operations, delays

The system helps you to resume quickly to the correct operation on your layout, in the event of operating problems.

If an **accident** occurs, e.g. a derailment or a collision, you can simply stop the operation with timetables by a click at the green starting switch or press the function key **F12** on your computer; the green clock changes to red and the timetable is stopped.

Having removed the cause of the accident, you resume operation at the same point of the timetable by clicking once more at the (red) starting switch.

If you want to **leave** the **operation of timetables**, because of an accident or for any other reason, **before** the **timetable has reached its last line correctly**, click on ☒.

The timetable stops and you are questioned:

- "Timetable not yet ended! Cancel anyway?"
- "Current state of operation will be saved automatically!"

On ***'Yes'*** the actual timetable line will be saved and displayed later when this timetable is selected again.

A timetable can only be ended- display "End of timetable" -, after all its contacts were correctly made/switched. If this is not the case you get the message:

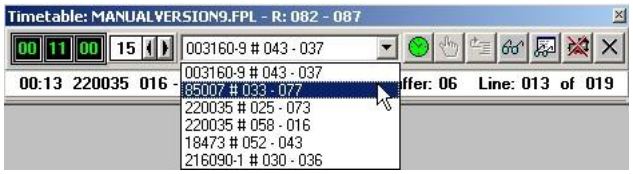
"Not all contacts made/switched! Cancel anyway?"

On ***'Yes'*** the timetable will be ended without all contact events having been carried out.

If you stop the timetable (the starting switch changes from green to red), the actual timetable line will be automatically saved and displayed later when the timetable is selected again.

The system fills all routes which, due to **train delays** and other **operating troubles,** could not be switched as per specification at the given time, in the routes buffer. The routes buffer display tells you how many routes and which ones are therein.

Through you can carry out or begin the actions for emptying the buffer. It is your decision, how the operation of timetables should continue.



Routes which are switched manually out of the buffer ( ) will be deleted, if they have achieved their release conditions. Follow-on-switching will also be carried out.

If you want to terminate a timetable and the buffer is not yet empty, you get the message:

- "Routes buffer not yet processed".

When the maximum number of buffer lines is reached (**4.8.2**), the operation with timetables stops automatically and you get the message:

- "Stop! Buffer overflow!"

Manual intervention is needed in both cases.

18.17 Saving and recalling screen size for two monitors

If you use **Win-Digipet** with 2 monitors you can save and recall the monitor size settings.

Therefore you find two commands in the menu "Window".

18.17.1 Message windows in Win-Digipet

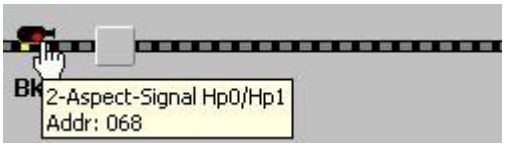
The positions of the message windows in Win-Digipet are also saved to the registry. This is very useful if you want the message to appear always on a second screen etc..

If you reset your windows positions according to **18.19** or **4.5.5** the message window's position will also be reset.

18.17.2 Display info about symbol below mouse pointer

If you want to see info about symbols in the track diagram check <Options> < Display info about symbol below mouse pointer > or < Display all info about symbol below mouse pointer>. By this you can also select the amount of displayed information.

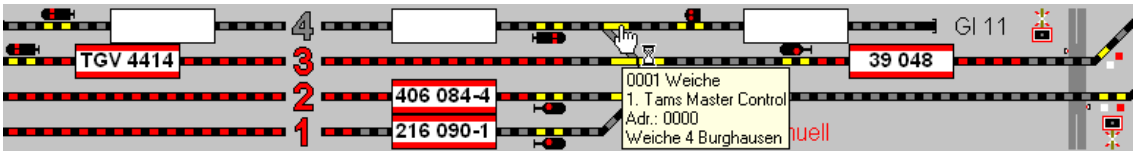
If you have activated this function a tool tip will show you the type of symbol, feedback contact numbers, solenoid device addresses etc. when moving your mouse over a symbol in your track diagram.



18.17.3 Solenoid device state indicators

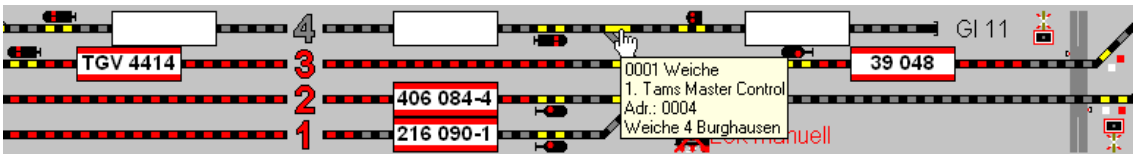
When moving the mouse cursor over a solenoid device and...

- the solenoid device has no address until now..



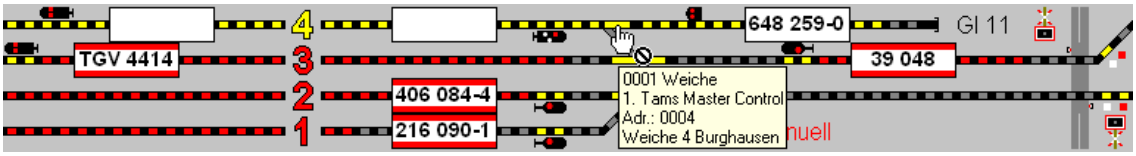
... and you will see a sandglass right of the cursor.

- the solenoid device is ready to be switched..



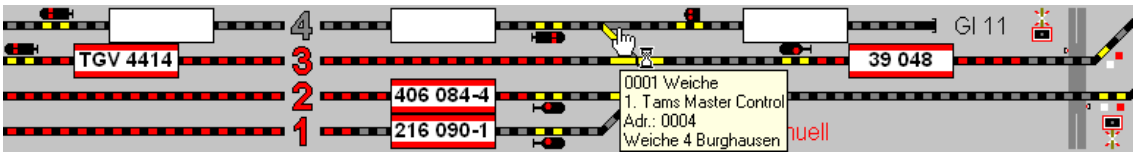
...you will see only the switching hand.

- the solenoid device is part of a route and locked for switching at the moment...



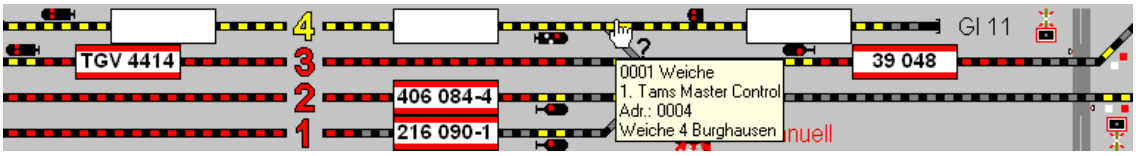
...you will see a small prohibition sign.

- the solenoid has been switched, but has not reached its final position...



... you will see a sandglass right of the cursor.

- the solenoid has been switched within a route, but the position monitoring has not reported the desired state until now...



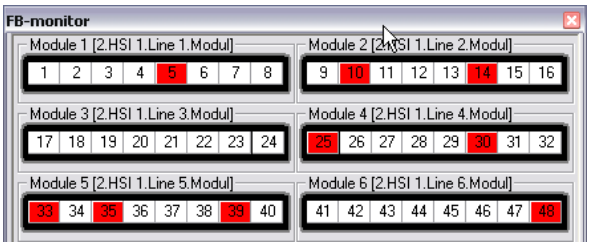
... you will see a question mark right of the cursor.

Because of this the train will not start travelling through the route until the position monitoring has reported the reaching of the desired state.

18.17.4 How to open the FB Monitor

Under the menu <Options> – as well as by the toolbar symbol – you can open the FB-Monitor. The feedback monitor is explained under section **7.5**.

The monitor is very helpful for seeking errors.



18.17.5 Display all feedback contact numbers

Under the menu <Options> <Display all feedback contacts> you can display all feedback contacts.

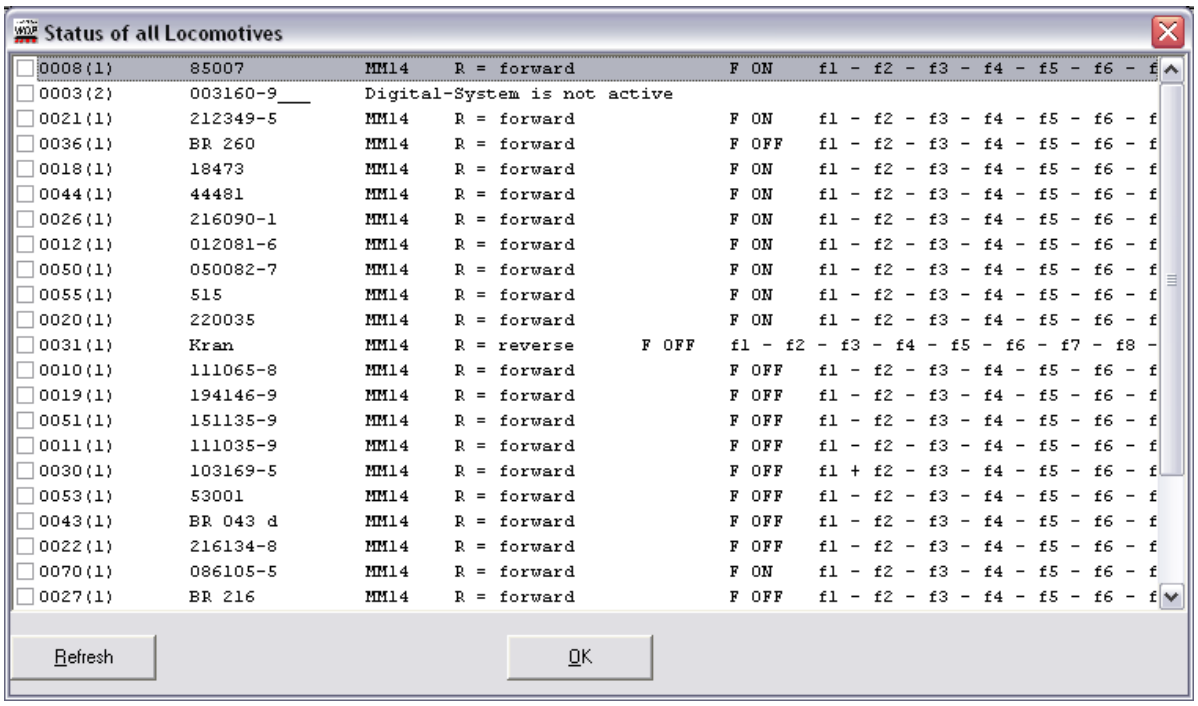
You can check this switch to briefly check the recorded feedback contacts. All feedback contact numbers in the track diagram are displayed, but not the track occupation. This function is temporarily switched off. Once the switch has been unchecked, everything works as before, including the track occupation. Sometimes, depending on your track layout diagram, the numbers are not readable. As soon as point to a number, left click the mouse. The number is enlarged (Zoom function).

If you have switched this function on prior to switching a route with the start-/demand function or starting an automatic **WIN-DIGIPET 2012** will switch it automatically off.

18.17.6 Status displays

In menu two commands are available:

- <Status of all locomotives >
  A new window opens displaying all present the addresses of all locomotives, their direction of travel and the functions.



- <Status Digital systems>

  A new window displays the system status of your digital system including version number, etc.

Out of this window you can also reset your digital system and terminate/re-init the connection.

18.17.7 COM-Displays in the toolbar

With a click on the buttons  in the toolbar you can also the status windows of the several digital systems.

If one or all of the buttons appears in grey () the “grey indicated” digital systems have currently no connection to the program. You can

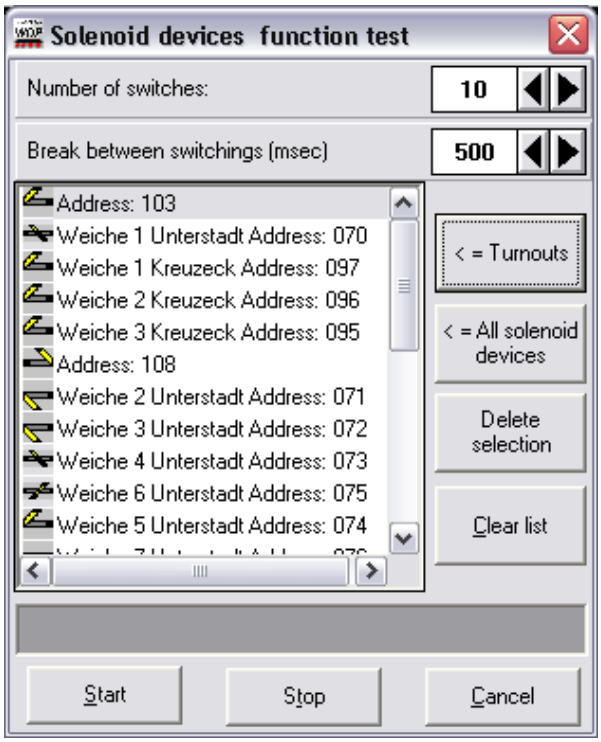
activate an inactive system with the “Status digital system”-window of **WIN-DIGIPET 2012**  .

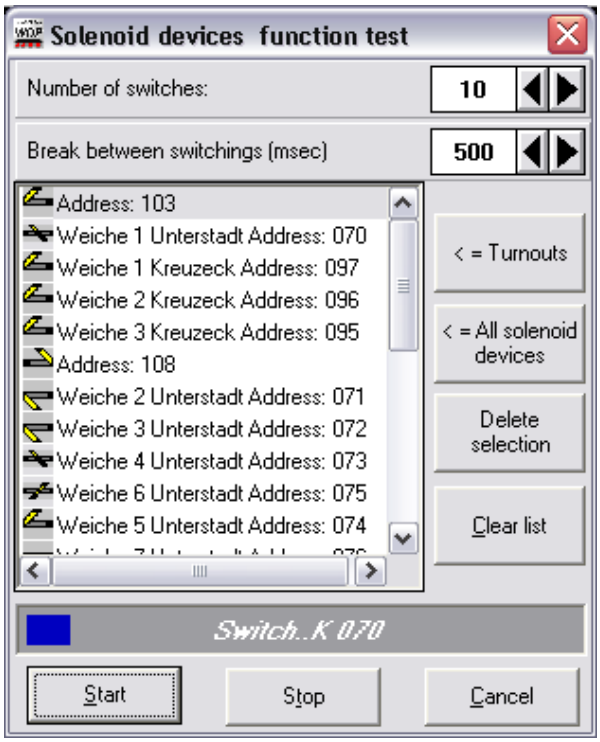
18.17.8 Test of all turnouts after a long operations break

You will get to this function by menu <Extras> <Solenoid device function test> or via the button  at the toolbar.

The function “Solenoid device function test” opens the chance to you, to “shake up” all normal turnouts, three-way-turnouts and double slip turnouts on your model railroad after a long operations break (or before operations) and “wake” them up again, so that they are switchable again.

You can freely adjust the amount of switching (2 – 10) and the break between two switching (100 – 5000 msec).





In the window you can select which solenoid devices shall be tested. You will find options for inserting just turnouts or all solenoid devices into the list. You can even drag single solenoid from the track diagram into the list window using (Strg/Ctrl) + left mouse button.

After you have made your selecting, press **‘*Start*’** and the test switching process will start.

All switching can be watched at your display (track diagram).

However, a three-way-turnout will always be switched six times fix, to guarantee to show the correct setting at your track layout after switching.

18.17.9 Current displays

If you own some of the current displays distributed by the Beta-Tester Gerd Boll, you make these displays also visible on your computer screen.

Select the menu command <Extras> <Power indicator> or click on the symbol in the toolbar.

The window “Current display“ will appear.

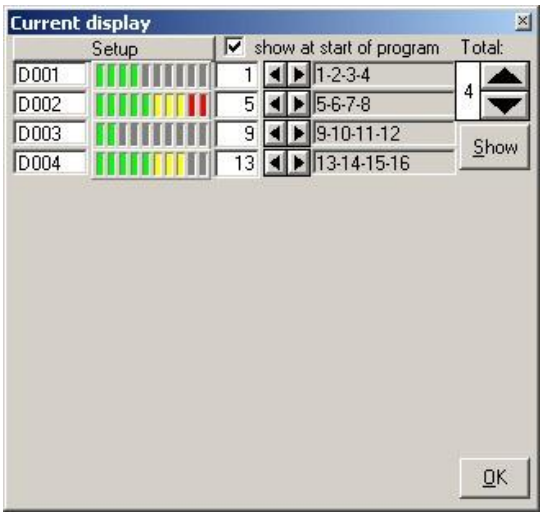
After a click on **‘*Setup*’** you can make all required settings.

At first you have to select how many current displays you are using by the arrow button in the top left corner of the window. Afterwards you have click on **‘*Show*’**.

The text fields are used to enter a description of the monitored electric circuits.

Right of the current bar graph indicators you can enter the first feedback-contact address of the used feedback module.

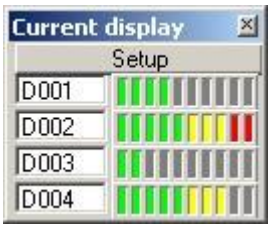
The field right of this shows you the feedback contact numbers, that are automatically also used by this display.



Of course the feedback contacts have to be connected to the current displays, because otherwise no current will be indicated.

At the top of the window you see a check box *“Show at start of program”*. You have to check this box if you want **WIN-DIGIPET 2012** to display the current indicators at every start of the program.

With these indicators you are able to monitor the power/current consumption of your electric circuits.



18.17.10 Watch-Dog

If you use the Watch-Dog of the Beta-Tester Gerd Boll you can integrate it in **WIN-DIGIPET 2012** to make the operations of your model railroad layout safer.

Via the menu command <Extras> <Watch-Dog Decoder> or with a click on the symbol in the toolbar the window “Watch-Dog decoder address“ will opened.

Here you can enter the basic address of the solenoid device decoder for each digital system seperate. This address has to be always the first of the four decoder addresses. The second decoder address can be used for an additional solenoid device. The third and

fourth decoder address may not be used, because they are reserved.

When checking "*Watch-Dog ON*" and pressing afterwards the button **'*OK*'** the Watch-Dog will be activated.

From this moment on **WIN-DIGIPET 2012** sends every second the solenoid device command "Green" and the Watch-Dog monitors this. If this command is not registered by the Watch-Dog for more than 5 seconds, the Watch-Dog switches all boosters off and stops the trains by this.

For a maximum of security, you shouldn't use the build-in booster of your central unit, because the watchdog can't monitor this electrical circuit. But a break-down of the central unit (not the built-in booster) will also be monitored and the booster will be switched off.

But you should connect all your solenoid devices to the built-in booster of the central unit, because the Watch-Dog will switch off also when performing the following actions longer than 5 seconds:

- „Starting basic settings…"
- At an „Emergency stop"
- When opening the „System settings"
- When opening the „Track diagram editor",
- When opening the „Vehicle database"
- „Solenoid devices function test".

After closing the affected program parts, the Watch-Dog will switch again the boosters automatically on.

When leaving **WIN-DIGIPET 2012**, the solenoid device command "Red" will be sent, because otherwise you won't be able to use your model railroad layout without your computer.

18.17.11 HelmoTrain number-Identifying-System

You can get to the Helmo-System via menu <Extras> < HELMO Train Detection System> or by switching the button of the toolbar.

The system is active, as soon as you have marked “active” at the Helmo-System in the system settings, section **4.4**.

To use the Helmo-System, you have to activate it at the menu bar (loading). To have a better overview, you can minimise the Helmo-window (click at the minimise button at the top of the window) and it will be moved to the task bar.

A window opens to show the Helmo-Train number-Detection.

The Helmo-COM-port, registered as described in section **4.4**, will be activated after starting the system.

Only the amount of reading devices will be shown, which have been registered in the system settings (Helmo, see **4.4**). In this example the entry contains **8** reading devices (01 to 08) out of a maximum of **30**.

The small white number in the left of the digital display is the current number of the reading device.

The black numbers in the grey input panels are free to define and combine the train number display on your track layout with the Helmo system.

Enter the correct feedback number of the train number panel (from your track layout), which then will be automatically transferred out of the Helmo-system.

If the Helmo-system has recognised a locomotive address (max. 99 addresses are possible), it will be transferred directly to the train number panel of the corresponding track layout position.

The recognised locomotive addresses will be shown as red digital numbers.

The feedback contacts at the grey panels have also an additional function:

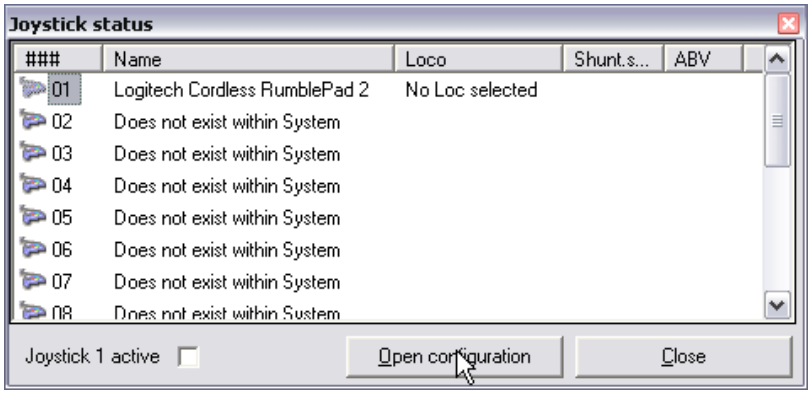
The locomotive address displayed at the Helmo system will at least be updated, if **another** loco will be recognised during passing the reading device.

To improve this, the Helmo address will be deleted by the program (= grey, digital **00**), if the corresponding contact (= the feedback contact of the train number panel at the track layout) at the grey panel in the right will be reported as “cleared” (free) from your model railroad.

18.18 Comfortable joystick control in Win-Digipet 2009

In **Win-Digipet 2009** the joystick control has been completely redesigned. You can now control your locomotives or cranes very comfortably with your joystick. The program supports up to 16 joysticks at the same time.

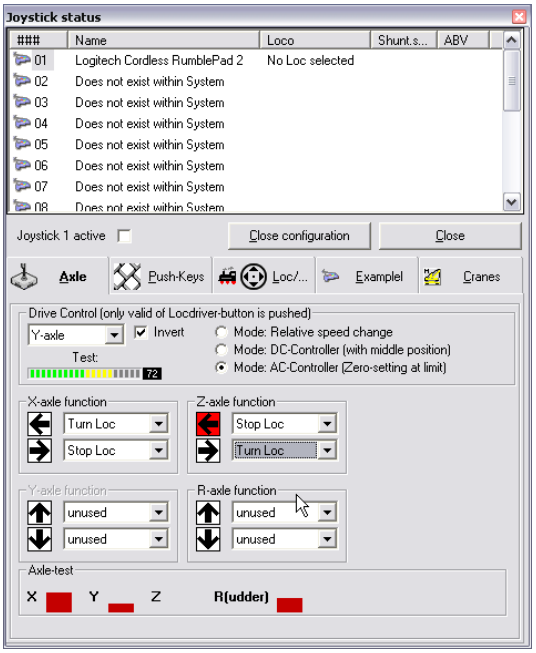
The joystick settings have been removed from the system settings. You can access the new joystick configuration window using the toolbar symbol showing a joy pad or via the according menu command in the <Extras>-menu.



A small window will show you all available joystick of your computer system in a list.

First of all select the joystick, which you want to configure, change or activate and press afterwards the button ***'Open configuration***. The window will enlarge and there you can register all settings according your joystick.

18.18.1 Control of your locomotives – Index card Axis



On this index card you can select which axis should be used for speed control of locomotives.

You can choose between different modes of control:

- Relative speed change
  In this mode you can increase the speed of the locomotive by a short movement of the selected axis in one direction and decrease speed by an axis movement to the other direction. Releasing the joystick will lead to no speed change. In this mode you have to define an extra button for direction selection.
- DC-controller (with middle position)
  In this mode you can use the joystick axis similar to an analogue DC transformer. Moving the selected axis in one direction will result in driving the locomotive forward. A movement to the direction will cause the locomotive to drive backwards. A small amplitude of the axis will result in a low locomotive

speed and a big amplitude in a higher locomotive speed. We suggest using this mode.

- AC-controller (Zero setting at limit)
  This mode is similar to an analogue AC transformer, where you will have zero speed at one of the mechanical end stops of the transformer (e.g. if you use a joystick with a thrust control) and at the other mechanical end stop maximum speed. In this mode you have to define an extra button for direction selection.

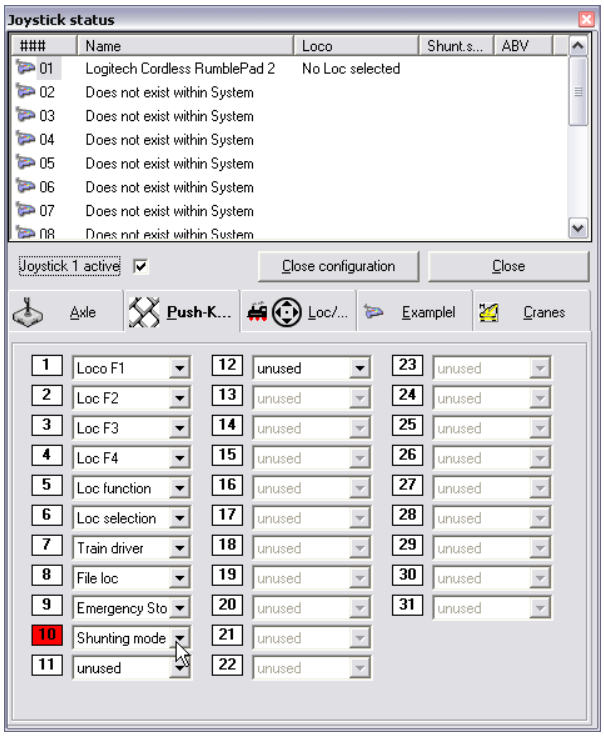
Using the option "*Invert*" you can invert the speed axis function to adapt the control to your joystick's mechanical behaviour.

In the lower part of the window you can select functions, that should be executed when the joystick axes, which are not used for speed control, these axes are then used similar as buttons e.g. moving the Z-axis to right could be used for changing the locomotive's direction.

For testing purposes you should move the joystick axis and you will immediately see in the configuration window the resulting action.

Important!
On this or one the following index card you have to assign the function "*Train driver*", because otherwise you will not be able to control the locomotive's speed.

18.18.2 Control of your locomotives – Index card Buttons



On this index card you can define functions for each of the joystick's buttons. The program supports up to 31 buttons. You can identify the button number by pressing the according joystick button; its number will be coloured red. The system automatically identifies the number of your joystick buttons and enables the according selection boxes.

The most important functions, which you should assign to a joystick's button, are the functions "Loc selection" and "Train driver".

The "Train driver" button has to be pressed each time you want to send a speed command using the defined axis of the previous index card. This used to prevent you and your locomotive from false commands.

18.18.3 Control of your locomotives – Index card Loc/...

On this index card you can select, which axis should be used to navigate through the locomotive selection or emergency stop window.

You can also select if a locomotive's control shall be opened whenever you select a locomotive to be controlled by joystick. It is also possible to enable/disable the emergency window control using the joystick. If the joystick emergency control is enabled you can select one of the options in the emergency stop window using the defined axes and confirm your selection with any joystick button.

Further you can assign also functions to the Point-View-Buttons (Cross-Key).

Afterwards you should activate the Joystick by checking *"Joystick x active"*.

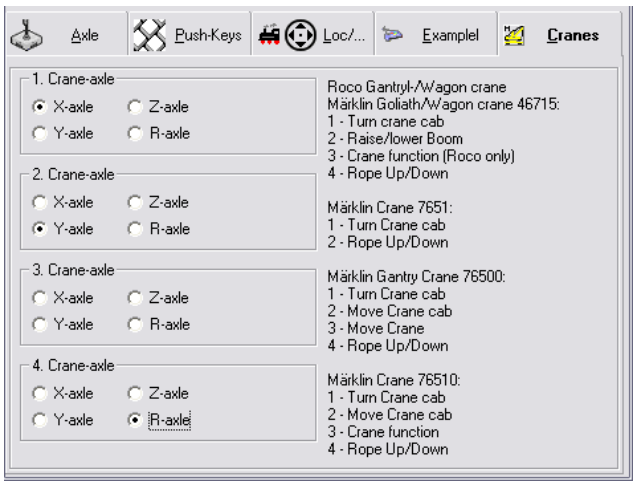
Now you can reduce the window's size with the button ***'Close configuration'***.

18.18.4 Control of your cranes – Index card Cranes

On this index card you can assign your several axes to up to four crane axes.

The list on the right side of the index card shows you the crane axes number for the supported cranes.

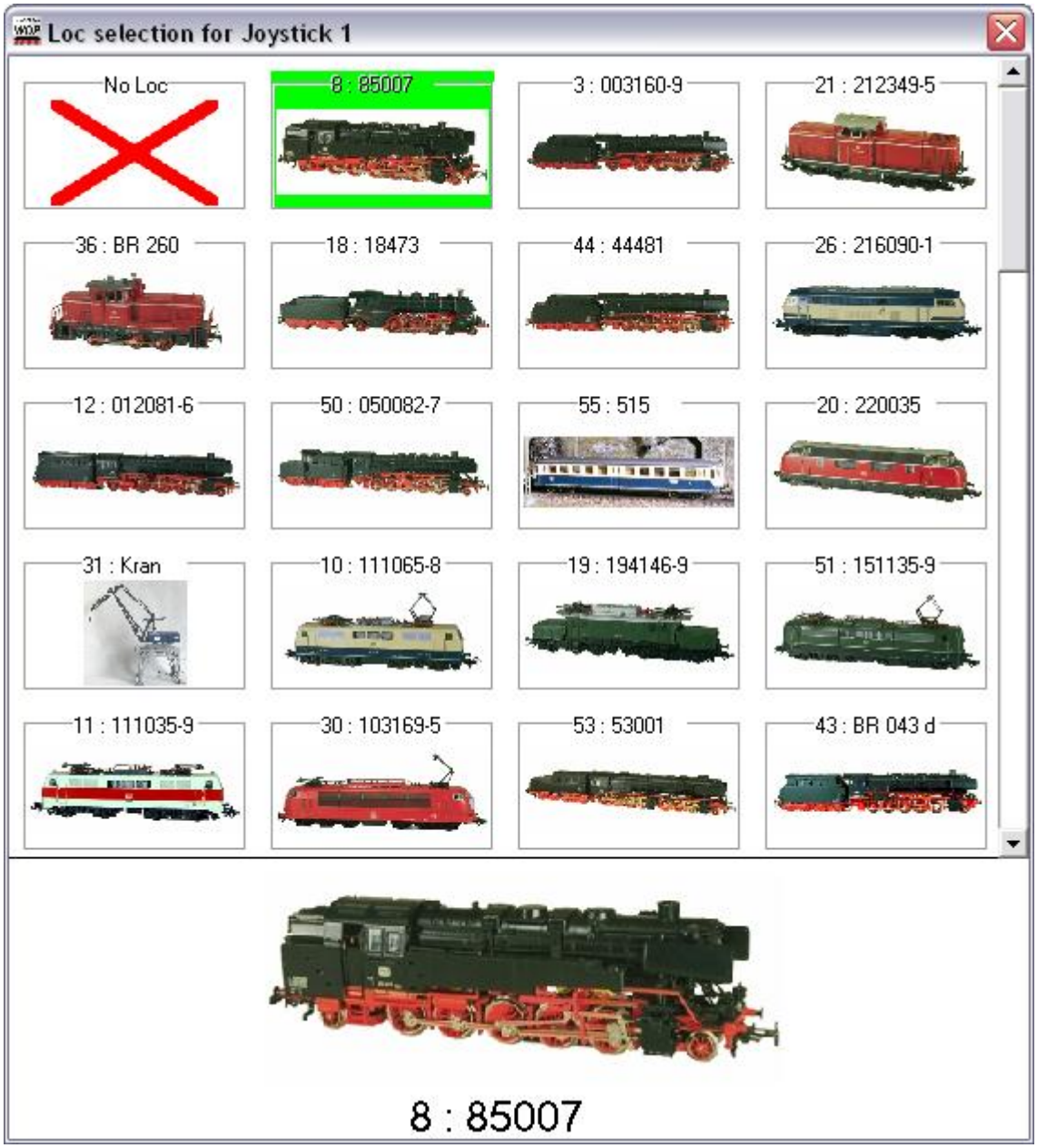
The picture here show the configuration for a Märklin Goliath were the X-Axis is used to turn the cranes cab (crane axis 1), the Y-axis of the joystick controls the boom (crane axis 2) and the R-axis controls the rope (crane axis 4). As you can see you need a joystick with a minimum of 3 axes to control this crane.



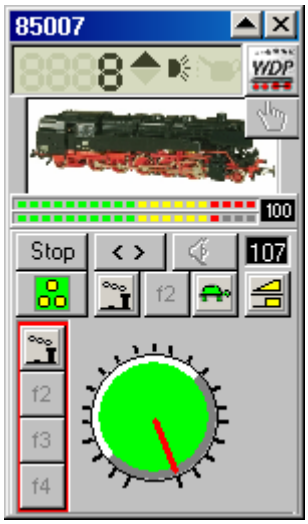
18.18.5 Controlling a locomotive/crane with your joystick

After finishing the joystick's configuration you can start to use the joystick in the main program. First of all press the button, which you have assigned to the function "*Loc selection*".

A window will appear where you can select the locomotive to be controlled by the joystick. You can navigate through the window using the configured joystick axes and confirm your selection with any of the joystick's buttons or using the mouse.

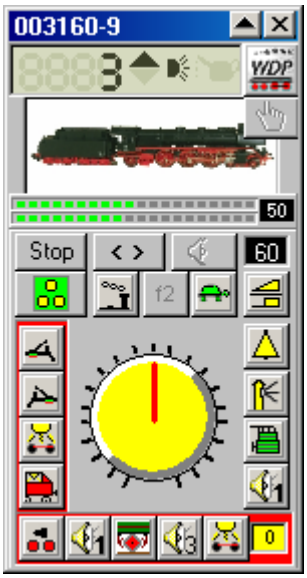


If you have selected the automatic opening of the locomotive/crane control (see **4.6.1**) the according control will open and your joystick control will be indicated by the coloured speed dial/slider. The colour of the speed dial also indicates if you used the locomotive in shunting or normal operation. Shunting operation means, that your locomotives speed range will be limited to the half of its maximum speed. You can switch between shunting and normal operation by assigning the shutting mode to on of the joystick's buttons.



Green speed dial/slider =
Normal speed mode

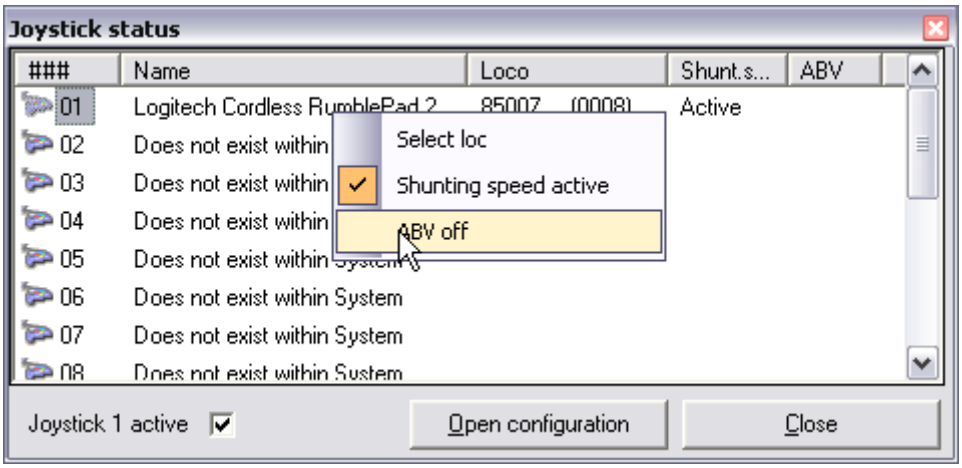
Yellow speed dial/slider =
Shunting speed mode



Important!
For speed changes of your locomotive you have always to press the button "Train driver", all other "speed inputs" will be ignored and the locomotive will continue driving with the last used speed.

18.18.6 Further commands using the joystick status/configuration window

If your joystick only has few buttons you can also (de-)activate the shunting mode and/or ABV-mode by using the context menu in the joystick configuration/status window. Just select the joystick in the list and press the right mouse button.

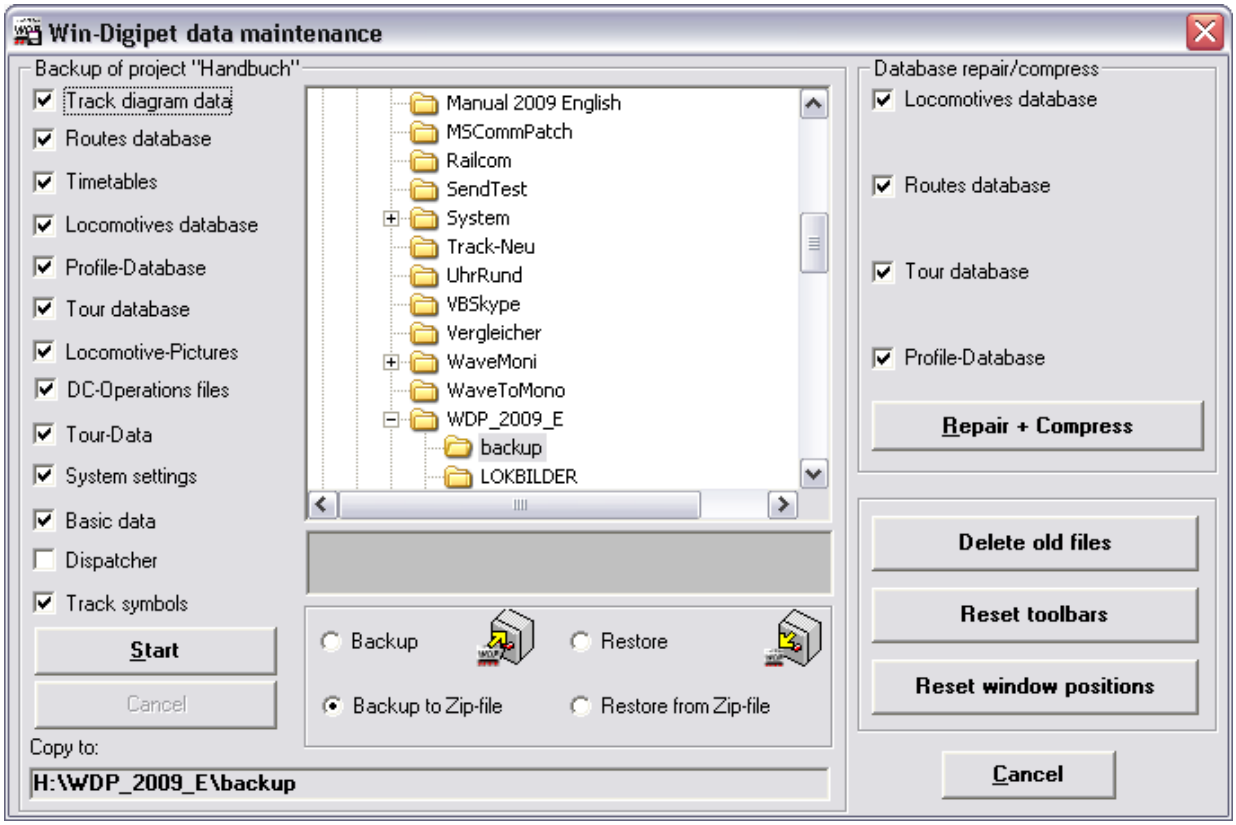


With “ABV on/off” option you can select whether the locomotive is controlled under consideration of the acceleration/deceleration properties set in the vehicle database or directly with any acceleration/deceleration-ramps. If “ABV off” is activated this will be indicated by colouring the speed display of the locomotive control in red.

For operation with children etc. you may prefer not to assign the “Loc selection” to any of the joystick buttons, because you want to decide which locomotive is controlled by the kids. For this purpose you can also open the locomotive selection using the context menu and then selecting a locomotive in the window with your mouse. The selection can be confirmed with a double click.

18.19 Data maintenance

The program „Data maintenance “ can be started by a double-clock on „Data maintenance“ on your desktop or via <Start> <Program> <WIN-DIGIPET 2012> <Data maintenance>.



With this program you can backup and restore your data and also repair and compress the databases.

But be careful, only your current project will be backed up.

If you want to backup your data without this program you have to copy all files with the following extensions:

***.AKK - *.DAT - *.FPL - *.MDB - *.TB3 - *.XML - *.ZFA**.

18.19.1 Data backup

After the start of the "data maintenance" you select in the left part of the window with a mouse click the data that you would like to backup. In the most cases you can use the preselection of the program. The radio button box should be set to *"Backup to Zip"*. This will result in a single zipped backup file. This is very useful for saving space on your backup media.

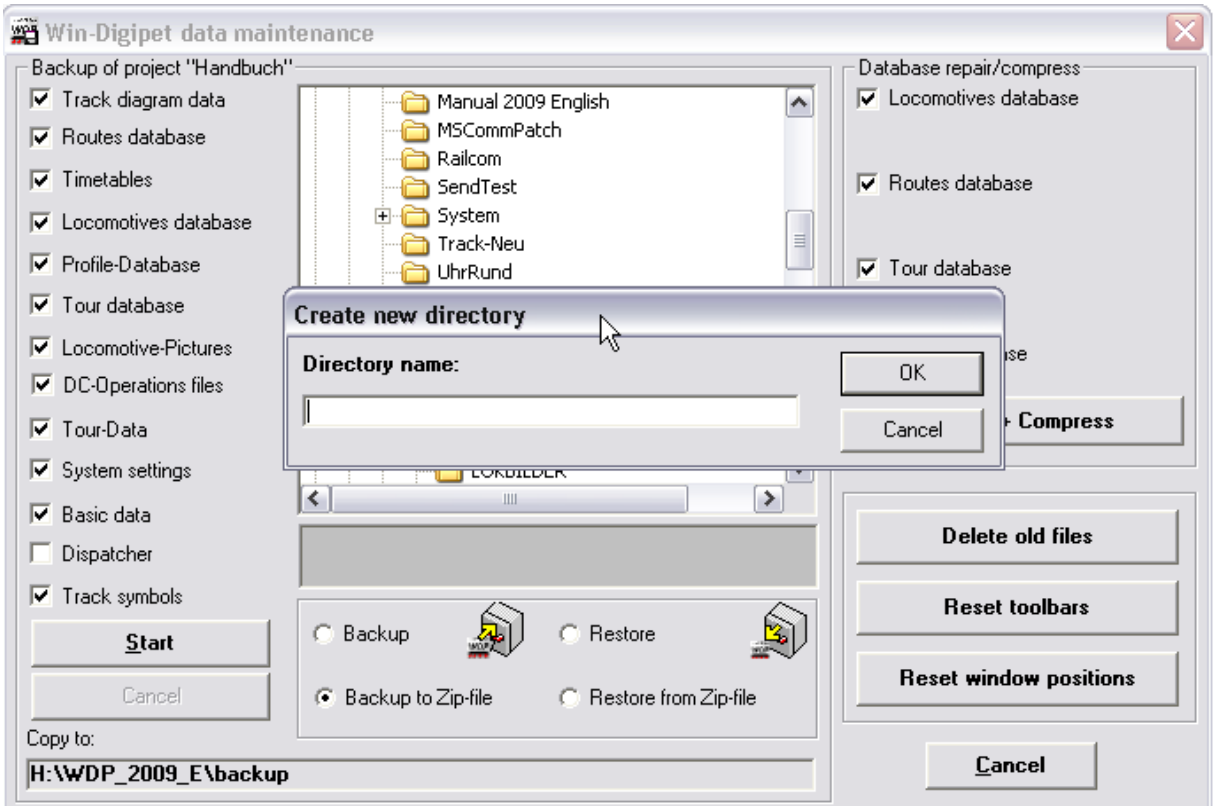
Not only the project data files are backed up, in addition also the system settings and all icon files are backed up.

Select the destination directory - C:\WDIGIPET\BACKUP (see **3.3**) is the default given directory- and if you confirm with ***'Start'***.

If you want to backup to another directory, select in the same way as in the Windows Explorer the desired directory in the middle of the window.

If you want to create new subfolders in an existing directory press the right mouse button.

Select <Create new directory > in the context menu.

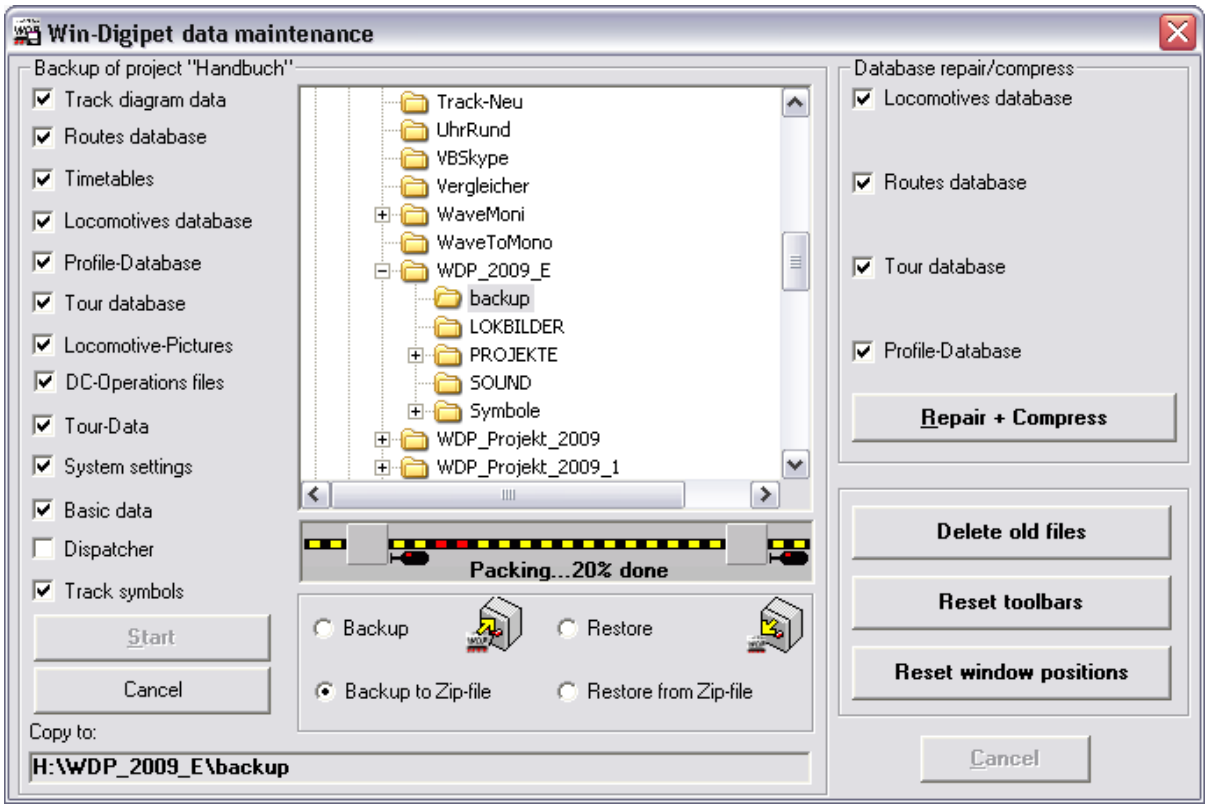


Now you may enter the name of the new directory in the window “Create new directory“.

Confirm the new directory name with ***‘OK’***.

The new directory will be created and after a mouse movement the new directory is selected in the choice window. Now the complete directory path is displayed in the "Copy to:" frame.

The data will always the saved to the directory indicated in the “Copy to:“ frame, please insure that you have selected a desired destination.



After selecting the destination directory and setting the radio button to “Backup“ you can start the backup by clicking on ***‘Start’***.

A progress bar informs you about the progress of the backup process.

Because of the amount of data you should use only storage media with sufficient space (hard disk, USB memory sticks or Zip drives). You can also select network drives if available.

WIN-DIGIPET 2012 stores your last destination directory and tries to select this directory the next time you start the program.

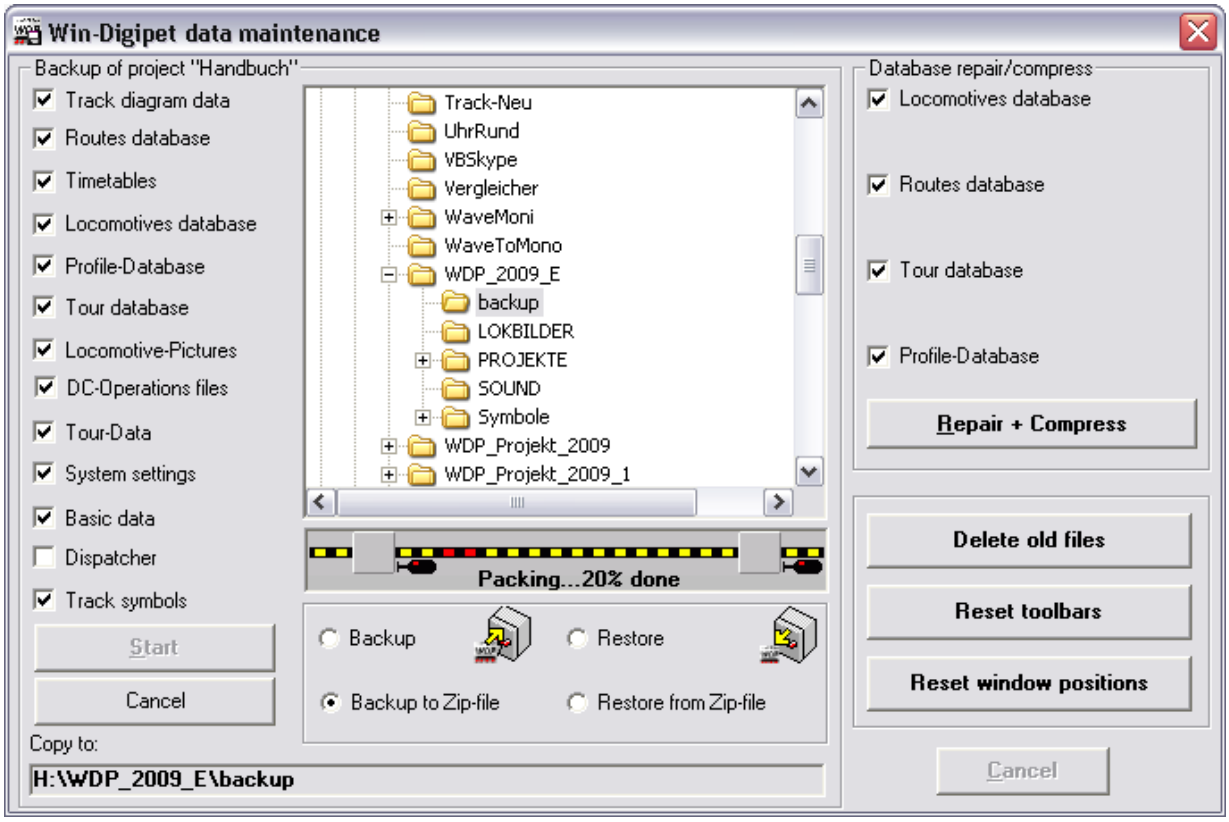
<u>Important!</u>

If you have changed function symbols for locomotives (FuncIcons.bmp) this file will only be backed up when checking “track symbols“.

18.19.2 Data restore

You can use the “data maintenance“ program also to restore your backed up data.

Select if you want to restore from a directory or a single zipped backup file.



In the folder selection window in the middle you can select the desired directory similar to the Windows Explorer. This can be any directory with project data or your former backup directory. You select also an archive backup directory according to **4.10**.

Be careful!
While restoring the current data of the project could be overwritten. Because of this the program indicates this with a warning message.

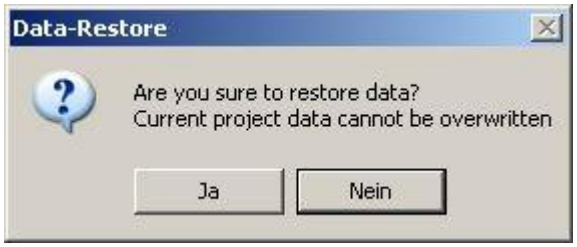
After selecting the directory select the kind of data to restore in the left part of the window.

By default all data are selected.

Set the radio button frame to “*Restore from ZIP*“.

The data will always the restored from the directory indicated in the “Restore from:“ frame, please insure that you have selected a desired source. In the case of zipped backup files this not necessary, because a have to select the backup file in a file open dialog after starting the restore process.

After selecting the source directory and set the radio button to “Restore“ you can start the restore by clicking on **‘*Start*’**. In the case of using the zipped backup file just presses **‘*Start*’**.



By answering the confirmation request with ***'Yes'*** the restore starts. A progress bar informs you also about the progress of the restore process.

You can restore not only the data of the current project. It is also possible e.g. to copy the track diagram and/or the vehicle database with the locomotive pictures of another project into the current project if this project was constructed just **new**.

But be careful!
If you restore your vehicle database, you should always restore the locomotive pictures also. Otherwise no or wrong locomotives picture would be displayed.

Important!
When restoring data you should take care about the following:

- The destination directory for the restoring process is set by **WIN-DIGIPET 2012** automatically.
- When selecting the source directory you may never select the sub directories...
  1. \LOKBILDER
  2. \SYMBOLE or subfolders of this.

  WIN-DIGIPET 2012 would this display an error message in this case.

When selecting the basic data the actual projects data (e.g. Kreuzeck) will be overwritten and the project gets the project's name of the restored data (e.g. Layout). This could damage the whole project

18.19.3 Repair and compress the databases

By "repairing" the database you can fix errors in the database, if you have trouble with one of the databases.

By "compressing" a database all data records deleted during working with **WIN-DIGIPET 2012** are finally removed.

- Deleted data records are only earmarked as "deleted", but are still internally stored; the size of the database doesn't change.
- This data records are not deleted until the database is compressed.

By clicking on **'*Repair & Compress*'** the databases get repaired and compressed.

After a short time the message "Databases have been repaired and compressed successful!" should be displayed.

18.19.4 Reset toolbars

As new function the button **'*Reset toolbars*'** has been added to the data maintenance program. With this button you have the possibility to reset the toolbars of the main program.

18.19.5 Reset window positions

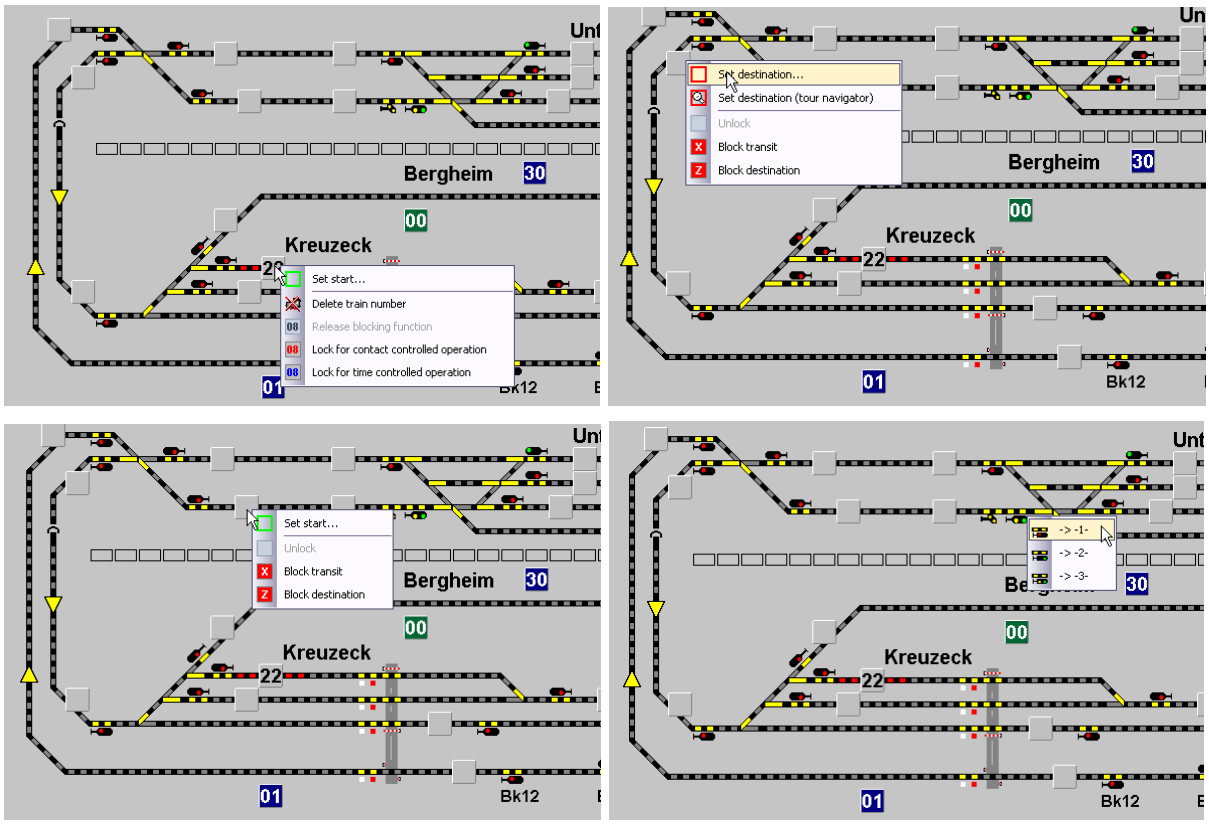
As new function the button **'*Reset window positions*'** (see Section **4.5.5**), has been added to the data maintenance program. With this button you have the possibility to

reset window positions outside of the main program. The button within the system settings of the main program affects only closed windows. This function is very important when you have used two or more screens and remove a screen afterwards without moving the windows to the main screen before.

18.20 Keyboard and mouse shortcuts in WIN-DIGIPET

In the main program...

Click with the right mouse button onto a train number display or a signal and several commands will be available depending on the individual situation.



Keyboard command and key combinations within the main program of WIN-DIGIPET 2009

Pressing the key...

- **F1** calls the help function
- **F2** minimizes all loc controls and arranges them at the top
- **F3** minimizes all loc controls
- **F4** closes all loc controls
- **F5** increases the zoom factor (Zoom+)
- **F6** decreases the zoom factor (Zoom-)
- **F7** calls the train inspector
- **F8** stops all locomotive(s) or (re-)accelerates them
- **F9** will result in an emergency stop
- **F11** jump between program windows
- **F12** stop the timetable operation

Context menu with commands for start/dest. function, Blocking of routes/tracks, Changing the loc colors

- right mouse button on any train number display

For changing between

- RED **08** and BLACK **08** ALT + right mouse bitton
- BLUE **21** and BLACK **21** ALT- and Shift + right mouse button
- deletes locomotive number (also in the locomotive monitor) Shift+ right mouse button

Locking of tracks/routes

Click on an empty train number display with Shift + right mouse button an, then...

- after the first click the train number display will switch to RED with white **X** **X**
- after the second click the train number display will switch to RED with white **Z** **Z**
- after the third click the train number display will be empty again

Start-/destination function for routes and tours

- click with middle mouse button on the **start** and on the **destination**.

Semi-Automatic route recording

- click with Shift+left mouse button on the **start** and on the **destination.**

In an active locomotive control...

- the key **UP**- and **RIGHT**-arrows increase the speed
- the key **DOWN**- and LEFT-**arrows** decrease the speed
- the key **END** accelerates to maximum speed
- the keys **HOME** und **SPACE BAR** stop the locomotive immediantely
- the keys „**D**" and „**R**" force a change of direction
- the key „**F**" switches F0 on/off
- the key „**S**" switches the locomotive sound on/off
- the key „**1**" to „8" switch F1-F8 on/off

If you click on a locomotive within the locomotive bar, a locomotive control or the locomotive monitor with on of the following key-combinations

- middle mouse button the train number display containing the locomotive will be colored red
- Shift+middle mouse button the train number display containing the locomotive will be colored red and the track diagram scrolled if necessary

Keyboard command and key combinations within the track diagram-editor of Win-Digipet 2009

Automatic solenoid device registration in the track diagram

- Shift + left mouse button in the virtual **Keyboard** and then on the **solenoid device**

Automatic feedback contact registration in the track diagram

- Shift + left mouse button in the **feedback-contact-Monitor** & then on the **track-/turnout symbol**

18.21 Abbreviations in WIN-DIGIPET 2012

The most common abbreviations in **WIN-DIGIPET 2012** are (also German abbreviations because they are sometimes used for filenames)...

CU	=	Märklin Central Unit
DS	=	Turntable
ECoS	=	ESU ECoS
FB/RMK	=	Feedback contact
FB/RM-Module	=	Feedback module
FPL	=	Timetable
Fzg-DB	=	Locomotive-database
GB	=	Track diagram
HSI	=	LDT High Speed Interface
IB	=	Intellibox
iDS	=	intelligent turntable
iZNF	=	intelligent train number display
MA	=	Solenoid device
PDB	=	Profile database
R/FS	=	Route
Stw	=	Dispatcher
Sys-E	=	System settings
ZF	=	Tour
ZFA	=	Tour automatic
ZNF	=	Train number display
ZÜ	=	Train inspector

18.22 Closing WIN-DIGIPET 2012

If you want to leave the program you can use the button in the toolbar of the main program.

Your data will be saved when leaving **WIN-DIGIPET 2012**.

To prevent data loss, you should always use the backup function, but it is enough to use this only if you have really changed data. According to section **4.10** you should enable the backup question at the end of the program to decide everytime you leave the program if you want to perform a backup or not.

19 – ADDITIONS AND SUPPLEMENTS

This manual is extended at given time and/or is complemented, as far as advancements **of WIN-DIGIPET 2012** should require this.

Such additions and supplements are published, without appointment in this manual, as an attachment to this manual.

19.1 How to Use the Online Help in the program and searching for keywords

From time to time users report, that they miss key words in the index. The index list is created manually and often the authors of the manual have other keywords in mind than the potential reader later. The main reason is that the keyword selection is a very subjective topic.

Because of this we want to give you some tipps for a satisfying search in the manual.

When using the pdf-Version of the manual nearly every Pdf-Reader offers a search function for single words. Please use this function. The search function will search for every occurrence of the searched word within the hole manual and you can directly jump from occurrence to occurrence within the manual.

A similar function is available in the online help which can be opened using **F1**.

19.2. Controlling Win-Digipet using your mobile phone

In this chapter the remote control of Win-Digipet for driving locomotives/switch solenoid devices and monitoring of feedback contacts will be explained.

The Apps for the different mobiles have been developed by Markus Herzog and are for Win-Digipet users free of charge. These apps are whether part of this update or the Win-Digipet program packet, **Win-Digipet 2012** just includes the needed network interface.

The **Win-Digipet** Hotline does not give any assistance for the usage of **Win-Digipet** with your mobile.
Due to the large number of different mobiles function cannot be guaranteed for each individual unit. As part of the beta testing devices from different manufacturers with different operating system versions were tested successfully. Test whether the application works on your device, a right of adjustment to your individual type of device does not exist.
Support for the Windows Mobile Apps-Digipet is granted only through the **Win-Digipet Mobile** sub-forum of the **Win-Digipet** Forum.

19.2.1 Which conditions have to be fulfilled….

the prerequisites...

- WiFi-enabled railroad PC resp. railroad PC connected to a network, which makes a WiFi network avaiable within the railroad room

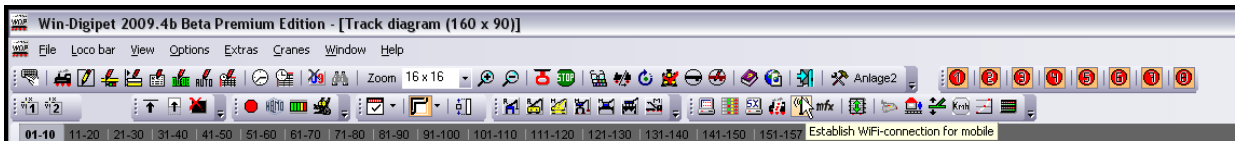
- touchscreen mobile phone (Java ME even without Touchscreen) running one of the supported operation systems,
  - Windows-Mobile 6 for Pocket PC and Smartphone (WM 5 or Pocket PC 2003 depending on the device)
  - Android for smart phones, mobiles, net books
  - Java ME (MIDP 2.0) or
  - iOS for Iphone, iPad and iPod by Apple
  - normal Windows when using with a small notebook or Tablet PC
  - Windows Phone OS
- Win-Digipet Premium Edition
- activated network module within Win-Digipet (antenna symbol in toolbar)
- exception rule for activated firewall for TCP port 15209
- Usage of km/h-mode within Win-Digipet

All links and download methods to the Apps can be found in the **Win-Digipet** forum and there in the sub forum **Win-Digipet Mobile**.

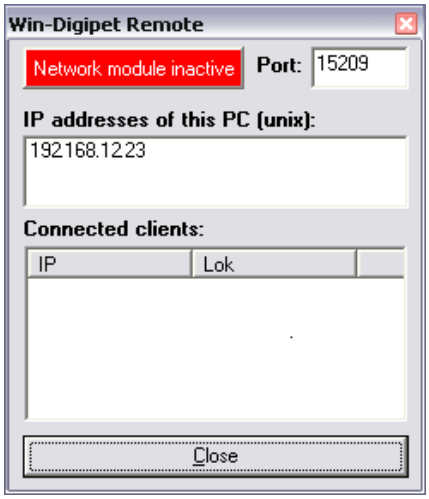
19.2.2 Establishing a connection between Win-Digipet and your mobile

As example the establishment of the connection is here showed for a connection between an iPhone and WDP, these steps are quite similar for the other mobile operation systems.

Open the Win-Digipet remote control window by clicking the small antenna symbol in the toolbar.



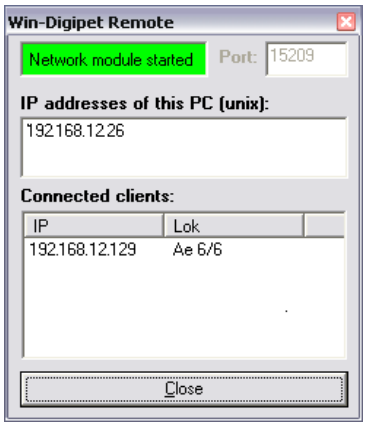
The window shows the current IP addresses of your PC and the used TCP port for the connection. This port should not be changed; except you're a network specialist and you have reasons to do this.

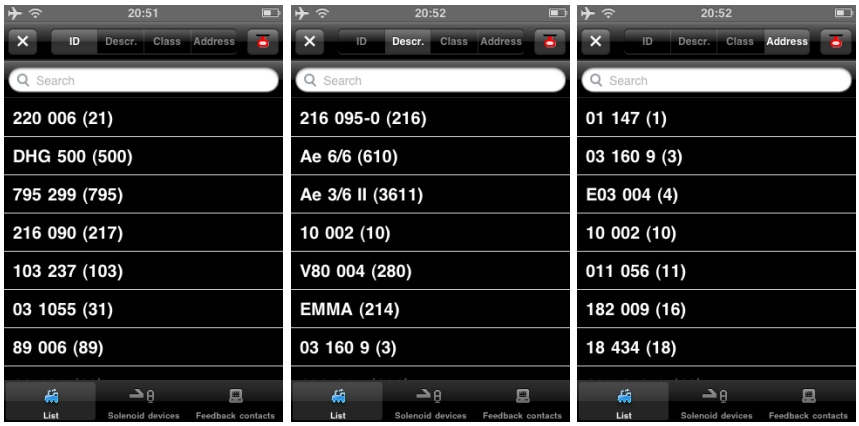


Do now click on the button **'*Network module inactive*'**, to activate the module the button shall now become green.

You can now open the app on your mobile. Here you have to enter the IP address of your PC shown in the Win-Digipet Remote window. If the list does show more than one IP you might have to try one after the other. Afterwards select **'*Connect*'.**

The connected clients are listed in the Win-Digipet remote window. You can now close the Win-Digipet Remote window. It will run now in the background and it will be automatically restarted every time you start **Win-Digipet**.





The pictures above show an example locomotive list. The list can be sorted e.g. by brand, address and so on.

The basic structure of the Apps is very self explanatory. Because of this they are not described in detail. If you have questions visit the support forum.

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