

# Central Station 3

**märklin**  
digital

*Note: Contains mostly German Edition Images*





# Table of Contents

<b>Setup and Starting</b>	<b>2</b>
Basic Functions and Connections	4
Usage   Quick Start	5
Import of CS2 Data   Updating the CS3	6
Introduction   Technical Specifications	7
<b>Driving</b>	<b>8</b>
Selection and driving	9
Loco List: Sorting and searching locomotives	10
Manually adding locomotives	11
Editing locomotive settings   Loco card	12
Configuration   Modifying CV-values	13
<b>Editing Accessory List</b>	<b>15</b>
Adding accessories	16
Searching for <i>mfx</i> items	19
Searching and sorting accessories	19
<b>Layout editing</b>	<b>20</b>
Creating a layout	21
Rotation mode	22
Connection mode	23
Item and region selection	25
Creating areas   Moving and copying selection to layers	26
Operating switches and signals	26
<b>Creating and editing events</b>	<b>27</b>
Adding events   Procedure automation	28
Sorting   Using the recording function	29
Loco procedure programming   Control via feedback sensors	30
	31
<b>System settings</b>	<b>32</b>
Viewing and editing system settings	35
Update via USB-Stick	35
SD-Card: Expanding the internal storage	35
Importing Loco images via webbrowser	35
<b>Appendix</b>	<b>36</b>
Available function pictograms	37
System architecture: CS3 and CS3 plus	

# Setup and Starting

## The following components are required to start

Switching power supply 60061 (230V: 60 VA) or 60065 (120V: 50 VA) for Märklin H0, Trix H0 and Minitrix; or Switching power supply 60101 or 51095 (230 V, 100 VA; for Märklin 1 or LGB), Central Station 3 or 3plus, Track connection cable, Track layout, Rolling stock and/or electromagnetic items (eg switches, signals, etc)

One can only use the listed switching power supplies with the CS3/3plus. Transformers are no longer permitted to be used on the CS3/3plus.

Connect all of the components per the following illustrations. First connect the Central Station with the model railroad layout, and then connect the switching power supply to the Central Station, and lastly plug the power supply's main power plug into the household power outlet.

Connecting power supply to Central Station



# Basic functions and connections

1

Large display with high resolution color touch screen - all functions are switchable via fingertip.

2

The layout schematic stands at the center of the CS3 and delivers the most important information about the current state your layout.

3

Two control panels (left and right) visible in the base setup.

4

The central STOP button serves as an "emergency off" - the most important function of the Central Station 3 in critical operations situations.

5

Button bar: from here one accesses the various main menus. Select a button and the new menu is shown.

6

Practical: Speed is adjustable per finger swipe on the vertical bar.

7

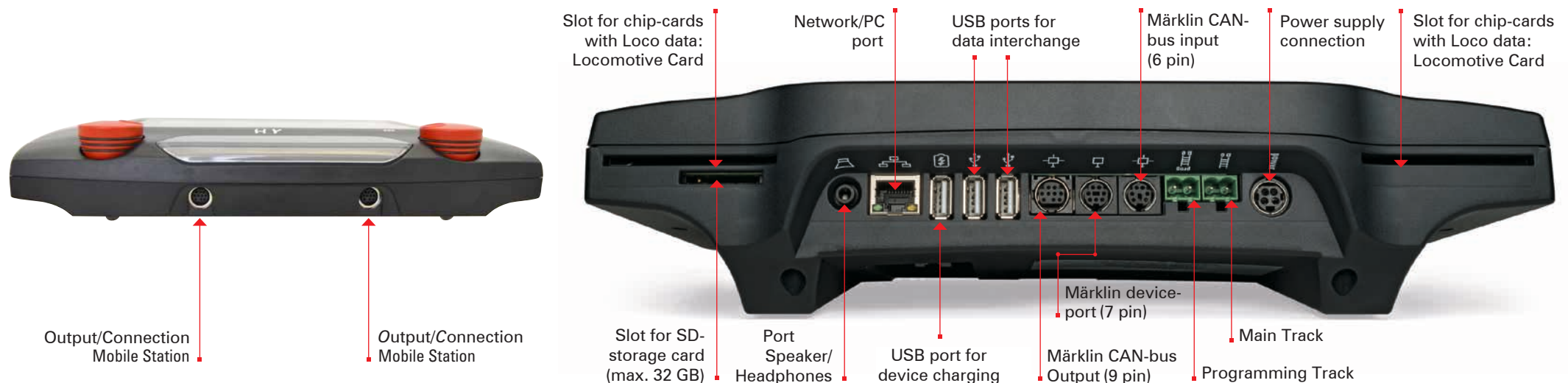
Locomotive functions are displayed in columns of 8, which can each be activated by fingertip.

8

Control knobs also adjust the speed, which is visually indicated by a change in the vertical, green speed bar in the display.

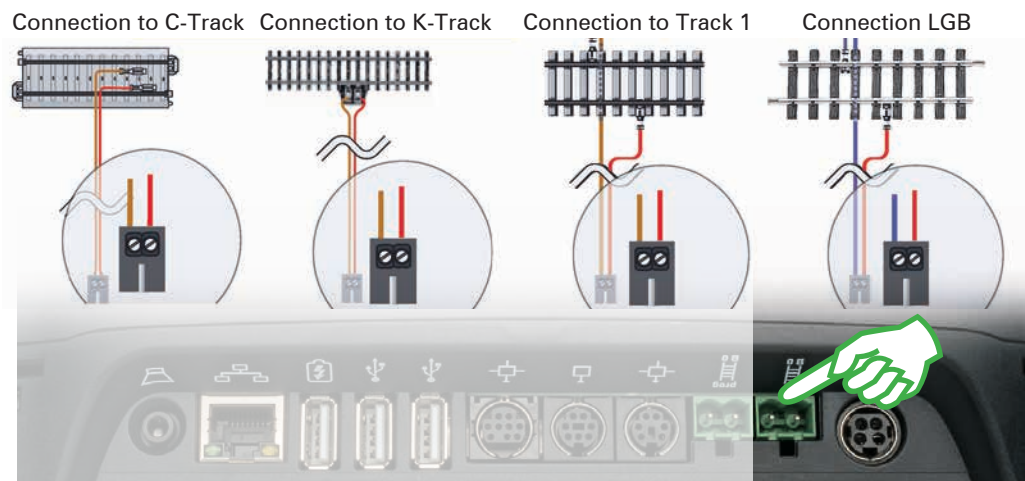


The CS3 plus has an S88 direct connection port on the bottom of the unit suitable for connecting S88 decoders such as S88 AC(60881) / S88 DC(60883).



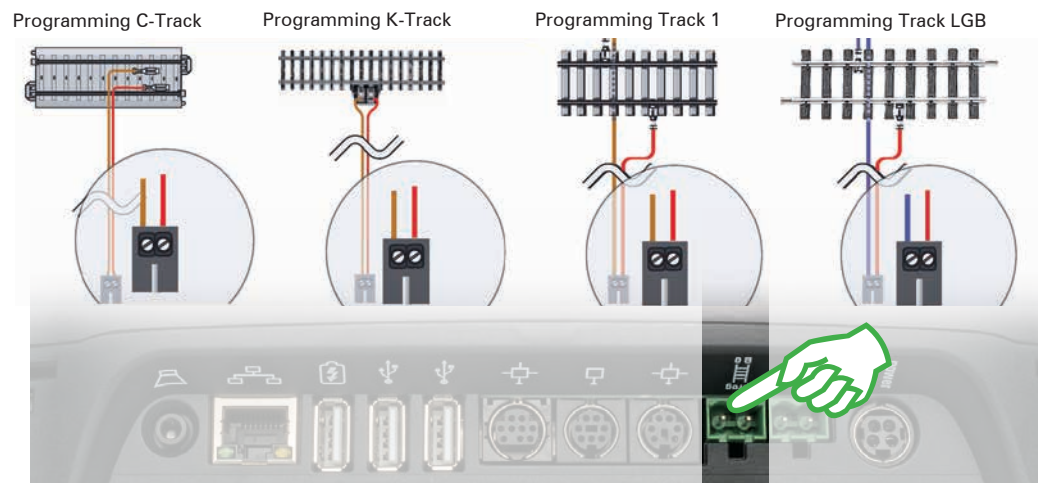
## Connection to the Layout

Beware of proper polarity: Red = Track Power (B), Brown/Blue = Ground (0)

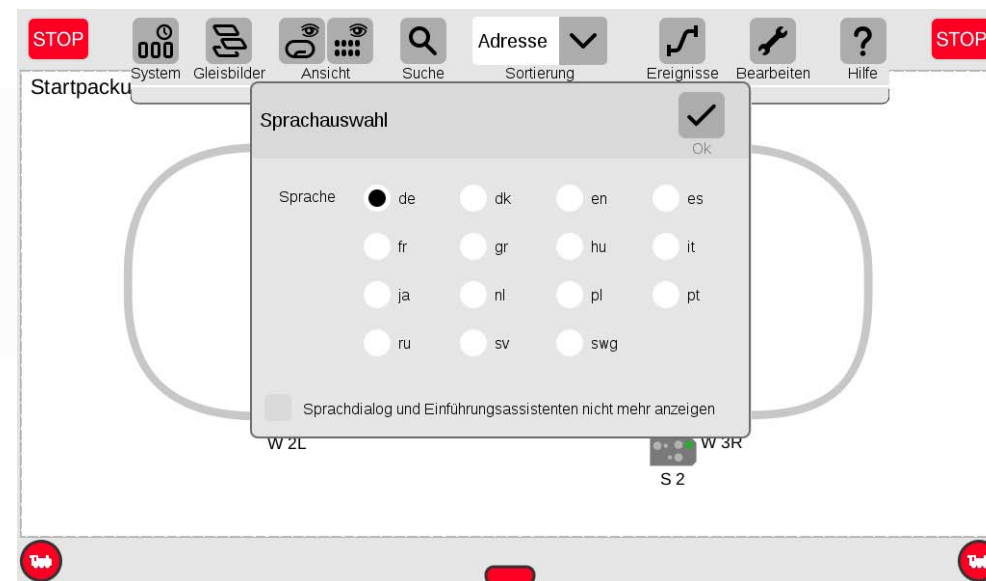


## Connection to Programming Track

The programming track is not allowed to have any direct electrical connection to the layout and there can be no consumers (e.g. lighting, switch decoders, illuminated buffer stop etc.) connected to it. It is needed for the reading, programming and editing of decoders using DCC or Motorola (MM2) protocols. For the registration of *mfx*-locomotives no programming track is needed.



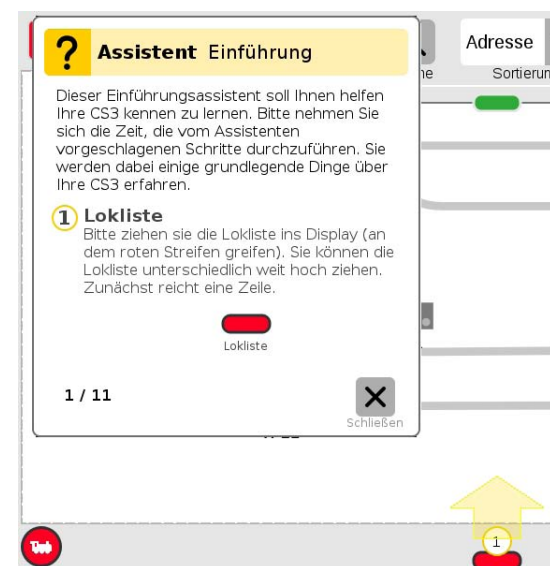
## Language Selection / Setup Assistant



After being turned on, the CS3 will greet you with the language selection dialog box (pictured above). Here you select the user interface language. German is pre-selected. Confirm your selection by touching "OK".

Subsequently you will see the Introductory Assistant (pictured right), which will introduce you to the basic usage of the CS3 user interface through several short exercises.

**Tip:** Work through all of the Introductory Assistant exercises once to begin with. In order to prevent the display/launch of the language selection dialog and Introductory Assistant on future CS3 startups, select the option "Do not display Language Selection and Introductory Assistant again" in the language selection window. In the system settings you can always revert these choices (see page 32).





# Usage | Quickstart

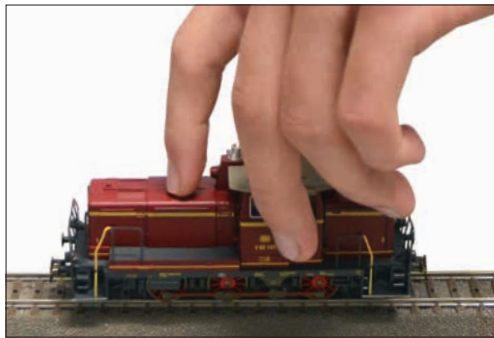
## Selection and Swiping: working with the touchscreen



### Panning and Zooming:

Thanks to the high resolution touchscreen, simple touches suffice to operate the device, just as with a smartphone or tablet. E.g. to zoom in on the layout schematic, pinch zoom by increasing the space between finger and thumb.

## Registration of *mfx* locomotives



**Placement:** Place the mfx locomotive fully onto the track. The registration of the mfx locomotive is possible on both the main and programming track.



**Reading:** The CS3 will automatically begin reading data after a few seconds.

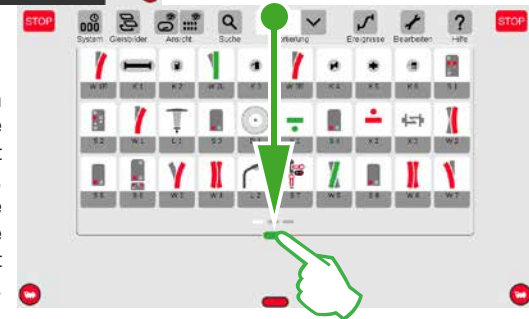
**Finished:** The newly registered locomotive will appear in the locomotive list with a red border. A red "m" at the edge of the locomotive list also indicates the registration of a new *mfx* locomotive.

## Easy access to Locomotive and Items List

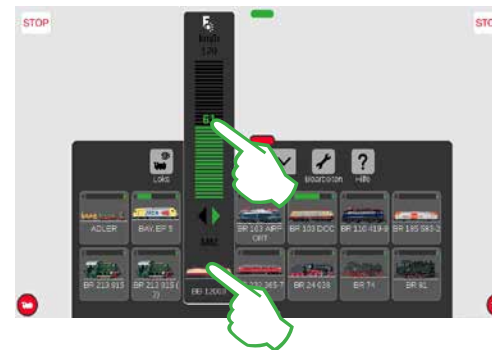


**Pulling up Locomotive List:** The locomotive list can be enlarged via the red handle at its top edge. Just touch the red handle and drag up. Dragging down will shrink the locomotive list or hide it entirely.

**Pulling up Items List:** Touch and drag the green handle down: the accessory list opens as much as necessary. The dragging of the handle upwards shrinks the accessory list or hides it entirely.

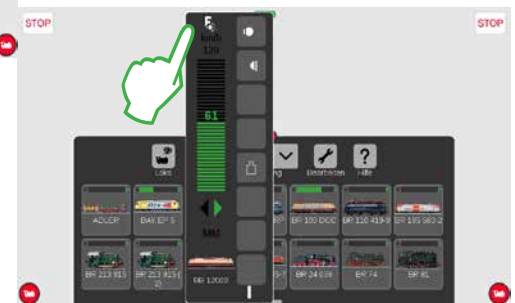


## Quick access to the throttle



**Driving a locomotive:** Press and hold on the locomotive symbol. The spontaneous control will display (picture left). A finger tap on the throttle sets the speed. Alternately you can push the green bar upward. Close the spontaneous control by selecting to the right or left of it on the screen.

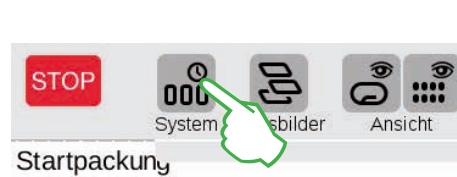
**Function Selection:** Call up the functions of a locomotive by tapping on the "F" symbol on the upper edge of the spontaneous control (picture right). A finger tap switches a function.



# Importing CS2 data

## Importing existing data from the Central Station 2

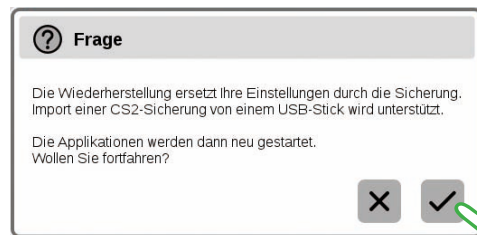
Have you previously controlled your layout with the Central Station 2? Then you can import your valuable locomotive, magnetic items, and track data from there in a few steps. All you need is a USB stick with the backup of your CS2 data. **Important:** As the first step, insert the USB stick into either of the two USB ports on the back of the CS3.



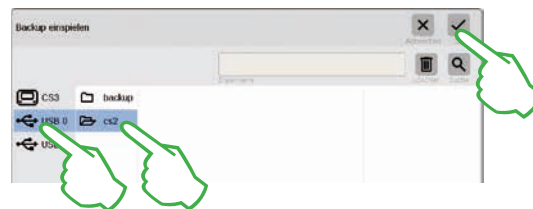
On the CS3 start screen, tap on the "System" button in the upper left (picture above). In the system overview, tap on "System" in the lower left (picture right).



This way you end up in the system settings of the CS3. There tap on the button "restore".



The CS3 will ask you if you are sure. Confirm with a tap on the check box.



In the data file selection dialog, tap on "USB" and on the directory that contains the CS2 backup. Select the backup and confirm with "OK". After a few moments you are greeted with the CS3 start screen.

**Notice:** Detailed instructions on how to create a backup of your CS2 data can be found in the CS2 User Manual.

# Updating the CS3

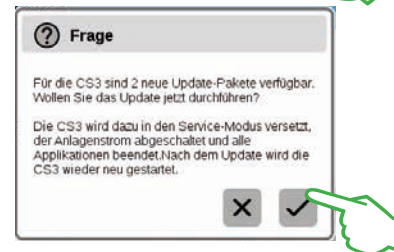
## Staying up to date: Update the CS3 Firmware

Märklin is constantly developing the software of the CS3. As soon as a new version is available, you are notified by a small red dot at the bottom of the "System" icon on the CS3 start screen.

**Tip:** If connecting your CS3 to the Internet is not possible, you can update it via a USB stick (see page 35).

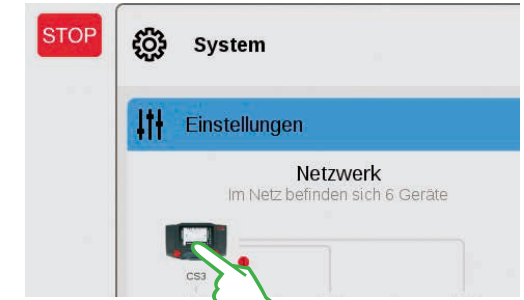


To update the firmware tap on the "System" icon. The red dots guides you through the system settings. Continue to tap on subsequent icons with the red dot.

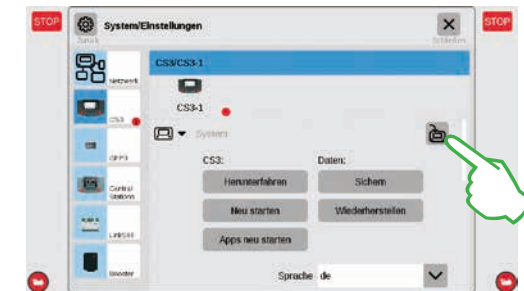


Now the CS3 will ask if you are sure you want to perform the update. Confirm by tapping on the check mark. You will see detailed information about the update. Confirm by tapping "Start" in the upper right. The CS3 will subsequently apply the update. Finally confirm in the upper-right with "Ok".

You can then see in the system settings via the green check, that the CS3 is on the most current version of firmware (picture right).



Next in the system overview (picture above), then in the system settings (picture left). There both options lead to the goal: to the update panel (picture below), which is activated via a tap.





# Overview of the Central Station 3 plus and Central Station Technical Data

## Introduction

Quicker, more comfortable and user friendly: the new Central Station 3 offers model railroaders not only the latest technology for controlling multiple trains, but thanks to a modern touchscreen, a user interface that facilitates intuitive control. Just like modern smart phones and tablets, you only need touch the screen and can zoom in on sections. For example, through finger swipes (drag & drop) you can quickly and simply bring locomotives into the console, and bring electro-magnetic items onto the track layout.

**Premiering with the Central Station 3, Märklin is offering two versions of the controller: the Central Station 3 plus (60216) and the Central Station 3 (60226). Important: the operation of both controllers is identical. This user guide is thus valid for both versions. The two versions of the CS3 differ principally in their hardware:**

**Central Station 3 plus (60216):** This version enables the deployment of more Central Stations together. Additionally, it provides its own S88 port facilitating the direct connection to the S88 feedback modules 60881 and 60882.

**Central Station 3 (60226):** This version is ideal for layouts to be controlled from only one central controller. S88 feedback modules should be connected over the Link S88 (60883).

**An overview of the connection possibilities of the controller can be found on pages 37 and 38.**

For trouble free operations in these complex systems, it is recommended you utilize the tried and tested Märklin system components. With the usage of 3rd party components, no guarantee for usability can be made by Märklin. The user is liable for any damages that result from the use of 3rd party components.

When connecting the layout, stick to the demonstrated techniques and principles in the manual. The use of other circuits can easily lead to damage of the electronic components. Thus please resist trying "expensive" experiments.

The Central Station is not a toy. Ensure that this device is only used by children to control a model railroad. We wish you lots of joy in the use of the Central Station on your model railroad.

Your Märklin service team

## Safety Notice

- Only for use in dry rooms , indoors.
- Installed LEDs correspond to Laser Class 1 per standard EN 60825-1.
- This device can be operated by children age 8 and up, and by persons with limited mobility, vision, hearing or mental limitations or by those with a lack of experience or knowledge, so long as they are supervised or have been adequately instructed on the safe usage of the device and the resulting risks are understood. Children should not play with the device.

Cleaning and service should not be done by children without supervision.

- Power: Only utilize the switching power supplies from Märklin 60 Watt (60061), Märklin 100 Watt (60101) or LGB 100 Watt (51095).
- Follow the notices in the instructions on the correct switching power supplies.
- For cleaning, use a damp cloth. Do not use solvents or cleaning solutions. The device must be powered off for cleaning.
- Save the manual

## Technical Notifications

- This equipment is a digital controller for the operation of conventional model railroads using Märklin Digital, Märklin Systems, Märklin MM or DCC protocols.
- For the expansion of the internal storage one can use an SD-card up to 32 GB.
- Using the two USB ports one can connect a mouse, keyboard, or memory stick either directly or over a USB hub.
- The USB charging port is intended for providing power to, for example, a tablet/ WLAN-Router (Max. load up to 1 A)

## Limitations of the Central Station 60226

Because the Central Station 3 60226 does not have a Märklin CAN-bus input, it cannot be used as a slave in master/slave operation. Instead of the Märklin CAN-bus input, it possesses a second Märklin device port. Additionally , feedback modules S88 60880/1/2/ require the use of a Link S88 (60883) as there is no direct S88 port.












## Starting Up

For the first startup it is sufficient to connect the tracks and the switching power supply to the Central Station.

1. Connect the track (and if needed, programming track) to the Central Station.
2. Connect the power supply to Central Station.
3. Connect switching power supply to the wall power outlet.  
We recommend the use of a switchable power strip to power all power supplies of the model train layout.
4. The Central Station will start automatically.
5. At initial start you can set the language preference and be guided through the device via the assistance of a Startup Assistant. There are further assistants integrated into the device to introduce you to the features of the Central Station.

**Notice:** Via a long press on the STOP-button (up to 10 sec.) you can force the Central Station to shut down. A subsequent press of the STOP-button results in the start of the Central Station.

## Connections:

-  Switching Power Supply
-  Track connection (max. 5 A)
-  Programming Track connection (max. 1,5 A); Connect similarly to the track connection.
-  Märklin CAN-bus input (6-pin; only with 60216 CS3plus)
-  Märklin device connection (7-pin) for Booster (60175/60174), Adapter 6021 (60128) and Link S88 (60883)
-  Märklin CAN-Bus Out (9-pin)
-  USB: Mouse, Keyboard, Storage, Hub, ...
-  USB: only for charging
-  LAN, direct connection to a router.
-  Line Out, connect to a powered speaker
-  S88 Connection on the bottom for Decoder S88 60881/60882, (only with 60216 CS3plus) (is an S88N port)

# Driving

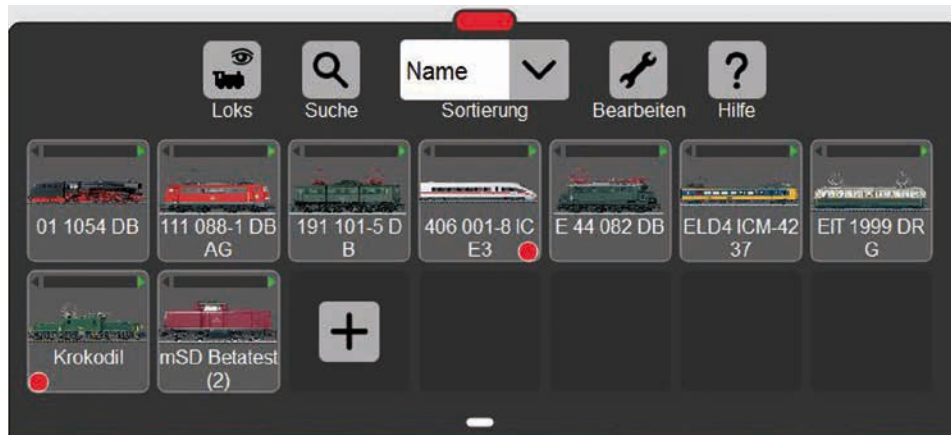
## Locomotive List · Activating Functions · Editing Locomotives





# Selection and Driving

## Inclusion of Locomotives: Automatic registration of *mfX* Locomotives



To begin with, it is recommended to register all locomotives fitted with *mfX* decoders (see quickstart on page 5). This is the easiest way to populate the locomotive list (picture above) and quickly start driving.

**Tip:** Although one can register multiple *mfX* locomotives simultaneously, it is recommended you add them one after the other. From experience, this proceeds quicker.

**Tip:** Ensure the STOP-button is not active. In Stop-mode no registration is possible.

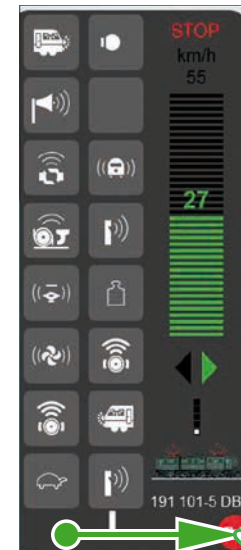
## Pulling Locomotives into the Throttle Console.



The two throttle associated locomotives are highlighted with a small red dot in the locomotive list.

To select a locomotive, drag it out of the locomotive list to the left (as pictured) or to the right screen edge. Release your finger over the automatically displayed throttle console. The throttle console will display the chosen locomotive, the *mfX* protocol, the green direction arrow, the speed regulator and at the very top, the STOP control. If a locomotive is moving, this is indicated by way of a green bar at the upper edge of the locomotive symbol.

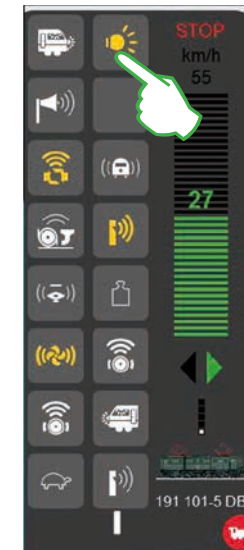
## Displaying Functions



Drag the red circle with a small white locomotive toward the screen center: The locomotive functions will become visible, eight per column.

Depending on how far you open the list, up to 32 functions can be displayed at once.

## Activating Functions



By tapping the function symbols you activate the functions. In the picture to the left one sees light, and sounds of coupling/decoupling, whistle, and fan activated.

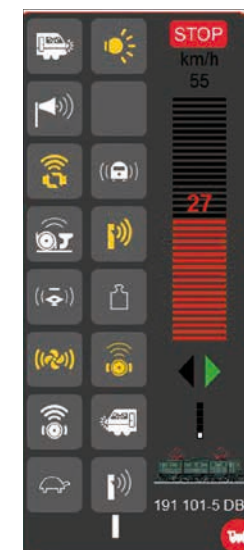
**Tip:** Tapping the red circle closes and opens the Throttle Console.

## Driving with the Controller



Tap on the throttle; the green bar appears: the locomotive moves. Alternatively swipe on the bar or control via the red knob - even when the Throttle Console is not visible. With the green arrow - or with a click on the knob - change the direction of travel.

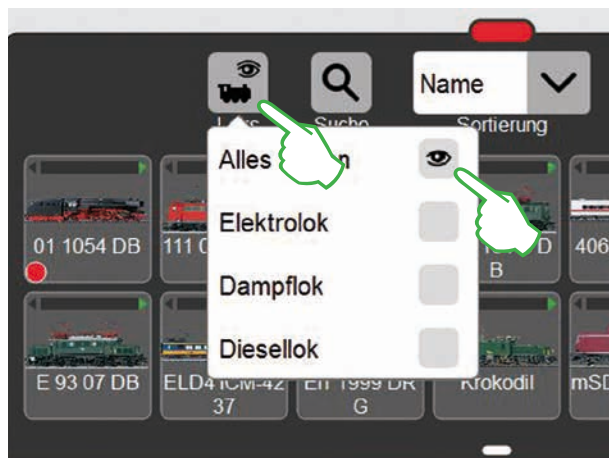
## Emergency Stop/ Stop



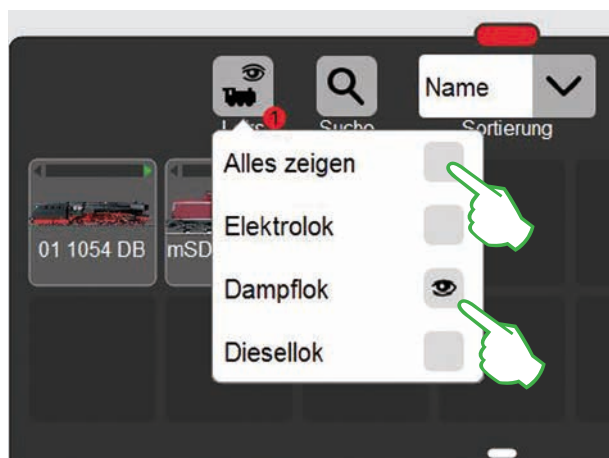
If the speed bar is depicted in red, the Stop-Mode is active. To clear it, press the STOP button or tap the STOP symbol at the top of the Throttle Console.

# Locomotive List: Sorting and Searching

Display of the registered locomotives is dependent on the mode of operation.



In order to provide better oversight, the Locomotive List can be filtered by operations mode. With a tap on the Loco symbol at the upper edge of the Locomotive List you open a small menu. Tapping the loco symbol again, hides the selection menu.

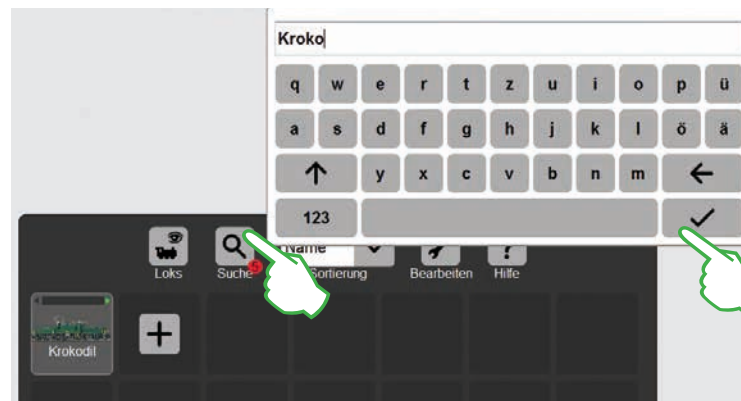


**Important:** To view traction subsets, you must deactivate "show all".

For example: a tap on "Steam engine" shows all locomotives with steam traction. The others are hidden. A small red dot indicates a filter is active.

**Tip:** After selecting a traction type (e.g. Steam/Diesel) you can easily sell all locomotives again by selecting "show all".

## Finding specific locomotives / Live Search



The small red dot at the base of the magnifier symbol indicates that a search is active.

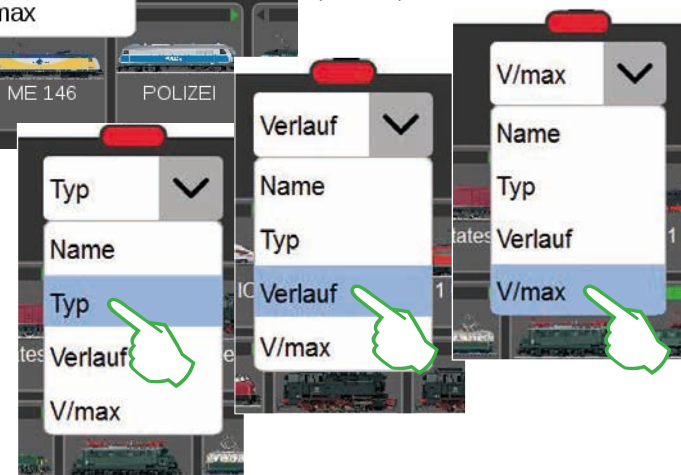
Want to find a specific locomotive? Tap on the "Search" magnifier at the upper border of the locomotive list and enter the name or part of the name. The CS3 updates the search results after every character entered via a live search. Important: To end a search you must clear the entire search term.

## The various sorting possibilities



More oversight is enabled via the use of the pop-up menu at the upper edge of the locomotive list. Just tap on it and the menu opens. You can sort by locomotive name by tapping on "Name". The trains are then alphabetically sorted (see left).

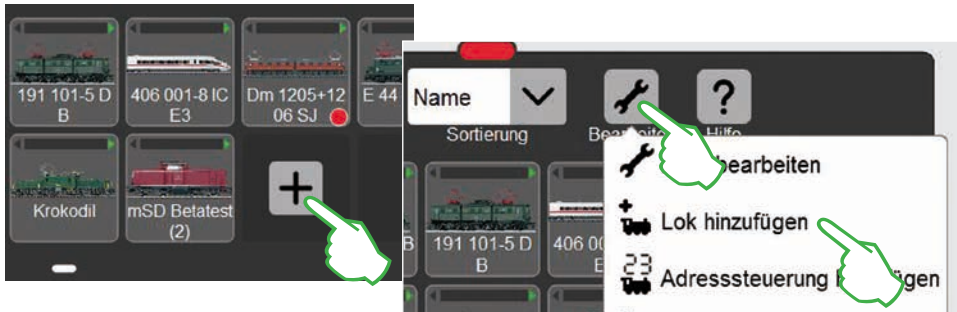
Tapping on "Type" sorts the locomotive list by type in the sequence: Steam, Diesel, Electric, Other. Choose "Recent" to see the most recently used locomotives. "V/max" sorts the locomotive list based on the maximum speed per the settings under the "tachometer" specified speed (see page 11).





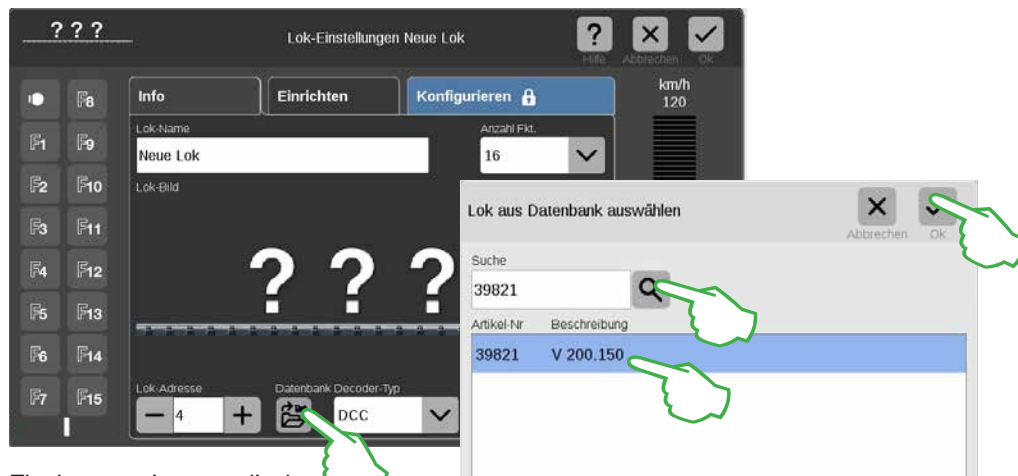
# Manually Adding Locomotives

This is how you add additional locos:



Locos without an *mfx*-decoder are added manually. To do so simply tap on the large plus sign at the end of the locomotive list. Alternatively tap on the wrench symbol ("editing") in the locomotive list, and choose the menu option "Add Loco".

## Step 1: Finding the loco in the database

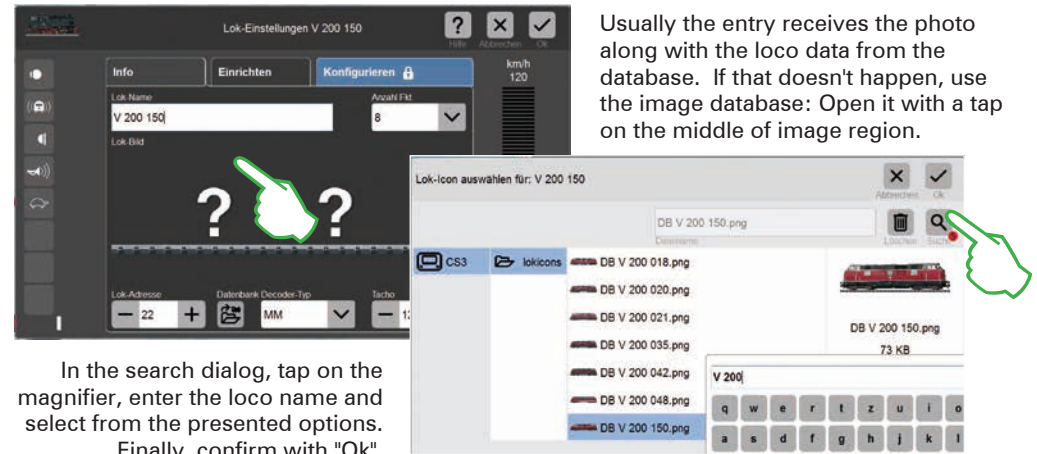


The Loco settings are displayed and the "info" tab is enabled. There you edit all settings (picture above). Always start with a database search for the desired locomotive. To do so, tap on the "database" symbol on the bottom edge, which displays a search dialog (picture right).

With a tap on the magnifier symbol a keyboard is shown on which you enter the part number or loco name; the system immediately searches. Every new character results in a more precise search result. Afterward, select the desired locomotive and confirm the selection with "OK".

**Tip:** Its preferred to search by part number, as those results are definitive.

## Step 2: Add photo from the database

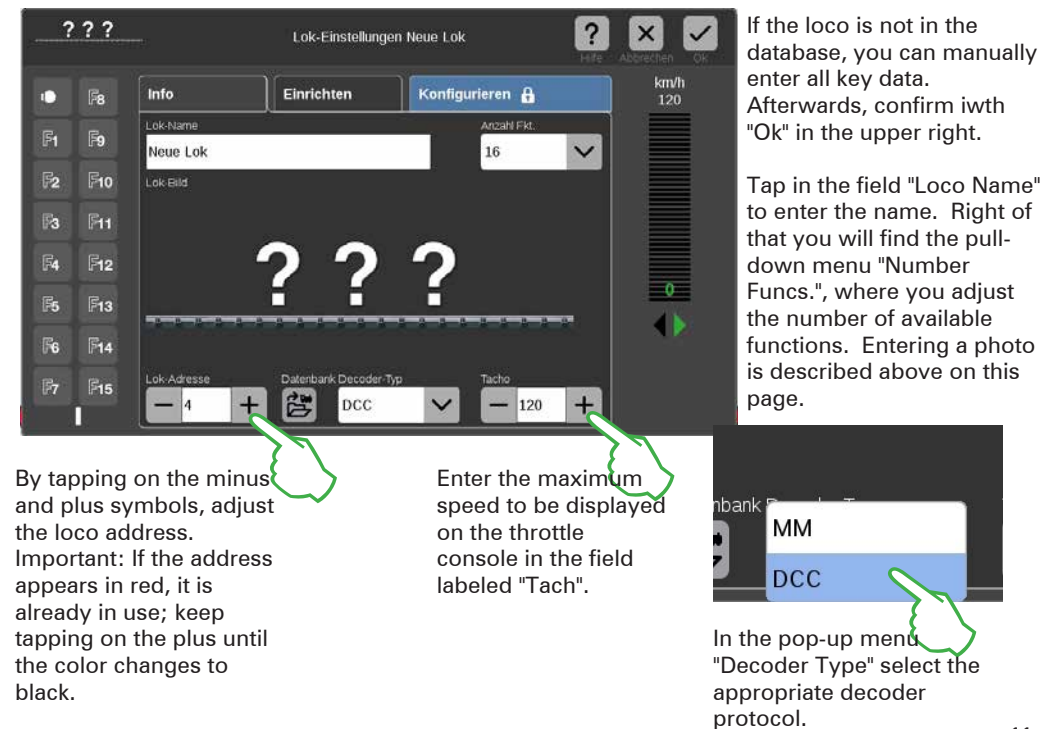


Usually the entry receives the photo along with the loco data from the database. If that doesn't happen, use the image database: Open it with a tap on the middle of image region.

In the search dialog, tap on the magnifier, enter the loco name and select from the presented options. Finally, confirm with "Ok".

**Tip:** You can also import your own locomotive images. Details on this are found on page 35.

## Locomotives without database entry: Complete manual entry



If the loco is not in the database, you can manually enter all key data. Afterwards, confirm with "Ok" in the upper right.

Tap in the field "Loco Name" to enter the name. Right of that you will find the pull-down menu "Number Funcs.", where you adjust the number of available functions. Entering a photo is described above on this page.

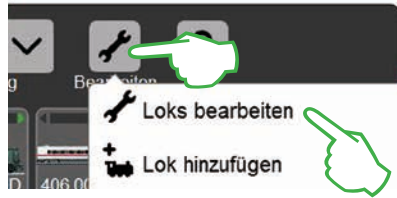
By tapping on the minus and plus symbols, adjust the loco address. Important: If the address appears in red, it is already in use; keep tapping on the plus until the color changes to black.

Enter the maximum speed to be displayed on the throttle console in the field labeled "Tacho".

In the pop-up menu "Decoder Type" select the appropriate decoder protocol.

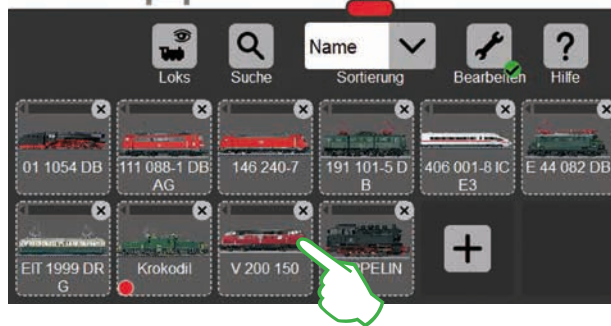
# Editing locomotive settings | Loco Card

## Switch to edit mode



Enter edit mode by tapping on the wrench/spanner symbol and then on "Edit Locos" (image left). It is seen with the green check-mark at the base of the wrench/spanner symbol (image below): All locomotives display with a dashed border and can be removed with a short tap on the "X".

Now you can edit the locomotive settings:  
Tap on the desired locomotive (image right) which brings up the locomotive settings screen (image below).



## Tab "Info": changing the core data



You are in the opened "Info" tab of locomotive settings. Even with mfx locomotives you can, if desired, edit the locomotive name and the maximum speed shown on the throttle console.

## Reading the loco decoder's address

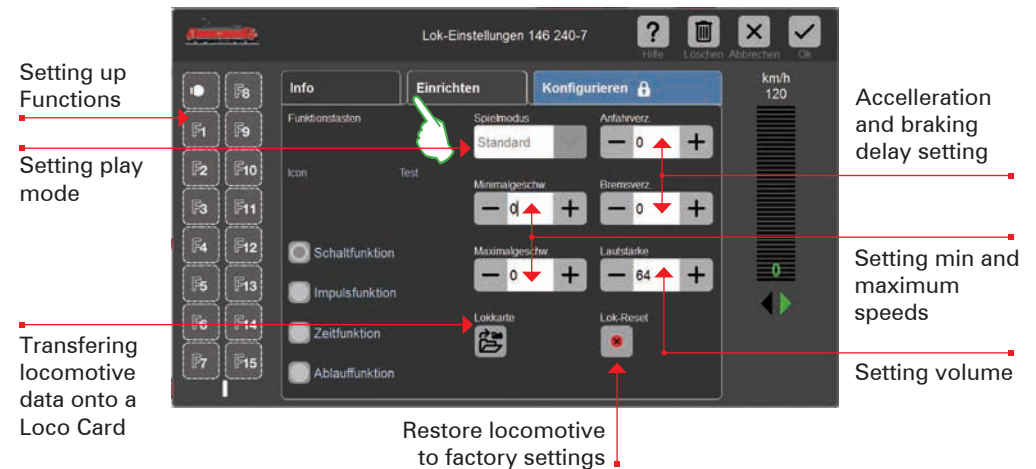


At the bottom edge of the "Info" tab for MM- and DCC- loco settings, you find the option "Read": Tap on this and the CS3 reads in the loco decoders set address. (may say "Download")

**Tip:** A new locomotive must have been added to the database first (see page 11).

## Tab "Setup": Changing important settings and functions

To get to loco settings, activate the locomotive list edit mode, and select the desired locomotive (see section "Switch to edit mode" on left side of this page). Then tap on the tab "Setup".



Important: Modified settings are immediately stored in the locomotive decoder. MM- and DCC- protocol locomotives must be on the programming track.

## Special Case Loco Card: reading and writing

You can import locomotives from existing loco cards, or write to a new loco card.

**Reading:** Insert the loco card into one of the card slots as pictured. The data is downloaded into the locomotive list and you can immediately operate the locomotive. Important: Ensure the chip contacts are at the bottom part of the card.



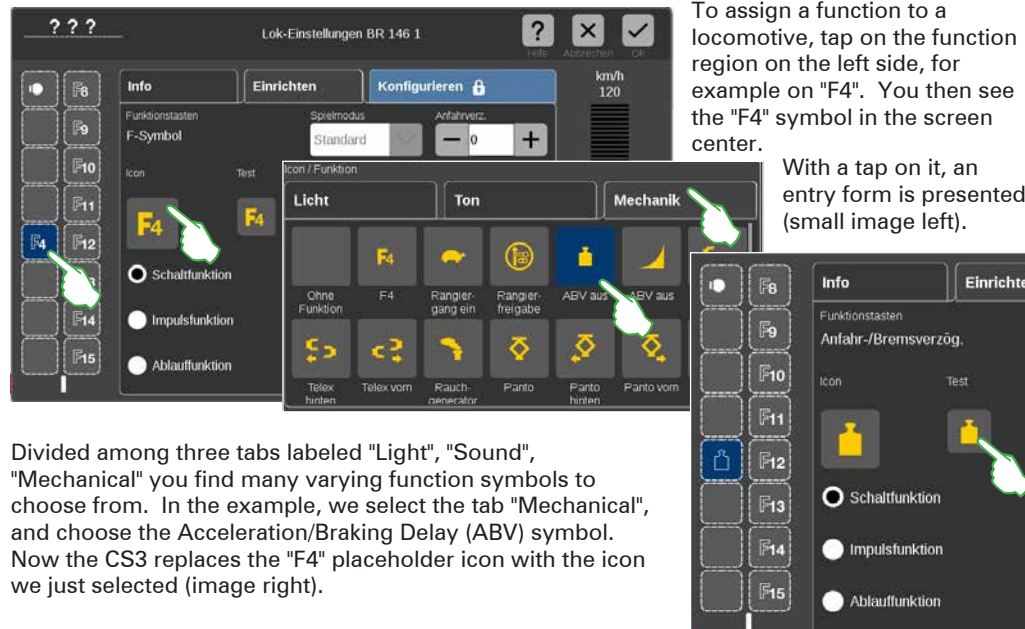
**Writing:** Insert the loco card into the card slot as pictured. In the "Setup" tab of locomotive settings, tap on the symbol "Loco card": the CS3 immediately writes the loco data to the card.





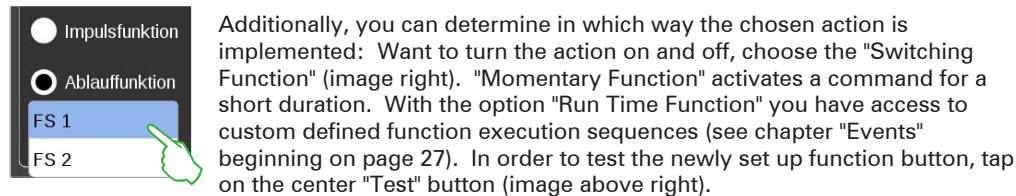
# Configuration | Changing CV Values

## Function Setup

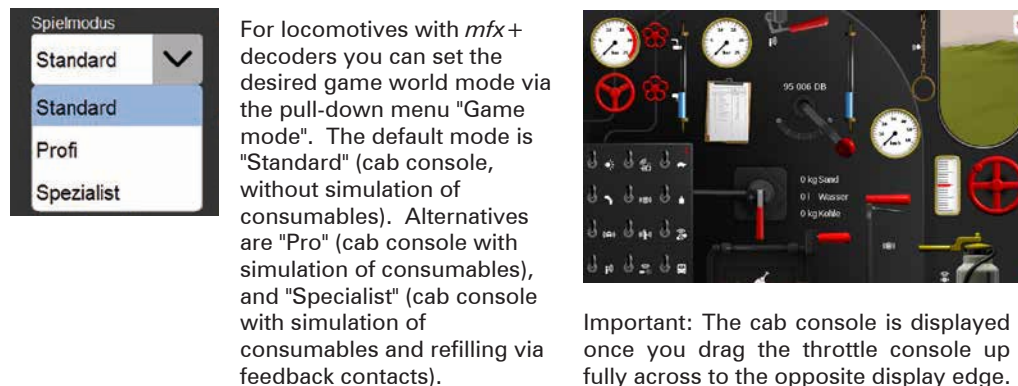


Divided among three tabs labeled "Light", "Sound", "Mechanical" you find many varying function symbols to choose from. In the example, we select the tab "Mechanical", and choose the Acceleration/Braking Delay (ABV) symbol. Now the CS3 replaces the "F4" placeholder icon with the icon we just selected (image right).

## Selecting and testing function type



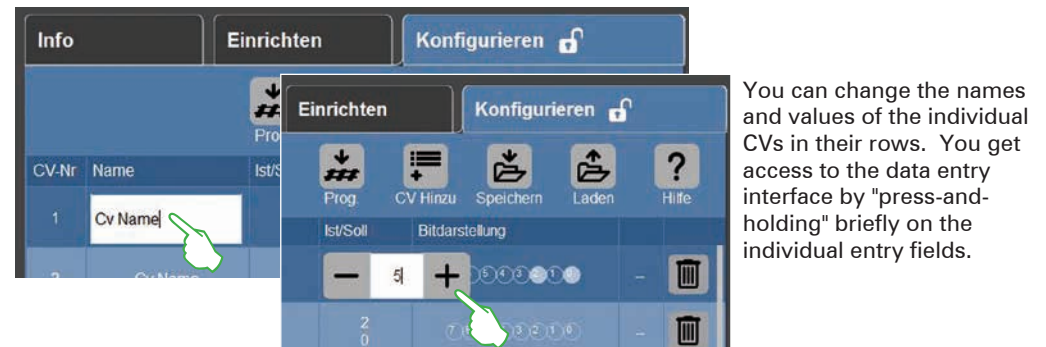
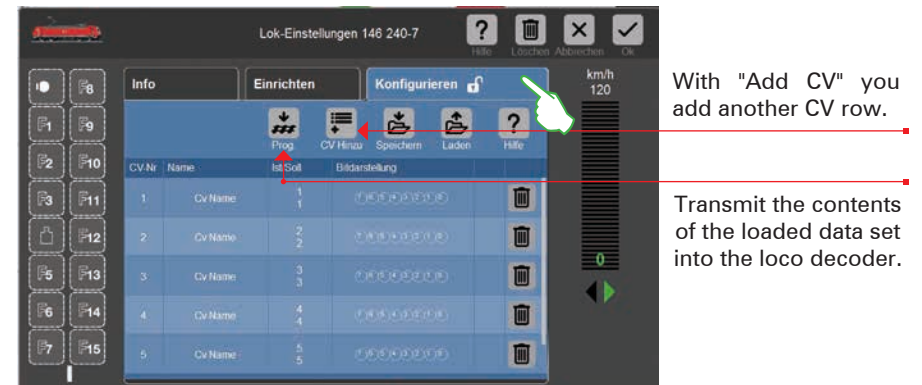
## Game World Mode



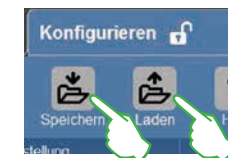
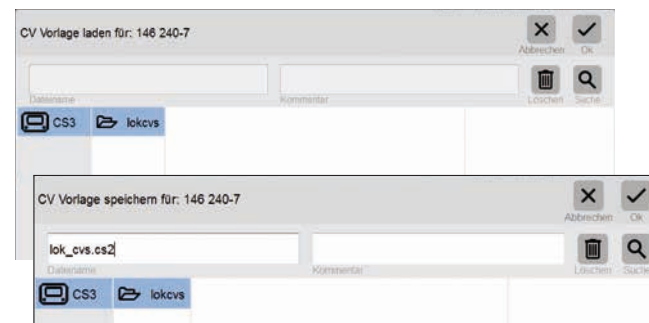
Important: The cab console is displayed once you drag the throttle console up fully across to the opposite display edge.

## Editing individual CV values

After entering edit mode and selecting the locomotive of interest (see section "Setup" on page 12), tap on the tab "Configuration". If the decoder is an MM- or DCC- protocol decoder, the following interface will be displayed. **Tip:** The blue areas are intended only for experts. Please only change things if you know what you are doing.



## Loading and Saving CV Templates



To load an existing CV template or to save a newly created CV template, in the "Configuration" tab, tap symbols "Load" and "Save". Subsequently a data file selection chooser will be displayed (load), or a dialog box displayed to suggest a data file name (save).

## Configuring *mfX* Locomotives



All of the detailed settings of a *mfX* locomotive decoder are loaded and displayed when you enter the select the "Configuration" tab within locomotive settings.

Important: The blue areas are intended for experts. Please only modify these settings if you know what you are doing. For normal usage one would not need to make any changes here.

## Driving a Loco via its address



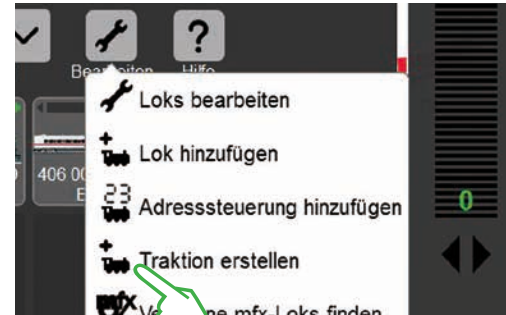
In order to control and drive a loco directly via its address, tap on the wrench/spanner symbol ("edit") in the locomotive list and select "Add address driving" from the pop-up menu (image left).

Using the displayed numerical keypad, enter the loco address and select the protocol used by the decoder. The entered address is automatically transferred into the throttle console - you can now operate this locomotive directly.

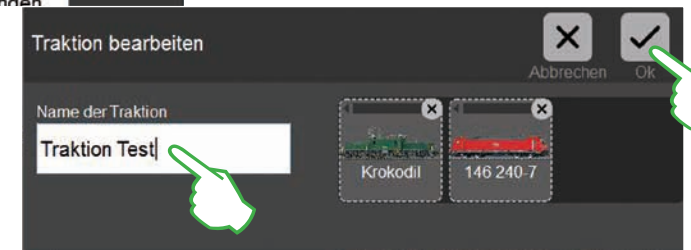
You can change the address and protocol of such a locomotive throttle console at any time: tap on the address and the address entry keypad will reappear (image right).



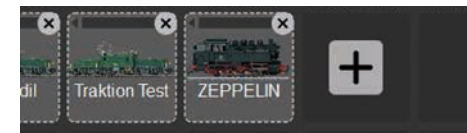
## Assembling locomotives around traction



A double or multi-traction loco is set via the menu option "Create traction" (image left). The pop-up menu opens with a tap on the wrench/spanner symbol in the locomotive list ("edit"). You can assign a name to the new traction in the resulting dialog box.



To create a traction, drag the desired locomotive out of the locomotive list into the traction edit dialog box (image middle right). Confirm by tapping "Ok" and the new traction will show in the locomotive list (image right).



## Finding lost *mfX* locomotives



In rare cases an *mfX* locomotive isn't shown in the locomotive list any more. At that point, this option is helpful. All given data is validated and the system is checked for missing *mfX* locomotives.

This function is started from the locomotive list via the "Edit" button and subsequent tap on "Find lost *mfX* locos"



# Editing the Accessory List

Accessory setup · sorting · switching



# Adding Accessories

## Preparation

As initially configured, the Central Station 3 is set up with Märklin Starterpack content - a few solenoid items in the list and a simple layout plan. If you don't need the layout plan or the items, you should definitely clear the accessories list. In addition you can immediately create a new plan with a custom name.

## Clear existing magnet items



To remove an accessory from the CS3, tap on the wrench/spanner button ("Edit") in the toolbar of the item list, and choose "Edit item list". You remove individual accessories by tapping on the "X" in the upper right corner (image left).

## Creating a new track board with custom name



The track board is the foundation of your track layout. To add a new track board, tap on the wrench/spanner symbol ("Edit") in the upper right, and select "Edit track layout". Tap on "Track layout / Area" in the button bar, and in the pop-up menu, select "Add track board" (image left). Additional details about creating a track board are found on page 21.

## Adding a turnout

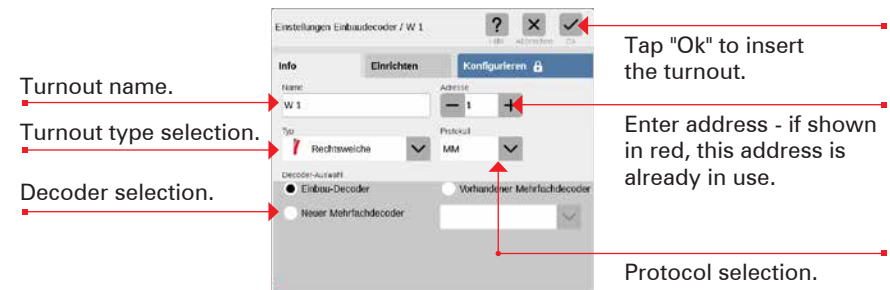


To create a new turnout, tap on the wrench/spanner symbol to display the pop-up menu and select "Add accessory".



An additional pop-up menu is displayed; select "Turnout".

Enter all details about the new turnout in the displayed new data entry form:



Turnout name.

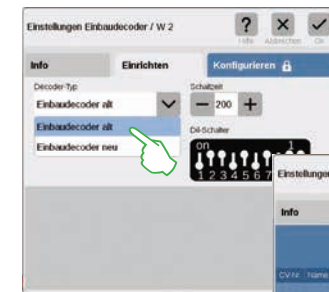
Turnout type selection.

Decoder selection.

Tap "Ok" to insert the turnout.

Enter address - if shown in red, this address is already in use.

Protocol selection.



Additional settings can be reached by tapping on the tab "Setup". Here you select the decoder type and can adjust the timing if necessary.



The tab "Configuration" is intended for experts and not relevant for normal operations.

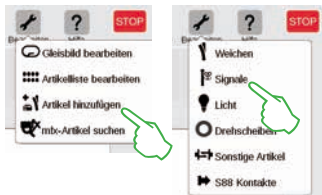
The new turnout is created in the accessory list as soon as you confirm with "Ok". Simultaneously the new turnout will appear on the track board (image below).



**Important:** Every newly created accessory is automatically placed onto the track board currently active in the CS3. Thus please be aware of which track board is currently in the foreground.



## Adding a Signal



In order to set up a new signal accessory, tap on the wrench/spanner symbol in the accessory list and choose "Add accessory" in the pop-up menu (image left). Then tap on "Signals" (image right) to open the settings screen (image below).

Here you can set the various details of the new signal accessory:



The signal type is set via a pop-up menu that is accessed via a tap. This menu offers several signal variations to choose from.

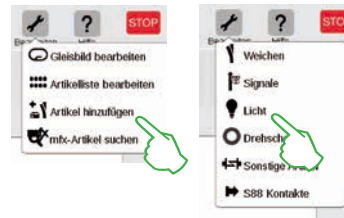


In the "Setup" tab you can change additional settings. Here you choose the decoder type and can adjust the timing.



The tab "Configuration" is intended for experts and not relevant to normal operations.

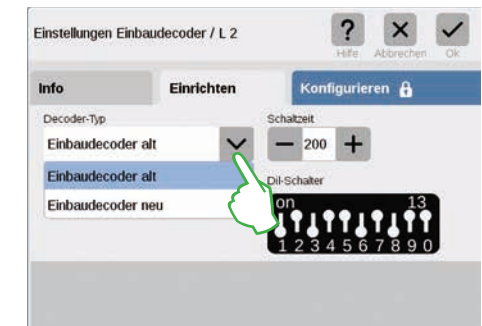
## Adding a Light



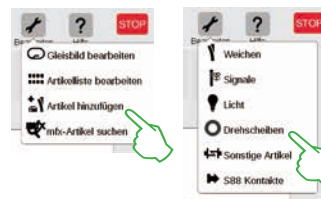
A new light accessory is quickly set up: Open a pop-up menu via a tap on the wrench/spanner symbol in the accessory list ("Edit"). Choose "Add Accessory", and then in the following menu tap on "Light" (image left).



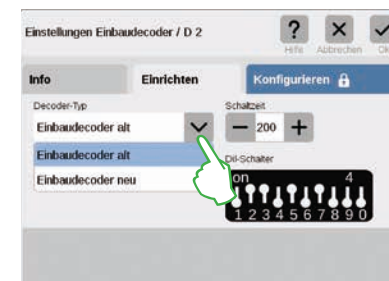
In the "Info" tab (image left) and "Setup" (image below) all attributes are set (name, address, type, protocol, decoder type and timing).



## Adding a Turntable

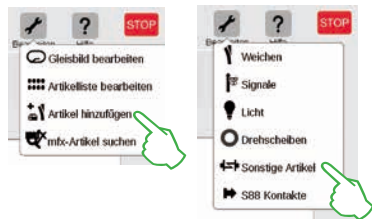


Adding a turntable to the accessory list is just as easy: Tap on the wrench/spanner symbol in the accessory list ("Edit") to access the pop-up menu, choose "Add accessory" (image left), and then tap on "Turntable" in the subsequent menu.

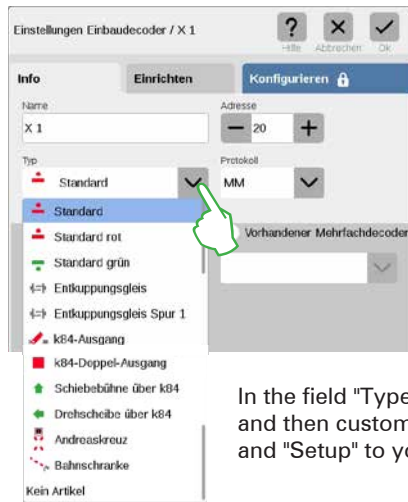


You now have access to all settings in the "Info" tab (name, address, type, protocol, decoder; image left) and "Setup" tab (decoder type and timing; image right).

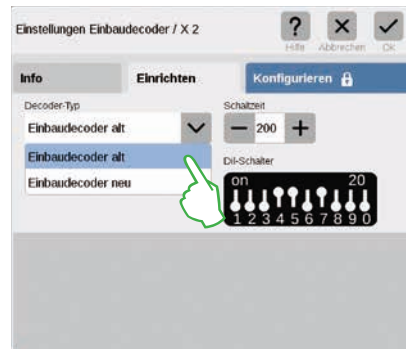
## Adding other Accessories



Various types of accessories can be added via this option: tap on the wrench/spanner symbol and then in the pop-up menu "Add accessory" and later (image left) choose "Other accessory".



In the field "Type" set the accessory type (image left) and then customise the following fields in the tabs "Info" and "Setup" to your needs.

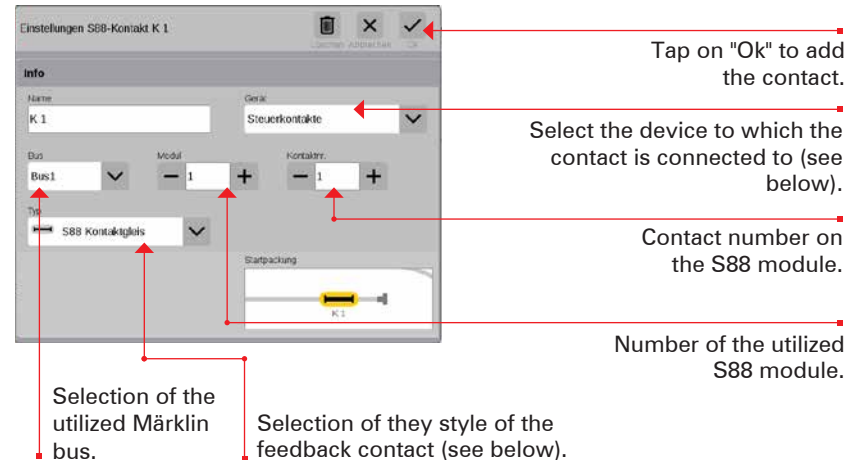


## Adding S88 Contact

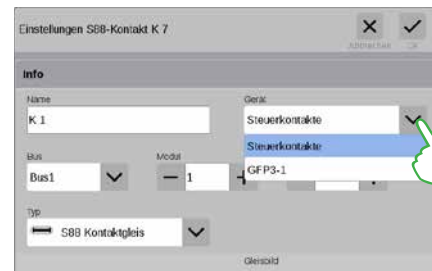


S88 feedback contacts substantially expand the control possibilities. To add them to the accessory list ("Edit") then choose "Add Accessory" in the pop-up menu (image left). In the following menu select "S88 Contact".

You are now in the settings menu. Here you set the detail attributes of the new S88 contact:

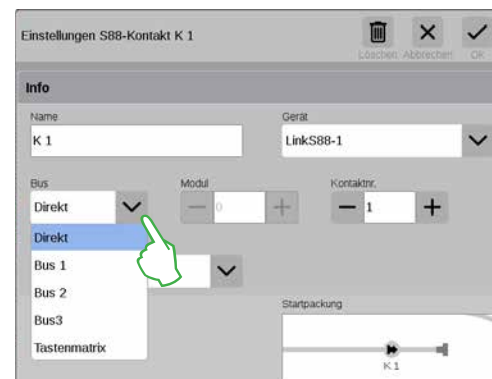


Where the feedback contact is connected:



Set the device to which the feedback contact is connected in the pull-down menu "Device". On the CS3 plus you will see the option "GFP3-1" which corresponds to the S88 connection on the bottom of the CS3 plus (image left). With the CS3 (60226) feedback contacts are connected over a "Link S88" (see below).

## Bus and Module entry when using the "Link S88":



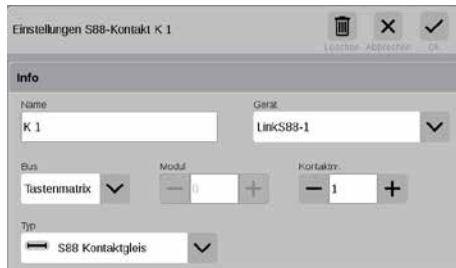
Utilizing a "Link S88" you can connect feedback sensors in the following ways:

- directly on the "Link S88"
- via additional S88 modules which are connected to the "Link S88" (via Bus 1, 2, or 3)
- over a button matrix (see page 19)

For each contact, select the connection type (bus), specify the S88 module number (1-32), and the number of the switch contact on the module. With the connection type "Direct" it is sufficient to enter the switch contact number from the "Link S88".

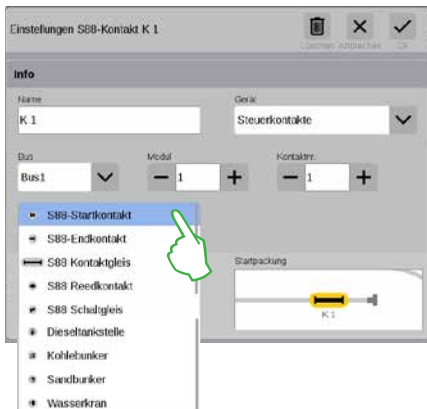


## Button Matrix:



You can use the L88 (Link S88) as a button matrix, for example to use as a track switching console. Up to 64 buttons ( 32 accessories or 64 routes) are supported. You enter the corresponding module port in the "Contact nr." field.

## Selecting the type of S88 feedback contact:



Select the type of the installed feedback contact in the "Type" pull-down menu: Contact Track, Reed Contact, Switch Track.

For the *mfX* + game-world mode, additional contact types are available: Diesel Station, Coal Bunker, Sand Bunker, Water Stop.

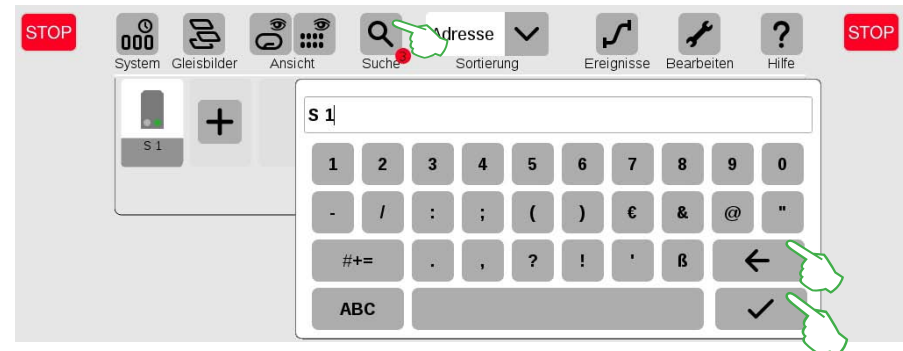
## Search for *mfX* accessory

In rare cases it is possible that an installed accessory is no longer shown in the accessory list. This function supports finding these accessories again.



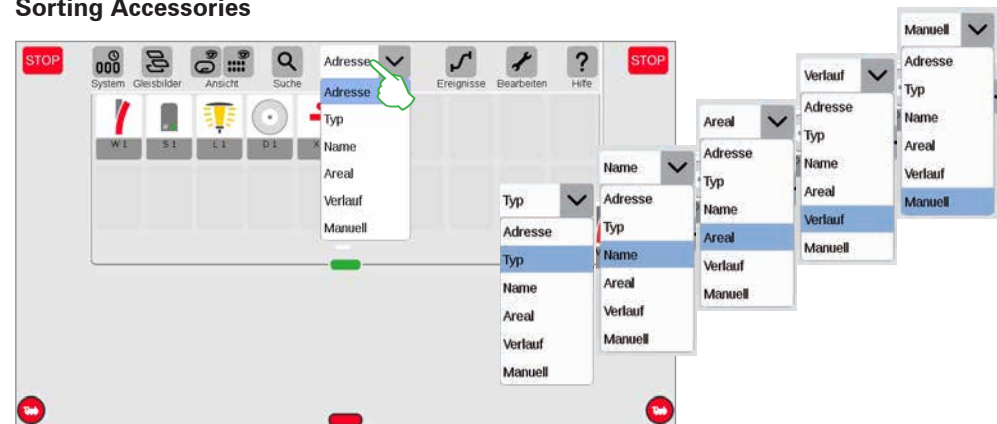
Start the function by taping on the wrench/spanner symbol ("Edit") in the accessory list. In the pop-up menu, choose "Find *mfX* accessories" (image left). At that point the CS3 will display a message that it will bind to all discovered *mfX* accessories. You only need to wait a few moments for the process to complete.

## Accessory Search / Live Search



With the search function you perform a targeted search on the name or part of the name for one or more accessories. Tap on the magnifier symbol ("Search") and start entering a search term on the displayed search form. The CS3 will search after every character entered for matches (Live Search). A small red dot indicates an active current search; the number inside the dot is how many characters are currently in the search term. To end the search (filter), clear the search term via backspace. Tap on the confirm check of the keyboard to hide the search entry form.

## Sorting Accessories



You can sort the accessory list via the pull-down menu on the top edge of the accessory list by several criteria: assigned address, item name, item type, area assignment. The option "Recent" arranges them in most recently used order. The option "Manual" will be provided in a subsequent CS3 software update, which will add the capability of arranging the accessories completely arbitrarily via drag and drop.

## Positioning · rotating · connecting layout items

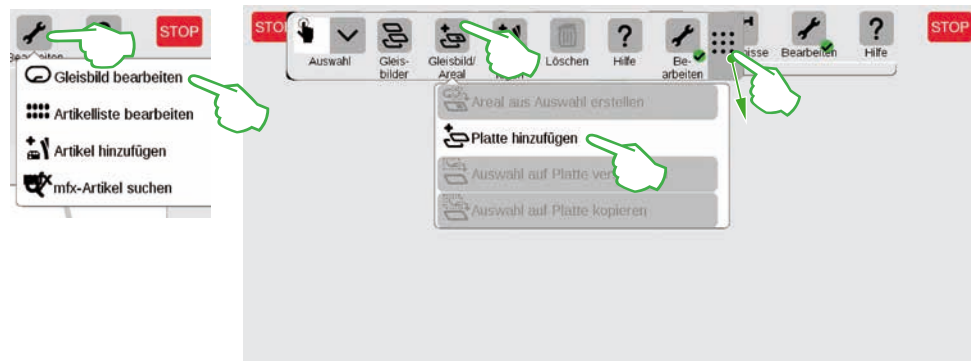




# Creating a Track Layout

In this section you will learn all necessary steps in order to create a track layout in the Central Station 3. We will use the simple layout of the Märklin Starter Pack (see page 24) as the example to be created, step by step, in the following pages.

## Adding a Track Board

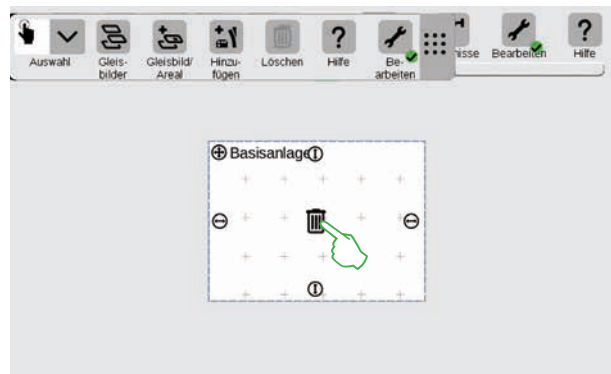


The foundation for a track layout is established with a track board. Enable editing mode by tapping on the wrench/spanner symbol in the upper right and subsequently choosing "Edit layout". On the displayed button bar, tap on "Layout/Area" and in the pull-down select "Add Track Board". **Tip:** The button bar can be relocated by dragging the 9-dot grid on its right end to the desired location.



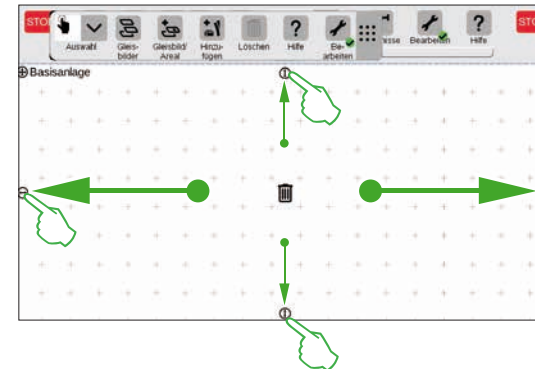
Give the new track board a name in the dialog box and confirm with "Ok". Important: Choose the name carefully as it cannot be modified later.

## Deleting a Track Board



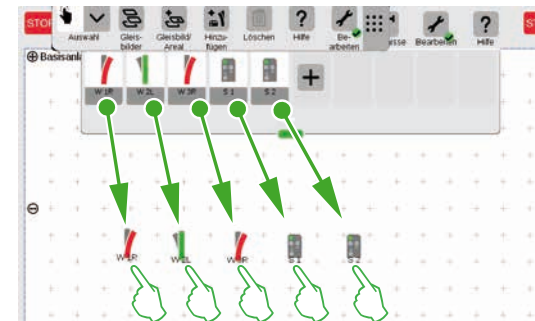
And just like that the new track board is created, as here in the example with the name "Base layout". By tapping on the trash can symbol in the center of the track board, you can delete it - as long as it is empty and you are in edit mode. This is seen in two ways: the light gray plus signs behind the track board, and by the green circle with check at the base of the wrench/spanner symbol.

## Resizing a Track Board



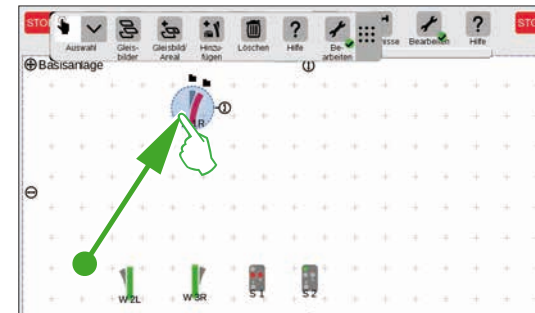
The track board can be enlarged or reduced using the black circular handles on each of the track board edges. To enlarge the track board to display size, drag one of the circular handles to the screen edge. Repeat with the other three edges. Done! You now have enough room to build up the simple track layout (see page 24) described on the following pages.

## Dragging Accessories onto Track Board from Accessory List



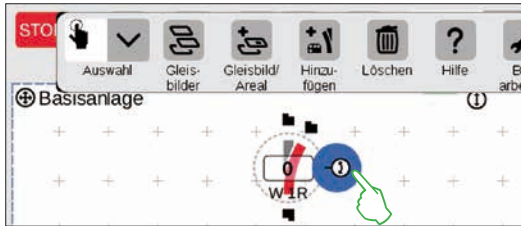
Now drag the needed accessories out of the accessory list and onto the established track board: the turnouts W1R, R2L, and W3R as well as the signals S1 and S2. To do this touch each of the respective symbols, drag it to the center of the display and lift your finger. Important: The layout edit mode must be active for these steps.

## Moving Accessories on Track Board



The turnout W1R is to be located in the upper left of the track board for this planned layout (see page 24). Drag the turnout into this area by touching the symbol on the display and dragging it upward. The light blue circle around the turnout indicates that you have it selected.

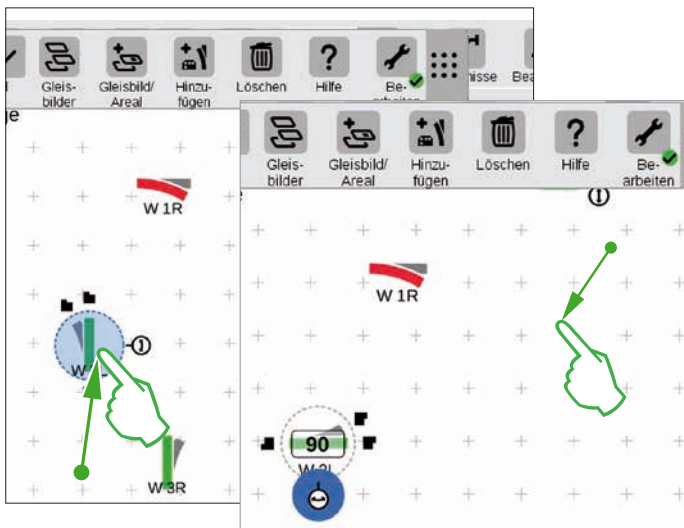
## Rotating Accessories: Rotation Mode



We need the turnout in horizontal orientation for the planned track layout. We thus rotate it by 90 degrees: mark the turnout by tapping on it briefly. It will be marked with the light blue circle again. Now tap on the double-arrow at the edge of the turnout - which will now be highlighted in blue (image left).

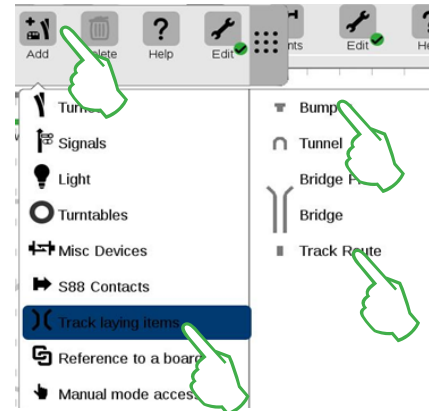


The turnout is now in **rotation mode**. You can now move your finger to any location on the display; the turnout will rotate corresponding to your finger movement and the current orientation angle is indicated as well. Stop at 90 degrees. **Tip:** The further from the turnout you are touching the screen, the slower the rotation will be: the target angle will thus be easier to achieve.



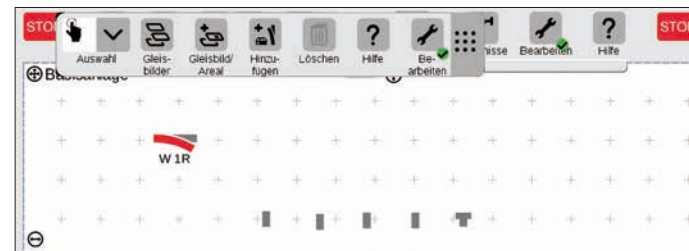
We need the turnout "W 2L" in the lower left region of the track board to get to our goal layout. To do this, follow the same steps described above: drag the turnout into the lower left track board areas (image left), activate rotation mode and rotate the turnout into the horizontal orientation with an indicated angle of 90 degrees (image right).

## Adding Track Accessories

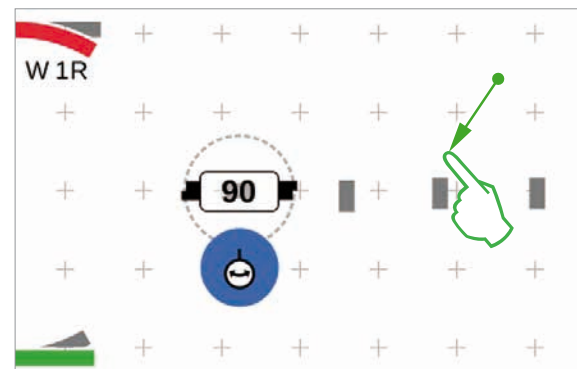


In order to achieve an optically pleasing track layout, we need some track course accessories. These are purely design elements without function. Using the "Add" button in the button bar, open the pop-up menu containing the "Track Laying Items" and select it. In the following menu, tap four times on "Track Route" and once on "Bumper", as a siding track is also part of the target track layout. To close the menu tap once more on "add" or on an area outside of the menu.

**Tip:** Using the same principles add other possible track accessories like tunnels, bridge piers, and bridges (image left). All other accessories from turnouts to S88 contacts can be added in this way to the layout and simultaneously to the accessory list.

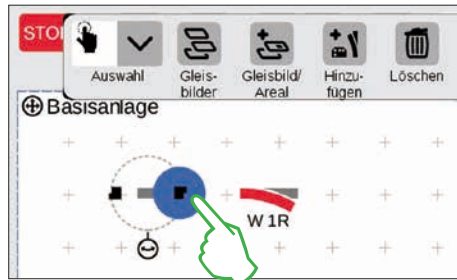


The track route accessories and the buffer stop are automatically dropped onto the active track board by adding them, in our case onto the "Base Layout".



The added accessories appear on the track board in a predetermined orientation. As we need a horizontal track route accessory for the next step, we must adjust it by rotating it into horizontal orientation (Rotation mode on page 22).

## Connecting Accessories: Connection Mode

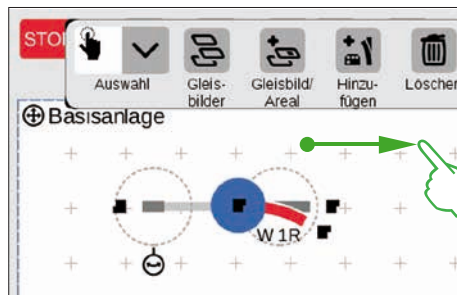


Drag horizontal "Track Route" accessory to the left side of turnout "W 1R". There are black symbols on the left and right edges of the highlighted "Track Route" accessory, which are the connection points used to connect two accessories with each other. Tap on the right connection point of the track route, which is then highlighted in blue: you have activated **connection mode** (image left).



Drag the blue highlighted connection symbol in direction turnout (image left).

**Tip:** You can perform the drag operation with your finger on an arbitrary part of the screen, allowing you to have clear visibility of the accessories you are connecting.



As soon as the two connection points overlap, lift your finger from the display. The Central Station 3 automatically makes a track connection between the connection points (image left).

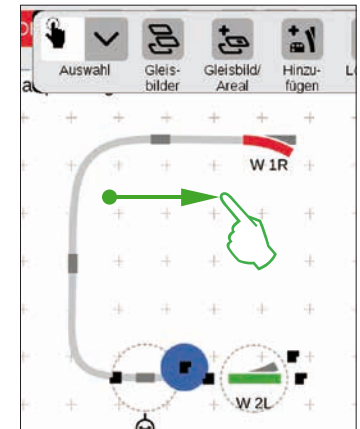


Tap onto the track board next to the turnout and track route accessories in order to clear the various markings. You now see the accessories inclusive the track connection (image left). Congratulations, you have connected your first accessory pair!

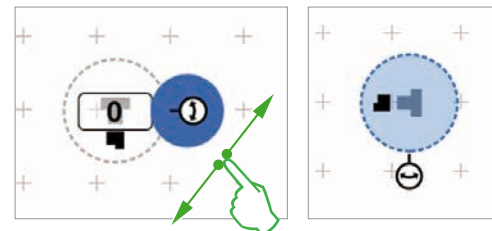
**Tip:** Alternately you can connect accessories by placing them next to each other.



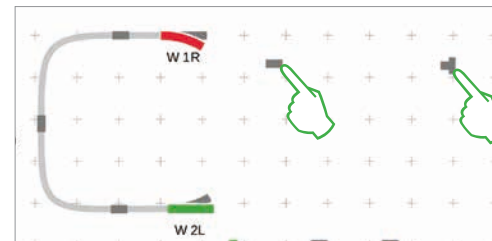
You now have the opportunity to practice connecting further: Make the connection to the previously placed turnout "W 2L". To do this, position two of the previously added "Track Route" accessories as picture (image left). You will have to rotate one by 90 degrees (See Rotation Mode on page 22). You then connect the accessories by switching one of the connection points into connection mode (image right) and then create the connection (see Connection Mode at the start of this page).



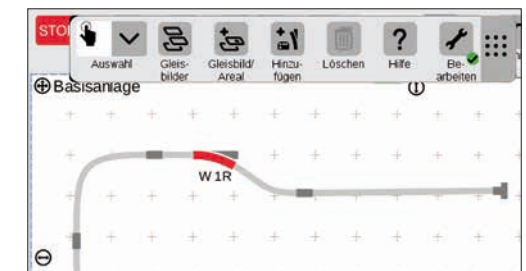
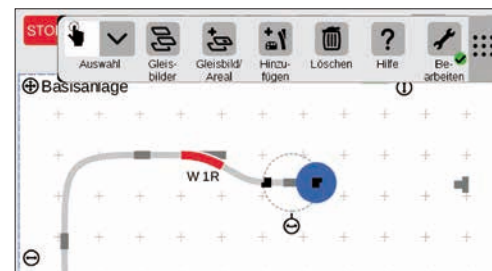
## Connecting Turnout and Bumper



Now let's connect a siding track to the upper turnout. To do this, first rotate a bumper and track route accessory by 90 degrees (image left; see rotation mode on page 22).

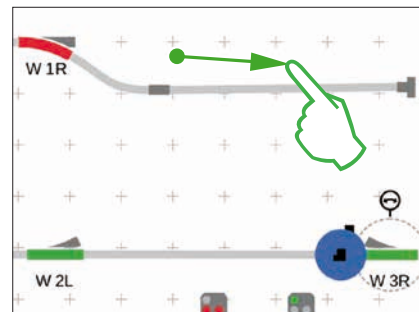
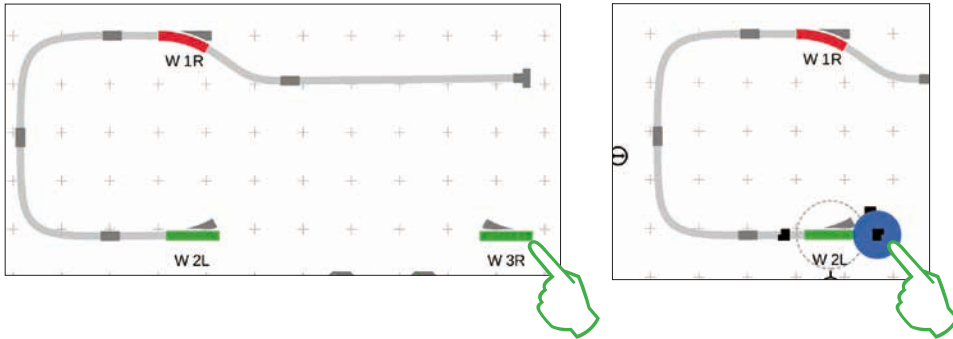


Now position the track route accessories as depicted here. Then connect the turnout with the track route accessory (see "Connection Mode" at the start of this page). Subsequently, connect the track route accessory to the bumper (image below).



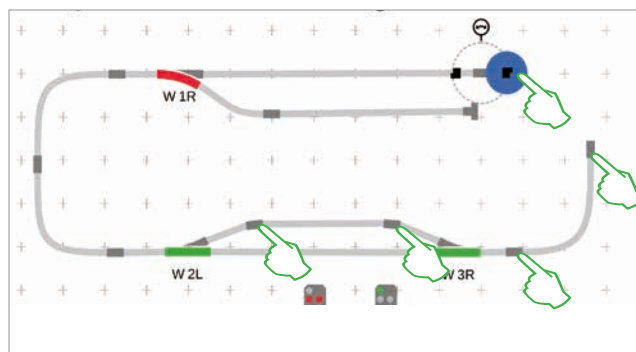
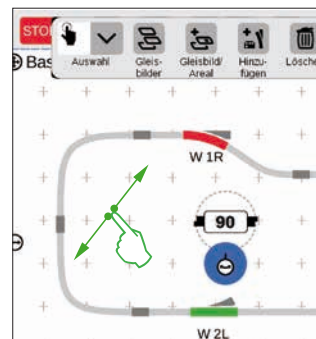


## Completing the Track Layout



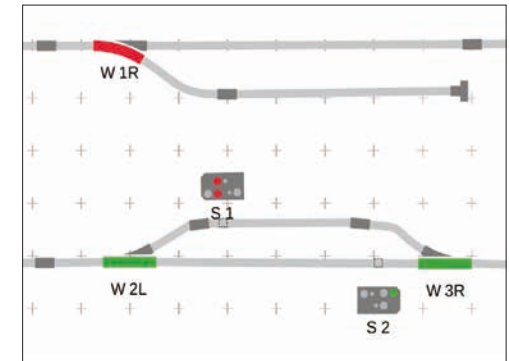
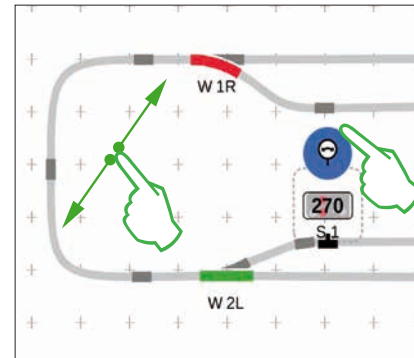
Half of the track layout is complete. Now to the station and the rest of the oval: Drag the turnout "W 3R" into the bottom right area of the track board and rotate it to horizontal (image upper left), activate the turnout "W 2L"'s connection mode (image upper right) and connect it with the right turnout (image left).

Now add a second track to the station and close the oval. To do this add five more "Track Route" accessories, position them as pictured below, and rotate them as needed into the right orientation (image lower left). Finally connect the turnouts and track route accessories with each other.



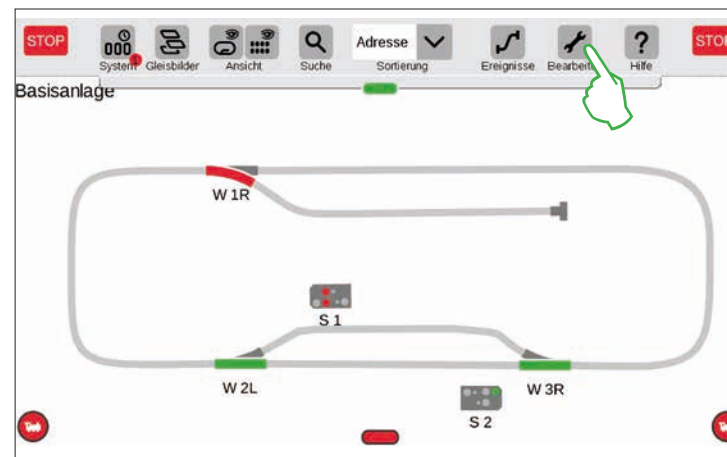
## Inserting Signals

Now the signals: Drag the signals into position: once they are over the correct track section, lift your finger from the display. The signal will automatically dock to the track.



Then activate rotation mode and set the rotation angles: set the left signal to 270 degrees (image left) and, for the opposing travel direction, the other signal to 90 degrees.

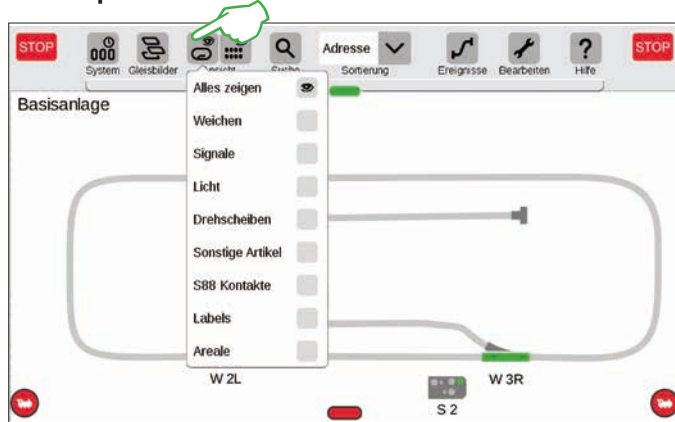
## Track Layout Completed



To finish, exit edit mode by tapping on the wrench/spanner symbol. The track route accessories faded out as a result (image left).

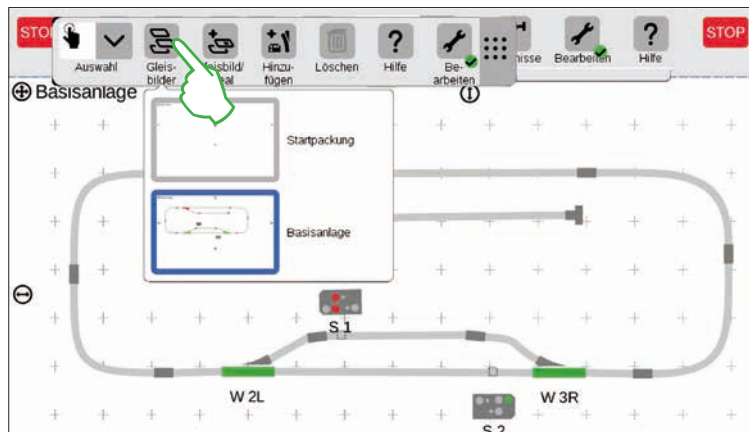
Congratulations, you have created your first track layout! Surely you noticed that editing the track layout got easier with each subsequent change.

## View Options



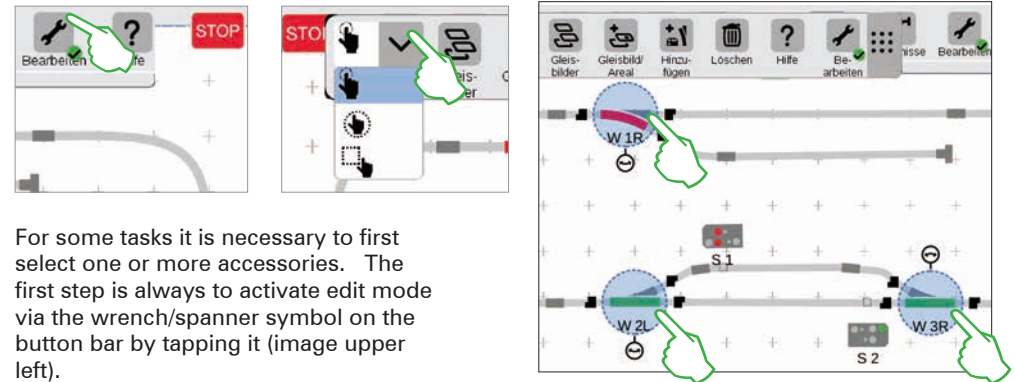
Tap on the button "View" in the upper button bar in order to see several filter options. In the default state, the option "Show All" is selected. With a finger tap on each accessory category you can create a outstanding overview of your layout board.

## Changing Active Track Board



Once you are managing track layouts on multiple track boards, you will find the "Track Layouts" chooser very helpful in switching between track layouts/boards. To change the active track board, tap on the button "Track Layouts" and subsequently on the desired track board: the new track board is now in the foreground. Double-tap on the active track board to fully display it.

## Selection of Individual and Multiple Accessories

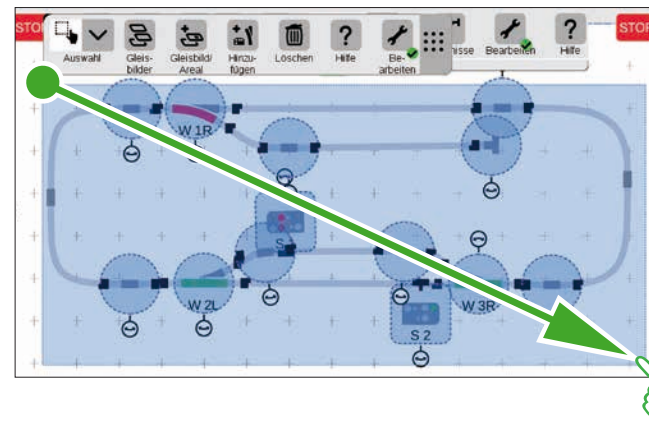


For some tasks it is necessary to first select one or more accessories. The first step is always to activate edit mode via the wrench/spanner symbol on the button bar by tapping it (image upper left).

**Single accessories** are selected by briefly tapping on them: a light blue circle indicates selection, the double arrow for the rotation mode and the connection points for the connection mode become visible. In the pull-down menu shown above, this is the first option.

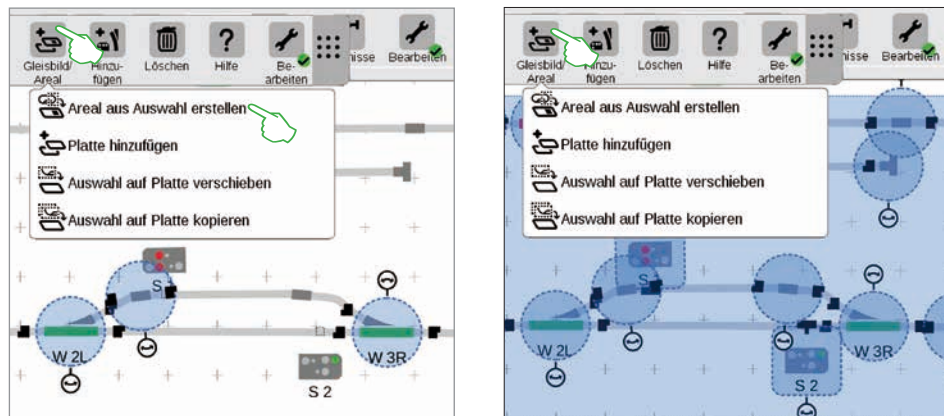
**Multiple accessories** are selected by tapping on the button "Select" in the upper left of the edit button bar, and in the pull-down menu choosing the second option, the circled hand (upper middle image). Subsequently tap sequentially on all of the objects which you want to select (image upper right).

## Region Selection

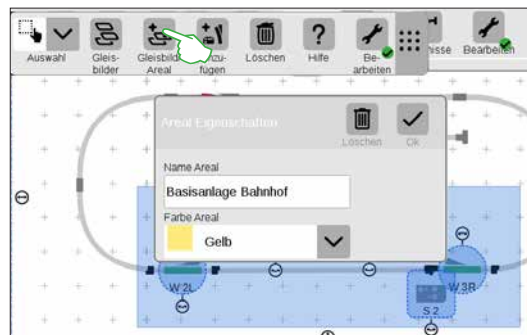


You can select an entire track board or a region thereof with "Select Region". To do this tap on the "Select" button in the upper left of the edit button bar. In the pull-down menu choose the bottom most option depicted with a square. Now tap to set one corner of a rectangular region, and drag the finger to the opposite corner of the rectangular region and release to select accessories and define that region.

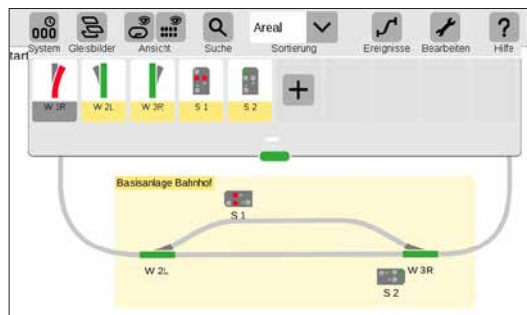
## Define Area from Selections



Once you have selected multiple accessories (image right) or a region (image right) as described on the previous page, additional options that were previously greyed out become available in the pop-up menu of the button bar "Layout/Area": "Area from selection", "Move selection on track board", and "Copy selection on track board".

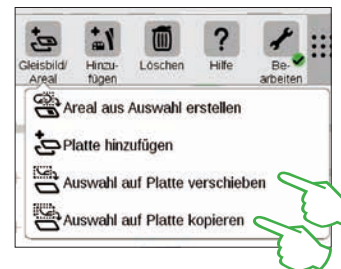


To define an area you must have selected the region. In this example we create an area from the selected station region (see image left). To do this tap on the button "Track Layout/Area" to open the appropriate pop-up menu and select "Area from Selection". In the displayed entry form give the area a name, choose a color and confirm with "Ok".



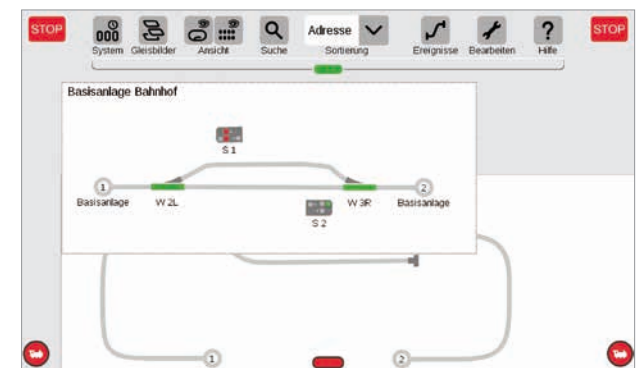
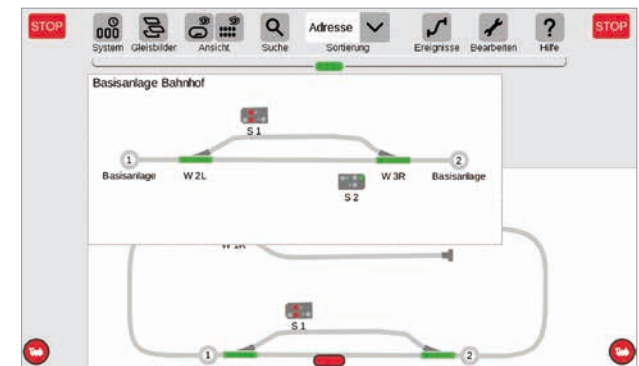
Subsequently, the chosen region is always indicated in the specified color. Additionally the area's accessories are easily recognized in the accessory list by their color.

## Move and Copy Selection to Track Board

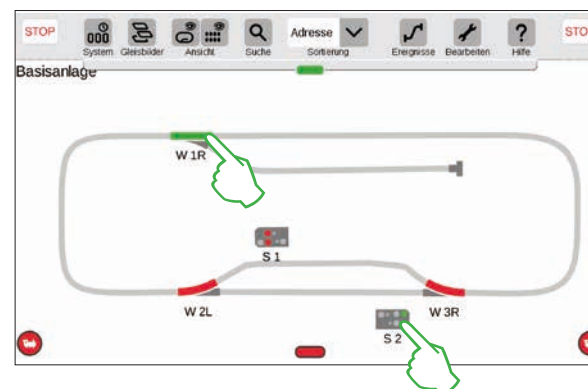


One obtains better oversight on complex systems with the function of copying a selection to a new track board (image upper right) or moving selection to a new track board (image right). The new track board was named "Base Layout Station".

Your layout is now distributed over two track boards, but remains logically connected - nothing changes around functionality. The transitions between the two track boards are indicated through the numerical symbols "1" and "2".



## Switching Turnouts and Signals



You can switch all accessories like turnouts and signals directly on your layout image: simply tap on the appropriate symbol.

**Tip:** Take care to ensure the STOP button is not activated. To switch accessories the tracks must be supplied with power.



# Creating and Editing Events

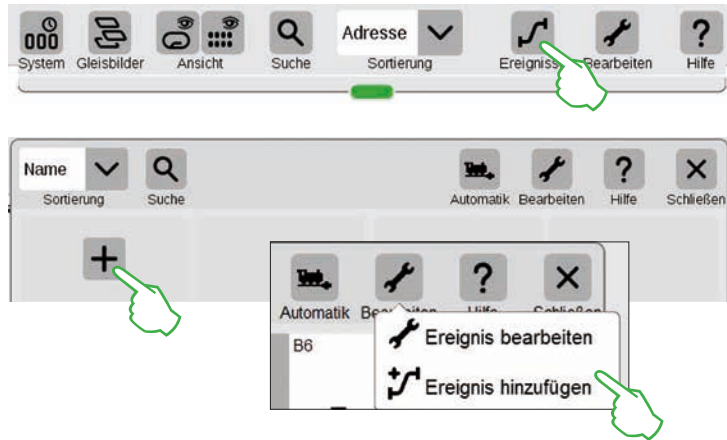
## Creating segments · Programming and running procedures



# Adding Events | Automation of Sequences

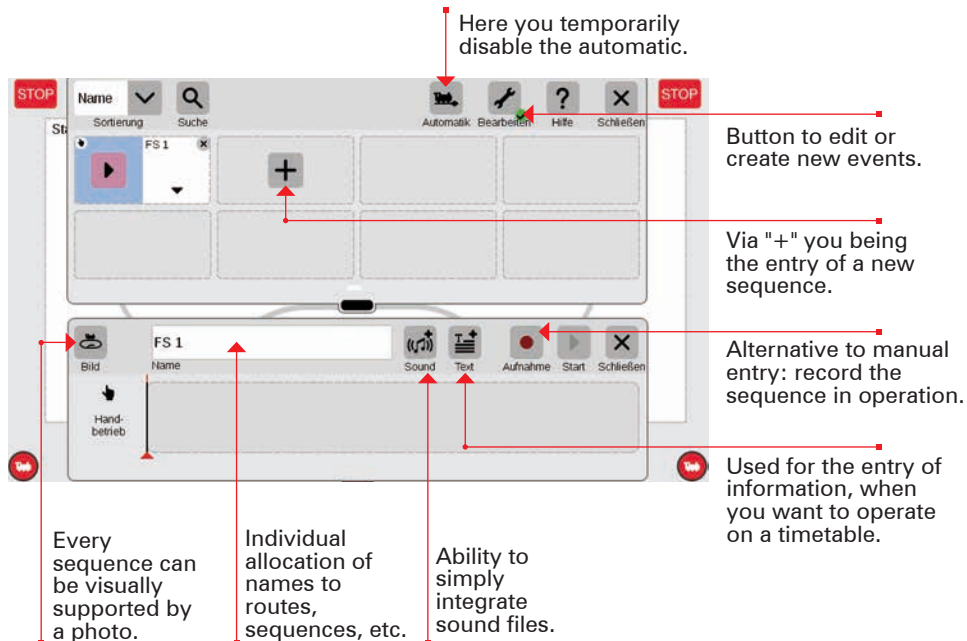
## Starting Programming is Easy

The automation of sequences is the ultimate hobby goal for many model railroaders. With a Central Station 3, the processes of creating routes, locomotive sequencing, and the automatic operation of entire layouts is substantially simplified. Thanks to drag-and-drop one must only drag individual elements into the sequence list. Even control is simplified.

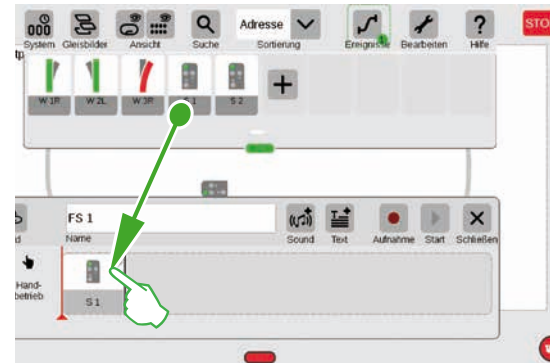


In order to create new sequences or edit existing ones, tap on the button "Events". Just as for locomotives and accessories, a list opens. If no sequences have been programmed you will find a "+" symbol in the first square. A new sequence is added via the "+" symbol or via the button "Edit", "Add event".

## Overview of the Main Menu for Sequence Control



## Route Construction: Step by Step.



After opening the menu "Add event" simply drag the appropriate accessory into the time-line - for example Signal 1. Step by step you thus build up a route. When tapping an accessory, for example signal 1, the menu bar to set the desired function is automatically opened.

## Integrate a locomotive



Analogously to the accessories you can also drag vehicles from the locomotive list into the time-line.

Via the "Sound" button you can integrate sound files at every point in the sequence. The files can be from the CS3 or be imported from a USB stick (image right).

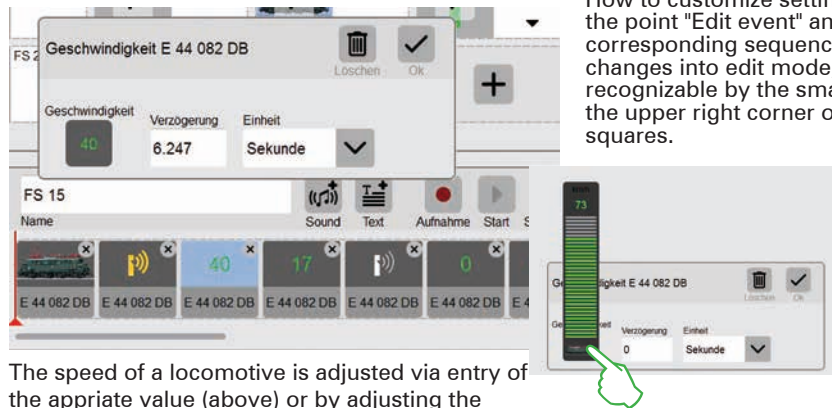


## Finalizing Small Route



Step by step you can assemble the route via drag and drop. Every single point (speed, signal and turnout settings, etc.) can be individually configured (see following pages).

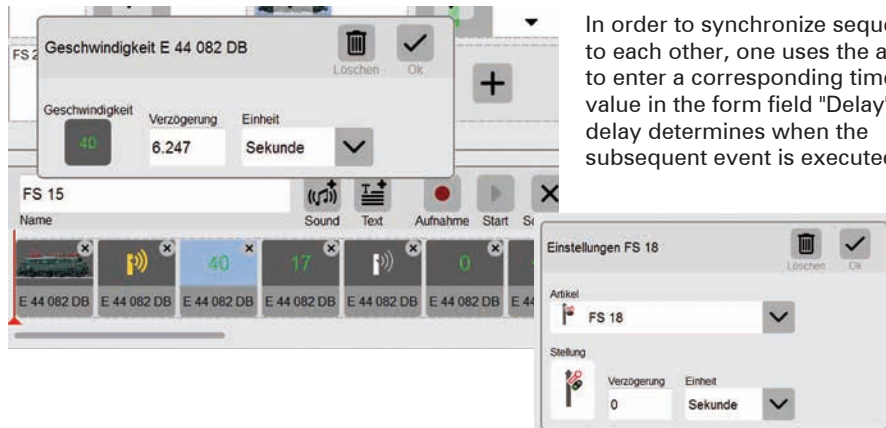
## Editing Settings / Speed



The speed of a locomotive is adjusted via entry of the appropriate value (above) or by adjusting the speed bar.

How to customize settings: Pull up the point "Edit event" and tap on the corresponding sequence. The event changes into edit mode, recognizable by the small crosses in the upper right corner of the squares.

## Time / Delay entry



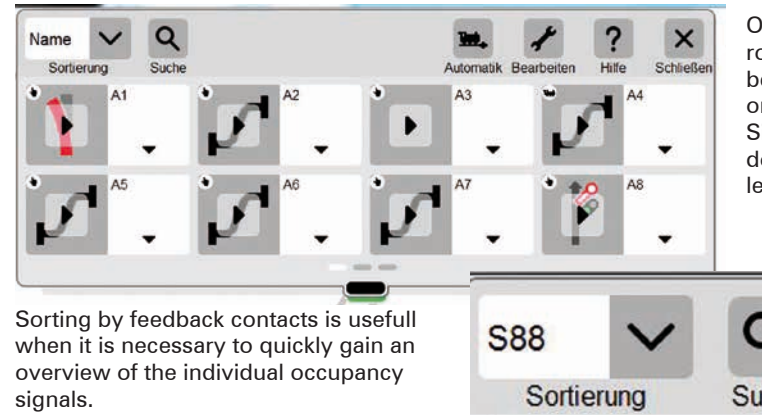
In order to synchronize sequences to each other, one uses the ability to enter a corresponding time value in the form field "Delay". The delay determines when the subsequent event is executed.

## Adding Text Information



A component is available With the point "Text" to enter information when operating according to a time-table.

## Sorting Events



Sorting by feedback contacts is useful when it is necessary to quickly gain an overview of the individual occupancy signals.

Overview: All established routes and sequences can be easily sorted by name or feedback sensors (S88). Simply tap on the pull-down menu in the upper left corner of the window.

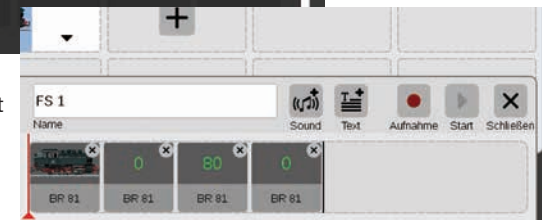
## Using the Recording Function



With the CS 3 it is possible, in addition to manual entry, to capture routes or sequences via the recording function. Similar to video cameras, the CS3 records a sequence and can later play it back.

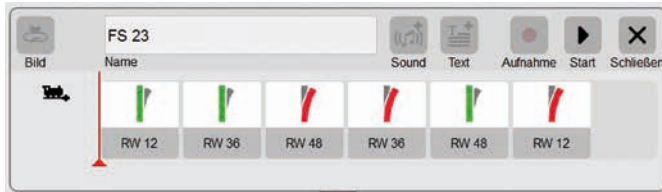
**Important: When programming via the record function, only switch the desired route.**

Manual recording: Place locomotive, press record button, drive. A red dot indicates recording is active. At the end of the drive shut the locomotive down and end recording (tapping button again). After recording one can edit every recorded element individually (image right).



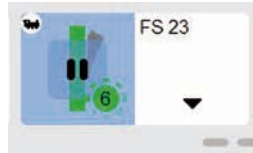
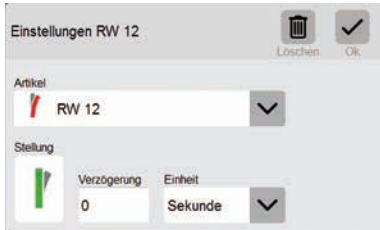


## Creating Turnout Routes

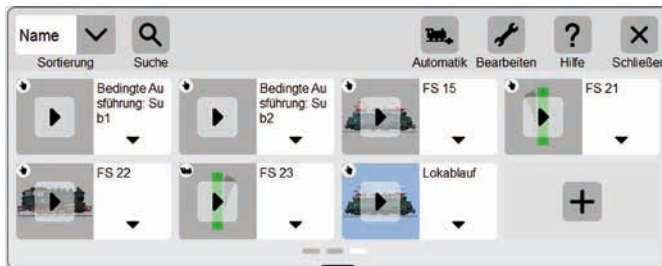


With the CS3 it is as easy as never before to create turnout routes: drag the individual turnouts from the accessory list onto the time-line and the turnout route is set.

Via the "Edit" menu one can adjust any of the individual turnouts (image far left). Via the "Start" button one can validate the route - in the route's area a green dot appears. It also indicates the current state of the sequence control.

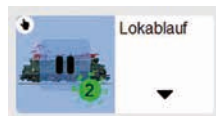
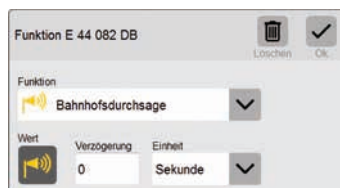
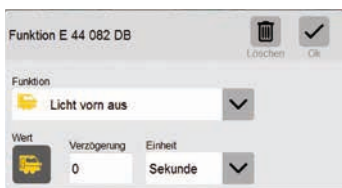


## Programming Locomotive Sequences



Locomotive sequences are also easily programmed with the CS3: Select a locomotive and the pull the various functions like "Operational sound ON", "Announcement ON" or "Light ON" from the functional elements.

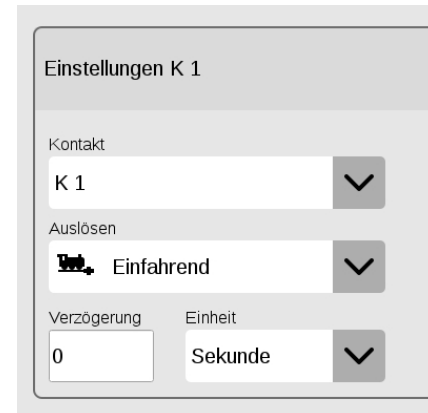
By tapping on the icons one can adjust each individual function (image below). Via the "Start" button the entire sequence can be played back / controlled.



## Sequence Control via Feedback Contacts



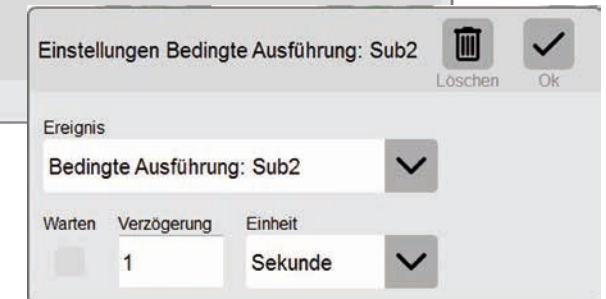
If contacts are intended to trigger routes or automatic sequences, on proceeds simple as follows: drag the contact left into the field at the left edge of the route, e.g. K 1 (image above). Then tap on this contact symbol and define the conditions - e.g. "Entry" (image right). The entire sequence is then executed when the contact K1 reports occupancy. Within the sequence itself one can add additional feedback contacts (e.g. S88-2, image above), by dragging them onto the time-line.



## Conditional Sequence Execution



The CS3 also masters the interconnection of entire routes and sequences without issue. Via "Edit", create a new event and drag the appropriate sequence icons into the time-line. Each individual event can be further configured via the "Edit" menu.



# System Settings

## System Configuration · System Information



# Viewing and Editing System Settings

## Accessing the System Menus

The system settings entry screen is accessed (image right) by tapping on the "System" button (see also page 6) in the upper left of the button bar of the accessory list.

From the entry screen one opens by selection the various settings or details screens.

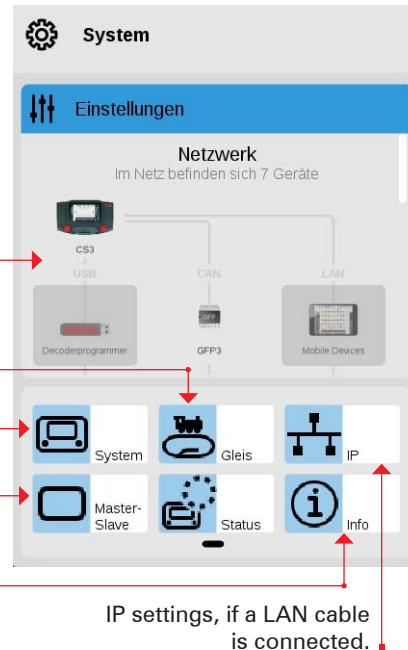
Overview of connected equipment.

Options on behavior of locomotives and accessories.

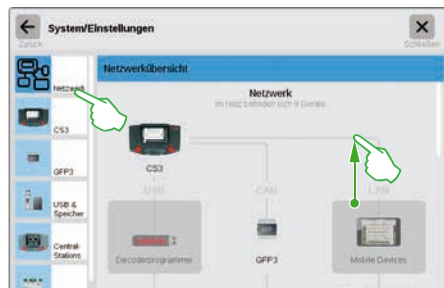
Settings of Central Station 3.

Master-Slave options.

About the hardware and software versions.



## Network: Overview of all Active Components



The network overview provides information about all connected active components. Their settings are accessed direct by finger tap in the overview, or via the menu bar at the left edge. By swiping up one access the lower section of the page (image right).

Inactive components are greyed out.



## Access to Basic Functions of the Central Station 3

Tap on the CS3 symbol in the network overview or the left menu to access the CS3 system settings. The lower page areas are accessed by swiping up from the display center.

The safe and recommended way to shut down the CS3.

Creates a backup of your current CS3 data. Tip: Use this function regularly to save settings states, best to a USB stick.

Restore the CS3 to a prior state by way of a previously saved state file (also see page 6).

Restart the CS3.

Restart the internal applications such as the user interface.

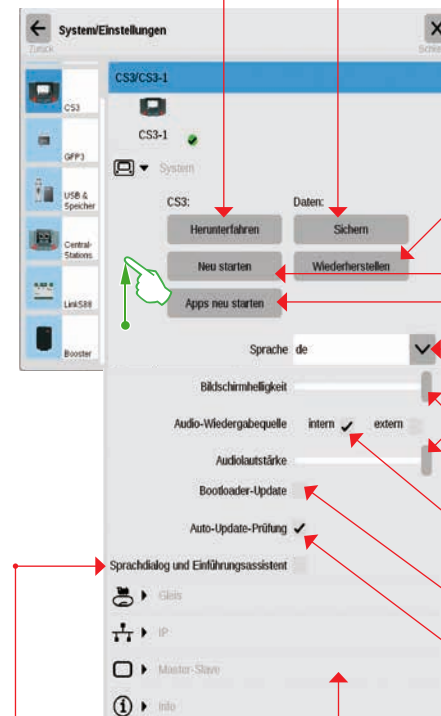
Change user interface language.

Adjust screen brightness and speaker volume via slider.

Select between internal and external loudspeaker.

Only relevant in the event of an incomplete CS3 update.

If checked the CS3 regularly checks if a firmware update is available.



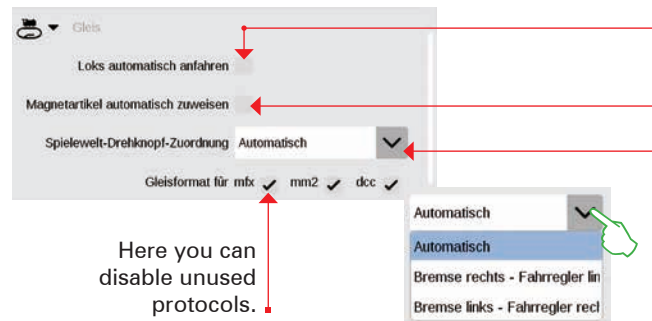
Activates language selection - dialog and setup assistant during CS3 startup (also see page 3).

The additional sections "Track", "IP", "Master-Slave" and "Info" are described on the next page. You open them by tapping on them.

Touch the "Back" button in the upper left to return to the entry screen of the system settings at any time. The additional options displayed in the left-side menu are also reached with a simple tap.



## Accessing Track Settings



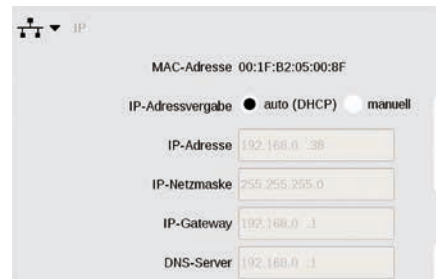
Here you can disable unused protocols.

After restart, automatically set all locomotives to their last known state.

Auto assign new *mfx*-accessories an available address.

In the pull-down menu, set the assignment of the control knobs for game-world mode.

## View IP Settings



This option is available, for when you connect your Central Station 3 via LAN cable to your router. You have the option of the CS3 obtaining a network IP address automatically via DHCP, or entering a fixed IP address manually.

## Master-Slave Settings



Once more than one CS3 or CS3 plus are connected, this section becomes meaningful: Here you set which CS3 is the main device (master) and if this device is a secondary device.

## Info Section



In the info section you see the hardware and software version of your CS3 as well as other legal notices.

## GFP3 - Data

You obtain current measurement data from the layout and the CS3 via the GFP3 (Track Format Processor 3). With a swipe up one accesses the lower page section, including the settings (image below).

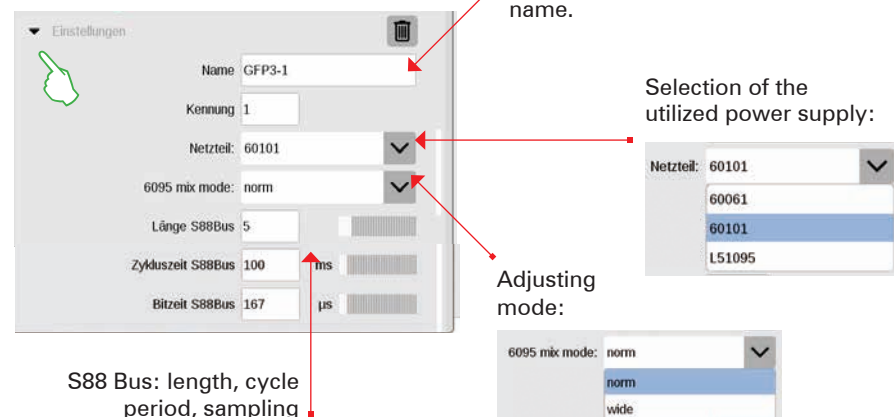


Present electrical current on the main and programming tracks.

Setting the period after which new readings are taken.

Present output voltage and temperature of the CS3.

## GFP3 - Settings



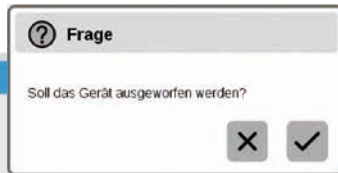
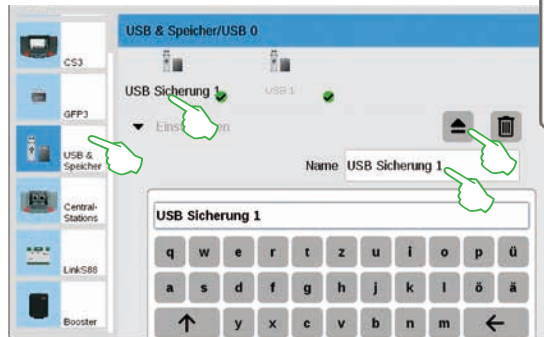
Changing name.

Selection of the utilized power supply:

Adjusting mode:

S88 Bus: length, cycle period, sampling period setting.

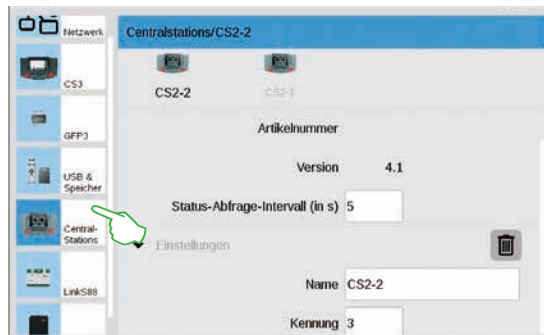
## Managing Storage and USB Connection



You see the connected USB devices in this section. Switch between devices via taps in the first row. Tap on the name field to give it a meaningful name. Touch the eject icon to remove the USB device (small image).

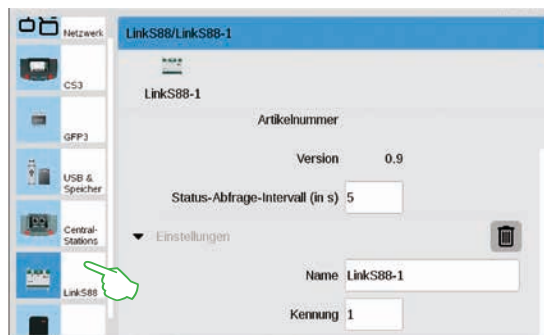
**Tip:** To avoid data loss on your USB stick, always use the eject option before removing the USB stick from the CS3.

## Central Stations: Including other CS Controllers.



You can assign individual designations in the Central Stations Settings. Additionally you can adjust the frequency with which the device status is polled. Default setting: every five seconds. The ID is automatically assigned. If replacing a defective device with a new one, enter the value of the previous device.

## Link S88



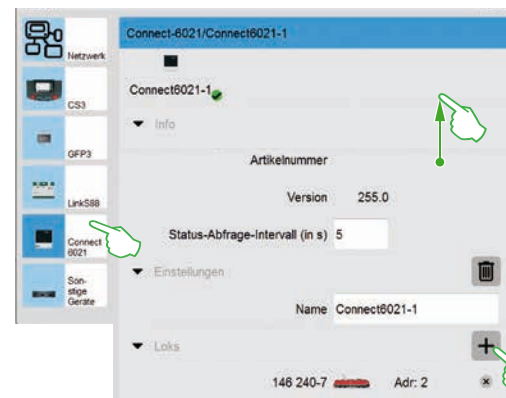
In the settings for the Link S88 establish the sampling interval, how often the feedback module's status is polled. Default: every five seconds. Here to the designation can be changed. The ID is automatically assigned by the CS3. If a new Link S88 is replacing a defective one, enter the old device's ID.

## Configuring Booster Connections

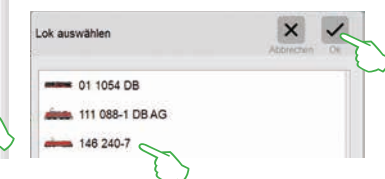


In the booster settings one can change the time between two status queries. Default: every five seconds. Additionally you can configure the designation of the boosters as well as the utilized transformers and the desired "mix mode". To see the lower page areas, swipe up on the screen.

## Integrating a Controller Connect 6021



If needed, configure the status polling interval and name in the info and settings section. In the "Locos" section tap on the plus sign to add locomotives. Pick in the displayed selection window (small image). Added locomotives subsequently appear at the bottom (image left).



## Deleting Unneeded Component Settings



The CS3 retains the settings of every component that has been connected to it. The advantage: you can disconnect any devices from the CS3 without losing their settings. If necessary, you can delete these settings with the trash can icon. This icon is found in the system settings under the "Settings" section of every component. With a tap on the icon you delete the component settings; the component is no longer shown under system settings.

## Update via USB Stick

If you do not have Internet access to update the CS3 to the newest software version, you can do so by way of a USB stick.



First download the image data file from the Märklin website (maerklin.de) and save it in the root directory of a USB stick. Please wait around 10-15 seconds after you have connected the USB stick to the CS3. The CS3 detects the new software version on the USB stick automatically and indicates this via a small red dot on the "System" icon.

The remaining steps are the same as when updating via network. Please follow the descriptions on page 6.



## Consistently Creating Backups

Of course the CS3 stores entries and settings internally within a few seconds. Your data is thus safe against a power outage or hard reset. Regular backups, even onto USB sticks, is still recommended. This way it is simple to undo substantial changes to the system by restoring to an earlier system state.

## SD Card: Expanding the Internal Storage



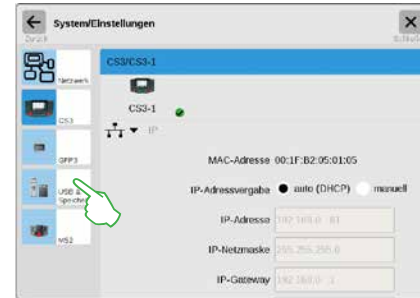
By way of an SD Card (SDHC) you can expand the internal storage (4 GB) by up to 32 GB. It is sufficient to insert the card into the card slot. You need not make any settings.

**Tip:** Märklin recommends you do not use SD cards as removable storage, but exclusively for the described purpose of storage expansion. Utilize USB sticks for removable storage, such as to copy locomotive images into the CS3.

## Importing Locomotive Images via Web Browser

The CS3 is delivered with a large variety of locomotive images which should satisfy the needs of model railroaders in almost all cases. Beyond that you can import your own locomotive images into the image database of the CS3 (see page 11). The simplest way is through the web interface of the CS3, which is called up via any web browser.

**Important:** The CS3 must be connected to the computer via a network router.



To start the web interface, you first need the IP address of your CS3. To get it, call up the CS3 System Settings (see page 32) and open the section "IP". In the default configuration, the CS3 is assigned an IP address automatically by the router. It is shown in the "IP Address" field (image left).



Now enter this IP address, in our example "192.168.0.61", into the web address field of your web browser and press enter: the Märklin CS3 web interface is displayed on the screen and informs you about what all can be done via the web interface (image left).



Move the mouse pointer over the button bar "Locomotive Images" and click on the displayed option "Upload". Your locomotive images can now be comfortably dragged into the designated field (image left). Alternatively, click on the field to choose the image file. Important: the image file can be at most 5 MB in size. Image format and image dimensions do not matter.



Once you have dropped in or selected your image file, the image will open in an image editor which has several image editing capabilities. You can move your image, change its size, rotate and mirror it. On the far right is the option "Preview" where you can verify the adjusted image. Finally click on "Upload". The locomotive image is now stored in the image database with its file name.

A small green dialog will inform you about the success of the image upload.



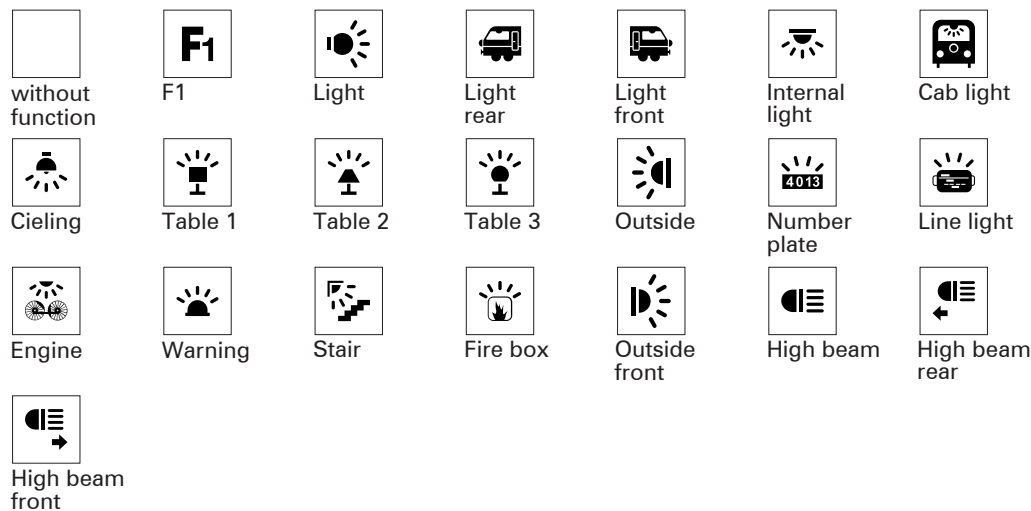


# Symbols

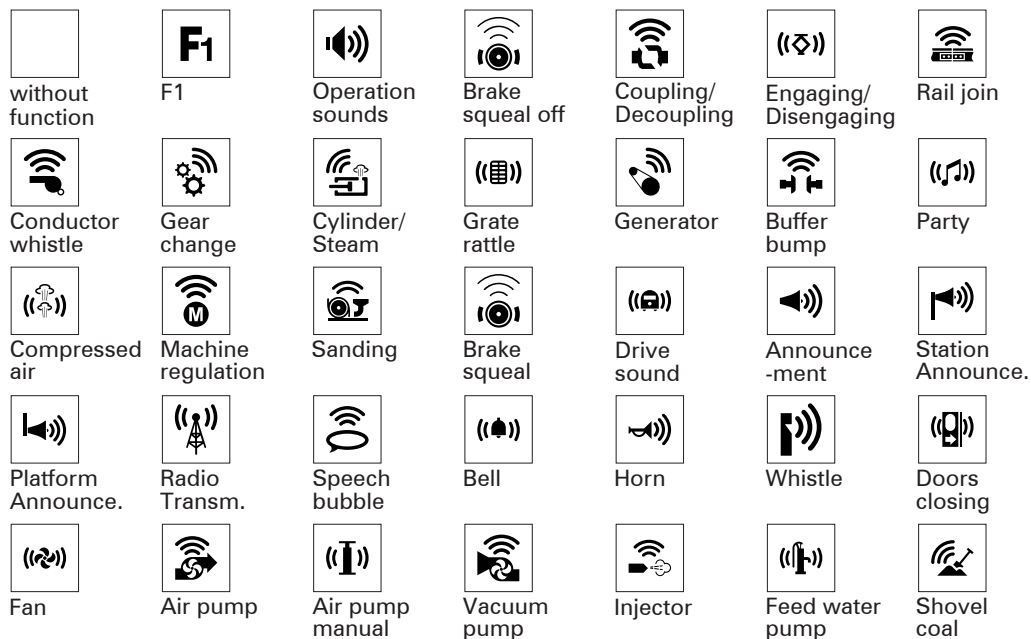
## Available Function Pictograms

This page shows you all of the pictograms available on the CS3 in one view. They are the same function symbols used when setting up the functions of a locomotive (see page 13) - divide into sections light, sound, mechanical. This overview is intended to simplify your selection process.

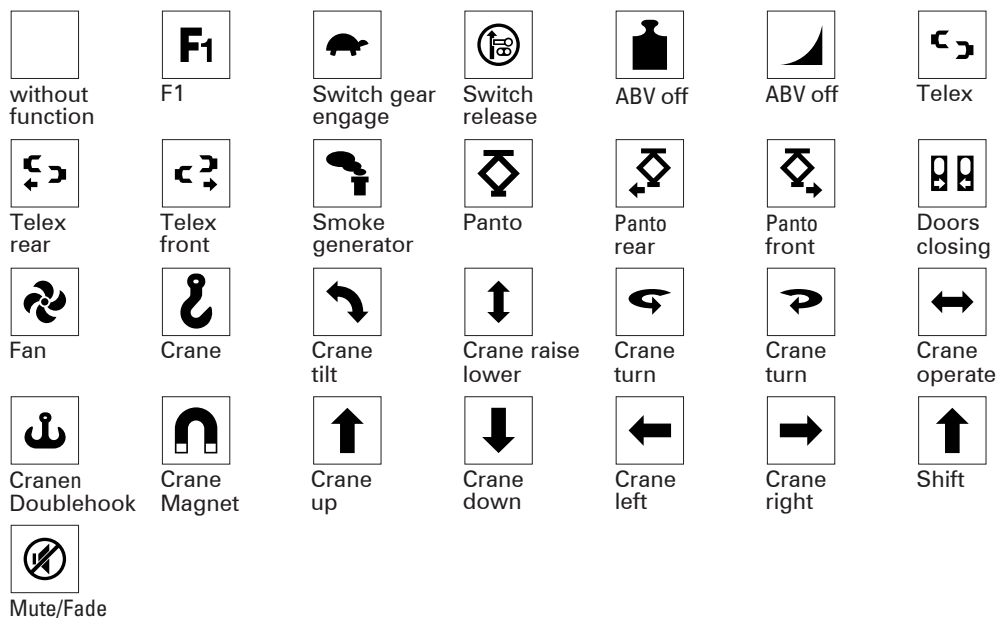
### Light



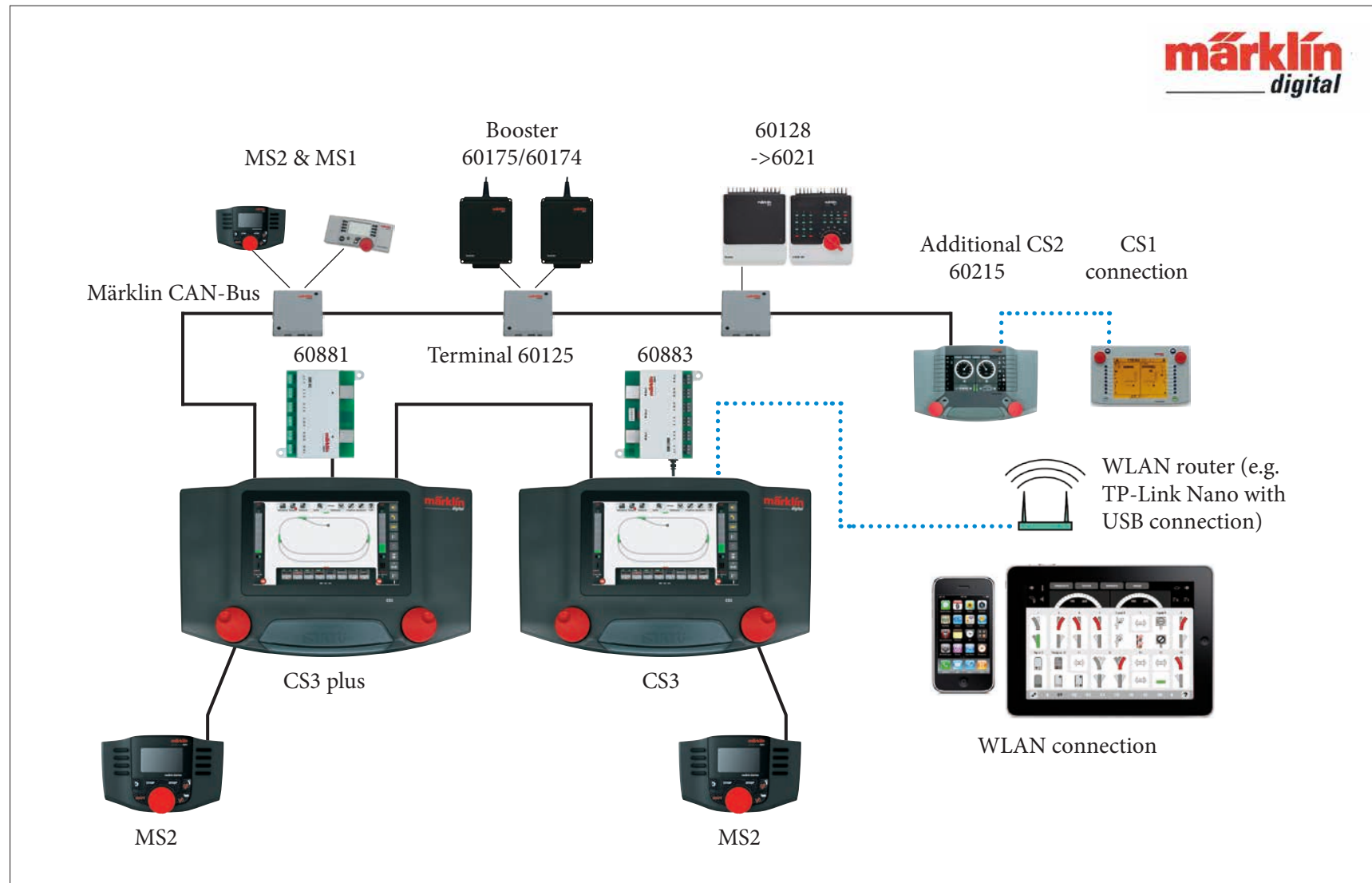
### Sound



### Mechanical



# System Architecture: CS3 and CS3 plus



# System Architecture: CS3

