märklin DIGITAL CLUB

NEWSLETTER

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Current Central Station 3 Version – 1.4.1 (0)
Current Central Station 2 Version – 4.2.9 (0)
Current Mobile Station 2 Version – 3.55


Robots "Rick and Curtis"

A couple of weeks ago, Märklin held its bi-annual Märklin Days during the IMA and it was a great event. There were many things to do including cab rides, excursions, trainspotting, and visiting the Märklin Shop. In the surrounding area, there were also plenty of museums, shopping at local train shops and restaurants to visit.

At Märklin, there was a guided factory tour where we learned the names of two robots are "Rick and Curtis" (see pic)! They were hard at work buffing fresh castings of a diesel locomotive. I feel IMA was a great success and we all had a great time riding, buying and seeing items being built at the factory.

The first article explores the settings of the M84 with a Central Station 2 (CS2) and the second covers CV settings in the Central Station 3 (CS3/CS3plus).

Märklin m84 Decoder Settings with Central Station 2

In the last newsletter, the m84 settings were covered for CS3 users. This issue will cover the m84 for CS2 users.

First, I highly recommend a "Restore Point" (saved profile) be created before entering any m84. This way if a mistake is made, it is easy to go back to the beginning.

It is important to note that there are a few differences in the look of the screen for the m84 than in the CS3.

The CS2 has a “default” window for editing mfx devices. This window has options that the m84 is not capable of performing. This means, there are options that will not work if selected, although I have stumbled across a couple that do work, but they only work like the default setting. This is not a flaw in the CS2, but more of the limit of the m84. I think it is important to note that the m84 can do the exact same things with a CS2 as it can with a CS3/CS3plus.

m84 Modes

According to the manual, the m84 has five modes that it can be set to. It might be a little confusing in a CS2, as the modes are not numbered or named exactly like the instruction manual and it is in German text. I will try to clarify the mode description for each.

Mode 0 – Standard mode

(Named “Default” in the CS2)

This is the default mode as it comes from the factory. Power will be channeled through either the red side or the green side. When the power is channeled to the “red” side, the green terminal is turned off and vice versa.

Mode 1 – 8 switches, 4 addresses

(Named “8 Eltako, 4 Adressen” in the CS2)

This mode is similar to mode “0,” but the buttons are momentary to turn red and green side on or off. The buttons can be made constant. This mode will allow for simultaneous use of the red and green of a single channel. This will effectively double the number of items you can power with the m84 at once.

Mode 2 – 8 switches, 8 addresses

(Named “8 Schalter, 8 Adressen” in the CS2)

This is similar to Mode 1, but a “Phantom” k84 will need to be set up to access the channel three and four. In this mode, the M84 can be set with 16 buttons for independent on / off buttons for each channel.

Mode 3 – Blinking and random, 8 addresses

(Named “Blinken und Zufall, 8 Adressen” in CS2)

With this mode, the m84 can be set to blink the output, for instance warning lights or flashing building signage / billboards.

Mode 4 – Random building lighting, 8 addresses
(Named “Beleuchtung, 8 Adressen” in CS2)
This mode can be used for random on and off of building lighting. This has 8 outputs for lighting. This means if you have a building with multiple rooms, the lights can go on and off in each room randomly.

Additional Modes

In the CS2 there are two additional modes – “Energiesparbel” (Energy Save) and “Mode 6.” I am not sure what the difference is, but they seem to work like “Mode 0” (default). These could possibly be there for a future update.

Please note: The configuration of the “Keyboard” tab may have some undesirable consequences depending on which mode is selected. Basically, if 8 addresses are selected, the m84 will “TAKE” the next four addresses on the keyboard. This has the possibility of putting the buttons on the next row of the keyboard or the next page. This may not be desirable. I would suggest setting the m84 to the 1st or 3rd position of a keyboard page to avoid this.

Setting the Desired Mode

To change the mode using a CS2 select the wrench icon from the “Keyboard” tab, next select an output of the m84 to get into the “Configuration” screen (Fig. 1).

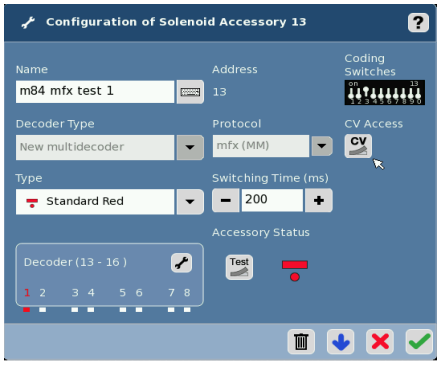

Fig. 1 Configuration screen

Now select the “CV” box. The CS2 will read the CVs and display them. To change the mode, touch the word “Configuration.” The words should read “Elemental Decoder Settings” and “Configuration” (which is slightly cut off due to spacing problems). Next, scroll down until the CV 79 “Mode Preset” can be seen. This is where you can change the mode as specified (Fig. 2).

Outputs

Before the next step where the outputs are changed, I would suggest getting out of the “Configuration” screen if the “Mode” has been changed. This way the changes are saved in the CS2. Just click on the green check mark until the normal keyboard is displayed to save changes.
If the Outputs are to be changed, get back into the “Edit” page of the M84 with the wrench on the Keyboard page. Then select the m84 to get into the “Configuration” screen.

Fig. 2 Mode settings

Here once again, select the “CV” box. On the bottom of the page, there will be a box with an “o” in it. This is where you get into the “Output” screen. Select this box with the “o” and the CS2 will read the output settings and display them.

Fig. 3 Output settings

Once again, this is a “Default” page that the CS2 displays for an mfx device (Fig. 3), so there are spacing problems with the wording at the top of the columns and the “Dimming Level” (Dimmer) option does not work to dim lights. The column next to the “Dimmer Level” is the “Period” column. This is where a “time period” is set.

Just as in the CS3, the “Durat.” (with spacing problems) stands for “Duration.” Meaning, the button is momentary instead of constant if this box isn’t checked.

In Fig. 4 touching the desired row in the “Mode” column (partially covered by the “Duration” column title) can change the output.

Fig. 4 Output dropdown menu

Please note that due to programming, the stylus must be dragged into the drop-down menu or it will just disappear.

Remember that not all the Output selections will work so some experiments can be done but I think the result will be that a questionable mode will perform like a “default” setting.

Once the desired Mode and Output is selected the icon for the item can be changed to reflect the item being controlled (Fig. 5).

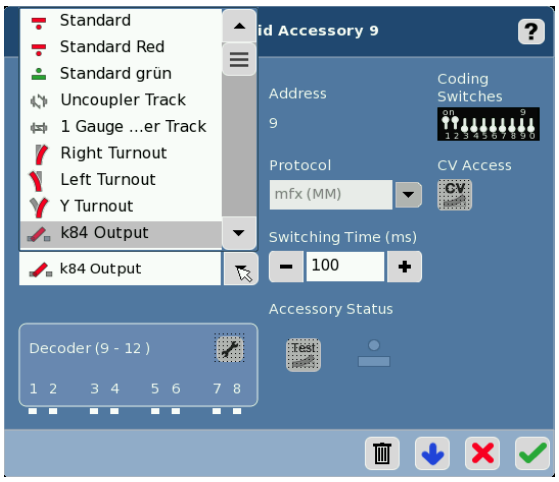

Fig. 5 Changing the Output icon

I hope you will explore the setting of this versatile component and see how it helps bring a layout to life.

Enjoy your hobbies!
Rick Sinclair

Exploring the Central Station 3/3 plus:
Locomotive Editor/Configuration Tab

In my last article, I covered two of the three edit panes in the Central Station 3's locomotive panels. In this article, I'll be covering only a small portion of what encompasses the CV or Control Values. For those newer to digital control, CVs are what make a decoder function. Part of what makes this article seem incomplete to me is due to the varieties of decoders out there in the world. Even with Märklin, the variance between FX and mfx style decoders makes a single short article seem lacking. So, I will only attempt to cover the basics.

An mfx decoder can read in its CV values from the locomotive. This is very convenient when Non-mfx decoders may require pre-loading of a device specific list or manual entry for non-displayed CV parameters. The device specific list includes decoders that are used in various devices, such as signals, DCC decoders, non-MFX Märklin decoders, and M83 and M84 devices.

When you enter the Configuration tab while in the Edit Loc mode, the CS3 will begin to read in the decoder settings from an mfx decoder. Once read in, the Configuration panel will look as it does in Fig. 1. Each of the displayed lines (category) has a right pointing triangle next to the name. These are display toggles, clicking on them will rotate the triangle to point down and reveal the submenu for each category of parameters.

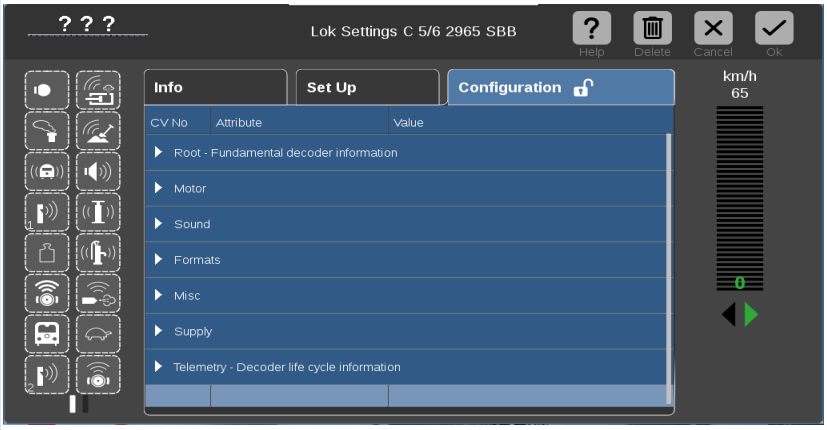

Fig. 1: The loaded mfx Configuration list

I won't go into detail of each menu item for each category, but I will try to address some CVs that may hold interest to you. You might want to look through them just to see what is involved in setting up decoder parameters. Please note, some are in German techspeak.

Root (fundamental decoder information):

This has general information regarding the specific loco you are viewing. It includes Box product number, Name of the loc, firmware dates and version. Just to name a few of the parameters. Generally, you should have no need to change any of these values (if you do change any values, be sure to maintain a note in case you need to reset the value).

Motor:
The values here can cause adverse effects to how the motor runs, if you're not sure of what you're doing. Running a motor is a balancing act that involves electrical forces, pulses, back pressures and inertia settings. So, use caution when changing a motor's values.

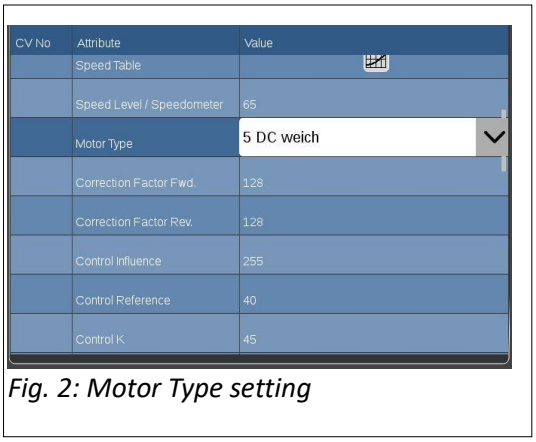

Fig. 2: Motor Type setting

There are some values in this section that are more easily edited in the 'Set Up' tab. This includes max and min speed settings, as well as braking delay settings.

Some settings you could look at (because curiosity does affect a Train Nerd) are:
Speed table – the ability to tweak or alter the acceleration curve of a loc. Electric, Diesel and Steam locs accelerate differently.

Motor Type – For those who may attempt digital upgrades, this setting can come into play. There are many different motor types. Some of which I am unfamiliar with (see Fig. 2).

Control influence, Control reference, Controls: K, I, and D - These values can affect the direct running characteristics of a motor. As warned earlier, messing with these can result in running faults that you may not understand. It's often a combined adjustment that is needed before you see a result. In other words, you may not see any changes when you change a single parameter. However, these settings have the potential of making your locs run very smoothly.

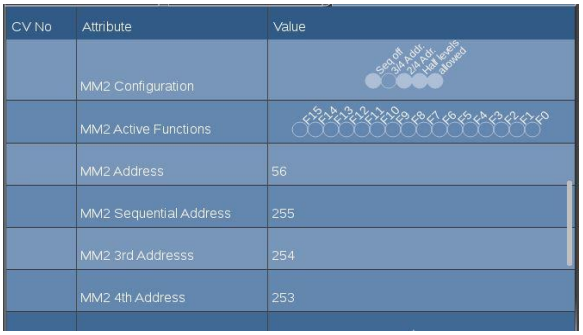

Fig. 3: MM (Marklin Motorola) address parameters

Sound: Interesting settings here are being able to adjust the brake squeal threshold and intervals between randomized running sounds.

Formats: The settings here are some voltage settings for AC and DC control. There are 2nd tier address settings for both MM (Märklin Motorola) and DCC control. In Fig. 3, I show some of the MM address settings. This includes an address that can be used for any controllers that need an older format MM address. Higher functions may possibly be accessed using the Sequence address, 3rd and 4th addresses. In Fig. 4, the DCC address parameters can be set and accessed using the DCC format controllers.

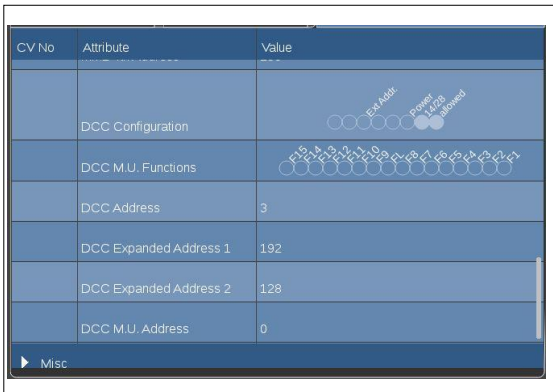

Fig. 4: DCC Address parameters

Misc.: This can be proprietary values and probably not much value for the end user.

Supply: These values are for those running in the 'World of Operations' mode. The settings here are for running resources like coal supply, water capacity and depletion rates, just to name a few.

Telemetry: The values here could be glanced at for sheer entertainment. They include information regarding the decoder's use. Trip time, operating time, distance and errors. I don't see how the values are segmented (seconds, milliseconds, miles, kilometers, etc.), so the information is relative.

Non-mfx Decoder Locomotives

The CV listing in the Configuration tab for non-mfx decoders will initially display a basic set of CV values. It is important to realize that the list may not be fully appropriate to the decoder you are editing. This is due to some controls that are proprietary or application specific variables, like: manufacturer, version of decoder, applied special functions, etc. There are different CV indexes between DCC and MM for example. When editing for some of these differences, there are CV profile masters that can be added to address standardized CV indexes for certain devices. You will need to access these specific masters by clicking the 'Load' button. When CV profiles are loaded, some expanded parameters that are not in the basic listing will be shown.

Non-listed CVs

For proprietary CV values or non-listed CVs, you can make custom edits. You will need to reference the owner's manual for the device you are editing for these CVs and their value ranges. Editing non-listed CVs only applies to non-mfx decoders, as the mfx decoders will load in all parameters.

CV Changes

The act of changing Control Values is relatively easy, but it does take preparation for some values in knowing or understanding what the values should be.

mfx CV Edits

Changing CVs on an mfx decoder is quite simple. Click on the value column for the CV you wish to change so it highlights to a white editable field. Change the value either by clicking on the '+' or '-' button or click on the number and enter a new value with the numerical keyboard pop-up window. There are some other values that may display a list, simply select that item in the list.

Once you have changed the values, there are two things you can do. Click elsewhere on the screen so the white field reverts to blue (with white text). Or, you can click on the green check mark, which will close the edit window. It is not clear which action may or may not save the changes to the decoder, so my recommendation is to first click on screen to revert the edit field to blue, then click on the green check mark to close the window (presumably to save the data to the decoder).

Non-mfx CV Edits

The configuration settings for a non-mfx decoder does have a different methodology when making changes. When opening the Configuration tab, you'll be presented with an initial set of unformatted CVs. You can load in a general device list of CVs by clicking on the 'Load' icon. It will display a list of CV masters in a new window (Fig. 5). Selecting the 'mm2_defaults.cs2' file will load the identical set of unassigned listings. Note: There are CV

Fig. 5: CV masters selection list

Masters for DCC type configurations, as well as MM configurations. Fig. 6 shows the CV listing for ‘mm2_mLD.cs2’.

Fig. 6: mm2_defaults.cs2

The ‘CV no’ column on the left references the CV registration numbers. These are the identification numbers for the CV values that can be edited. The values are labeled under the column ‘Actual/Target’ (A/T). The A/T field displays two numbers, the existing value and any edited value change. Without making any changes, the numbers would be identical. Trying to reference any CVs by name may require some translating, as they are labeled in German.

Making changes to these values actuated by clicking on the A/T value, then entering the new value. You will notice the ‘Bit Display’ changing as it will match, in bit code, the value that you enter. You will also see that there is an ‘OK’ displayed (in the column next to the trash can). Clicking on the ‘OK’ will accept the value (see Fig. 7). The A/T column will now show two differing numbers, the actual value of the decoder CV and the target value of the CV.

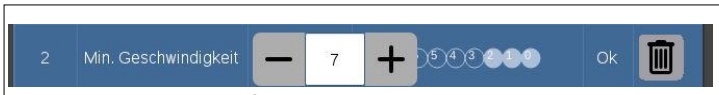

Fig. 7: CV edit row after a change has been entered

At this point, there have been no actual changes to any device. The changes made to this screen can be delivered or written to 2 different locations. By clicking on the ‘Save’ icon (see Fig. 8), you would be creating a new CV master file, which may be handy for future use. For example, saving a CV master file allows you to make changes to the ‘Name’ column in an easier to read language of choice. So, instead of loading the ‘mm2_mLD.cs2’ file, you could load in the ‘NerdsEnglish_mm2_mLD.cs2’ file. Using the ‘Save’ button on the configuration tab will NOT write any changes to your decoder, it simply will save it as a new CV master file.

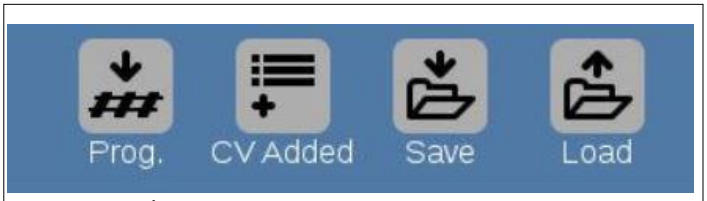

Fig. 8: CV editing save options

To save your configuration changes to a decoder, you will need to use the ‘Prog’ button. This writes the data to the decoder, and then your changes should have an effect. If you click on the main ‘OK’ button from the edit locomotive screen, none of the CV changes made will have any effect. They must be written and sent to the decoder, which again, means you will need to click on the ‘Prog’ button.

When you need to change a CV number that isn’t listed, I’ve found you can click on a CV number and change it to the desired CV register. Then, you can edit the value if the CV that’s listed in the A/T field. It’s important to remember, changes to the screen values does not alter any of the decoder values unless you click on the ‘Prog’ button.

As for the ‘CV Added’ button, when I clicked on it, I did not notice a change in the screen data. Considering the previously mentioned method for editing not listed CV’s, I hadn’t really explored what this button is supposed to accomplish.

Another thing to remember is, when dealing with non-mfx decoders, the ‘Prog’ button works only with the ‘Prog’ track output (or programming track) connection on the back of the CS3. mfx decoders don’t require placement on the programming track, as the mfx protocol enables direct access via the main track.

This covers the basic interface of the Configuration tab. It is the final section of the ‘Edit’ locomotive pages. Digging into the CVs is geared more towards advanced users. However, there are some simple values that can only be accessed through the CV edit window. Understanding the differences in how the CV configuration values can be changed may assist you in making changes to any decoder that you try to adjust.

Until next time!
Curtis Jeung

Upcoming appearances:

Trainfest
Wisconsin State Fair Park Expo Center
8200 W Greenfield Ave
West Allis (Milwaukee), Wisconsin
November 9-10, 2019

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