



NEWSLETTER

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Current Central Station 3 Version – 2.3.1 (8)
Current Central Station 2 Version – 4.2.13 (14)
Current Mobile Station 2 Version – 3.121

We have finally been getting back to attending train shows and in-store events. While we don't have much time until the end of the year, we do have a few events to attend. And, as of now, it is looking like a full schedule of shows for next year. Here's hoping!

Our first article is about installing Märklin Turntable 74861 into a CS2 while our second article is "A Comparison of Central Stations 2 and 3/3+"

Since our latest webinar, we have been working with the new turntable and have found that it has some nice features. For this article I will focus on CS2 users as many are still using a Central Station 2. It is a solid unit that is more than capable of running a modern layout. The new turntable is a great addition and the CS2 has the capability to run it efficiently.

I have found that the new turntable was well designed, and I found very few drawbacks in the operation while installing it into the CS2. It automatically installed as with any other MFX track accessory and from there a person can start operating it. I will start from the beginning with CS2 installation instructions and tips.

Turntable 74861 Set-up in CS2

Before ANY installation, we strongly recommend doing a backup of the CS. This will give a restore point in case a mistake is made. Next is to figure out what page of the keyboard is desired for the turntable functions. This can be a little tricky because the CS2 will want to assign the turntable to the lowest 16 addresses in a row that it can. This is because it's a computer and it doesn't know that these 16 addresses might be on different pages (Fig. 1). Since

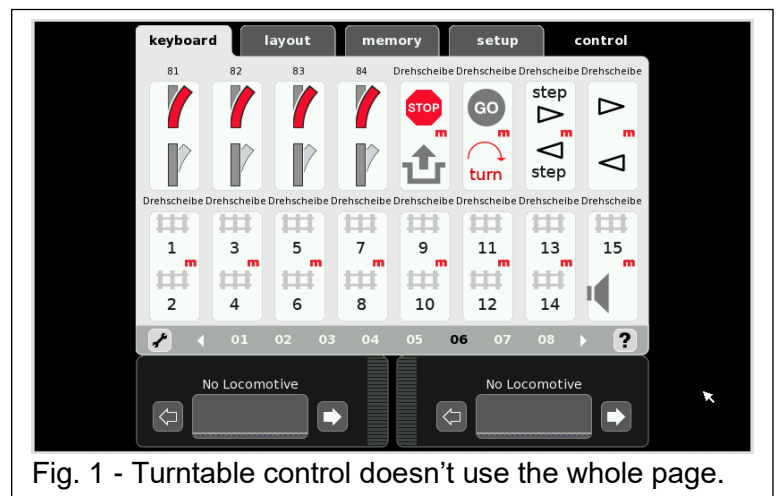


Fig. 1 - Turntable control doesn't use the whole page.

the CS2 comes with keyboard addresses assigned to accessories from the factory, it is impossible to know what the CS2 is looking at for empty positions. My workaround for this was to select a keyboard page, then enter a multi decoder. Once I did this, I deleted it. This way I knew it was a clean page. Just as a note, I chose a “multidecoder” because I would only have to install and delete 4 items on a page rather than 16 items. If the CS2 puts the turntable on different keyboard pages, a work around is to put a fictitious item at the end of the previous page so there aren't 16 addresses in a row (Fig. 2).

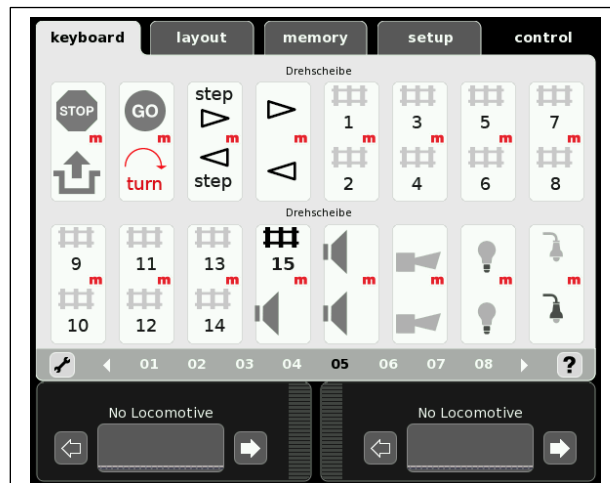


Fig. 2 - Turntable uses the whole page.

For demo purposes I have mounted the turntable using the finest cardboard I could find and followed Curtis' article on how to install it in the board. Once that was done all that I needed was track power to install the turntable.

Now I can have the CS2 discover a new MFX item. On the keyboard screen, select the wrench icon then touch the MFX box in the lower right of the screen. The CS2 will discover the new item and if all is well, it will be placed into the keyboard on the desired page (Fig. 3).

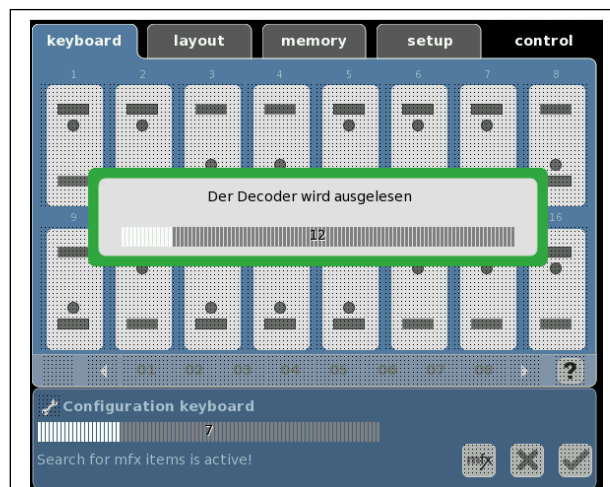


Fig. 3 - CS2 searching for new MFX accessory.

Once the turntable is placed in the keyboard, it can be operated. For some this might be good enough and it's very easy to operate from the keyboard page.

Entering the Turntable into the Layout Page

I suspect that most people would like to operate the turntable from the layout page. This is where it gets fun.

To set up the turntable in the CS2 layout page, a new diagram should be created because the turntable will most likely be too big for an existing diagram. Create a new diagram page in edit mode and select “New” (Fig. 4).

A drop-down menu will be displayed and “No Load” should be selected. This way the CS2 will create an empty page

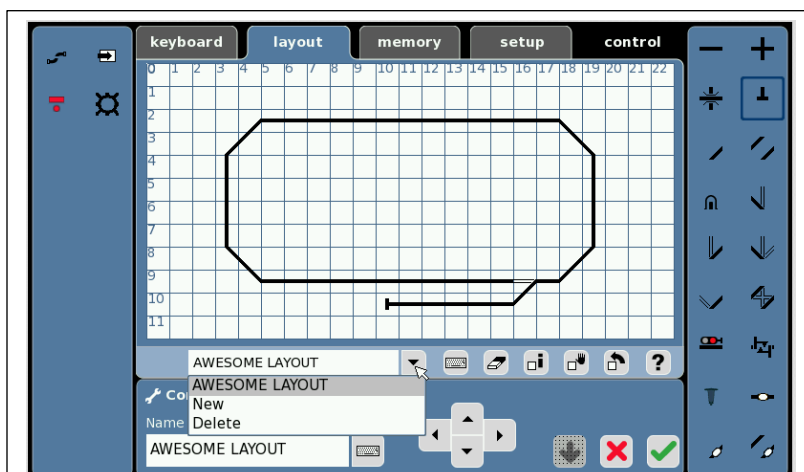


Fig. 4 - Create a new layout page.

(Fig. 5). Name the page something creative, to easily find it. I chose the creative name “TT” then saved the changes with the green check mark until I was out of edit mode.

Now that there is a blank layout page, get back into edit mode. In the upper left is an icon that looks like a star. This is the turntable icon. The icon can be placed anywhere on the screen, but I would suggest somewhere in the middle. Once the turntable is placed, it cannot be moved, and can only be deleted. If this happens it will need to be created again. I placed mine in column 11 row 6.

A pop-up window will appear (Fig. 6). Go to “Item” in the drop-down menu and select “Drehscheibe” (German for “Turntable”). This drop-down menu is basically asking which turntable is being assigned to this layout page.

IMPORTANT: At this point select the number of tracks to be 24 (not shown). Apparently, the software isn’t capable of a 30 spoke turntable (this does not matter as you will see later,) then select the green arrow. This will assign the turntable in the diagram to the MFX turntable in the keyboard with 24 spur tracks.

Editing the Turntable Layout Page

Once the turntable has been created in the layout page, it will look like Fig 7. The star will be in the middle with function icons and track spurs around it.

One thing to note is the icons for the track spurs number from 1-15. There is no need for 16-30 since the other end of the turntable bridge will be pointing at one of the spurs 16-30. So, these numbers would be redundant if there were icons for them.

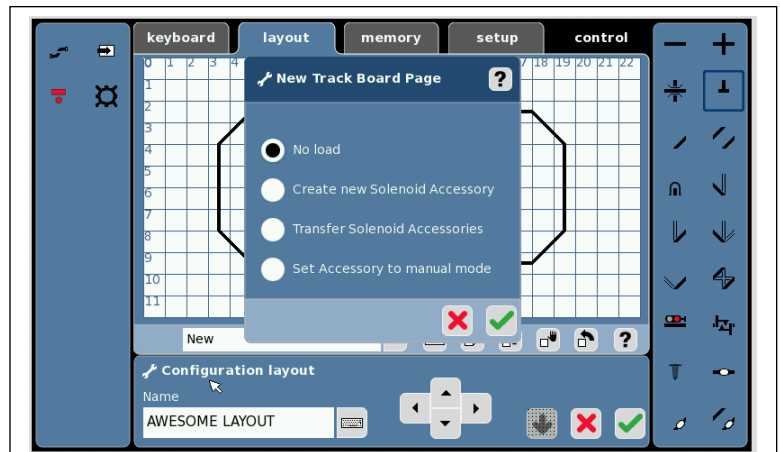


Fig. 5 - Select “No Load” from menu.

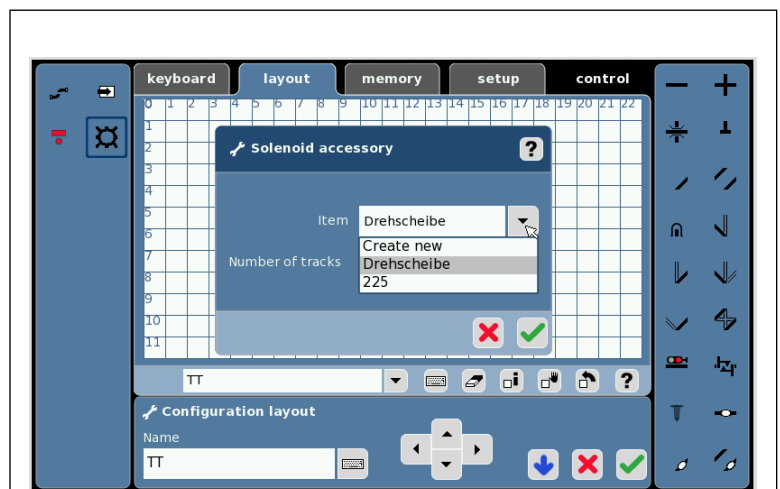


Fig. 6 - Select “Drehscheibe” and then “24” to assign

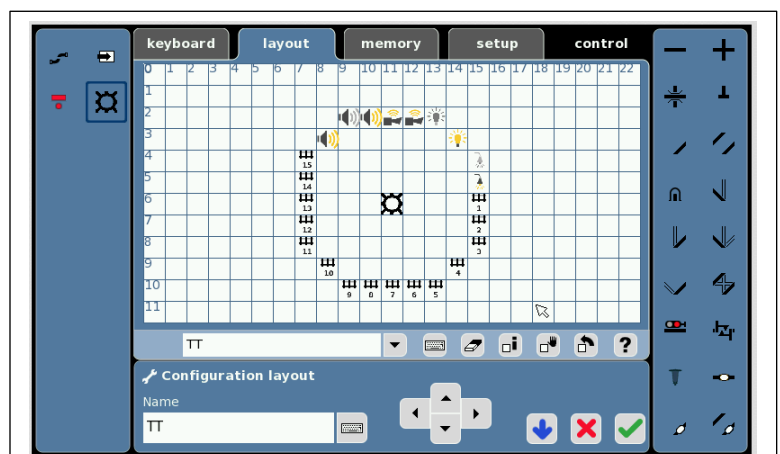


Fig. 7 - Turntable icon placed.

Another note is if the turntable is set up as a MM (Märklin Motorola), meaning non MFX, in the keyboard, the functions 16 - 24 are used for the sound and light activation. This also gives the turntable usability with other controllers.

Now that the turntable is placed, it most likely will need to be edited. There will be spur numbers that will not be used. All the icons for the functions and spurs can be moved but, as I mentioned earlier, the center cannot. The CS2 will delete it if you try, and the turntable will need to be entered in the layout page again.

IMPORTANT: DO NOT DELETE ANY spur or function icons until you are done editing their position. Once they are deleted, they cannot be put back. The turntable will need to be entered into the layout page again to get them back.

What I suggest is to move them to one side until a layout representation is achieved. In figure 8 the spur icons that are not going to be used have been moved to the side, and the function icons have been placed in an area that is easy to activate them.

Some of the function icons in the keyboard page do not display on the layout page. The CS2 will allow the unused spur icons to be re-assigned to functions. Now that I have used all the spur icons that go to an actual track, I can re-assign the other spur icons.

In “edit” mode once again, make sure the “info” icon is selected then touch one of the unused spur icons. This will take you to an edit page for that icon. Here the function can be changed. In the lower right-hand corner, there is a drop-down menu named “Item position” (Fig. 9). Select this and all the icons are in the list. By selecting the desired function icon, the spur icon and the function will be changed.

I would suggest changing unused spur icons to the direction arrows first. This way the user won’t have to go to the keyboard

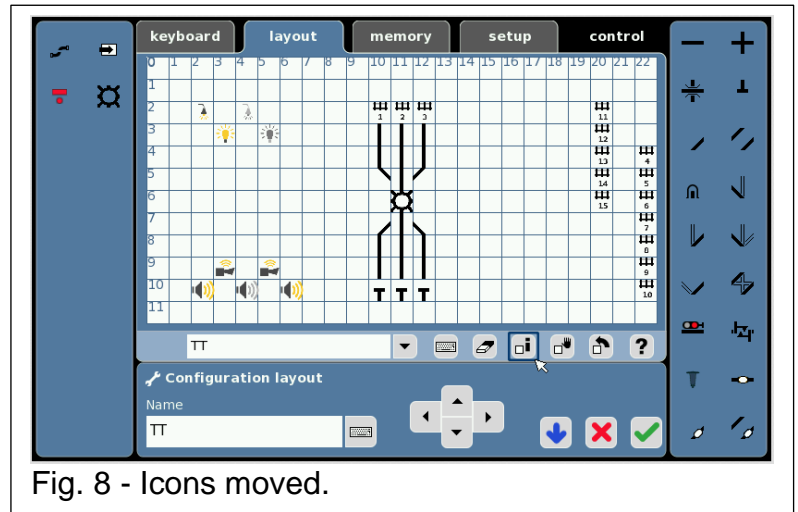


Fig. 8 - Icons moved.

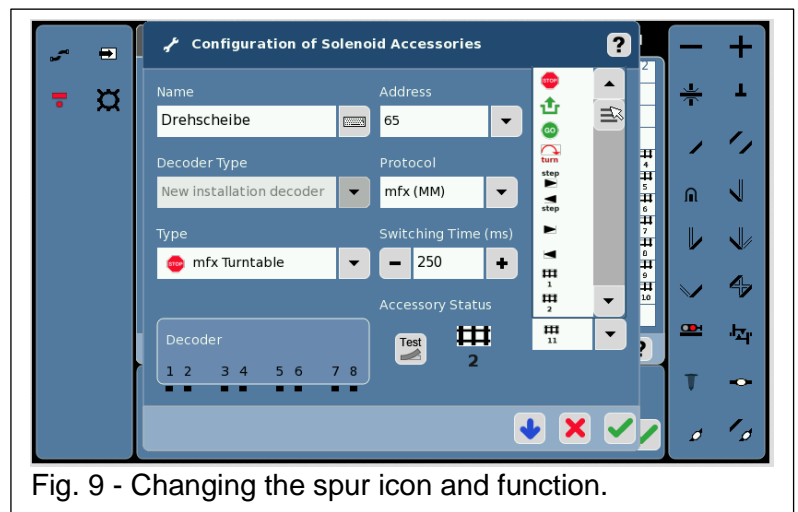


Fig. 9 - Changing the spur icon and function.

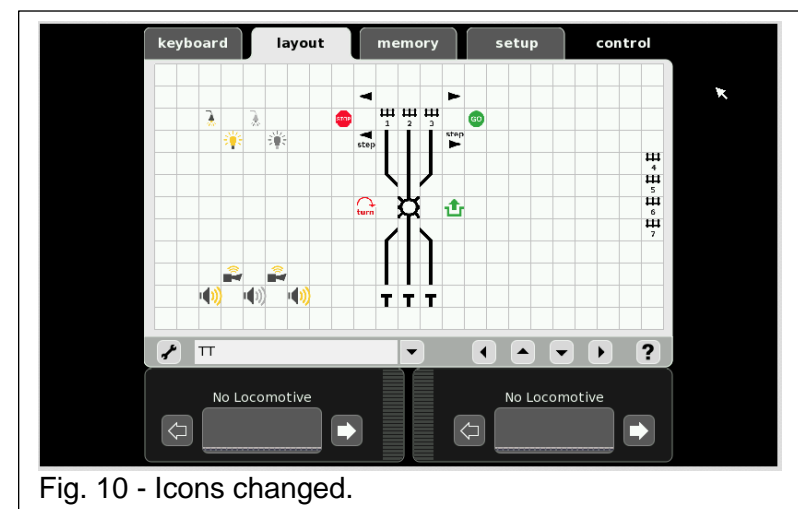


Fig. 10 - Icons changed.

page to set the direction, it can be done on the layout page. Secondly, I would assign the 180° button followed by the “Stop” and “Go” buttons. If there are enough unused spur icons, all the functions can be placed on the layout page (Fig. 10). Once the layout page is finished, I would suggest doing a backup of your layout.

After all the desired icons have been changed, there will most likely be some spur icons left over. These can be changed to a spur number that is already used. Basically, the layout diagram could have two tracks that are #1 and the icons are placed 180° apart to make it easier to find the correct track.

I think it is important to note that like many locomotives, this is a fragile item due to its detail. Care must be taken when handling it and indexing the bridge. Basically, don't push on the handrails or cabin. To index the bridge, follow the manual for moving the bridge and only push on the table itself being careful to avoid the handrails.

There has also been reports that the “readers” (the part that the optical sensor sees), fall out. We suggest being very careful of them and possibly using wax or a NON-PERMANENT glue that can be removed (white glue). We don't know why they would need to be removed but most likely these pieces are removable in case they get broken when removing and replacing the segments. I would assume that since this is how the turntable counts the number of spaces when rotating, if one is missing it would throw off the count.

Enjoy your hobbies!

Rick Sinclair

A Comparison of Central Stations 2 and 3/3+

In a recent visit with one of our Marklin users, I've had to assist with fixing the memory routing on a two-train shuttle line. The owner of the layout had included some hardware which became redundant based on the original shuttle events that were created. Due to the original development dates and updates to the software, the best approach to fix the routing was to start from the beginning.

However, there was one issue that became a challenge as well as an opportunity. The controller in use was a Central Station 2. This presented a good time to discuss some of the major differences in programming events (back then, known as Memory routing) between a CS2 and the CS3/3+. After 5+ years of working with the CS3, what I used to know like the back of my hand has now become a refresher course in programming. Missing were some of the convenience features available in my mind and only available on the CS3. I had to re-enable creative ways that could no longer be held in a Macro. Bear in mind, what is written here is primarily for those who wish to have some automated track controls or safety measures. Those who focus mostly on Computer or Manual controllers may not find any interest in this comparison.

The first comparison between the two controllers is the Memory list (on the CS2) or the Event List (CS3). I'll just refer to this as the Event List for both machines. These are illustrated In Figs 1 & 2, with the CS2 screen on top.

The CS2 will display event holders in pages. Each page will display 32 event holders. Pages are indexed in upper- and lower-case letters along the bottom. This is shown in index 2 in Fig. 1. index 3 shows empty/unused event holders.

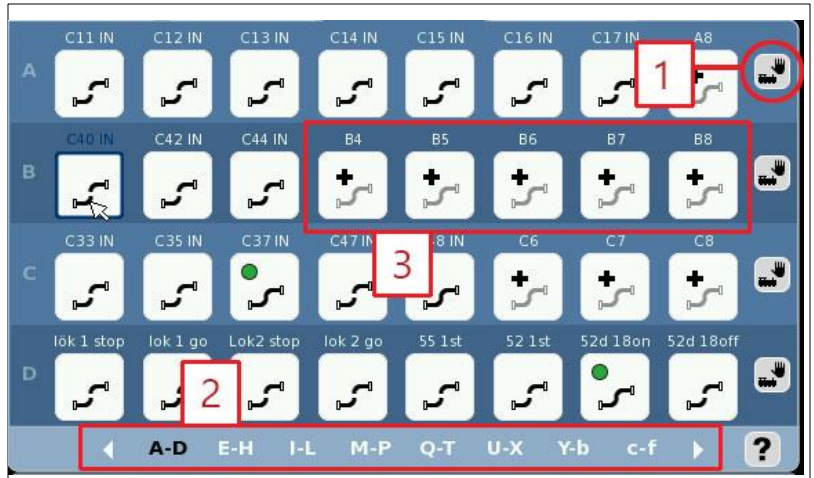


Fig. 1: Memory List in the CS2

Index 1 shows the control, or trigger, type of the entire row. The four rows shown here indicate that the events are controlled with track triggers. Event triggers can always be controlled manually (the hand icon) and have the option of being controlled by track events (with or without the train icon).

By comparison, the CS3's event list, will only show events that have been programmed (Fig. 2). The paging indicator shows that page 3 of 4 is being displayed (index 2). The trigger indicator (index 1) now only shows as Track or Manual triggers. You can still control track triggers manually.

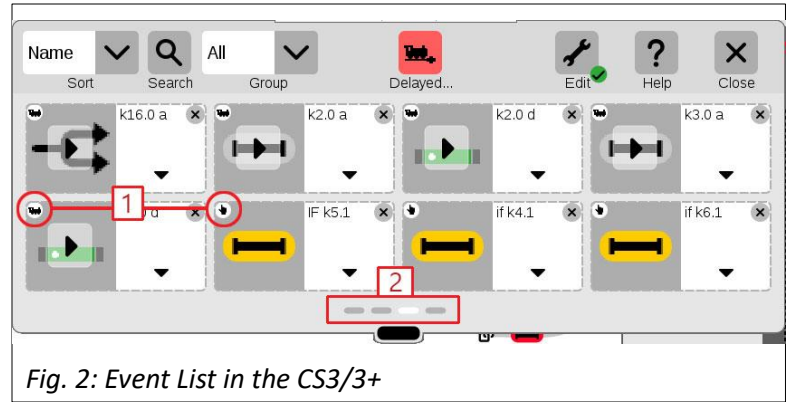


Fig. 2: Event List in the CS3/3+

Event Setup

Event containers have three basic setup configurations. One is required. The other two are only necessary if you're using them for track event operations. In other words, you're using track sensors to trigger and start the events. Fig. 3 shows the comparison of the CS3's event setup panel (outlined in green), compared to the two panels of the CS2 (in red).

The three configuration settings are:

1. Sensor trigger assignment. These are your sensor connections to S88 modules. If not set, then the event is set for manual operation.

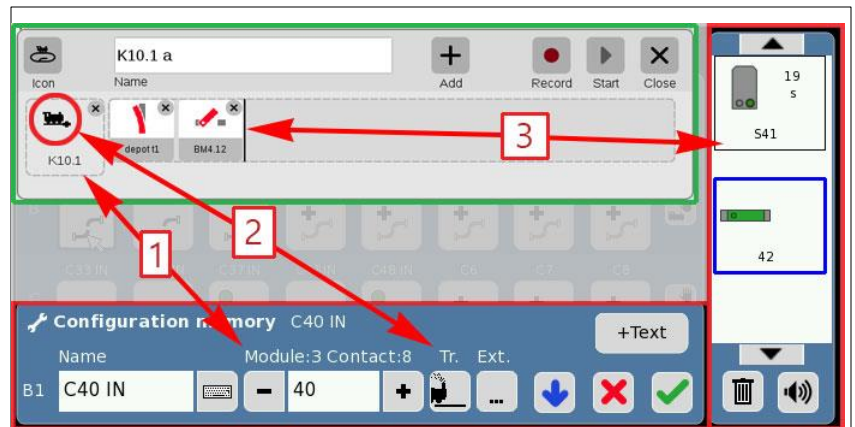


Fig. 3: Event setup windows for CS2 (red border) and CS3/3+ (green border)

2. Sensor trigger type setting. This depicts the method in which the sensor will activate the event. The current nomenclature is 'Arrival' (shown), or 'Departure' type triggers. Previous naming descriptions were: Rising/Falling edge, Entry/Exit, On/Off. Arrival and Departure is probably the most recognizable and memorable naming because they don't risk any confusion with shorthand notations or track occupancy readings (which will be shown later).

3. The event sequence. This area is the step-by-step process that the event sequence runs through when the event is activated by a sensor trigger.

Along with the event Name field, these three configurations are at the crux of where the event setup procedures are most similar between the CS2 and CS3/3+'s. The first major change with the CS3 is the Trigger settings window.

Trigger/Sensor Settings

In the CS2, the trigger settings are switched simply by clicking on the 'Tr.' field (section 2, Fig. 3, CS2). To open the edit window for the CS3's trigger settings, click on the area indicated in section 1 (Fig. 3). A 'Settings' window will open (Fig. 4).

The critical option is found by clicking on the 'Position' icon. This icon displays the status; when the event is activated (yellow icon, shown) or deactivated (grey icon).

There are two control fields and generally I have left them untouched. However, I will give brief descriptions on what their prescribed use is.

Under the 'No Trigger' option are some global actions (Fig. 5). Altering this field allows you to use the setting as the event trigger. You may wish to use the 'System Start' setting as a layout initialization. You can set up your layout articles to a default start position, so whenever you reboot your layout, you have the same track settings.

The second control field by default is listed as 'No Control Contact'. This can be replaced by a control contact. The control contacts need to be assigned as such in the article editor to be selected as a control contact. It replaces the manual control of the event. It can be implied that this control contact can override or supplement the independent event triggers.

The 'Group' field is a customizable list which you can generate by clicking on the 'Again...' button. It allows you to group your events in customized 'folders' AND FOR you to view events in more focused listings.



Fig. 4: Trigger Control Settings - CS3/3+

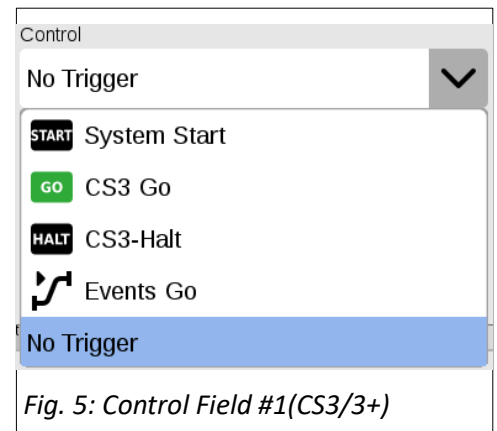


Fig. 5: Control Field #1(CS3/3+)

Event Step Settings

The event step settings ('Edit Route element' in the CS2) contain the same adjustment settings (see Fig 6). Each window (CS2 is on the left) has an 'Item' selector, 'Position' setting, and 'Delay' time. The 'Item' setting allows you to change out the article that the event step is controlling. The 'Position' setting sets the way that you want the article to move as part of the event. This is an 'Action' as indicated in the CS3's window, which will be made clearer later. The 'Delay' settings are a timing delay that counts down AFTER the position setting has been made active AND before the next event step takes place.

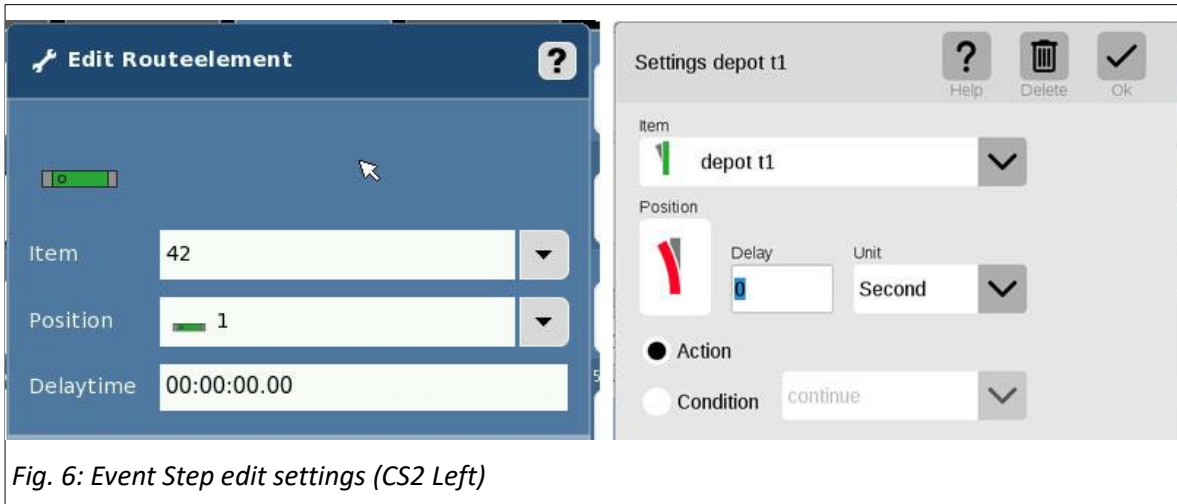


Fig. 6: Event Step edit settings (CS2 Left)

Extended Events Mode Settings and Conditions

Both the CS2 and CS3's have ways to enter conditional settings. Conditional settings are special conditions that you can create to restrict or allow when a trigger can activate an event. For example: You do not want to allow a train into a station if there is a train already there. The train in the station is a condition that prevents a train from entering.

Conditions in the CS2

The CS2's conditions are found when clicking the 'Ext.' button (see Fig. 3). Once clicked, the CS2 will display the 'Advanced settings for Route' window. The window has two sections: Trigger and Conditions. The 'Trigger' settings are the same as those set in the 'Configuration Memory' window.

The 'Conditions' setting will contain the list of sensor conditions you require to allow the event to activate. Conditions in the CS2 can only evaluate if a contact shows occupancy or vacancy. In Fig. 7, the window shows that two contacts will need to be occupied and one vacant for the trigger to start the event.

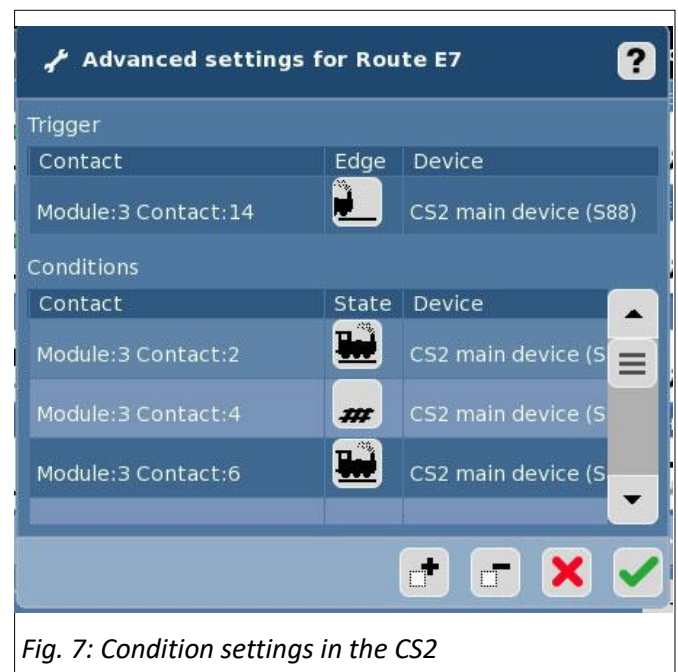


Fig. 7: Condition settings in the CS2

Conditions in the CS3

The CS3 greatly expands the use of conditions compared to the CS2, which is limited to occupational status on sections of track. In the CS3, you can now add elements such as

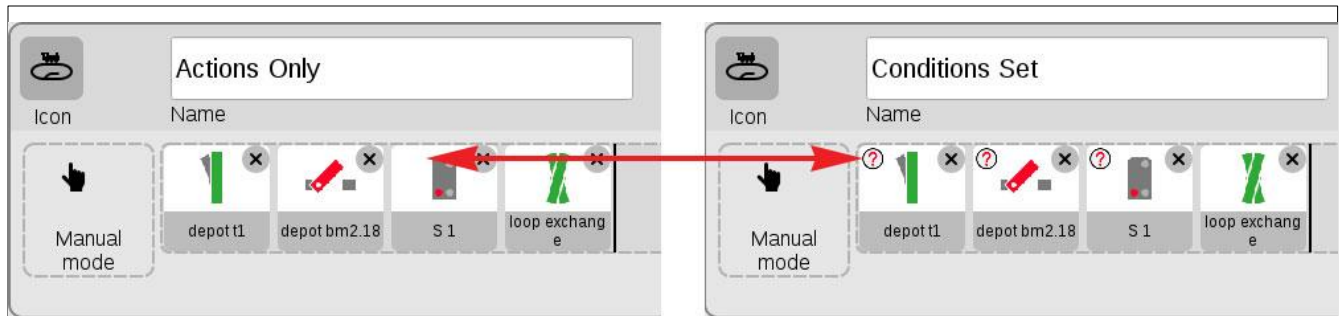


Fig. 8: Event sequence action articles set to conditions (CS3/3+)

turnout direction & signal aspects to use as conditions. Switching actions in the sequence will be displayed as Queries which verifies the setting of the device (See '?' in Fig. 8).

To change event actions to conditions, you'll need to first enable the 'Event - Extended Mode' options in the CS3 Settings (Fig. 9).

Once set, then you can click on the article in the event sequence and select 'Condition' (Fig. 10).

The settings described in the previous section are more closely matched to the methods used in the CS2. This includes the addition of Contact sensors into the event sequence, which will be displayed as queries (conditions) automatically, which were not shown in the example.

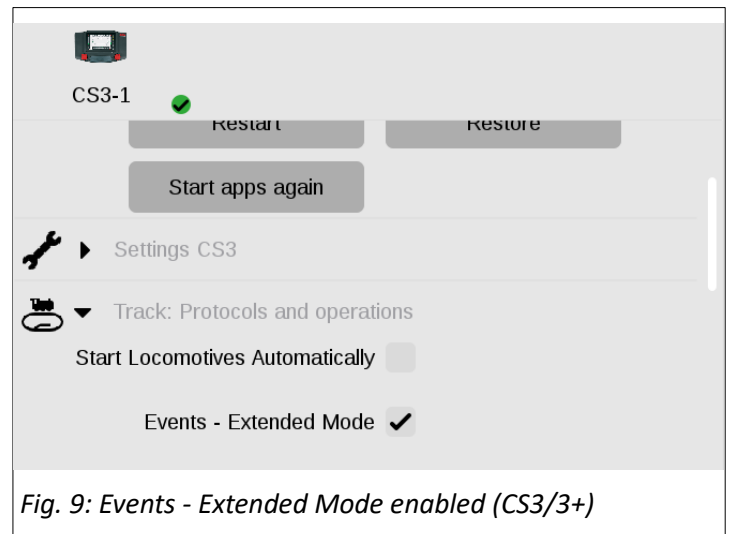


Fig. 9: Events - Extended Mode enabled (CS3/3+)

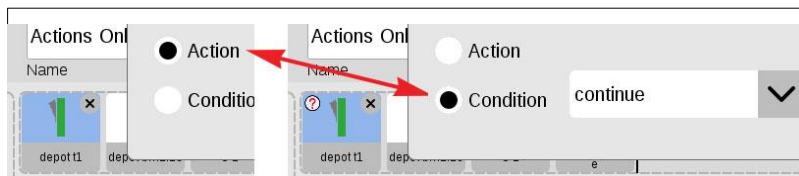
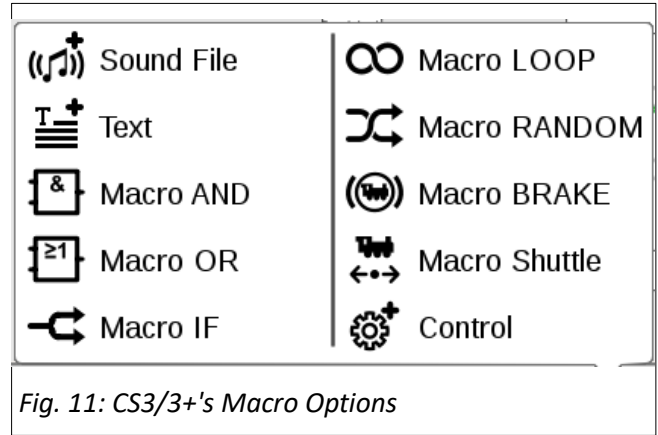


Fig. 10: Changing article Actions to Conditions

Extended Event features only in the CS3

Up to this point, event setup between the CS2 and CS3 are similar. In the Extended Events mode, advanced programming structures known as Macros become available. These involve specialized logic that could not be programmed in basic configuration of the CS3 (and not at all in the CS2). This includes timing loops, inclusive or exclusive conditions and randomizing functions. I'll list the Macro Functions in Fig. 11, but will not explain them here, as they have been described thoroughly in previous articles.



Curtis Jeung

Upcoming appearances:

Gold Coast Station
Tehachapi, California
October 8th-10th

Märklin Digital Webinar #17
October 13th 2021
11:00 – 12:00 PST
Login details will be emailed

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