



NEWSLETTER

Vol. 35 – No. 3
May - June 2023

Digital Consultants
Rick Sinclair
Curtis Jeung

Current Central Station 3 Version – 2.4.0 (5)
Current Central Station 2 Version – 4.3.0 (5)
Current Mobile Station 2 Version – 3.148

We can tell summer is almost here. The weather is warming up and the Summer New Items have been announced! We are also excited to be getting ready for the National Garden Railway Show in Santa Clara and ETE EuroWest, in San Carlos both in July in California. For more information on these shows, visit our Shows & Events page on marklin.com.

Our first article is on the history of the Märklin Digital Rail Cranes and our second is about Setting Up a Layout for Event Automation.

Märklin Rail Cranes

A few months ago, I covered the topic of the Märklin cranes as a great accessory to any layout. This time I thought I would talk about the rail cranes. Even though these are great accessories, they are not very practical. However, they are one of the coolest items to have on any layout. The reason I say they are not practical is because they are not used to lift a wagon or locomotive back on the rails if they de-rail, but they do add a sense of realism to a layout.

Without going back to the beginning of the Märklin company, the so-called modern version of the Märklin rail crane pretty much starts in 1956 with the item number 4611 (Fig. 1) and is still being produced with the item number 4671 (Fig. 2). When this crane was first produced in 1956 it was painted a light blue. It has been painted in many colors and has also been included in many sets since then. This crane is not digital and manually operated with a hand crank on the side, I mention it here because this is where it all starts.



Fig. 1 - 1956 version

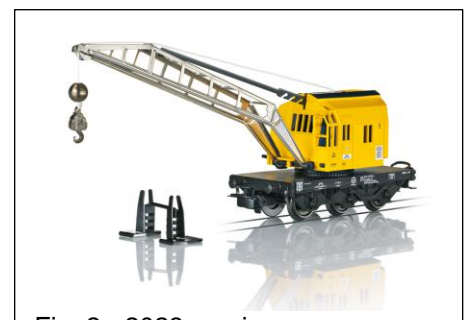


Fig. 2 - 2023 version

Digital Rail Cranes

The digital rail cranes are where they get fun! Back in 2000 Märklin made the first digital version of this crane for the 6021 control system. It was a wonderful piece of engineering and fully functional. The boom and hook could be operated separately, and it would rotate 360° and it even had a blinking light on the top. A 7051 crane magnet could be attached to it for lifting iron and steel also. The only problem was that it was a MAXI model and therefore it was 1-Scale (Fig. 3).

Also, in 2000 the “Goliath” crane was released in H0 (Fig. 4) item number 49950. This was a game changer! This was a fully functional modern rail crane with support feet, counterweights, and cabling. This was sold as a set with support cars included. A red version was available from 2004 – 2007 under item number 49952.

In 2006 Märklin released the 46715 (Fig. 5). This was also a fully functional HO rail crane. It was made possible by using the small “Piezo” motors that Märklin had been using to raise and lower pantographs since 2003. This model comes attached to a low side gondola for the boom cradle. The control functions raise and lower the boom and hook separately and it will rotate 360° also. In 2008 Märklin released a grey version of the same model, item number 46717. The most amazing thing about these digital cranes was the price, they could easily be seen on sale for around \$165 at the time. The last offer of this style of digital rail crane was in 2009.

In 2016 Märklin re-released the “Goliath” crane item number 49954. Although it looked the same as the 2000 version, this time it was MFX+ with sound. Being an MFX+ decoder it could also be operated in the “Cab View” and “Consumption” mode of the CS2/CS3 series of controllers.

For those who wanted an earlier era of a rail crane that operated, the only option was the 4671x version (era III) because the Goliath was era V. Then in 2018 the Ardel 57t steam powered crane was introduced (Fig. 6). Not only does this model have MFX+ but it also has a cab light and working lights. It has steam sounds and a smoke unit all in era III. With this model having all the features of the Goliath, it looks at home in an earlier era layout.



Fig. 3 – First Digital Rail Crane

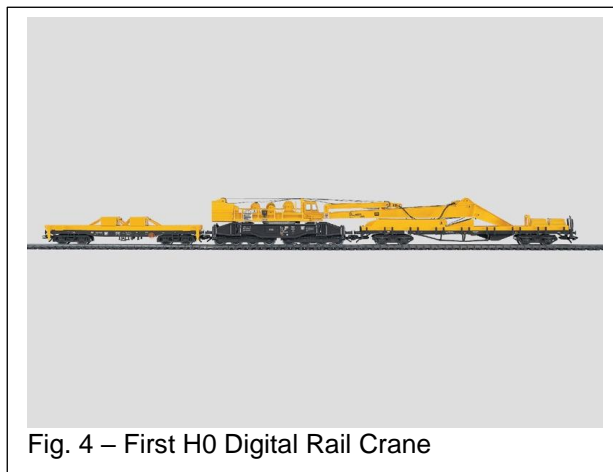


Fig. 4 – First H0 Digital Rail Crane

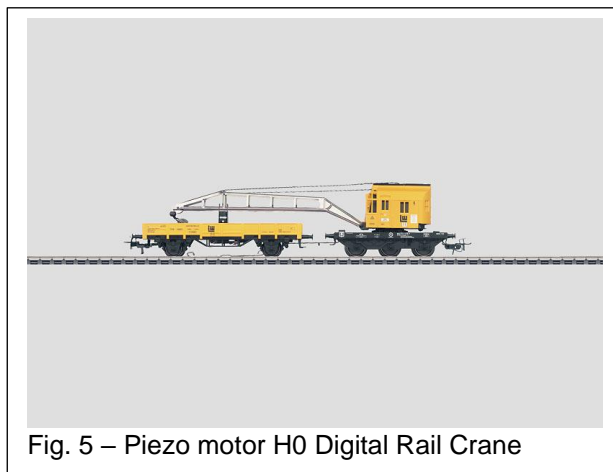


Fig. 5 – Piezo motor H0 Digital Rail Crane



Fig. 6 – Ardelt 57t Era III



Fig. 7 – Ardelt 57t Era IV

For those who missed the Ardelt in 2018, Märklin issued the same crane in an era IV paint scheme with item number 49571. Although functionally identical to the 49570, there was a little “caution” yellow paint added (Fig. 7).

One note for those who have or plan on acquiring a Goliath or Ardelt crane. These are not recommended for children. The cabling is prototypical, and the operator needs to be aware of the model when operating it as the cables can get tangled in the gears. Just as with the prototype, there should be a load on the hook when spooling it in and out. Pay attention to the cables when the boom or hook is lifted and lowered to prevent this. With a little care and patience, these models work great and are one of the best models Märklin has produced.

There is another crane to mention. This is the Robel powered track car (Fig. 8). This model comes in many road names starting with item number 39543 which came out in 2021 and is era VI. This model has many sound and light features, but the best is the crane will operate, although the only operation it has is to rotate the boom, it is programmed to lower and raise as it rotates. It is not for lifting but it does look great when it operates.



Fig. 8 – Robel Track Car

While there have been seven paint schemes of the Robel, they all operate the same.

I hope this will encourage someone to add a little fun and animation to a layout with a digital crane.

Enjoy your hobbies!

Rick Sinclair

Setting Up a Layout for Event Automation

In this edition of our newsletter, I will take a relatively small track plan and show some thought processes on how I would set it up for a self-running mainline. Our sample track is shown in Fig. 1. It was conscripted from Märklin's Das Gleisplanbuch (Article 07455, pg.38). You can see that it has a single main line and several lines that run through or around a station area. Fig 2 shows the simple 3D rendering of the layout which displays the tunnel section.

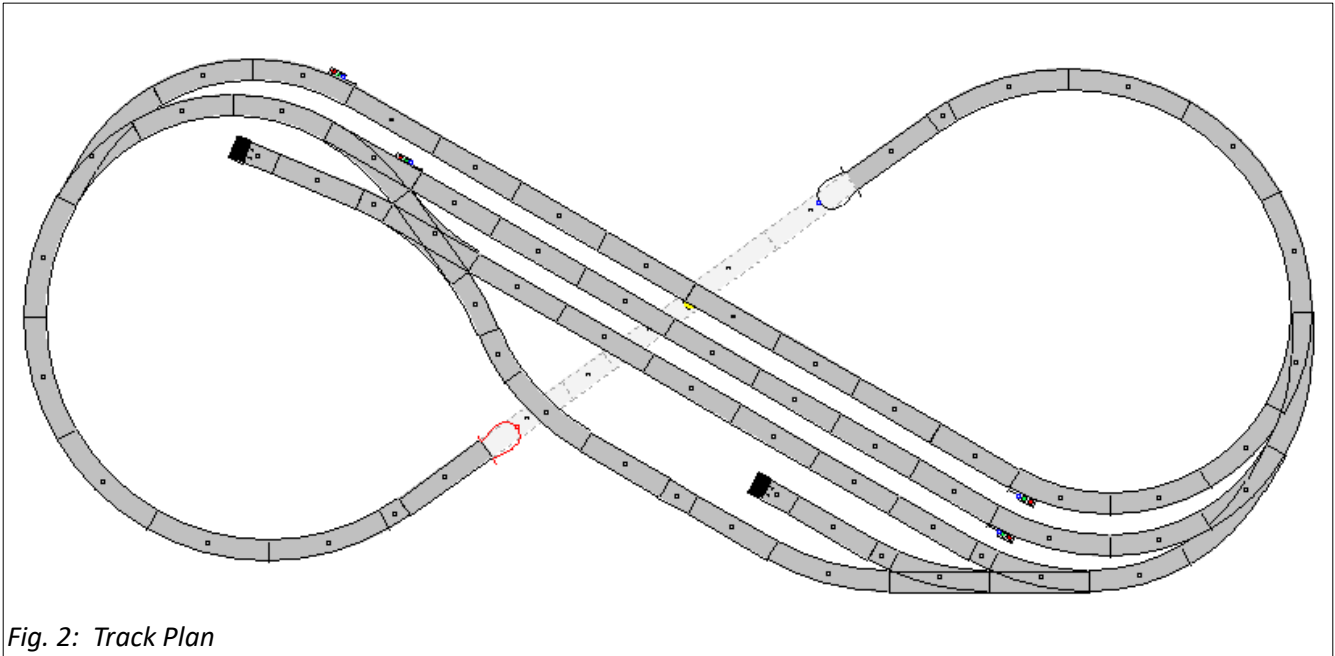


Fig. 2: Track Plan

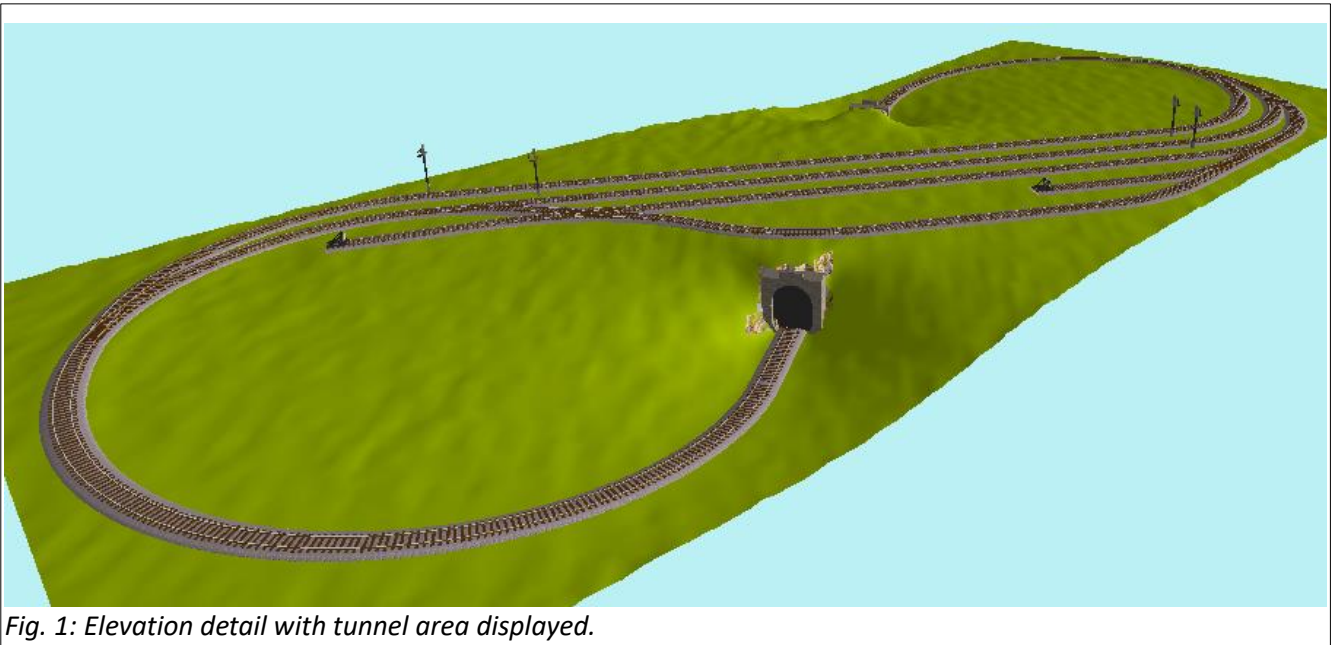
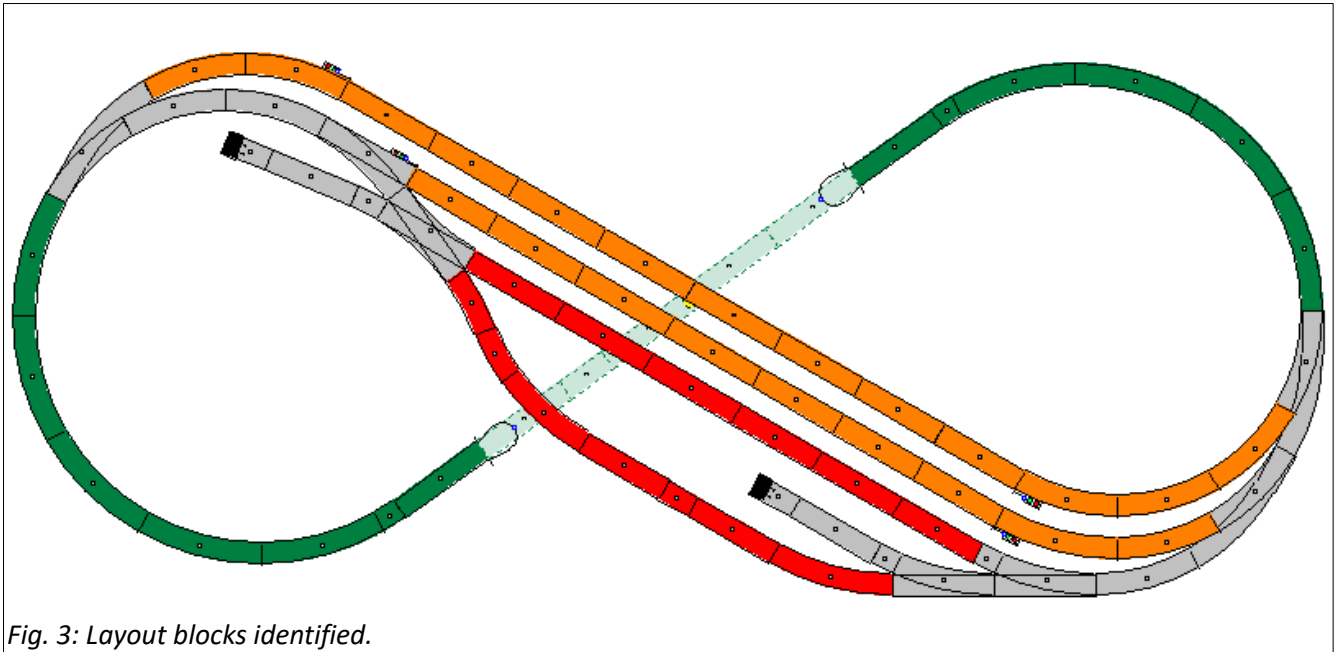


Fig. 1: Elevation detail with tunnel area displayed.

The first thing I seek out are my most evident travel blocks. These are defined by sections where only one train can occupy at a time. I consider yard lines to determine if they are part of the main traffic flow. I would exclude any that may be used for switching and other

purposes which may muck up the main travel pattern. They are usually excluded, because automating them would not be practical, or better served under manual control. In Fig. 3 colored tracks illustrate each block which can be identified in the layout. This allows me to sort out each area of control. Keep in mind that this does not dictate where I place my controls, which can shorten the length of the actual block in use.



Not all the blocks identified will be used or even programmed for events. The main goal is to set up an automated hands-free loop that works with the main line. The red section of blocks I would exclude from my automated track events. The orange would show the station blocks that will be included and the green is the mainline block.

The result is that I have 3 blocks that I would automate, which I would then define as a 2-train system. The reasoning is that with two blocks occupied there would be one block in which to travel.

It is possible to add the red lines into the operational block count, but it would appear as if they were meant as either switching or storage lines. The point is if you want to include them it would be up to the user. In this case they are excluded.

Direction of Travel

You can see in the diagrams that there are signals at each end of the station blocks. This allows for bi-directional traffic. This is not a problem when running the layout manually. When trying to set up events for automation, this can be problematic. The ideal practice is to establish a set directional pattern. This prevents any issues with having to sort out exceptions and conflicts with events. There are different traffic patterns that you can apply to this layout. You can have all travel running the same direction through the station area, or you can have each line running opposite of each other. The variance includes whether the travel is from left to right, or right to left.

It may be easy to consider this a limit to the layout's flexibility, but it is not. It is not practical to try and add these variances to a single profile of your Central Station. Instead, you can save different profiles into your CS where each profile will have its own separate travel pattern. One Saved profile can have your trains running east-to-west, another file west-to-east, and a third file is programmed for travel bi-directional travel through the mainline. Just start with a single traffic pattern first, then create a different profile to explore alternatives once you have gained experience programming automated events.

Identify Stopping Points (and identifying first block trigger locations)

In the example used (Fig. 4), the plan is to run two trains that travel in opposite directions through the station area. Using right side travel as my guide, I've indicated the stopping areas in yellow. I have additionally formulated my running plan for the layout.

The concept is that there will always be one train waiting at the depot, while the other travels through the mainline until it returns to the depot to stop. At that point the second half of the cycle begins with the alternate train leaving the station to travel through the loop.

Placing Event Triggers

The next step in setup is to think about the placement of the event triggers. Various conditions will affect placement of these triggers. They can be based on the type of triggers you will be using. Circuit tracks, magnetic reed triggers and occupational (contact) tracks handle track events in different manners. The type of trigger may be limited by the track type you use. 2-rail or 3-rail each have their own set of pros and cons. For this example, I focus primarily on contact tracks.

The first and easiest contact tracks to place are the ones just after any signal or stopping area. These are the locations that signal to the system that the train is entering into the main line. There are other factors involved with this contraction location that can also notify the system that the train has or is exiting the station block. In general, these are event program conditions and do not need to be discussed here. These are indicated in blue in Fig. 5.

Next set of event trigger placements is more complex as they would directly involve a user's preferences. Some are dictated by the types of equipment used, some by the experience of trial and error. These conditions can be

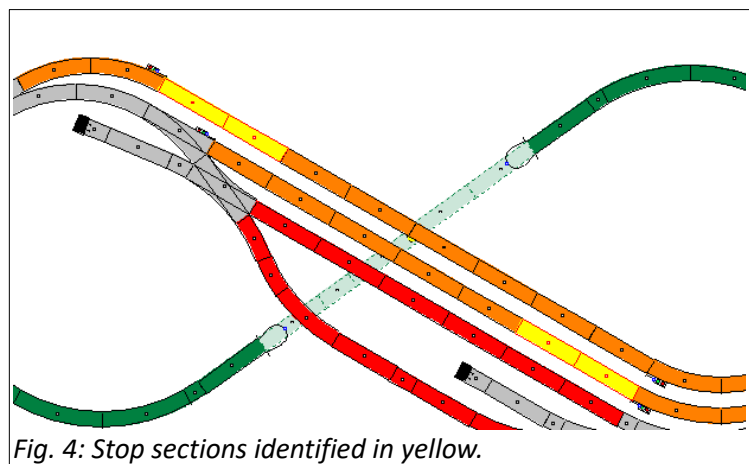


Fig. 4: Stop sections identified in yellow.

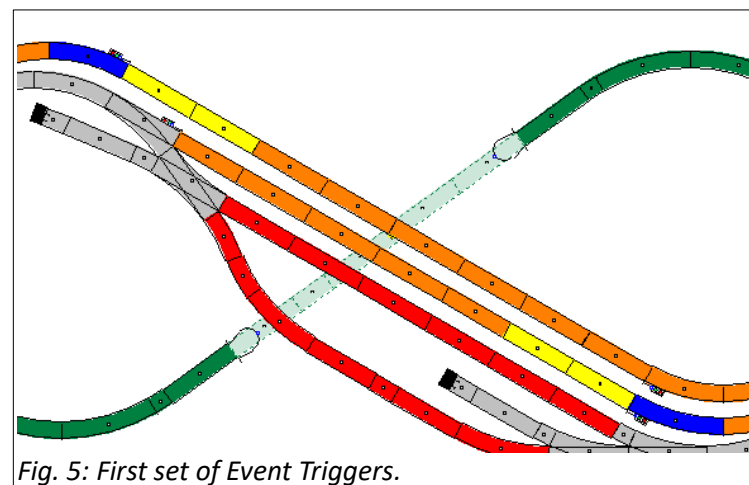


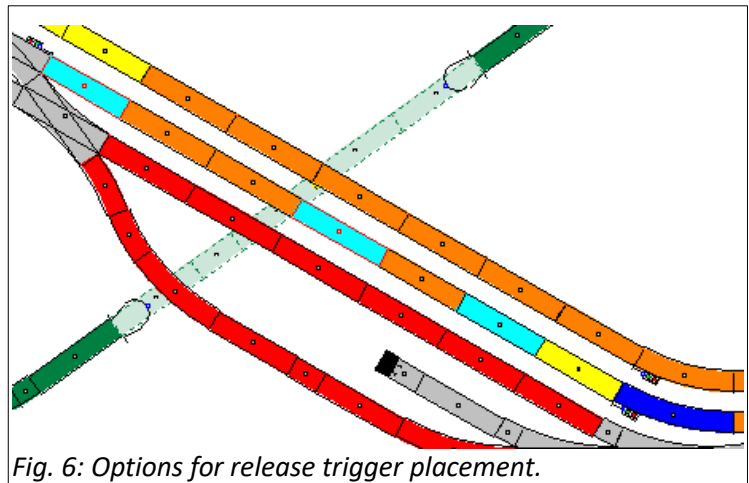
Fig. 5: First set of Event Triggers.

confusing, but essentially, they are just options that can sometimes be handled in other ways.

The mainline in this example, does not need much in the way of control. It will only allow for one train on track at a time. You could have an option to split it, which you would be adding an additional block, but the line is so short that it would not have an advantage visually.

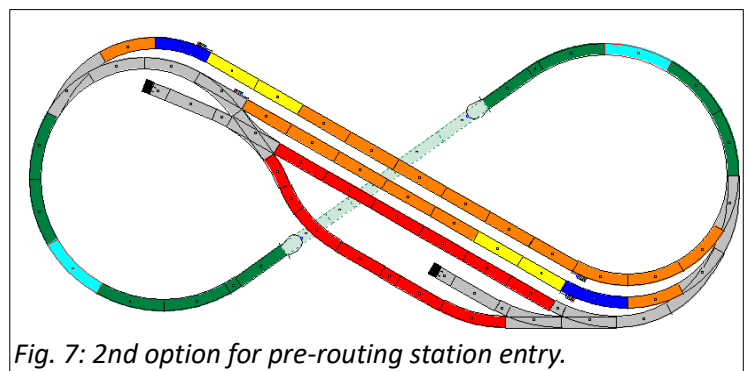
The lines into the yard are a different matter. We need a control event to guide trains to the proper track. We also need a control event to signal the alternate train to leave the station. Where you trigger these events is, again, a user preference. The combination of the two events could be handled by a single trigger, or they can be handled in two separate triggers.

The control for signal release of the alternate train can normally be handled anywhere along a station line block. In this manner, pre-routing would have been set so that any incoming train would enter using a specified route. The event for this would simply release the stopping mechanism (signal or braking module) on the alternate line. Fig. 6 shows just one line and three options (in light blue) for placement of the event trigger. The trigger can be a single track and/or placed anywhere along the station block line.



The pre-routing can be accomplished in two primary options, or more importantly, anywhere before the station entry point. We can use the triggers shown in blue. We can pre-route the train from where it came from. When the train leaves the station, it would create the only empty line, therefore we would want our track routing to return the train to its starting point. These triggers are also unique to each line so you would not need to identify which line to enter, which is required in the next example.

Having an entry point trigger on the main line prior to entering the station creates the need to define event conditions. I illustrate this in light blue as well in Fig.7. I will define some of the problems you would need to create conditions for.



1. the system will not be able to identify which direction it is traveling (unless you are using circuit tracks for the slider).
2. You will need to identify which of the two station lines is vacant. This is more feasible if you were to run both trains in the same direction instead of opposing directions set in this example.

The logic for placing trigger controls for your Central Station events is a mixture of both logic and preference. It has simple to place locations. It also shows locations that may need conditions or event testing to know if they are correct. I have applied some of this logic in a

simple layout where the concepts can be applied to larger more complex layouts. In the next article, I will explain some event examples that I would use with this setup.

Curtis Jeung

Next Webinar:

Wednesday, June 14th

Upcoming appearances:

National Garden Railway Convention
Vendor Hall Dates: July 5-8
Santa Clara Convention Center
Santa Clara, CA

Eurowest
July 22-23
Hiller Aviation Museum
San Carlos, CA

To contact Rick and Curtis for help with your Digital, technical and product related questions:

Phone: 650-569-1318 Hours: 6:00 am – 6:00 pm PT. Monday through Friday.

E-mail: digital@marklin.com