märklin DIGITAL CLUB

NEWSLETTER

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Current Central Station 3 Version – 2.1.0 (2)
Current Central Station 2 Version – 4.2.9 (0)
Current Mobile Station 2 Version – 3.112

We were thinking that it's a shame to have so many train shows cancelled so we decided to have an "online" Q & A session for our Digital Club Members. This would be in the now popular web meeting format. We would like to invite all Digital Club Members to join. The session will be on June 20th from 12:00 to 2:00 Pacific time to answer your questions. We will be using the Zoom web-meeting format to host this.

There is a new update for the CS3. From what we've read, it is mostly new icons and some new cab views for the World of Operation mode.

This month's first newsletter topic is on the basic wiring and plug usage within the Märklin color scheme. The second topic is about Central Station 3/3+ Running the Macro LOOP.

Basic Description

Most who started with Märklin during the current "Digital" era don't know where the basic wire and plug color scheme came from. For me, coming from analog to digital when digital was new, it's easy to see the color scheme change over to digital applications. Just so you'll have a basic understanding of the modern color scheme I'll explain how it came about.

In a perfect world where the factory color schemes were adhered to, anyone could help troubleshoot a problem on any Märklin layout. These days most people will choose their own uses for wire colors.

Märklin has used as few colors as possible for wiring. Wire colors are Red, Brown, Yellow, Blue and Grey. The plug colors are Red, Brown, Green, Yellow, Orange and Grey.

Pre-Digital Color Scheme

The first connection in the "analog" color scheme is track power where brown and red wire are used with brown and red plugs (Fig. 1).

Next would be a turnout where blue wire is used as a return from the turnout (Fig. 2). There will be two blue wires from a solenoid, one would get a red plug and the other would get a green plug attached to a control box for a turnout. There would also be a yellow wire for constant voltage to the solenoid and turnout lantern. A brown plug with a brown wire from the transformer would plug into the side of the control box also.


Fig. 1 Track power

An accessory such as a signal would adhere to the same color scheme as a turnout with the exception of a “proceed slowly” green/yellow aspect. This would use a blue wire with an orange plug into the control box.

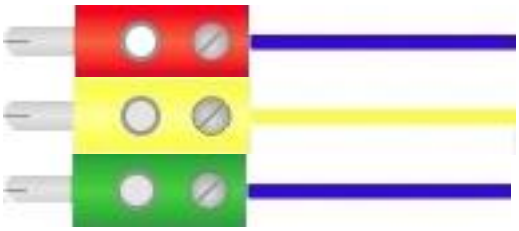
Fig. 2 Turnout connections

Circuit tracks would use a blue wire connected to the trigger, with an appropriate color plug for the action (red, green or orange plug. Fig 3 top).

Grey wire with a grey plug which would be used for scenic lighting (Fig. 3 bottom).

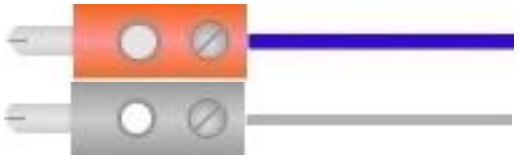
Fig. 3 Top: Proceed Slowly - Bottom: Scenic Lighting

Modern Color Scheme

Now I’ll explain how this translates into the “Märklin Digital” world. Some of the colors have had their usage changed since new components have been introduced.

Red and Brown wire is still track power from the controller and will also control digital accessories and control accessories like an m83/m84. Also, the sections of a brake module or stop sections of a signal would use a Red wire.

Blue wire is used to connect a turnout solenoid to an analog control box (with Red and Green plugs and brown wire and plug into the side of the box), or to a m83. If an m83 is used there is no need for plugs.

Blue wire is still wired into circuit tracks from the factory that are used as feedback to an s88, therefore blue wire would be used for a reed contact or a contact track also.

Yellow wire is used to connect a modern LED turnout lantern to the center rail “B” of the track power with no plug and the brown wire to the track power at the rails “0”. If a turnout decoder is used there is no need for wire or plugs. Yellow and brown plugs can be used if a aux. power supply to the lanterns is desired.

Grey wire is used for general lighting with Brown. While most people feel grey is used for s88 contacts, I have not seen any documentation for this. Some lighting accessories come wired with black wires. They would still get grey plugs or grey and yellow plugs.

My Color Scheme

While any color scheme can be chosen by the individual, here is the color scheme I use. I stick to the Märklin color scheme for the most part:

Red and Brown wire – Digital track power (to and from distribution strips).

Red and Brown plugs – Digital track power (to and from distribution strips).

Orange and Brown plugs (with Red and Brown wire) – Booster sections (to and from distribution strips).

Blue wire – To analog turnout control boxes.

Red and Green (and Brown) plugs – Into analog turnout control boxes.

Blue, Yellow and Red wire – To brake sections.

Green, Yellow, and Red plugs – Brake sections into brake module.

Grey wire and Grey plugs - To s88 feedback module.

Brown and Yellow wire with Brown and Yellow plugs – Aux. power supply to scenic lighting.

One note on wire, I always use Märklin wire. The reason is because Märklin wire is stranded copper. This gives it very good flexibility and the wire won't break when flexed. The last thing I want to do is to track down a wire that is broken inside the insulation.

Enjoy your hobbies

Rick Sinclair

Central Station 3/3+ Running the Macro LOOP

In this article I will show you how to set up two additional Macros as well as a brief description of some best use cases for each as well as caveats for use. The two macros that I will explain are the Loop Macro and the Brake Macro.

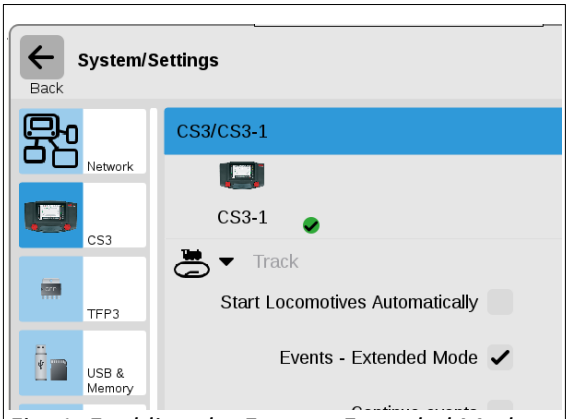

Fig. 1: Enabling the Events - Extended Mode functions

What You Must Know

The CS3 by default will not display any macro settings within the event editor. To view and enable any Macro events, you must first enable your CS3's Events – Extended Mode option. This is found in the CS3/CS3-1 System Settings under the 'Track' menu panel (see Fig. 1).

You should also have a familiarity with creating events in general, otherwise it is possible that the advanced settings could cause some confusion on what activates the event macros.

Loop Macro

The Loop Macro is available for instances when you wish to have a constant cycle of actions. For example, you may wish to activate a whistle every minute, or set a station announcement every 5 minutes. To create a Loop, select the 'Macro LOOP' option located in the Event Editors 'Add' button (Fig. 2).

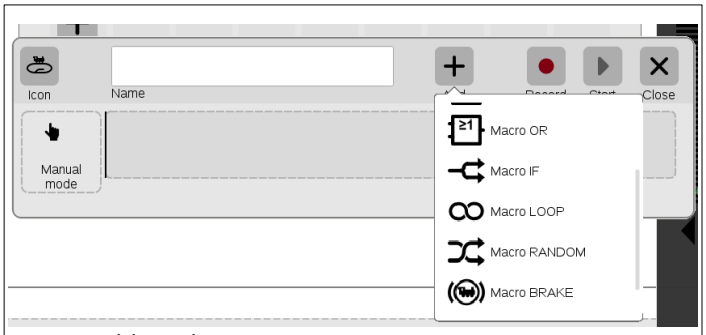

Fig. 2: Adding the Macro LOOP

Doing so will add a Loop item in the event step editor. It will also add two event items in the events list, although you will not see them immediately until you close the step editor. I show both the step editor and events list after the macro has been added.

In Fig. 3, the event items created are the event item (titled 'Loop sample') and the macro event (titled 'LOOP 1' by default). The 'Loop sample' event is the trigger event, or the event that needs to be activated to start the loop. The 'LOOP 1' event is the actual Macro and can only be created within another event to run. I will explain setup and details of the MACRO Loop first.

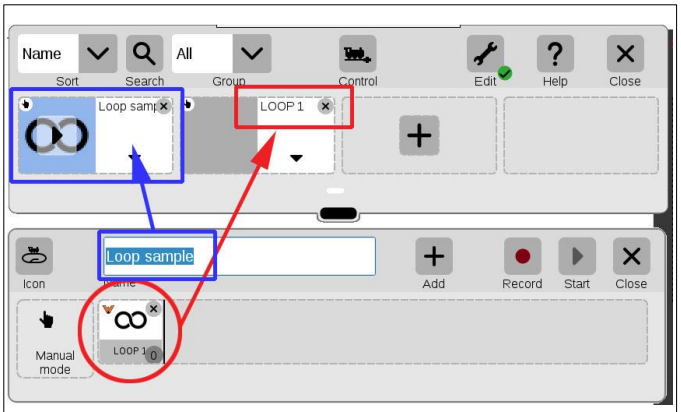

Fig. 3: The two events added when creating a Macro event

MACRO Loop

The MACRO Loop is ideally used for recurring locomotive functions or layout functions that can operate under specific timing loops. Night and Day lighting effects for example can operate well under a loop. Just bear in mind that the timing structure is very rigid and does not have a method for varying timing.

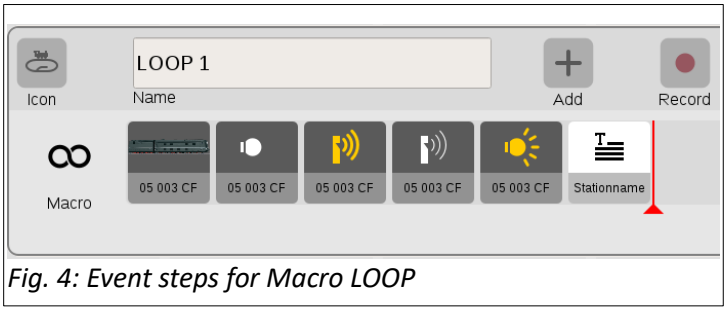

Fig. 4: Event steps for Macro LOOP

In Fig. 4, I show the event steps that I have placed in a loop for a loco. This is good for users with a basic layout, because it does not require any special track devices to operate this macro. The event steps listed here are basically pulled into the event step line while in edit mode. The other method of entry is to use the 'Record' button, which I generally do not recommend for events. In hindsight, the LOOP event MAY benefit from use of the Record button, because it automatically will add the timing delays needed in a loop function. Please note that the last statement should be considered cautiously and may still have some untested drawbacks. You may see this if you test it yourself.

When Looping an event, one of the primary components that you need to consider is the timing delay. Delays are not evident when looking at an event or the event's steps. Delay settings are set

WITHIN each step of an event. In Fig. 5 you can see the delay setting for the 'whistle on' step shown in Fig. 4, it is set for a 1 second delay.

The final step in the macro contains a step titled 'Stationname', a default title. This is located under the 'Add' button under the listing of 'Text'. The 'Text' step is important because it is used for my final delay setting for the Looping functionality. For example, I want my stream of events to occur every 3 minutes. The actual event steps that I use may only take a few seconds to complete, but without a final delay, the looping functions will cycle through once the steps have completed. So, in the text step, I add a final delay of 3 minutes so that the events will only cycle every 3 minutes.

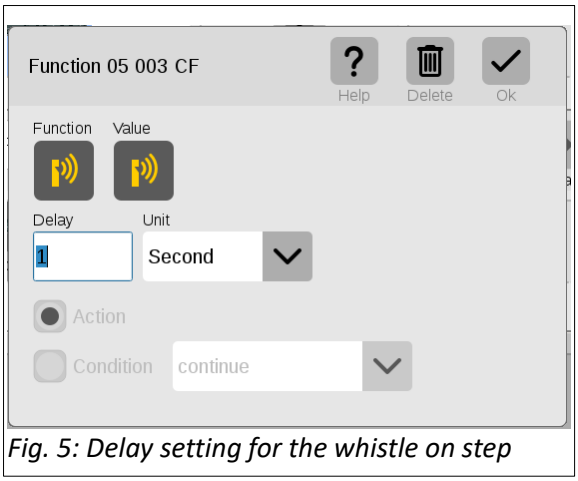

Fig. 5: Delay setting for the whistle on step

Run Time Considerations

The Macro LOOP has some distinct differences in setup when compared to setup of my normally discussed track events.

Triggering a Macro LOOP

The method of triggering a looped event is not a necessity. Triggering an event has two methods, a track trigger, or a manual trigger (manual activation). Think of it this way, if you have a looped track with a contact track point to activate the event, the event will activate every time the train contacts the track point. It is a self-running loop and there is no point to creating the Macro LOOP on a natural loop. Therefore, the Macro LOOP function will normally be manually activated because you will have set up and timing loop that repeats itself.

One thing that I have noticed, is that while you can activate a Macro LOOP, you cannot deactivate it. The only method I have found was to temporarily go into the edit mode of the event. Simply entering the edit mode is enough to cancel the timing loop. Cycling the stop bar on and off will not stop the macro either so you have to 'fool' the system into thinking the macro has been changed.

Sound Event Steps

Unlike track events, a Macro LOOP is better suited for locomotive functions. Setting up loco functions do require some special steps to properly sequence the event. The problem primarily stems from using sound functions.

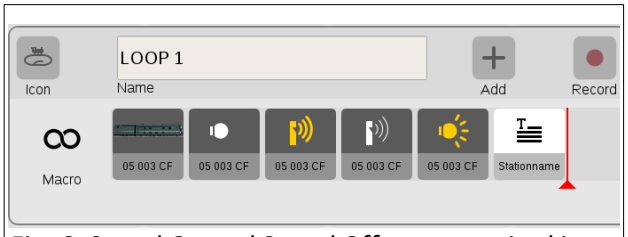

Fig. 6: Sound On and Sound Off steps required in and event sequence.

Sound functions are setup to have a momentary start switch or have an on/off switch (continuous). Momentary buttons will run the sound if you hold it down (a whistle for example). An on/off switch requires one press to turn on the sound, and another press to turn it off (a bell). When using sounds in an event, they only function in the on/off manner.

You can see in Fig. 6 that I have a step to activate the whistle and another step to turn it off. If I did not do this, then the whistle would just run continuously.

Sequencing with Sound

Mixing physical functions with sounds may require more diligent setup of timing delays. Event steps operate in sequence where one action follows another. However, generated sounds run independently in their own timing cycle, when compared to the activation of a light (for example). So, if you want to turn on interior lights only after a station announcement has completed, you'll need to know what length of time your sound functions need to run. Then, set up a delay in the sound off step to run the same duration time so that the sound has time to complete before the next step activates.

Setting up the sound delay in either the Sound On step, or the Sound Off will have an alternate impact as well. For completion of a sound, you will set up the delay in the Sound Off step, because some sounds may have a different function while the sound remains on. The whistle is a good example of testing this, there are long and short whistle varieties programmed into some decoders, but in the Macro, you will need to program these in yourself.

The example to activate a sequence of actions on a locomotive is just a sample of what you can include. You could probably enable a short duration of speed changes but bear in mind it is a cycle that runs strictly on a time basis. Once a loop has started, you really will not have any control of its actions. The system will not have an accurate idea of where the locomotive is, so programming a slowdown in a station won't have spot on precision. You can counter this by programming in a broader range of delays just to generalize the active area.

Loop effects could also apply to layout switches like an M84 to control environmental devices. City or building lights could be programmed to loop on and off. The M84 can be configured for lighting effects to use in conjunction with the loop.

The Macro LOOP can be creative solution to some layout automation. Knowing how to set up a loop and some of the pitfalls in the way some placed events work (like sound functions) will help in smoothing out any faults in a looped effect. If you have any device that you can imagine would have a cyclic run time, then give the Macro LOOP a shot.

As always, have fun!

Curtis Jeung

Upcoming appearances:

ONLINE – June 20th 2020
TIME – 12:00 pm to 2:00 pm
Zoom Web Meeting

Web link will be emailed prior to the meeting.

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

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