

NEWSLETTER

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Current Central Station 3 Version – 2.5.2 (6) Current Central Station 2 Version – 4.3.0 (34) Current Mobile Station Version – 4.15 Current Wireless MS Version – 4.27.0.13 Digital Consultants Rick Sinclair Curtis Jeung

Since we last talked, we have been to the LGB Model Railroad Club of Chicago's April Clinic where Gale Cousins and I both presented seminars to the club members. We also have more shows coming up this summer. LGB will be attending the National Garden Railway Show in Sacramento, Calif. and the Märklin, Inc. team will be at the NMRA National Train Show in Novi, Mich. Curtis will be attending EuroWest in San Carlos, Calif. where he will do a digital seminar. We are looking forward to seeing lots of familiar faces!

Our first article about installing the first-generation Digital Color Light Signals into a CS3 while our second article continues with the conversion of a large, automated layout from a CS2 to a CS3. Also, there was a small update to the CS2 that changes the software version slightly, but we have not noticed any significant operational differences.

763xx Series Light Signals

I recently realized that we had never covered the installation of the older 763xx series light signals into a CS3. The 763xx series light signals were produced for 10 years (2003-2013) and the instructions were written for the CS2 only because the CS3 was not released until 2016.

This 763xx series of signals was a big leap forward because there are no dip switches which allowed for an easy set-up. The decoder on the signal has a "programming clip" where a piece of metal is clipped to both sides of the decoder. There are two different styles but they both do the same thing (Fig. 1). When track power is supplied and the clip is in place, the signal goes into "programming mode." Once the programming is complete, the clip is removed and the signal functions as it was programmed – at least that is the short explanation.





CS3/CS3+ Set-Up

The first thing to do is to set up the correct signal in the CS3. Open the article list on the CS3. Then touch the plus sign (+) to add a new article and select the "Signals" selection (Fig. 2). This will place a new signal at the lowest address the CS can find, and the name, address, and icon can be edited at this point.

Next, the icon needs to be correct for the signal that is being set up. In my example, I am using a simple block with distant. Since this signal has a distant signal on the same mast, I will also need to set up the next signal in the CS3 to program the distant signal on this mast. For this reason, I have added two signals to my CS3 (Fig. 3).

Another important note is that simple block signals take up one address of the article list. Entry and exit signals





take up two address of the article list. So, there is a certain amount of forethought that should go into the planning of the addresses.

At this point the yellow and brown wires get connected to track power with the CS in "STOP" mode (yellow to red – brown to brown). Make sure the "programming clip" is in place and that the CS is NOT in "Edit Mode" of the article list. It is important to note that there should be no trains running during the programming of these signals. Press the STOP bar and the signal will light up and alternate lights, meaning it is in "Program Mode." In program mode touch the icon for the desired signal (red aspect) in the article list and the signal will accept that address as its own. The simple block signal that I tested took two taps of the icon. The first tap lit up both the red and green aspect then after the second touch, the signal was set.

If the signal takes two addresses in the article list, other lights will start to alternate in programming mode. At this time, another aspect should be selected in the article list of the signal being programmed that corresponds to one of the alternating aspects of the signal.

If there is a distant signal on the mast, the main signal will turn off and the distance signal will start to alternate lighting aspects. At this time the distant signal is in programming mode and the signal icon that the distant signal corresponds to should be touched. This may take several touches depending on the corresponding signal (block, entry or exit signal) and one of the corresponding signal aspects should be chosen that the programming signal is displaying.

Once the programming is complete, remove the programming clip and the signal can be placed on the layout. If the programming clip is left on, the signal will be programmed again if an article list icon is

touched. If nothing is touched it will go into programming mode, then demo mode where it alternates aspects.

Tips and tricks

1. Select the correct signal type for the area, see our newsletter from January-February 2020.

2. One thing to note is that the icon for the exit signal can be incorrect. I thought this was a holdover from the CS2 where the same icon for the signal was incorrect. The "proceed" (green) and "proceed slowly" (green/yellow) icons are swapped showing the other aspects (Fig. 4). As it turns out, I was able to change the icon in my CS3 and the aspect shows correctly (Fig. 5).

3. MFX signal (764xx series) cannot be used on non-MFX bases (763xx series) or vice versa.

4. The addresses are stored in the head so any signal mast can be programmed by any 763xx series decoder. This means that you can have any 763xx signal decoder program the mast of any signal on the layout by just installing it on the base of another signal. This would allow for a "signal programming base" on the layout to program any signal. The only thing that is needed is the programming clip to be installed.



As a bypass, wires could be soldered to the two contacts where the clip attaches to. Then a switch could be connected to the decoder to put it into programming mode. I have done such a thing on my layout to a nearby signal base. Then if I need to program a replacement mast, I can just program it in a convenient location then install it on the existing base on the layout.

5. I was able to program this simple block with a distant signal to function with the next signal, which was the newer MFX signal (764xx), and it works as it should showing the correct distant aspect.

6. It has been a long time since I have programmed one of these signals. One thing I do remember is that the wires that are soldered to the circuit board have insulation that is a little stiff. This means that the wires can break off the circuit board if care is not taken. I recall re-soldering several wires back onto the circuit board, so it is easy to resolder the wires if this happens.

Enjoy your hobbies! Rick Sinclair

Adapting the S88 Configuration: Duplicate Contacts

In the last article, the first step in making sure all the CS2 S88 connections are set for operating in the CS3 was to set the correct module contact assignments. From the transfer, I noticed that the S88 data in the CS3 had automatically set the first 16 addresses at the 'Direct' Bus setting and all other subsequent inputs were set to 'Matrix'. The user will not be changing any of his older S88 units to the newer S88s, therefore an S88 Link needs to be installed and all S88 contacts will and Contact number as needed be configured through Bus 3 (See Fig. 1).



At this point, there will not be any new S88 contacts added which simplifies some of the reconfiguration. No 'Direct' bus settings will be needed, and the initial 16 bus settings ('Direct' as stated above) can be set to Bus3, Module 1, with the corresponding Contact Numbers. Beyond that, the contact numbers went out of sequence and required a manual review and edit of the Module and Connection points (1-16).

Resolving Events with duplicated sensors

In the previous article, it was noted that the CS2 data file had duplicated sensors on a track plan. This setup is not possible on the CS3, and I incorrectly stated the use of 'Control Contacts' as part of the remedy. The main error occurs when trying to use a control contact as an event trigger. Instead, extra contact assignments will be needed, and the explanation is found within 'Setting Up Auxiliary Triggers'.

The main issue with having duplicated contacts is that it can cause multiple event starts. If duplicated contacts are used to give visual feedback (like contact tracks), then we must be sure that the duplicated contacts also display the same information, both on or both off. To set both to the same state (on or off), then you're basically triggering the same event twice, when you only wish the event to occur once. For example, there is a manual control and a track control trigger. If we start the manually controlled event, we will not have any safeguards against a track control starting the same event.

Setting Up Auxiliary Triggers

In this layout, the duplicated contacts need to function as event triggers. This means that a contact has to be assigned as an S88 article. They cannot be assigned as 'Control Contact' because control contacts cannot act as an event trigger.

Track Contacts		Switch contacts					World o
Name	Bus	Modul			Contact No.		
13 (58) cc	Bus 1	\sim	_	1	+	- 10	+
Fig. 2: Non-track (software) contacts set up under a different Bus							

These contacts also do not need a physical connection to the layout. There is some flexibility in configuring these contacts which I will explain. It can be set up as a higher order of module where the module number is so high that it will never conflict with a physical module. An example would be to assign a contact as module 50, when there are only 3 S88 modules in your S88 chain.

If possible, you can opt for setting the extra contacts under a different bus, where the module number is inherently different. Since the owner's setup requires all physical S88 contacts are under Bus 3, I've chosen to set up all the manual contacts under Bus 1. You can see an example in Fig. 2.

Events for Duplicated Contacts

My first step was to alter the events so that the duplicate (Manual Control) display accurately matches the Track Contact display. I located a departure event (C58 off) and added an additional step to turn off the corresponding Manual Control '13 (58) MC'. A 'before' and 'after' representation is shown in Fig. 3.

When you add a contact into an event, it may add the contact as a condition (or status check). This needed to be changed to an action, which can be toggled on or off (like a turnout or light). In Fig. 4, you can see the condition indicator '?', and the editing window to set the contact as either a condition or an action.

It may be easy to lose track of which events are relevant to each section of a layout. It will be helpful to create event groups for each of the events that are edited. This will facilitate the sorting function available in the CS3. This option is found in the event editor when you click on the trigger configuration box (the box left of the event step line). Fig. 5 shows the 'Group' setting. Clicking on the 'Again' button will allow you to create a group label.

I noticed that there was not any event that turned on C58, meaning that the contact is used as a departure event. There is a possibility that the contact may be turned on by another event which may reveal itself in further testing. However, I would need to create an arrival event to fully synchronize the doubled contact. I have relabeled

some of the event titles a bit to conform some changes based on the transfer (Fig. 6). Rather than 'C58 On', I'll use '8 C58 a' ('8' is the CS3 ID and 'a' is for an 'arrival' trigger). This is reassurance to notify that the event has been triggered by the track trigger and a manual retriggering can be prevented.

So far, I have set two track events to adjust the Manual Control (or manual) triggers. It is important to remember that this process is a two-way control. Either the track controls Manual Control, OR the Manual Control (MC) controls track control (TC). Each with an 'on' or 'off' command. A 'MC' control of a 'TC' can be more challenging because, with running trains, you do not really have any control of exactly when a 'TC' will be triggered. Therefore, within manual control, the track contact status must Again..



End time

Group

13 (58

8 (58) t

Route 3

Start time

Repetition

Fig. 5: The trigger editor displays the 'Group' setting



Fig. 3: Synchronizing a

duplicate contact

be checked before you can set the position of the TC (on or off). Without this precaution, a double trigger of an event can occur, making an event run twice. In the example shown in Fig. 7, if contact '8 (58) t' is already on, then the event itself will be aborted.

Actual Event Procedures

Both the Track and Manual Control Contacts have been configured to operate without risk of a double triggering of the primary event steps. The primary event steps are the main functions of the event itself. I would place these steps in the Track controlled event, because they are more directly related to the track function itself. Since our manual controls are set up to turn on the track contact, the track event would then turn on. There is no need to duplicate the primary event steps in the Manual event itself.



The use of duplicated contacts within layers of track plans/boards is problematic, this is a practical solution that will not cause diagrammatic errors. Instead, it does involve some precautionary event programming, and the results may be greater when you require multiple visual references to the same contact (or event trigger).

Curtis Jeung

Upcoming appearances:

- ONLINE Webinar June 11, 2025
- National Garden Railway Show June 19 – 21, 2025 Sacramento, CA
- NMRA National Train Show July 19 – 20, 2025 Novi, MI

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