



NEWSLETTER

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Current Central Station 3 Version – 1.1.0 (3)
Current Central Station 2 Version – 4.1.2 (3)
Current Mobile Station 2 Version – 2.5

We are back from Trainfest held in Milwaukee. It was a huge show as always and many of you came to see what is new and exciting in the Märklin world – including a model of the new “Challenger” locomotive that is soon to be released. We had a digital demo layout and a Central Station 3+ (CS3+) for people to play with. We also held seminars about the CS3+. There were fans of all scales in our booth with great comments and questions. All in all it was a good time, and we thank those of you that took the time to stop by our booth.

In this newsletter, we will show what it takes to modify lighting from amber LED headlights to warm white in an earlier “Big Boy” locomotive. Our second article is actually two short articles in a series on the Central Station 3. We hope you find them informative.

Modifying LED Lights in the Big Boy

First of all, I am not a fan of the “amber” headlights. In my opinion, they are borderline prototypical mostly because they are too “amber” (if that makes sense.) I think that the amber light should be a little whiter. So I decided to see how hard it would be to replace the amber with warm white LEDs. It was easier than I thought, but it was still a challenge. Here I will show how I changed the headlight and rear light in my Big Boys.

I start by removing the tender body. Remove the hatch closest to the coal load and remove the screw (Fig. 1). The tender body will lift up but it will be a little hard to pull because of the vibration dampening tape used inside.

Next is the boiler, there are two screws under covers, remove both and the top of the boiler comes off easily (Fig. 2).



Fig. 1 Tender screw under hatch



Fig. 2 The screws are under these covers

Take care with the handrails and other detail items on the boiler.

Once the boiler and tender body are off we can see most of the inner workings of the locomotive and tender (Fig. 3 and Fig. 4).

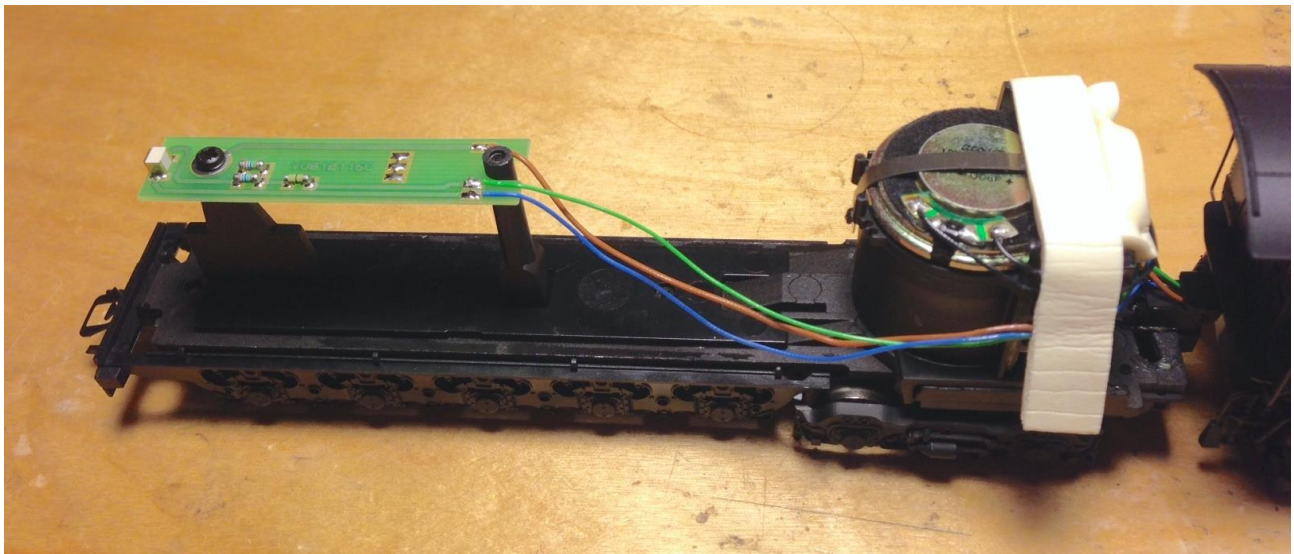
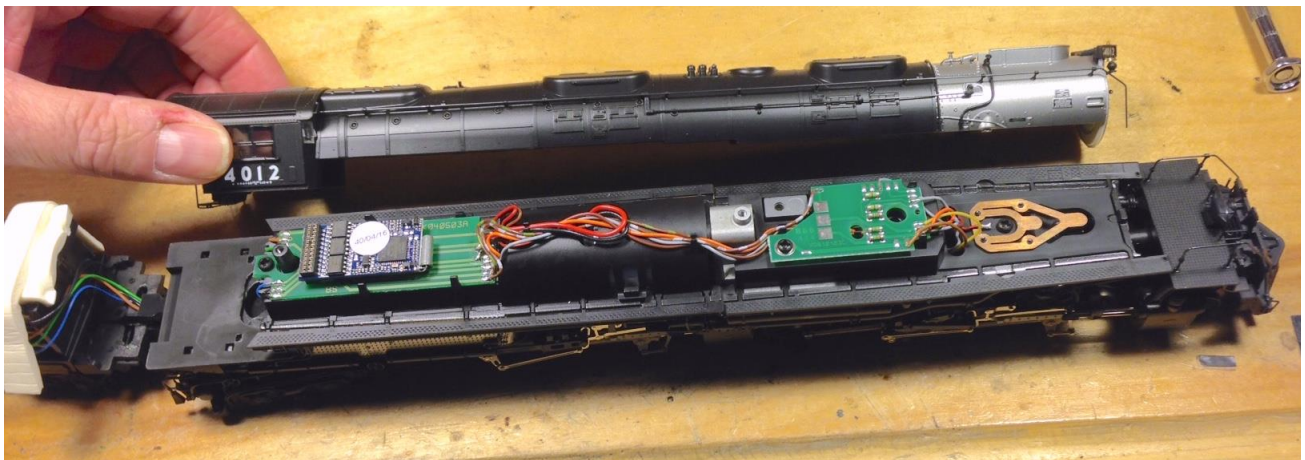


Fig. 3 The locomotive (above) and Fig. 4 the tender (below)

At this point, I turned the loco around in the pictures.

I removed the screw for the front circuit board, then removed the wires from the clips (Fig. 5).

Next, remove the screw that is in the middle of the smoke unit contacts, then the whole plate will lift up.

At this point, I need to unsolder three wires from the circuit board: gray, yellow, and brown wires. **Note:** There are two gray wires, only the gray wire that is on the side of the circuit board needs to be removed. It will be the gray wire that travels down like the yellow wire. Once the wires are removed, the side catwalk assembly can be removed.

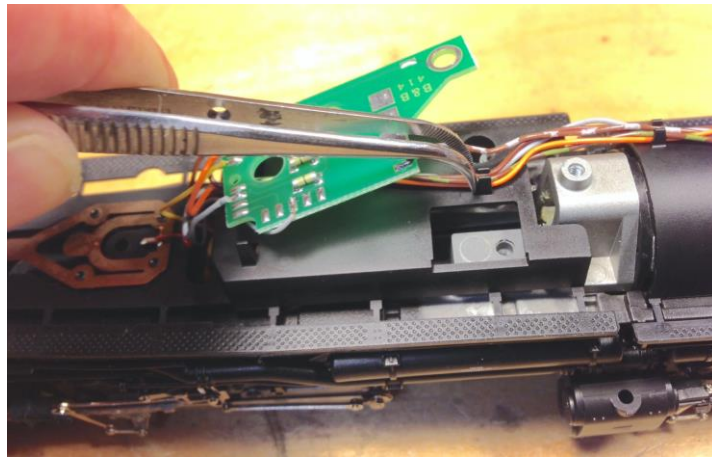


Fig. 5 Remove the wires from the clips

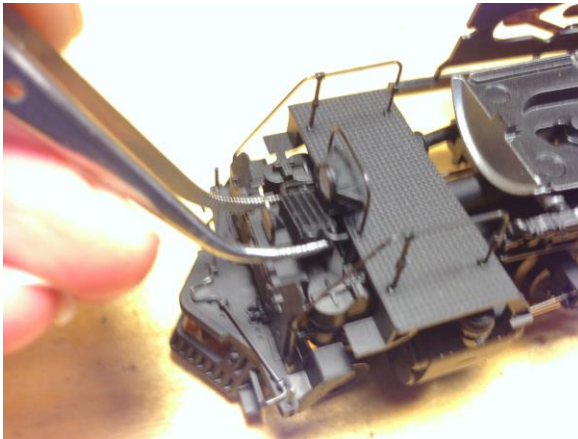


Fig. 6 Remove radiator and screw

Next, I removed the upper half of the nose. To do this, I removed the radiator that is right below the headlight and the screw underneath (Fig. 6).

The front catwalk and headlight will pop off as one piece just above the cylinders. The headlight lens is what is holding it in place at this point so it will be a little stiff until it pops up.

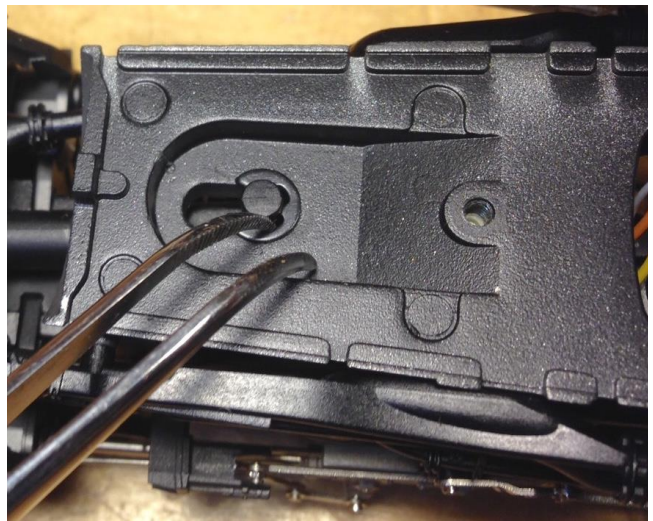


Fig. 7 Remove C-clip

Remove the C-clip inside the boiler base that is holding the large pipe in place (Fig. 7).

While you are at this point, inside the Big Boy, there's a screw that can become loose and fall out on occasion. It's the screw that holds the front truck to the lower boiler. It's just below the drive shaft cup on the front truck, so the worm gear/drive shaft cup will have to be removed. You may find this screw loose already, and it just needs to be tightened.

The cap holding the worm gear needs to be removed with the drive shaft. I found it easier to pry the tabs with a screwdriver from underneath – with the screwdriver coming up from the bottom next to the wheels. Next I remove the worm gear and drive shaft (Fig. 8). Remove the (loose) screw holding the front truck and it should be free from the boiler.

Gently turn the pipe in the front truck assembly 90° and lift it up. It is a loose fit, but it is indexed so be gentle (Fig. 9).

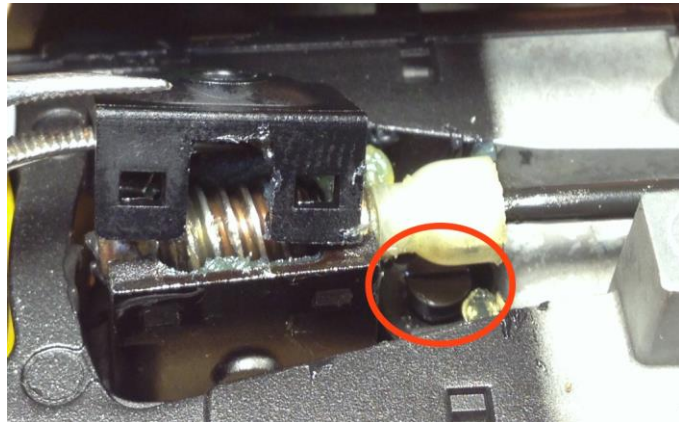


Fig. 8 Remove the worm gear cap. The loose screw is circled here

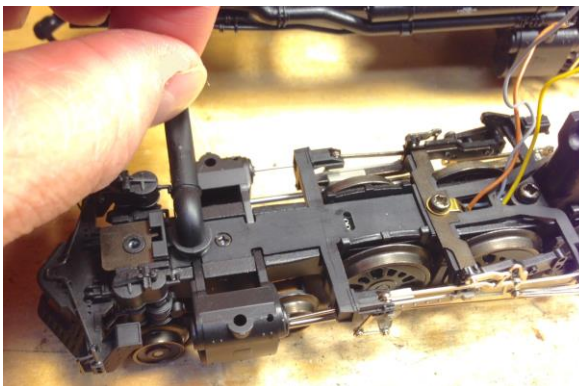


Fig. 9 Turn the pipe 90° and lift it out

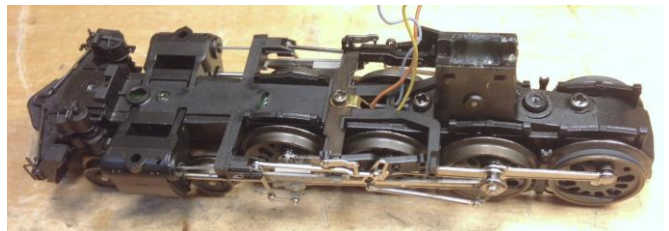


Fig. 10 Front truck assembly removed

Now there should be just the truck assembly (Fig. 10).

Remove the thin plate on the front of the truck (Fig. 11).

Next, remove the two screws that hold the plastic cover and drive rod support arms (Fig. 12).

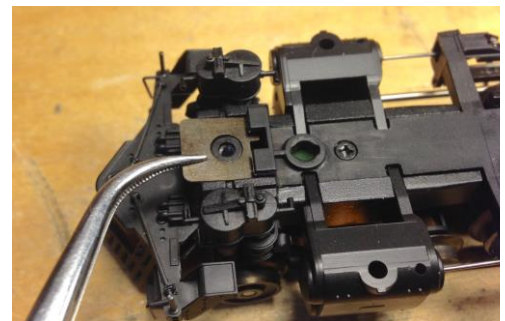


Fig. 11 Remove the plate

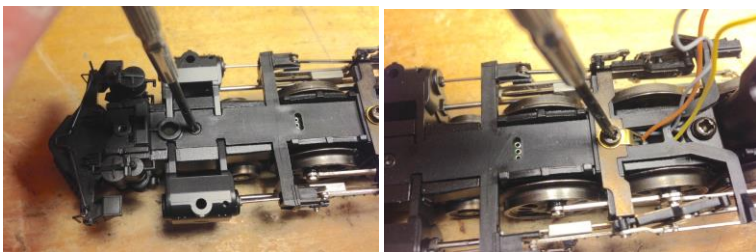


Fig. 12 Remove screws holding the plastic cover

The cylinders are clipped onto the frame from the sides. They don't need to be removed, but they can be. I just popped the lower clips by rotating the cylinders up (Fig. 13). **Note:** Be careful of the small silver rods, they are

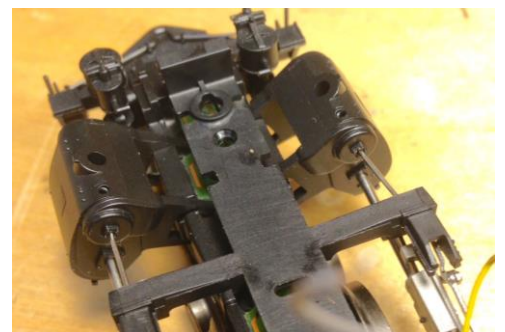


Fig. 13 Rotate cylinders or remove them

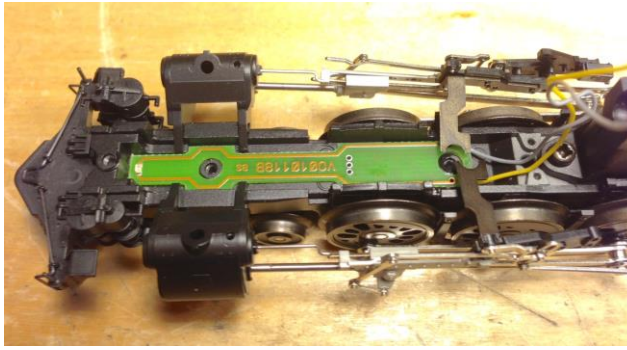


Fig. 14 Exposed headlight circuit board

easily lost because they are not held in place with anything.

Once the cylinders are rotated, the plastic cover can be removed and you will see the circuit board with the LED on it. It should lift right out at this point (Fig. 14).

The small LED is at the end with no wires. This is what I am replacing (Fig. 15). The LED that I use is larger than the original (Fig. 16), so I need to gently scrape off the layer of varnish on the circuit board leads to expose the copper so I can solder the new LED (Fig. 17).

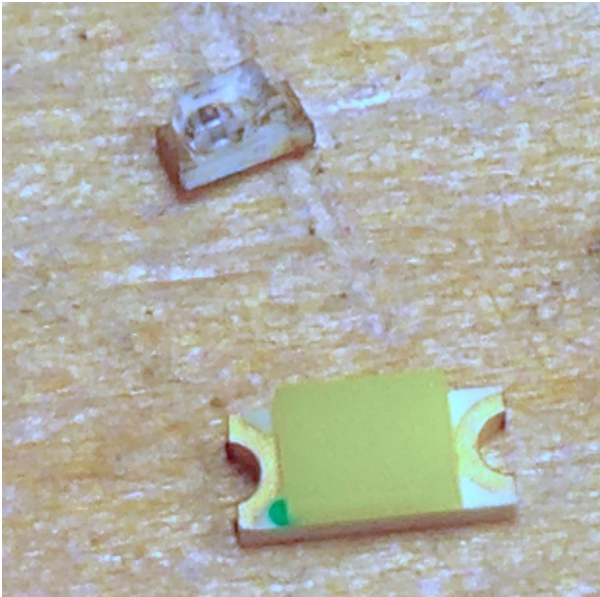


Fig. 16 Old LED (upper) and new "warm white" LED (lower)



Fig. 15 LED on circuit board



Fig. 17 LED removed and copper leads are scraped of varnish



Fig. 18 New LED soldered in place and tested

The cathode is the left lead (highlighted in Fig. 18). It can be a challenge to get the LED soldered. I usually have to do it a couple of times because I damage the LED by taking too long to solder it. The best way to solder the LED is to be quick so the LED does not get too hot and then test the LED right away.

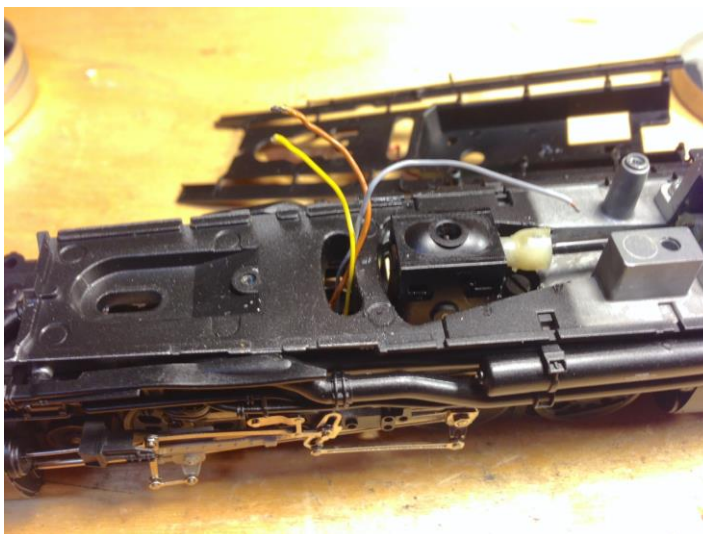


Fig. 19 Note wire routing

Now that the LED has been tested, it's time to reassemble the loco. It's basically the same steps in reverse. Be sure to feed the wires from the circuit board through the crescent shaped hole in the boiler (Fig. 19). Once I've proceeded far enough to solder the wires, it's a good idea to test the LED one last time (Fig. 20).



Fig. 20 Test before final assembly

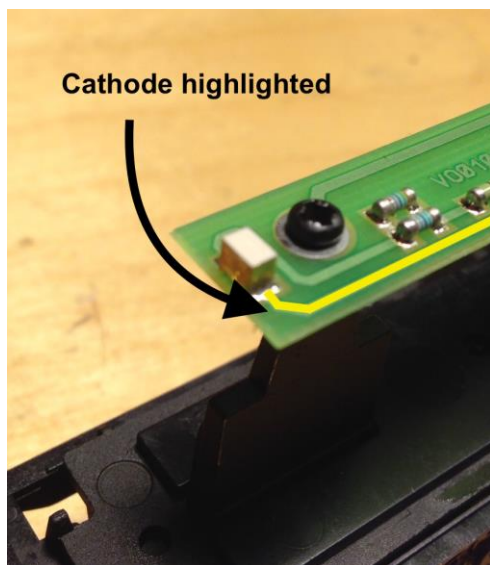


Fig. 21 Original LED in the tender with cathode highlighted

Now that the hard part is done, I will replace the LED in the tender. This is a much easier task, as you would expect.

As you can see the LED is easily accessible. The LED is right on top at the end of the circuit board (Fig. 21).

This is just a simple matter of removing the old LED and soldering the new one on (Fig. 22).



Fig. 22 New LED in place and tested

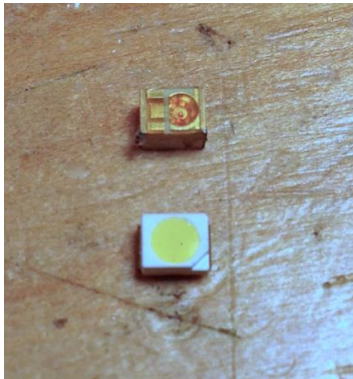


Fig. 23 Amber LED above
warm white LED below

The LED in the tender is much larger and easier to work with (Fig. 23).

The LEDs that I used are both warm white surface mount. The front is a (3.2mm x 1.6mm) and the rear is a (3.2mm x 2.8mm).

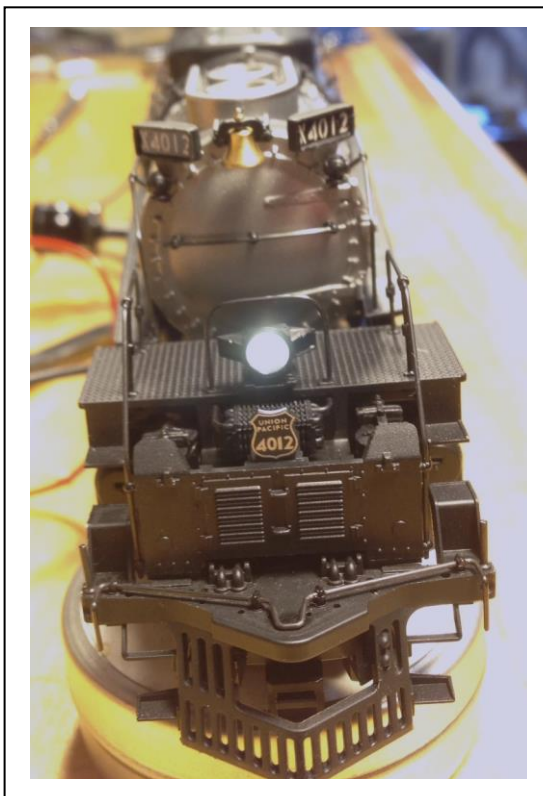
If you would like to just change the circuit boards, there are a limited number available from Märklin. The part numbers are:

Front – E143775

Rear – E143780

Cab -- E143779

Below are images of the finished loco.



Happy Holidays and always enjoy your hobbies!

Rick Sinclair

Part 1: Update Your Central Station 3 using Network Connection

Märklin's new flagship controllers, the Central Station 3 and Central Station 3+ are making their way to dealer shelves. If you're one of the early adopters courageously braving the waters on first generation releases, we are here to assist you to get your CS3/CS3+ running your layout. You will notice that the new CS3 has changed many of the operating procedures that were used in the CS2.

The first procedural change we'll show you is updating your CS3. This is also the first thing that we recommend upon plugging in your CS3. By the time I started this article, the CS3 had already undergone two software updates [current version 1.1.0 (2)]. Thank Märklin for being on the ball in getting these updates to us fast. It helps to keep our pre-existing layout operating as it should, and for new users it will insure that your track operations can be implemented as they should.

Proper Connection for Internet Update

Before we can discuss the software update for your new controller, we must first have it connected to an Internet access point. For most of you, this will be an Ethernet cable connected to a LAN port of your modem or router and to the Ethernet port on the back of the CS3. It is important to make this connection **before** powering up your CS. Märklin had removed the DHCP "Renew" button that was available in the CS2. Therefore, the Ethernet network connection must be made prior to power up in order to receive the automatic network IP number from the router. If this is not done, then you may have to enter your IP information manually. I do not recommend this method unless you have someone reasonably versed in TCP/IP setups to assist you.

The second reason why it is important to have the network connection hooked up is that the CS3 now has the ability to notify you of any available updates. To be clear, your network connection of the CS3 must be connected to a router that is connected to the Internet. If you are unable to connect your CS3 to an Internet connected router, then the CS3 will be unable to auto detect any available updates. Also, you may have to do your updates via USB memory stick, instead of an online update.

To check if you are successfully connected to your Internet router, first click on the 'System' window icon at the top left of your CS3 main screen (Fig. 1). Doing so will open the 'System' navigation panel (Fig. 2). Note the panel labels at the top of each column: 'Settings' and 'Assistants'. Click on the IP button, indicated by the red arrow. This will open the IP section of the system 'Settings' panel.

The window panel is now displayed as the 'System/Settings' window and the CS3 section should be selected. This is indicated by the matching darker blue of the panel selector (left side) and information panel labeled 'CS3/CS3-1'. If you don't see the IP settings, then you may have to scroll up or down the information panel to locate the IP section. Click on IP icon triangle to reveal the settings if they are hidden.

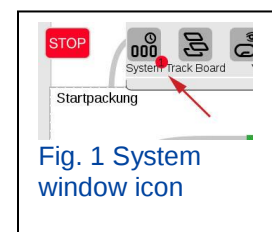


Fig. 1 System window icon

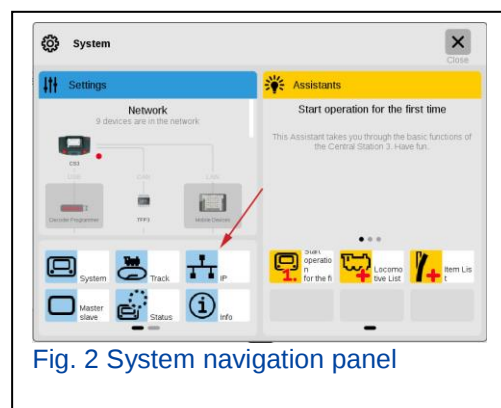


Fig. 2 System navigation panel

Fig. 3 shows the selected information panel (double arrow), and the section triangle that hides/reveals the section information (single arrow). If your CS3 was connected to the router prior to start up and the IP Address Assignment is set at 'auto (DHCP)', then the fields for IP Address, IP Network Template, IP Gateway, and DNS Server should all be filled in with a full set of numbers. If they are blank, then it is possible that you have connected the CS3 into the WAN port of your router instead of the LAN port, or the CS3 isn't connected to the router prior to start up. You will have to re-start the CS3 in order to obtain the IP Assignment. If you do have a good connection to your router, then we can proceed with updating your CS3.

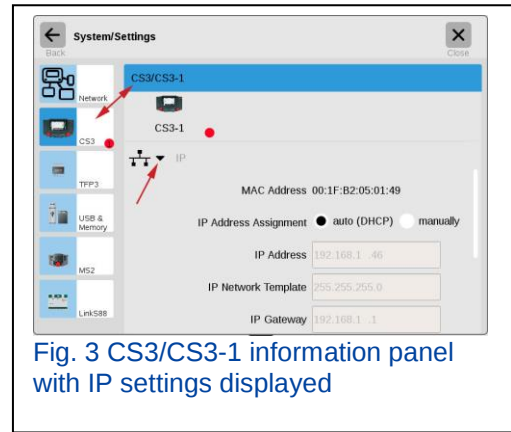


Fig. 3 CS3/CS3-1 information panel with IP settings displayed

Checking for Available Updates

With a proper Internet connection to your CS3, it is now very simple to detect updates. When an available update is available for your CS3, a red dot indicator is displayed at various screens of operation on the controller. In Fig. 1 a red dot is displayed on the 'System' icon. In Fig. 2 & 3, you can see the red dot on the CS3 icons. These are all indicators of an available update. The indicator may also include a number inside, which indicates how many updates may be available.

To initiate the update, go to the CS3 information panel in the 'System/Settings' page. This procedure is identical to how to get to the IP information panel discussed in the previous section. Only this time, you must be in the 'System' information section of the 'CS3/CS3-1' panel (Fig. 4). At the upper right hand corner of this panel, an install update icon is revealed (indicated by red arrow). Please note that this icon is only shown when an update is available, otherwise it is hidden and its use easily forgotten when revealed.

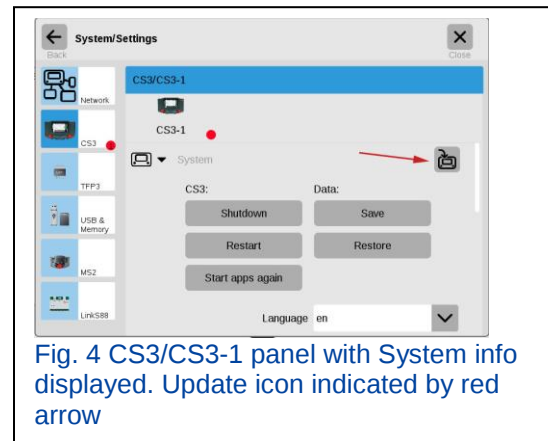


Fig. 4 CS3/CS3-1 panel with System info displayed. Update icon indicated by red arrow

Click on the install update icon and a dialog box will ask you to confirm that you wish to perform the update (Fig. 5). Clicking on the Checkmark will change screens to show the Updater window.

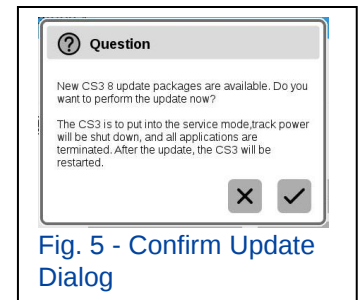


Fig. 5 - Confirm Update Dialog

Fig. 6 shows the Updater window. On the left panel of the Updater window, a list is displayed of current and prior updates. Current available updates will have a check mark in its selection box and be listed in black text. From there, you must select the 'Start' button, at upper right corner, to begin the update. Note how the 'Ok' icon is greyed out. Once the update has been initiated, you may track its progress in the right panel, as well as the progress bar along bottom of screen.

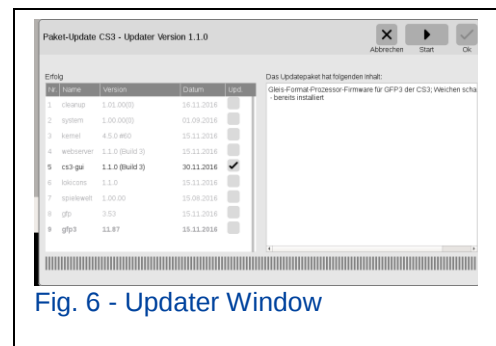


Fig. 6 - Updater Window

When the update progress is finished the 'Ok' button is now available for access and you must click on this to complete the update. The CS3 will restart and if all the updates are complete, the 'System' icon from Fig. 1 will no longer have a red dot. Also, by looking at the CS3 information page in the 'System/Setting' window, you will see that the CS3 icon will now display a green dot with a checkmark indicating that your CS3 is up to date.



I have found that Märklin has made it simpler to identify and initiate an update to the new Central Station 3. As I stated when I started this article, they were on version 1.1.0 (2). When I finished, I was able to install an additional update to version 1.1.0 (3). How quick and easy is that?

Part 2: Transferring Data: from CS2 to CS3

In my previous article I wrote about the first essential task upon receiving your Central Station 3 - updating the system. For readers who have a CS2, I expect the second task that many of our readers have sought instruction on is transferring the data from their CS2s into their CS3. Well here we go.

Backing Up Data from the CS2

If you are already familiar with backing up your data from your CS2 onto a USB memory stick then skip to the next section. To get the data off your CS2, first go to the Setup tab>CS2 menu. You will need to select the USB radio button indicated in Fig. 7. Once selected, then click on 'Save'.

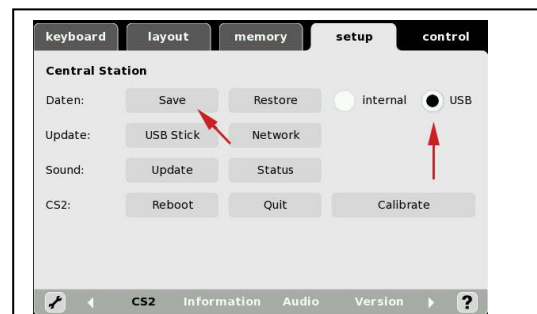


Fig. 7- USB selected and Save data button

Clicking on 'Save' will open the 'Backup Data' dialog box shown in Fig. 8. By default, the file will save the name as 'Backup'. I suggest changing the name for easy identification. In the example, I have changed the name to "3-loop transfer". Click on the green checkmark.

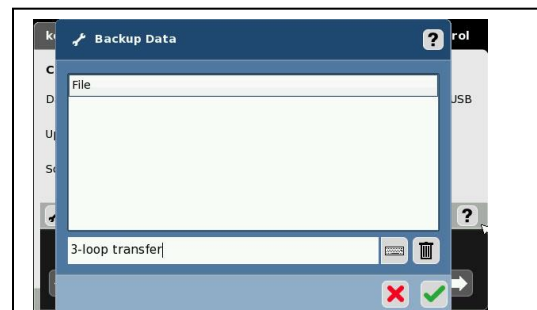


Fig. 8 - Data file re-named

There will be one final dialog box (Fig. 9) allowing you to confirm that the data is to be written in the file name that you have selected. Selecting the green checkmark will begin the backup.

The CS2 currently does not have any progress meter on the backup procedure. The backup to USB procedure may take some time. You will find that you won't have any control of the screen on your CS2, do NOT be alarmed. This is normal if you have extensive information on your CS2.

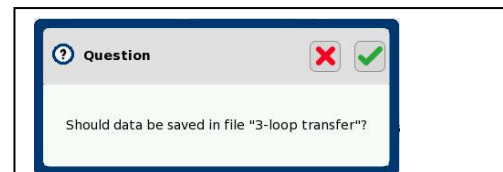


Fig. 9 - Final confirmation of backup

Tip - To see if the backup is complete, select another tab in the CS2 (i.e. Keyboard or Layout tab). If it does not switch over, then the backup is still in progress. In some cases, if you leave the CS2 alone, it will switch over to the selected tab when the backup completes.

Once the CS2 has been backed up to the USB memory stick, you may remove it from the CS2 and proceed to the next step.

Transferring Data to the CS3

To install the saved data from your CS2 into your CS3 you will actually be restoring data that you backed up as a CS2 file. Begin by going to the System/Settings>CS3/CS3-1 panel of your CS3 (Fig. 10).

Click on the 'Restore' button under the 'Data:' column in the panel. This will open the 'Import backup' window. To the left is a selection column that will list devices to import or backup from. Number 1 in Fig. 11 shows that I have selected the 'USB 0' device. Selecting the device will change the content in the table on the right of the column.

Number 2 in Fig. 11 displays the file folders found on the 'USB 0' device. I have selected the 'cs2', because this is a backup folder created by the CS2 when we saved the data. Selecting the folder will display the available backup files that are available. In this case, '3-loop transfer.tgz' is displayed. It is possible to have more than a single file in this folder, which is why it was important to have renamed the 'backup' filename when saving the data on the CS2.

Select the file that you wish to import (aka 'restore') into the CS3. In this instance, I have selected '3-loop transfer.tgz' (Number 3 – Fig. 11).

Click on 'Ok' at the top right corner. This will open a final confirmation dialog box (Fig. 12). This box is essentially reminding you that the restored data will replace any current operating setup that you are working with in the CS3. (Please see the sidebar 'Analogy On Backups' for some advanced explanation of what this means.) It also notifies that importing from a CS2 is allowed.



Fig. 10 - CS3/CS3-1 Data Restore button

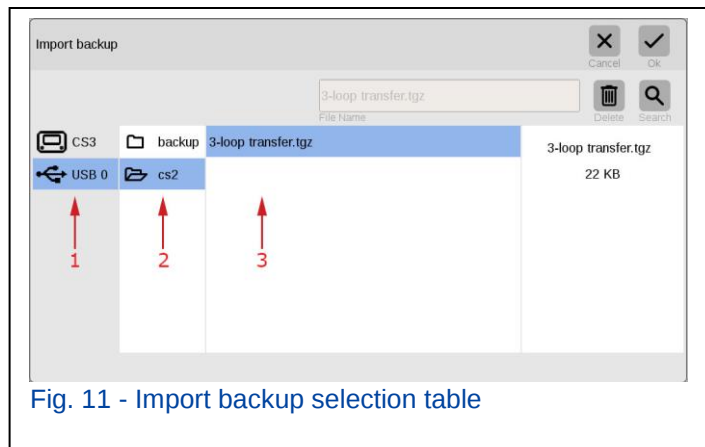


Fig. 11 - Import backup selection table

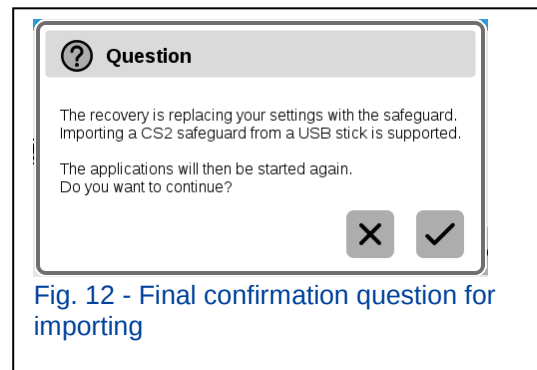


Fig. 12 - Final confirmation question for importing

By clicking on the checkmark box, the CS3 will now read the data off the USB Memory device and replace any operating configurations that you may have on the CS3. You have now transferred data from the CS2 into your CS3.

Additional Information when Transferring Data from CS2 to CS3

(Warning - May contain geekspeak, causing glassing-over of the eyes!)

It is important to make you aware of some of the data differences when transferring the data from your CS2 to the CS3. The most notable difference will be any track plan data that you have entered into the layout pages of your CS2. The programming algorithms used in the Layout page of the CS2 are distinctly different than those of the CS3. In some cases, the CS3 track plan layouts may need editing, in others it may be easier to start from scratch.

While transferring data from a CS2 is an easy and efficient method, it is a good idea to consider the following. Loading new devices is a relatively simple process to start from scratch, especially when considering mfx type decoders. If your layout consists of primarily non-mfx decoders, the data transfer will save you time instead of having to re-enter data.

To let you compare the data differences, I have included data image files from both the CS2 and CS3 results on the next pages. While this is not an in-depth look at the data, it should give you a basic idea of what to expect.

“Let the whistle wail and take it in slow,”

Curtis Jeung

ANALOGY ON BACKUPS

Backups and restored data can be used for more than just saving your operational data on the Central Station.

They can be used for distinct layout and train information for specific operations. The best way to explain this would be to use an analogy of a dinner menu.

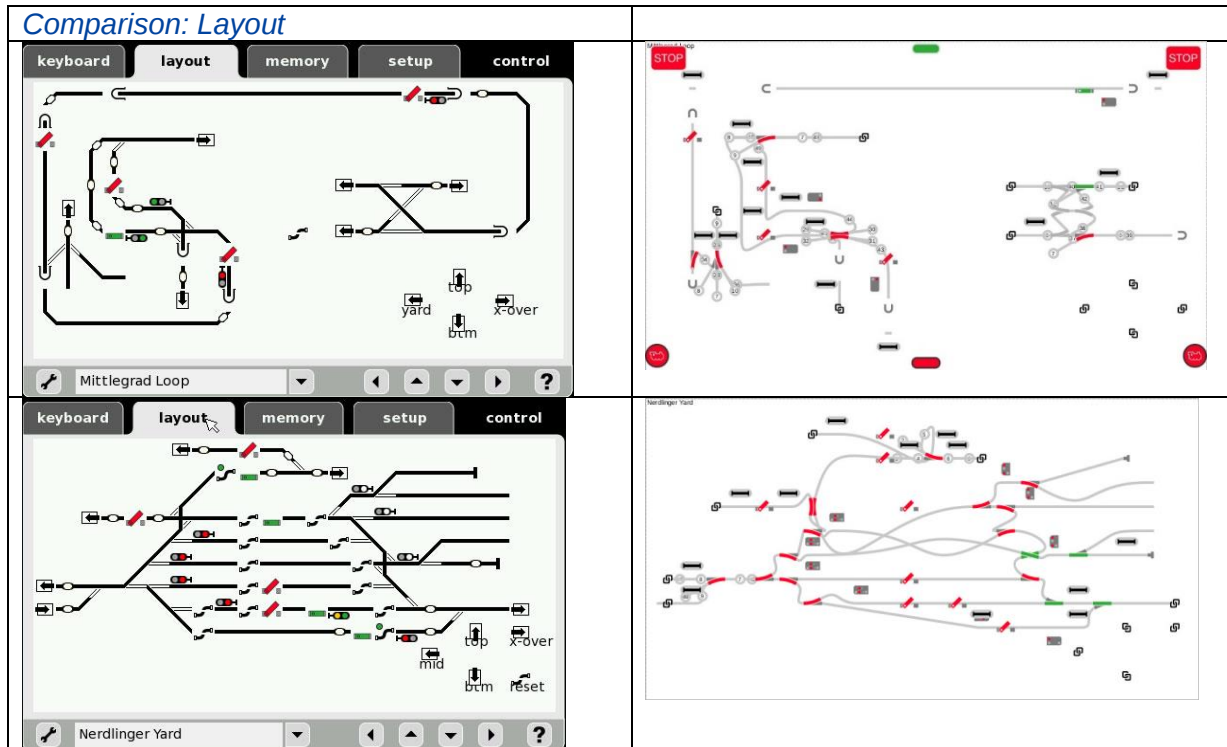
Each item on the menu is different than the other, yet you can only have one item on the menu. The menu items are all of your backup files that you can save in the CS. When you restore or pick from the menu, that is the dish that you are served. It is the current setup that the CS is working from.

If you should choose another item from the menu. Your existing dish is removed and replaced with a completely different meal. The same applies with the CS backup files.

If file 'B' is to replace file 'A', you should be aware of the differences between the two. For example: file 'A' has loks 1,2,4 and turnouts t1, t2,t3. File 'B' has loks 1,3,5 and turnouts t1,t3,t4. Switching one for another may cause you to note missing items from your current operating file (or plate of food).

Comparison: Locomotives





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

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E-mail: digital@marklin.com



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