



NEWSLETTER

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Current Central Station 3 Version – 2.5.1 (0)
Current Central Station 2 Version – 4.3.0 (11)
Current Mobile Station Version – 4.1
Current MS WLAN Version – 4.0.0.1

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We are getting ready to head to West Springfield, Mass. to attend the Amherst Railway Society Train Show. It is supposed to be cold, but we are looking forward to seeing friends of Märklin Digital, including several European Train Enthusiasts (ETE) chapters in the region.

Speaking of the ETE, we have heard there is interest in starting a new chapter in Missouri. Since this is where the home office of Märklin North America is located, we are very interested in a chapter starting in our state. If you live in Missouri or a surrounding state and are interested in joining this new chapter, contact us at digital@marklin.com to help get a chapter started in Missouri.

Our first article is on the simple topic of a default address of an MFX locomotive, and the second article is about Understanding Wireless Connections with Central and Mobile Stations

Non-MFX Controllers

We have had many calls lately about the confusion some people are having about a “default address” in their locomotive. Since the modern Märklin controllers use the MFX technology, there is not always a need to know the default address, but some people want to run their trains on their club layout with an outdated controller. This could be an Intellibox or possibly the old 6021 controller from Märklin. The 6021 is still very dependable and there are many of them out there and they can be useful even with the modern CS2 or CS3 platforms, but that is not what this article is about.

The old 6021 era controllers (Fig. 1) operated with the Märklin Motorola 2 protocol (MM2). This is the first digital train system. So, it goes back to the late '70's when it was developed (before DCC). These controllers (6021) were only capable of four physical functions (plus lights) such as smoke, and Telex couplers. These are the same physical functions as today but these days there are more functions such as sounds and SUSI functions for things like pantographs and moving engineers.



Fig. 1 – Märklin 6021 Controller

These older controllers were only capable of 80 digital addresses, which also means that once all 80 addresses were used, they would need to be duplicated, so a person could have several locomotives with the same address.

When a person wants to run a modern MFX locomotive on a 6021-era controller, the controller will only be capable of operating the first four functions and lights, leaving up to twenty-seven functions inaccessible.

MFX “Default Address”

With the use of MFX decoders, a Central Station or Mobile Station will register a locomotive with a unique address. Even if two identical locomotives are registered into a CS or MS, they will still be assigned a unique address, and can be controlled individually.

With all of that said, each locomotive has what is called a “default address.” This is specifically to run the locomotive on the 6021-era controllers, with the same limitations of four functions and lights. The locomotive manual will specify what the default address is with a two-digit number from 1-80. As an example, figure 2 shows the default address in the manual. This address will be different for each locomotive. One note is that with the DCC protocol, the default address is always set to 03 from the factory.

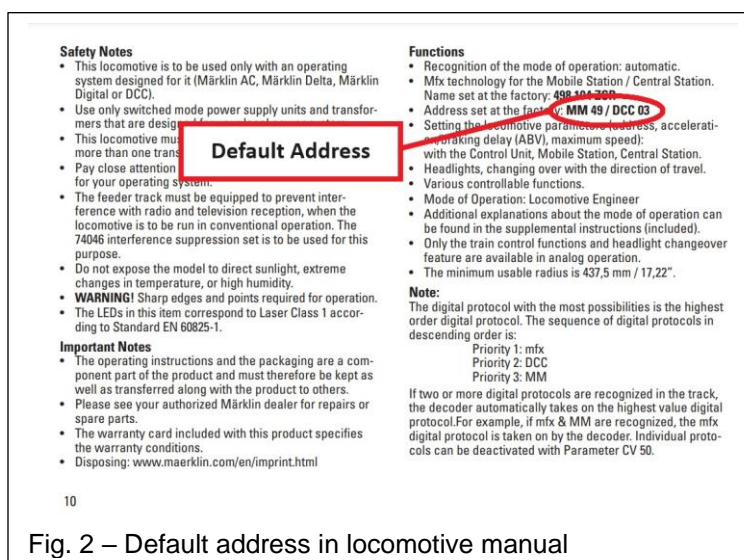


Fig. 2 – Default address in locomotive manual

Setting a Different Default Address

The factory default address can be reset to a different number using a CS2/CS3, CS3+. Once the locomotive is registered, get into the locomotive settings with the wrench icon (Fig. 3 - CS3 images used).

Once in the locomotive settings, and in the “Info” tab, you will see a window labeled as “Address.” This is where the confusion comes in. This is **not** the default address. This number is just an index that is assigned to the locomotive when it is registered as an MFX locomotive. This “index” number is so the CS2/CS3 has a reference for locomotives when a person is using one of the parameters to arrange the order of locomotives in the inventory. A CS2/CS3 can sort by name, type, history, max. speed, or address.

What happens is the CS3 will choose the lowest number it can in its internal digital addressing file. Since MFX registers a unique address, the “sort” order would change when another MFX locomotive is registered or deleted. Therefore, there might be confusion for the user to find a locomotive (or more locomotives) that keep jumping around in a sorted list.

To find the actual default address, select the “Configuration” tab. This will list the settings of the decoder in their categories (Fig. 4A) and then select the “Formats” tab by touching the triangle. Then scroll down to the line that says “MM2 Address” (Fig. 4B). In the third column there will be a number, this **is** the default address.

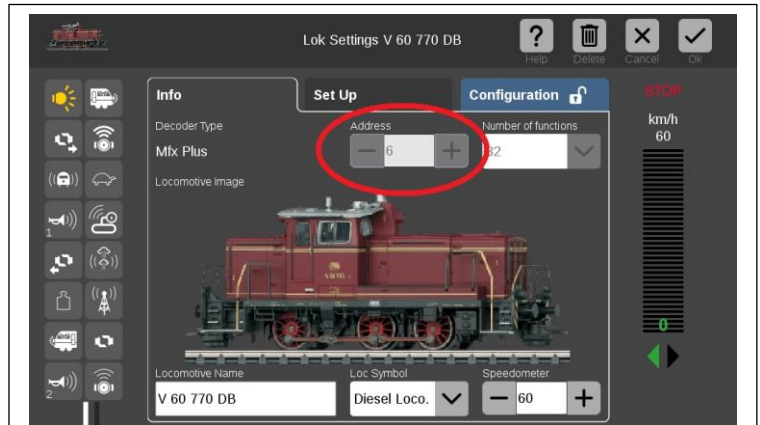


Fig. 3 – CS3 image of locomotive settings screen.

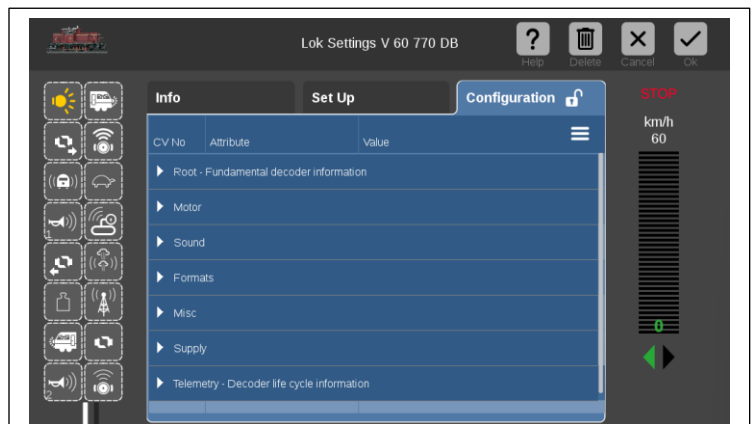


Fig. 4A – Locomotive configuration screen

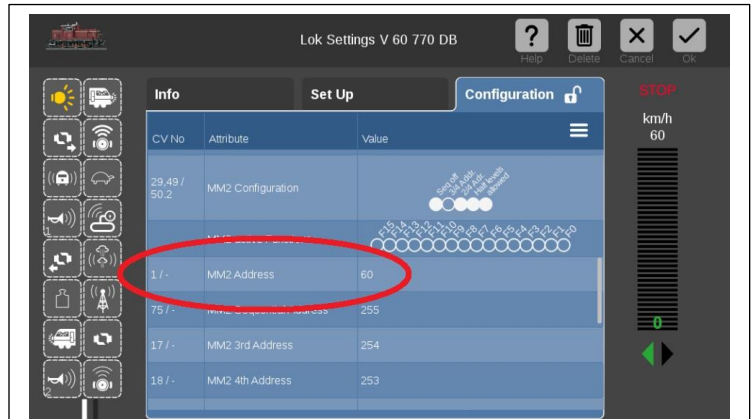


Fig. 4B – Locomotive configuration screen

At this point, the address can be noted. If you would like to change the address, touch the default address and a pop-up window with a keyboard will appear (Fig. 5). You can then enter the desired address.

When selecting a new default address, one should plan and select a two-digit number between 1-80. Otherwise, the older controllers will not be able to run the locomotive.

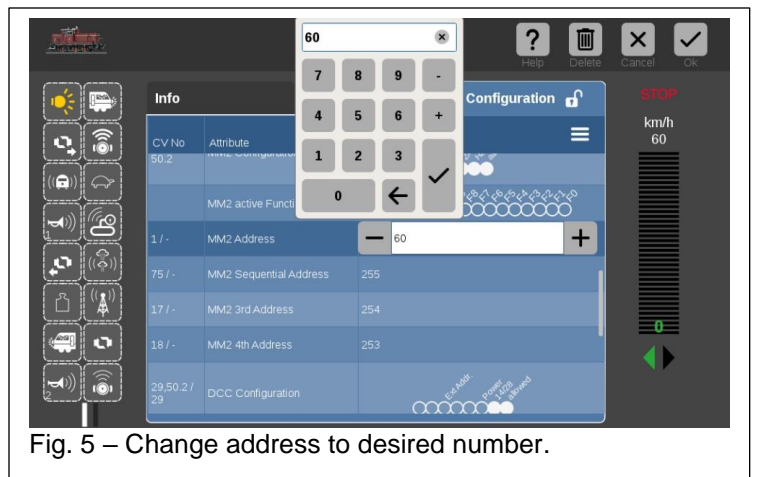


Fig. 5 – Change address to desired number.

A Few Last Notes

The DCC default address is also in the same “Formats” category, and it is just a few rows down from the MM2 address. The DCC address can be changed in the same way. Changing the default address is not possible when using a Mobile Station once the locomotive is registered in mfx protocol. However, the default address can be changed if the locomotive is entered manually.

It is important to note that when an older locomotive is converted to digital, the person installing the decoder should assign an appropriate default address or one should be specified. If nothing is changed, the default address of retrofit decoders is 78. For DCC, the address will be 03 by default.

I hope this clears up any confusion using a default address on an older controller.

Enjoy your hobbies!

Rick Sinclair

Understanding Wireless Connections with Central and Mobile Stations

In our last newsletter, Rick introduced the WLAN Mobile Station (60667) and initial setup procedures. In this article, I will discuss wireless connectivity regarding the Central Station, Mobile Station, and the WLAN Receiver Box (60117). I will focus on the combination of components necessary depending on how you choose to enable a wireless network.

Choosing a Wireless Path

The main issue with accessing your layout Wirelessly is understanding what and how a wireless path is set up. In most common occurrences, you may already have wireless access to the internet via a router in your location.

Network Wireless Router or WLAN Receiver Box

For Central Station owners, the CS alone does not have wireless capabilities, but it does have networking protocols. Plugging your CS into a wireless router enables the protocols to be accessed wirelessly via the router. In this manner, you can control your Central Station using any mobile device (tablet or phone).

For some users, a connection to a wireless router may not be practical or desired. For instance, your layout is in a separate garage away from your home's wireless network. If you simply seek a wireless way to control your layout, then the WLAN Mobile Station is the solution. It is a wireless controller, but it needs a way to convert its control commands to your layout.

To connect the WLAN MS to your CS, you will need the WLAN Receiver Box (60117). Its function is to act as a wireless access point to connect to the CS. FYI, an access point is just one of many functions that a wireless router has.




















You can connect the WLAN box directly into one of the front MS sockets of your Central Station and then you can connect to your Central Station using the WLAN Mobile Station. The WLAN box will only work with the Wireless MS. I will explain in more detail what effect this may have later in the article as I want to layout the different connectivity options first.

Mobile Station Only

For users who only use a Mobile Station control, you will still need to use the WLAN Receiver Box. The WLAN Box will connect to any 10-pin port of a track box (60114/60116/60112/60113). This is the track/controller/power connection box that is primarily used for a Mobile Station only controlled layout. The WLAN Box acts as a wireless access point for the track box, instead of the Router AP for a Central Station that was previously described.

An additional benefit of the WLAN Receiver Box (60117) is that it also has an IR receiver which will enable track control using the Marklin Power Control Stick. This is the hand controller that is typically used with some of the Marklin Start Up products.

The table on the following page displays the different connection schemes regarded in this article. Following this, I will talk about some of the pros and cons of the different methods.

Main Controller	Access Point Options		Wireless Remote	
	 Wireless Network Router		 60667 WLAN Mobile Station	 Mobile Device w/ web Browser
	60117 WLAN RB 		 60667 WLAN MS	
 WLAN MS 60667	60117 WLAN RB 	 Track Box 60116	 60667 WLAN MS	
 60657 (wired)	60117 WLAN RB 	 Track Box 60116	 60667 WLAN MS	
	60117 WLAN RB 	 Track Box 60116	 60667 WLAN MS	

The various wireless solutions mainly involve the WLAN Receiver Box (60117). It can be used with any Central Station, Mobile Station (wired or WLAN) and even benefits the Start Up controller which is IR driven. It is the Wireless necessity for Mobile station layouts only, but it is an option for the Central Station Owner.

Notes Regarding Network Routers

For the Central Station Owner, again, they have an option of using a Wireless Network Router instead. One benefit of the Router option is that you can access control of the Central Station using any Web Browser and mobile device that is connected to the same network as the CS. This means a Mobile tablet

or phone. However, it may not be as responsive as the WLAN Mobile Station, due to latency (time delay of signal transfer).

Finally, a note regarding the use of a Wireless Router connected to a Central Station. A wireless router does NOT need to be a part of your home networking setup. It can be an independent router. What does this mean? A home network typically enables you to access the internet. By using a separate Wireless router, you will essentially be creating a separate network, but it may or may not be connected to your main home network. Connecting two routers to be on the same network is outside the scope of this article.

By using a separate wireless router, you will be creating a wireless access point just for your layout. It is like using the WLAN Receiver box, but a Wireless Router allows for mobile device access. Just keep it in mind that your mobile device may need to be switched to the layouts network, because it could still be signed into your other network (i.e. the house's internet network).

You should now have a clear picture of what components to use when setting up your layout for wireless access. Whether you have a Central Station or Mobile Station you can see there is a method for practically any situation.

Curtis Jeung

Upcoming appearances:

- **Amherst Railway Society Railroad Hobby Show**
West Springfield, Massachusetts
January 27-28, 2024
- **Bushnell Station**
Bushnell, Florida
March 2, 2024
- **Rocky Mountain Train Show**
Denver, Colorado
April 6-7, 2024
- **ONLINE Webinar**
February 14, 2024

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

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