DTS Manual
iTrain Remote

Content

Introduction

With the arrival of iTrain 5, a very important function has become available, the virtual interface. A development that DTS was able to make available in collaboration with Berros. What started as a long-cherished wish for Dinamo* users turned out to offer a great advantage in a very broad area during the implementation.

The Virtual Interface makes it possible to manually operate all locomotives and accessories in iTrain with a LocoNet manual hand controller, regardless of where the locomotives or accessories to be controlled are located. Where conventional methods can only control the control panel connected to the controller, with this solution you can also control other control panels with a single hand controller. This has a lot of advantages:

- ✓ In addition to digital locomotives, you can also shunt with analogue locomotives
- ✓ Even with multiple interfaces, you only need one hand controller
- ✓ You can see the speeds and status of the locomotive live on the controller
- ✓ iTrain can follow your movements and reserve points and blocks ahead
- ✓ You can shunt through the automatic traffic without any problems.
- ✓ You can intervene during automatic driving of a locomotive without disturbing the process
- ✓ You operate iTrain directly instead of the central

DTS has extensively tested the virtual interface and on this basis, we have launched the iTrain Remote. This is a package with necessary hardware and support. One of the supports is this manual for the iTrain Remote.

iTrain Remote is available from iTrain 5 standard, Plus and Professional

Sincerely,

Martin Domburg
Domburg Train Support

* Dinamo *

This is a hybrid operating system that makes it possible to be automated with both analogue and digital locomotives. You can find more information on www.vpeb.nl

What you will need to use iTrain Remote

To use iTrain Remote you need several items:

- ✓ iTrain 5 license Standard, Plus or Pro
- ✓ USB LocoNet interface
- ✓ DTS LocoHub
- ✓ LocoNet manual controller

You can find all these items in our webshop: www.dtswebshop.nl

In the next part we will highlight the above items.

iTrain 5 licence

You need at least iTrain 5 to create a virtual interface in iTrain. From the Standard license you have the option to add an extra interface to your layout. From Plus you can use more than 2 interfaces in case you use multiple interfaces.

You can purchase the iTrain 5 license, or an upgrade from iTrain 4 to iTrain 5 through our webshop.

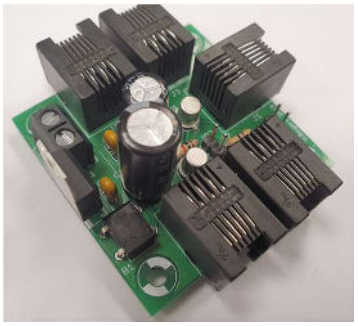
USB LocoNet interface

A virtual interface takes advantage of the benefits of LocoNet. This makes it necessary for the manual controller to be connected via a LocoNet interface. The virtual interface is not used to control anything, which would make a costly central very expensive for this application. You can no longer use the interface for anything else. For this application we use a much cheaper solution, the USB interface. This is a unit that converts a USB connection to a LocoNet signal.

We recommend the Uhlenbrock 63130 USB Interface for the iTrain Remote.

DTS LocoHub

The LocoNet signal from the interface is not immediately usable for a manual controller. To make this possible, we have developed the LocoHub. This circuit board gives you the option to connect 4 hand controllers directly, or to build up a LocoNet bus.



The DTS LocoHub provides the LocoNet bus with a stable 12V power supply and a termination which is necessary to establish communication.

In the appendix you will find a connection diagram of the DTS LocoHub, later in this tutorial we will further discuss connecting the components and therefore also the LocoHub.

LocoNet manual controller

LocoNet hand controllers have the enormous advantage that the hand controllers can not only tell iTrain what they want to do but can also show what is happening. So, you can also see the speed controller digitally and live on screen. The controllers that we have tested:

Piko SmartControll Light

This hand controller is the cheapest LocoNet hand controller that is known to us. The great thing about this hand control is that despite its price it is an exact clone of the Uhlenbrock Daisy, which is a lot more expensive. But there are a few practical drawbacks to this manual controller, so the shape is less ergonomic than the Daisy and it is only available in wired form. Qualitatively the controller is identical to the Uhlenbrock.

Uhlenbrock Daisy II

This manual controller is perhaps more expensive than the Piko but offers more practical options. For example, holders are available for this manual controller, but it is also available in a wireless version. The Daisy II is qualitatively the same as the Piko because both controllers have the exact same hardware.

In addition to the two controllers that we tested, Berros also tested with various other LocoNet controllers such as the DigiTrax, Fred, ProfiBoss and Intellibox.

You can find the hand controls tested by us in our webshop.

DTS iTrain Remote or WLAN Mause

Even before we started developing the virtual interface, Berros had already built in support for the WLAN Mause which is part of the Roco Z21 digital system. With the WLAN Mause you can also operate iTrain directly and create a kind of virtual interface. But this is different, because the WLAN Mause is registered as a manual controller and not as a virtual interface. However, this method is not disabled because it is an inexpensive way to operate analogue and digital locomotives in iTrain. For just one hundred euros you can wirelessly control your layout using Wi-Fi. And that certainly doesn't sound wrong, whatever it is. We have listed the pros and cons for you:

Functions	WLAN Mause	iTrain Remote
Control analogue and digital locomotives	√	√
Control accessories over multiple interfaces		√
Operating functions of trains	√	√
Controlled shunting on alternating streets		√
Reservations are made by iTrain	√	√
Track the locomotive's behaviour in real time		√
Intervene during automatic driving		√

Described very briefly, the WLAN Mause is suitable for the simple movement of a locomotive and for test work. If you want interactive shunting, the iTrain Remote is better suited.

Connecting the iTrain Remote

Connecting the iTrain Remote is very simple. Below is a step-by-step plan for connecting the components from the package:

1. Mount the USB LocoNet interface near your computer.
2. Mount the LocoHub in an easily accessible place.
3. Connect a power supply to the two screw terminals of the LocoHub (See appendix 1)
4. Plug the supplied LocoNet cable into the USB LocoNet interface.
5. Plug the other side of the LocoNet cable into any port on the LocoHub.
6. Connect the USB cable from the USB LocoNet interface to your computer
7. Insert the hand control in any port on the LocoHub.
8. Start iTrain

Extra information regarding the power supply:

The power supply on the LocoHub is not polarity sensitive and may be a voltage supplied by a direct voltage, alternating voltage or a digital DCC voltage from your central. It is preferable to use a stabilized DC voltage. The only rule is that the voltage is 15V or higher for a stable power supply from LocoNet.

On the LocoHub there is a voltage regulator that, after the rectifier, turns the voltage supplied into a stable 12V for LocoNet. This voltage regulator can get hot, the higher the voltage, the higher the dissipation voltage. Don't worry, the controller can be 125 degrees Celsius. If you find the heat annoying, lower the voltage to 15V or apply an aluminium strip to the voltage regulator.

Extra information regarding the LocoHub jumpers

You will find two jumpers on the LocoHub. Place both jumpers in the normal configuration!

JP1: Determines whether the power supply of the hub is supplied via the LocoNet 5 connection.

JP2: With this you activate the termination of the LocoNet bus.

You may not need to use one of the jumpers in the following situations:

You use an Intellibox or DR5000 instead of the USB LocoNet interface: JP1 and JP2 not installed and you connect the cable from the control panel to LocoNet 5.

You use a second LocoHub module: JP1 not placed on both modules and the two are connected to each other with loconet 5. JP2 is placed on the first module, JP2 is not placed on the second module.

Extra terminals for LocoNet

Uhlenbrock has handy distribution modules that you can use to connect your hand control. You can install these modules on your layout and connect to the LocoHub with the LocoNet cable. You do not need extra power because the LocoHub already supplies the bus.

When using this hub, JP1 and JP2 will remain on the LocoHub. You do not need to feed the 62260 separately.

Uhlenbrock 62260 built-in front

Extra information for using the wireless Uhlenbrock Daisy II Funck

With the Funck module there is a transmitter, a white unit with antenna. You connect this by connecting the LocoNet port on the transmitter with the LocoHub.

Configuring iTrain Remote in iTrain

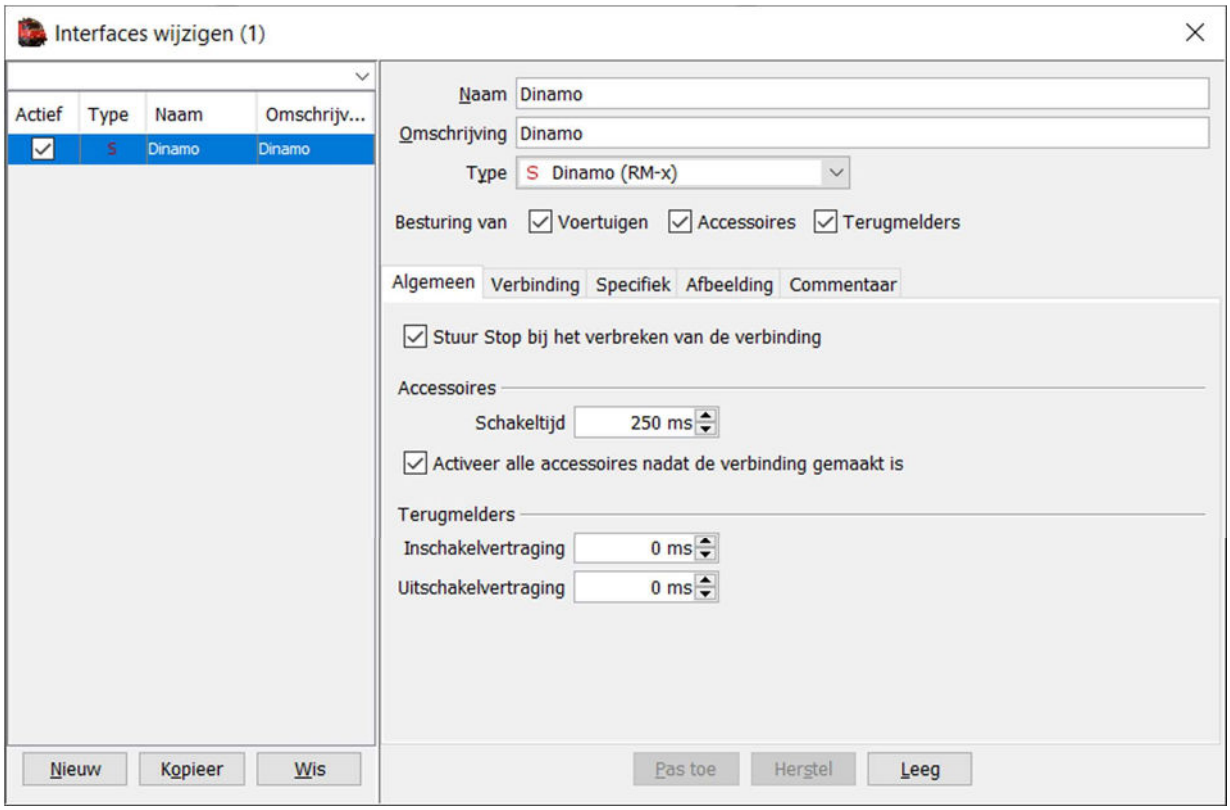
In iTrain, putting the iTrain Remote into operation just like the installation is not difficult. In iTrain, the solution works as a virtual interface. This means that you create a second interface that you set as virtual. At that time, iTrain will see this interface as an interface for hand controllers.

Note: In some cases, your computer may miss the drivers for the USB interface. You can download the correct drivers from Uhlenbrock.de or via this link

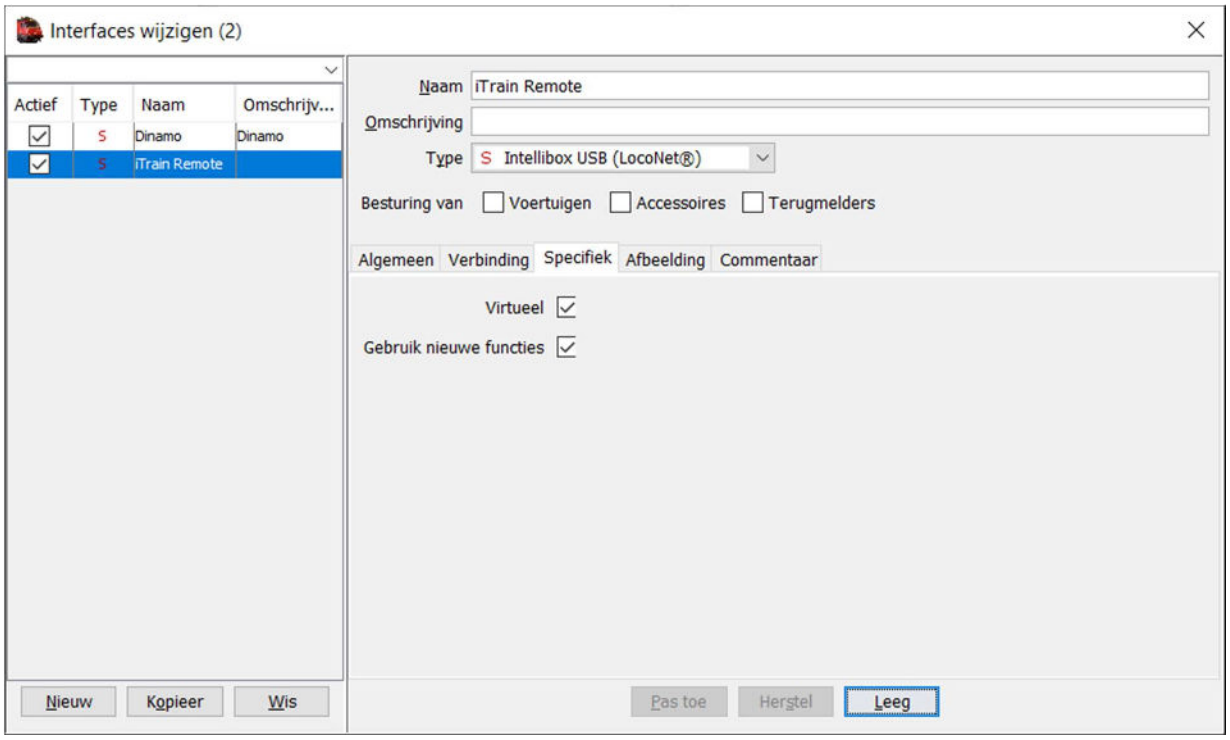
Step 1: Setting up the virtual interface

In iTrain, go to the "change" menu and then click on "interface"

You will see this screen:



Then click on "New" at the bottom of the screen:



First enter the name, which name you choose is up to you. In the example we have named the interface iTrain Remote.

Then choose the interface "Intellibox USB (LocoNet)" from the drop-down list at interface.

Step 2: Setting the interface as virtual

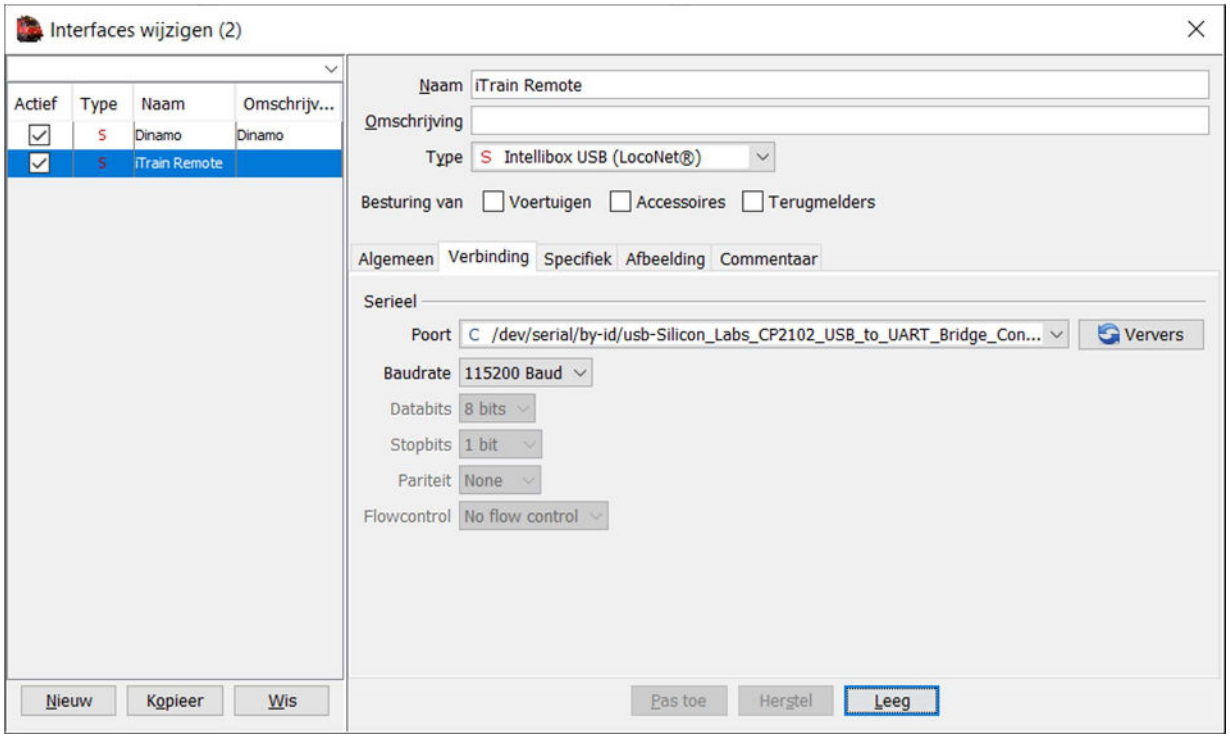
You disable all check marks at “control of” as shown on the screen.

In the specific tab, check “virtual” and “Use new functions”.

Now click on apply, the interface now appears in the list and is displayed at the bottom right of the switchboard with the name you have given the interface.

Note: If you cannot add an interface, you do not have the correct license type. The option is only available from iTrain 5 Standard.

Step 3: Serial port



If the drivers are available, you can choose your USB connection from the USB LocoNet interface in the "connection" tab at port. The example shows the name that is used in a Linux system. Under Windows you will see a serial port with the name CP2102 processed in it. If you do not see this, you must first install the drivers.

You can download the correct drivers from Uhlenbrock.de or via this link.

Select the correct port, and then click Apply.

Step 4: Testing iTrain Remote

If you leave the interface screen, you can check whether the interface is set up properly by using the "Connect" button. When connecting, iTrain shows a yellow text bar above the interface with the version and firmware of the drivers. When this is complete, a green ball appears next to the interface.

Using the remote controller

If you connect the hand control, the start-up screen appears first. When this start-up process is complete, “ERR” appears in the screen. This is normal and indicates that no locomotive has been selected yet. The hand controller receives the information from the interface, in this case iTrain.

Press the red “Lok” button at the top right of the control and select the address of the desired locomotive with the numeric keys. After entering the address, press the enter key. The locomotive now appears on the hand control screen.

Source Manual Uhlenbrock Daisy II

Note: The name of the train is not yet visible on the hand control. This option will become available in the future.

What do you see?

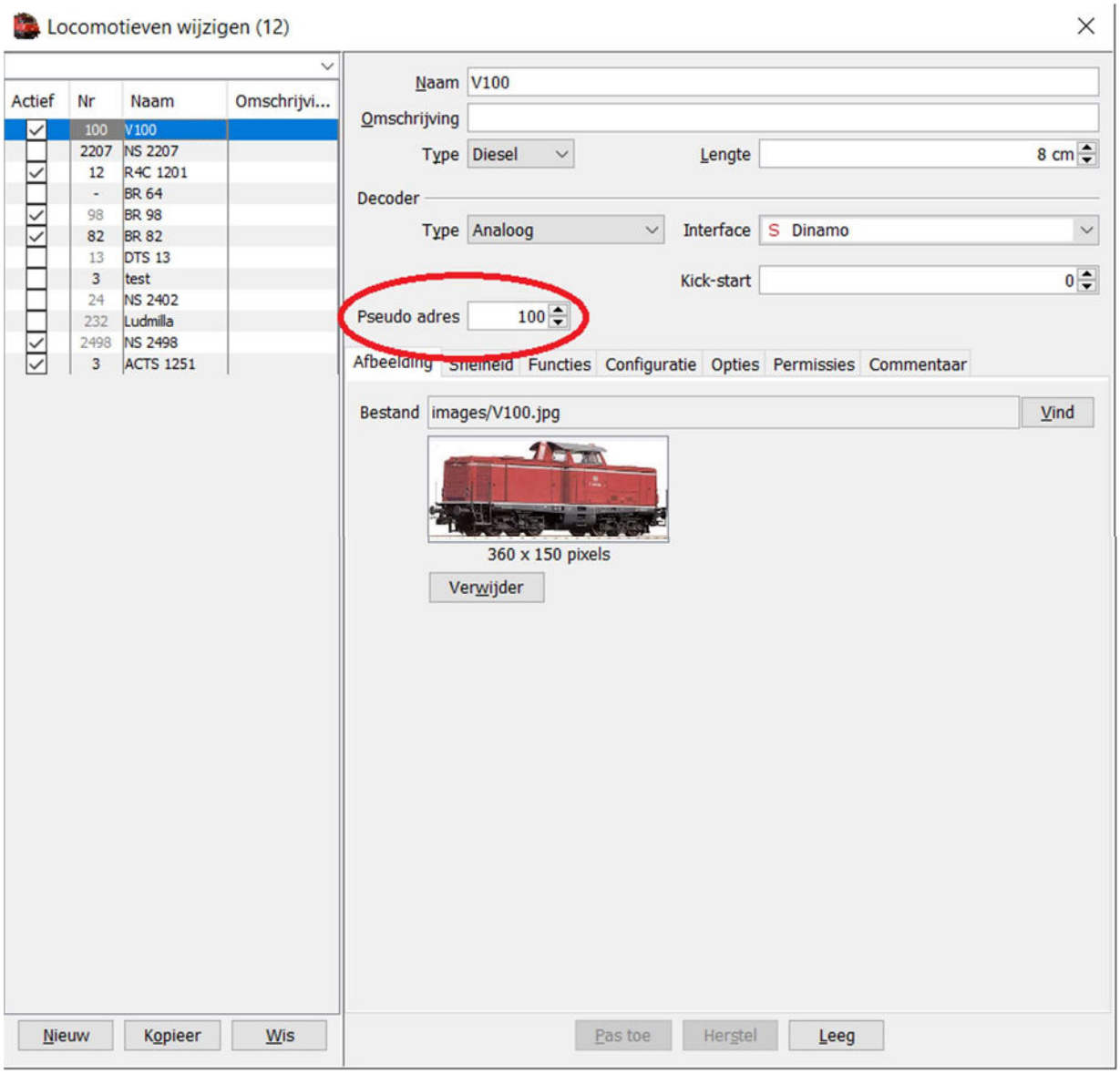
- On the hand control you will see the address of the selected locomotive appear in the top right corner.
- At the bottom you will see the functions f0 to f8 appear. With the buttons "Up" and "Down" you can scroll to f28.
- At the top right f8 you see the directional arrow of the locomotive. You can change this by turning the rotary knob.
- Above f0 / f1 you can see the speed step that iTrain sends to the locomotive.
- Between the speed step and the direction, the actual speed of the locomotive appears while driving with a bar.

In iTrain you will see that when you select the locomotive, iTrain puts it on the Manual control. At that time, iTrain will follow your movements and, if possible, respond to them. This is only if the locomotive has no active route.

If the route is active, iTrain will leave the locomotive on Automatic and it will correct your changes in speed with each new detector. You are therefore able to influence the speed of the locomotive. Functions are only reset after the route has ended.

Controlling analogue locomotives

DCC locomotives already have an address, so they can be freely selected. However, analogue locomotives are not. We assign this a pseudo-address. That is an address that you can determine yourself.



You can now select the analogue locomotive in the hand control by entering the pseudo address.

Small tip:

In the locomotive overview, select the “Address” column, you will then have a quick overview of all addresses of your locomotives.

The text of the pseudo addresses is coloured grey, the digital addresses are coloured black.

After selecting the locomotive, you can operate the analogue locomotive in the same way as a digital locomotive.

Speedsteps

The hand control shows the steps of the locomotive. A Digital locomotive will be displayed in 28 or 128 steps. An analogue locomotive has a small side note, because Dinamo gives 63 steps that deviate from what a loconet manual controller can control. iTrain solves this for you, but the step size may differ.

Currently (version 1) the manual controller starts to steer at step 1, so that your analogue locomotive does not immediately start moving. Most analogue locomotives only start running at step 20. In new iTrain versions we have planned that the controller ignores the "dead" steps and will immediately address the first usable speed step.

Controlling turnouts

The big advantage of this solution is that accessories can be controlled regardless of the interface to which they are connected. We do this by switching the address of the turnout via the switch control of the manual controller. To do this, click on "Mode" and select "magnet items"

There are also interfaces where the accessories do not have an address such as OC32X (Extended mode), BidiB and LoDi. In that case you can assign a pseudo-address to the points just like analogue locomotives.

Shunting the locomotive.

If you want to shunt with a locomotive you must stop the route of this locomotive. If you then select the locomotive's address in the manual controller, iTrain will set it to manual.

Please note that the locomotive must always be selected again before iTrain can operate it. If you have not used the hand control for a while, it shows the last selected locomotive. If you want to use it again, you must select the locomotive again.

Shunting between blocks

When you start operating the locomotive, iTrain follows what you want to do and tries to respond to it. If you let the locomotive run, iTrain will look at the first step to see if the turnouts are positioned correctly in that direction and will immediately reserve the block to which the turnouts lead. It also reserves the points between the two blocks so that the other traffic will stop neatly with a red signal for the turnouts.

As soon as you have driven the next block far enough with the locomotive, iTrain will release the turnouts and the previous block, so that the other traffic can use the turnouts again. This allows you to shunt with the iTrain Remote undisturbed by the automatically driving traffic.

You must first stop the locomotive in the next block before iTrain will reserve the next block. After all, the software does not know whether you want to stop in the block or continue driving.

Roadways

You can set roadways in ITrain. This is a blue element which you place in the switchboard. The route indicates which turnouts, in which position, should be set when you operate the blue button. iTrain immediately, or with the first option after release, reserves the turnouts in the desired position. This way you can quickly switch a route over busy alternating streets to another block to which you want to shunt.

If you click on the route, it will become mint and reserve the points in the desired position.

iTrainPC Controll

Domburg Train Support offers you the perfect control of your model railway with iTrain Software. No more hassle with a desktop that gets in the way, laptops that are quite expensive and slow. You probably recognize that these solutions are not ideal, your cables are broken, batteries of laptops stop working and above all you often have a small screen.

The iTrainPC is based on small computers that you can give a permanent place on your model railway. As a result, you no longer suffer from cords and defects. By using these minicomputers, you can also use large screens, but also multiple screens and even control your marshalling grounds with touch screens.

More information about the iTrainPC product line can be found here.

Frequently asked question

Do i have to use my current system when using iTrain Remote?

Yes, the virtual interface is separate from your current system and is added as an additional interface.

May i use more than one controller?

Yes, up to 10 hand controls. They may also be different hand controls, if they are LocoNet.

Does the virtual interface only work with the DTS Products?

No, every USB LocoNet interface is suitable. If it has a terminating resistor (termination) and a 12V stable power supply for the bus.

I cannot select the newly created locomotive, I get "err" in the picture.

If you recreate a locomotive you can only select it in the hand control if the locomotive also has a speed graph. You can create a graph manually, but it is better to calibrate the locomotive first.

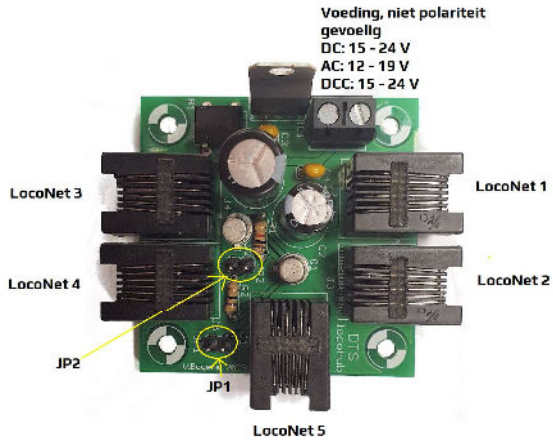
Epilogue

We hope you will enjoy the iTrain Remote.

We have developed the iTrain Remote with all due care. Despite the attention and enthusiasm put into this project by both Domburg Train Support and Berros, we can well imagine that you have ideas, suggestions and / or considerations. We ask you to share your experience with us so that we can see how we can further improve the iTrain remote.

You can address us by sending an email to info@domburgtrainsupport.nl

Appendix 1: Aansluitschema DTS LocoHub



JP1
Met JP1 kiest u ervoor om de aansluiting "LocoNet 5" wel of niet te voeden vanuit de LocoHub. Als uw interface of centrale de LocoNet bus al voorzien van een voeding dan gebruikt u deze aansluiting als input voor de LocoNet bus en verwijderd u JP1. Dit is het geval bij een digitale centrale.

De aansluitingen 1 t/m 4 worden als output gebruikt en krijgen hun voeding vanuit de LocoHub.
Bij een digitale centrale sluit u dus de LocoNet kabel vanaf de centrale aan op LocoNet 5 en gebruikt u de aansluitingen Loconet 1 t/m 4 om de bus te splitsen.
Bij een USB LocoNet Interface is de bus niet voorzien van een voeding. De LocoHub geeft dan een voeding aan LocoNet 5 door JP1 te plaatsen.
U mag dan de LocoNet kabel vanaf de USB interface op een willekeurige poort aansluiten.

JP2
Deze jumper geeft de bus een afsluitweerstand. Bij het gebruik van een digitiale centrale verwijderd u JP2, in geval van een USB Interface moet u JP2 wel plaatsen.

Voeding
De voeding is ter versterking van de LocoNet bus. U ontlast hiermee de LocoNet uitgang van uw centrale.