

Prodigy Computer Interface

Thank you for purchasing the **Prodigy Computer Interface**. It contains the hardware, (USB module) and computer interface software. It will allow your computer to function as a handheld. We call it a “super handheld” or “super throttle” because it is much more powerful than a regular handheld. It also provides easier programming for your decoders, better management of your locomotive inventory, consist settings, and route settings.

Since the computer interface software acts as a handheld, you can use it with your Prodigy Express, Prodigy Advance, Prodigy Advance², and Prodigy Wireless systems.

By thinking of the computer interface software as a handheld or throttle will help you in understanding its functions and its operation. You can carry over your knowledge of the Prodigy DCC systems and become familiar with the software in no time.

Note: Some older Prodigy Advance, Prodigy Advance², and Prodigy Express systems may require a software update.

Hardware Selection

Just like our Prodigy DCC Systems have a wired and wireless version handhelds, the computer interface also comes in a wired and wireless version.

If you already use the MRC wireless handheld you will need the wireless USB module (part #0001510).

If you do not use MRC Wireless or the Prodigy Wireless Conversion, then you have two choices.

If you want to have a wireless super handheld, you will need the wireless USB modules (part #0001515 which contains USB module and wireless adapter). USB module converts your computer into a Wireless Prodigy DCC super handheld. The wireless adapter converts your Prodigy DCC to wireless system. Once you have ordered 0001515 you are also able to use our regular wireless handheld if you wish to purchase one.

Cable version USB module (part #0001516) converts your computer into a wired Prodigy DCC super handheld. It works with all Prodigy Advance and express DCC systems.

Installing the software:

Installing the software is easy. All you need to do is download the software and USB module drivers from our website (<http://www.modelrectifier.com/train-controls/accessories.asp>) and save them to your Desktop. Check back to our website for the latest version of the software. We will update the software and other documents periodically.

If you are unable to access the Internet, you should ask your friend who can access the Internet to burn a CD for you. Or you can obtain a CD copy of the software and USB module drivers from us for shipping & handling fee of \$15.00 USD.

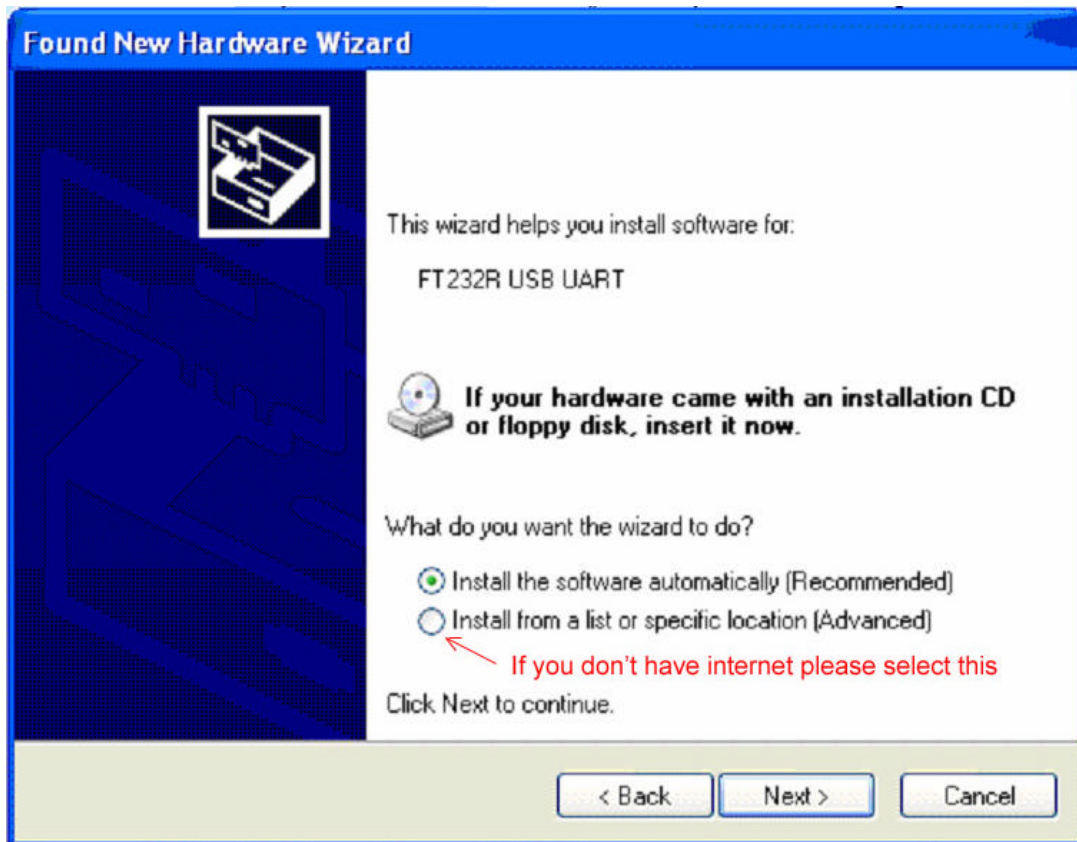
Installing the USB drivers for Windows 98 SE through Windows XP:

Insert the USB module into any available USB port on your computer. Windows should automatically detect the new hardware and prompt the Found New Hardware Wizard window:



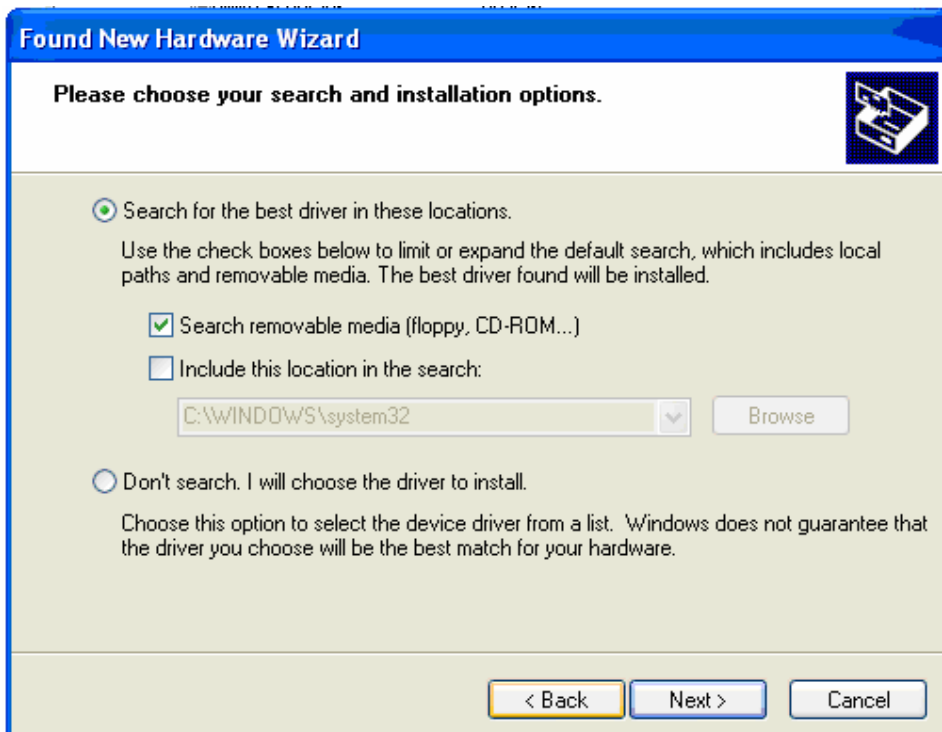
Please select “Yes, this time only” and click the Next button. The computer will prompt the next window:

There are two ways to locate the driver, either from the internet or from the CD. The driver will be installed twice. During these two installations you must select the same source for the driver. ***WARNING! If you select different sources, for example, first time using the internet and second time using CD, your installation will fail and makes your computer unable to use the USB module.***



If you have access to the Internet you can select “Install the software automatically (Recommended)” and click the Next button. The computer will search online and install the driver for the device. This should take about a minute to 15 minutes (depends on your computer and internet speed) for the computer to search and install the driver. Please wait and do not unplug the USB module during the installation process. The installation process will repeat one more time before you are ready to use USB module.

If you are unable to access the Internet, please select “Install from a list or specific location (Advanced)” and insert the CD that you ordered into your CD or DVD drive and click the Next button. You will see the following window:



Select “Search for the best driver in these locations” and “search removable media”. Windows will search the driver on the CD and install it for the USB module. Please do not unplug the USB module during the installation process. It will repeat the installation process once before you are ready to use USB module.

Installation the USB drivers for Windows Vista:

Insert the USB module into any available USB port on your computer. Windows Vista should automatically detect the new hardware install the driver in a few seconds

Computer Interface Connection:

Once you install the USB driver you are ready to use the Computer Interface to control and program your layout. The connection is easy.

Equipped with 0001516 USB your computer becomes a super cable version throttle. You can operate it in the same way as a regular cable version handheld.

Equipped with 0001510 USB your computer becomes a super wireless handheld. You can operate it in the same way as a regular wireless handheld.

Now, you can have four types of handhelds: regular cable version handheld, wireless handheld, super cable version handheld (computer), and a super wireless handheld (computer). These four types of handhelds can work together in one Prodigy DCC system. A large club layout, for example, with one base unit can handle up to 32 throttles. As an example: 12 cable throttles, 12 wireless throttles, 4 cable version super throttles (computers), and 4 super wireless throttles (computers). Just make sure each throttle has its own unique cab #.

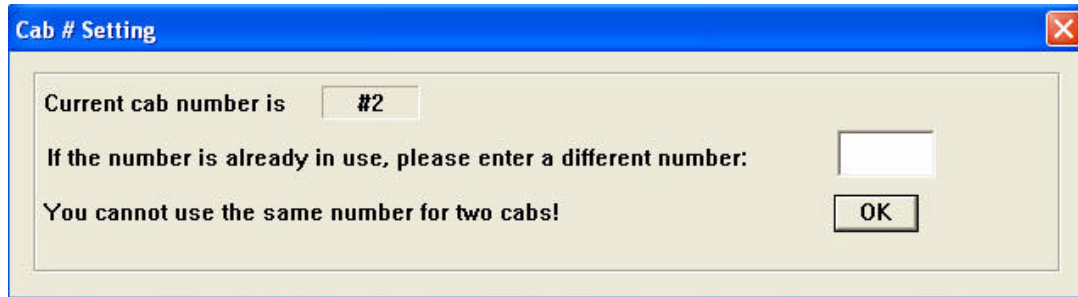
Note: In order to use the wireless throttles you must have the Prodigy Wireless system (0001410) or the other Prodigy DCC with Wireless Conversion set (0001412).

Operation of the Computer Interface software:

Double click on MRCDCC.exe that you downloaded from our website:

<http://www.modelrectifier.com/train-controls/accessories.asp>

It will display the Cab # Setting dialog window.



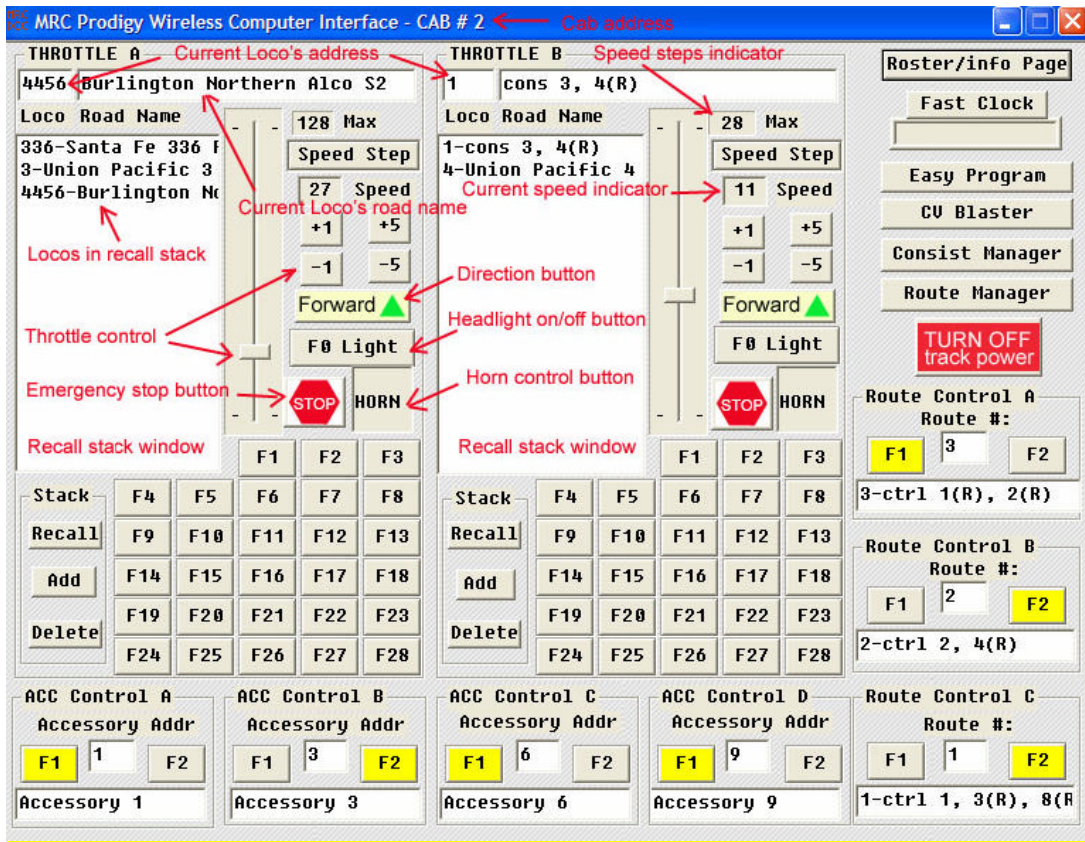
You need to assign an unique cab # as you do to the regular handhelds. If you want to change the current cab # just type in the new number and click the OK button. Otherwise, just press the OK button to confirm the current cab #. **Make sure that all of the cabs (handheld) wired or wireless, have different cab numbers. Otherwise, the DCC system will not work properly. Also remember that Cab #1 is your Master Cab, no matter which type you are using.**

The main throttle operation window contains two independent throttles each with its own recall stacks. It also has four accessory controls, and three route controls. So you can control two locomotives, four accessories and three routes all at the same time.

The software is a standard windows application program. It contains labels, control buttons, and edit box. Before operating your layout, please spend a few minutes to explore the software. Try to click everything you see on the screen and see the response. You will learn how it operates in no time.

When you close the main window it will automatically save current operation status into several data files in the same folder that MRCDCC.exe is located. These files contain the information such as cab number, locomotive address, throttle settings, direction, consist, and route management. Do not edit or delete these files! Should you delete them by accident, you will lose the data from your last operation.

If you run MRCDCC.exe on your desktop, all these data files will be appear on your desktop. If you don't like too many data file's icons on your desktop, you should keep MRCDCC.exe in the MRCDCC folder or in any other folder that you prefer. You can then run the software from the folder.



There are three ways to select a loco and operate it; type in the locos address in the address box, recall it from the recall stack, or set up a roster page and select the loco from the roster page. You can assign a road name (a description with road name and road number) to the loco along with its DCC address. This will enable you to run the loco by its road name. It is easier to remember the road name than to remember the address.

When you select a locomotive from the roster page it will pass the selected address and the road name to the throttle you select. This will also combine the address and the road name and save them into the recall stack if the address is not in the recall stack. The address and the road name are separated by “-” sign. If the road name is too long only part of it will be displayed.

Each recall stack can store up to 25 locomotives. The recall stack is sorted by loco address. It cannot store two locomotives with same address that have different road names. For example, if “3-xxxxxxx” is already in the stack, it will not save another address 3 loco with different road name such as “3-yyyyyyy” in recall stack. If you really want to use “3-yyyyyyy” to replace “3-xxxxxxx”, you have to delete “3-xxxxxxx” from stack first.

To recall a locomotive from the stack, select it and then click on the Recall button or you can just double click it.

To delete a locomotive from stack, select it and click Delete button.

To add the current loco into the stack, press the Add button.

Pressing the Speed Step button will let you select the desired speed steps (14/28/128) on the throttle.

There are three ways to control the speed. You can move the throttle with your mouse. You can select the throttle by clicking on it and then you use the thumb wheel on your mouse. Or you can click "+1", "-1", "+5" or "-5" buttons.

The button marked with "Forward" or "Reverse" is the direction control button. "Forward" indicates forward direction. Clicking it will change the direction and display.

The Stop sign button is for the emergency stop.

To turn off the track power, click the "TURN OFF track power" button. The button will change its display and flash to tell you that the power is off. Clicking the button again will restore track power.

Clicking the F0 Light button will toggle the headlight function on and off. When the button turns yellow it indicates that the light is on.

You can press the F2 button to control the horn sound. However, it is easier to use the Horn button to blast the horn or whistle.

Functions 1 through 28 are all displayed for your convenience. Only functions 1 through 12 will indicate their on /off status. Yellow means on and grey means off.

Roster / Info Page:

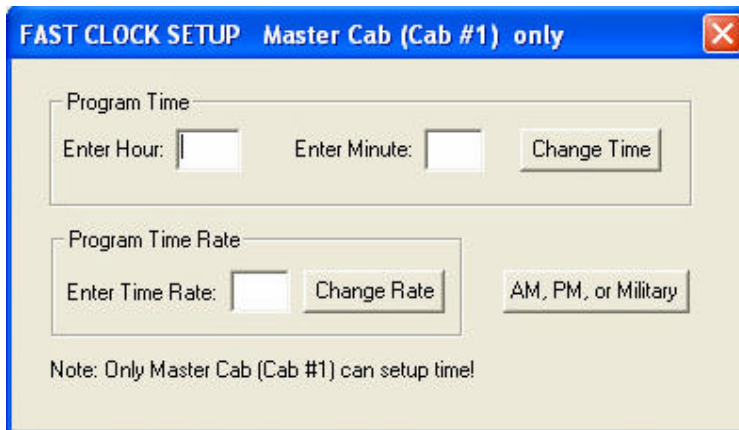
Click on the Roster / Info Page button to launch the Roster / Info Page window. From here you can set up the Roster / Info Page in such a way that it contains your entire locomotive inventory including accessories. The Roster / Info Pages contain the DCC address, Road Name/Number, Locomotive Type, and Special Notes.

Once you set up the Roster / Info Page you can save it for later use. Click the "Save As" button to save it into a file. You can select which folder and which name to save the page. You can load the page later by pressing the OPEN File button. You can edit the page. You can save it by clicking the "Save" button. You can set up as many Roster / Info pages as you wish.

To run a locomotive from the Roster / Info Page just select the row that it is located. Then click on the "Use Throttle A" or "Use Throttle B" buttons. To operate accessory select the row that its address is located and click on "Use Acc A", "Use Acc B", "Use Acc C", or "Use Acc D" button.

Fast Clock Set Up:

Click the Fast Clock button to launch the Fast Clock Setup window.



This allows you to set the time, the rate, and to have it displayed in AM/PM or Military time. **NOTE: Only Cab #1 can make the changes.**

The fast clock does not have anything to do with the clock found in the bottom right hand corner of your window taskbar. The fast clock is operated and sent to the handheld by the base unit. Therefore all handhelds can display the same time. The time rate is how many actual seconds are in one fast clock minute. Rate 1 means that one real second equals one fast clock minute, or 60 times as fast as real time. Rate 30 means 30 real seconds equal one fast clock minute, or twice as fast as real time. Rate 60 means 60 real seconds equal one fast clock minute, or real time.

Program a Decoder:

The Prodigy software provides two ways of programming your decoders: **Easy Program** and the **CV Blaster**. Clicking on the Easy Program button will launch the Easy Program window which allows you to program or read addresses. We designed this easy program for the user who does not want to bother with CVs and just wants to perform basic programming.

The screenshot shows a software window titled "EASY PROGRAM" with a red close button in the top right corner. The window contains the following elements:

- Header:** "EASY PROGRAM" and a warning "Do not close during process!".
- Select Program Method:** Three radio buttons: "Program on Main track" (selected), "Program on Program track", and "Read on Program track". To the right, there is a text input field for "Enter the current loco address." and a "Program Address" button.
- Program Address:** A text input field for "Enter the new address:" and a "Program Address" button. Below this are three checkboxes: "Enable Speed Table", "Reverse Polarity", and "Enable Analog". A note below the checkboxes reads: "If you enable speed table you have to use CV Blaster to program speed table CV67 to CV94".
- Program CV:** A "STOP" button above a section containing a "Select One" group with five radio buttons: "Start Voltage CV2", "Acceleration Rate CV3", "Deceleration Rate CV4", "Top Voltage CV5", and "All other CV". To the right are two text input fields for "Enter CV #:" and "CV Value:", and a "Program CV" button.

There are three sections in the Easy Program Window. The first section will let you select the program method. If you select the “Program on Main track” you have to know and enter the current locomotive address. Without knowing the current locomotive address you cannot perform programming on the main track. If your loco has lost its address you can not use “program main track” to reprogram its address to bring it to life. You have to program it on the program track.

Make sure your locomotive is on the main track before you perform “program on main track”. Also, make sure that your locomotive is on the program track when you perform program or read on the Program track.

The middle section will let you program or read an address. There are also three check boxes letting you to select how to operate the locomotive. These settings will affect its CV29 value.

- Checking “Enable Speed Table” box will enable the decoder to use its speed table to control the speed while operating at 28 speed steps. If you check this box you should use CV Blaster to program the speed table CV67 - CV94.
- Checking “Reverse Polarity” box will run the locomotive in reverse, i.e. the loco runs in reverse while you command it to run forward, and runs in forward while you command it to run reverse.

- Checking “Enable Analog” box will enable the locomotive to operate on a DC track.

To read back a locomotive’s address, select “Read on Program track” and put the locomotive on the program track and then click “Read Address” button. This may take a while to read the address.

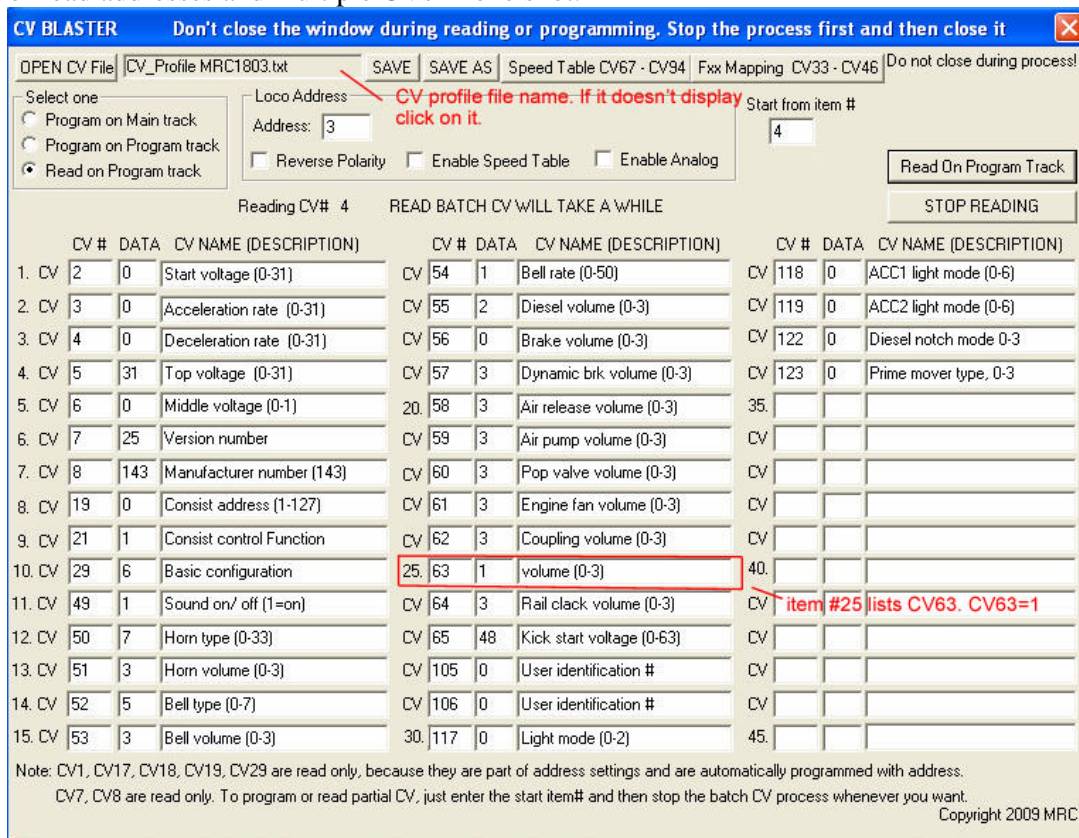
The last section allows you to read or program a CV. You can select to program Start Voltage, Acceleration Rate, Deceleration Rate, and Top Voltage. Enter their value and click on the Program button. If you want to program other CVs, select “All other CV”. The CV# box will display for you to enter CV#.

To read back CVs, select “Read on Program track” and put the locomotive on the program track. Select which CV to read and click “Read CV” button.

NOTE: In order to read a decoder, the decoder itself must have the read back feature. Not all decoders support a read back CV feature. Consult the decoders’ manual to see if this feature is in your decoder before trying to read its CVs.

CV Blaster Program:

Click on the CV Blaster button to launch the CV Blaster window where you can program or read addresses and multiple CVs in one shot.



There are three columns, each containing 15 rows of CV entries. You can read or program up to 45 CV's in one shot. We recommend you do not to include Speed Table CV67 to CV94 and Fxx Mapping CV33 to CV46 in the CV profile. They have their own special programming sections found at the top of this screen. If your decoder has more than 45 CVs you have to break them up into two CV profiles.

The numbers 1 through 15 on the left are row numbers only. They are also item numbers to indicate item #1 through item #15. We also mark "20" near item #20, "25" near item #25, and "30" near item #30 on second columns. These numbers have nothing to do with CV#. We put them there to help you count out how many CVs in your CV profile and. If you want to program/read partial CVs these item number can help you to figure out the starting item #. So you can skip some CVs.

Please start with the left column when filling out the CV chart. The reading/programming process starts with the address and then the left column. Continuing from row 1, row 2 and it will go down each row one by one. It will stop when it reaches a blank entry or CV #0. To program or read certain CVs, you can enter the start item# to tell it where to start. And then begin the process. When it has finished the partial CVs you wanted, click on the Stop button to terminate the process.

You have to enter in a CV number before you can program or read a decoder. Consult your decoders' manual to get the CV chart (CV profile) for your decoder. Entering a CV

that your decoder does not have will take longer for the Prodigy System to attempt reading back. This will be followed by a "fail" notification. You can set up your decoders' CV profile by yourself or with your friends who have the same decoder. MRC will publish all of our decoders and some other brand decoders CV profiles online. We hope that you and your friends will help each other and help us to build a database for most decoders CV profiles and publish them online.

You can load the CV profile, edit it and save it just like you do in the setup roster page. **NOTE:** You can list CV1, CV7, CV8, CV17, CV18, CV19, and CV29 in your CV profile and read them. However, it will not program them to the value you enter because they are part of the address settings. The software will automatically calculate and program their proper values according to the address you have entered.

Program CV profile:

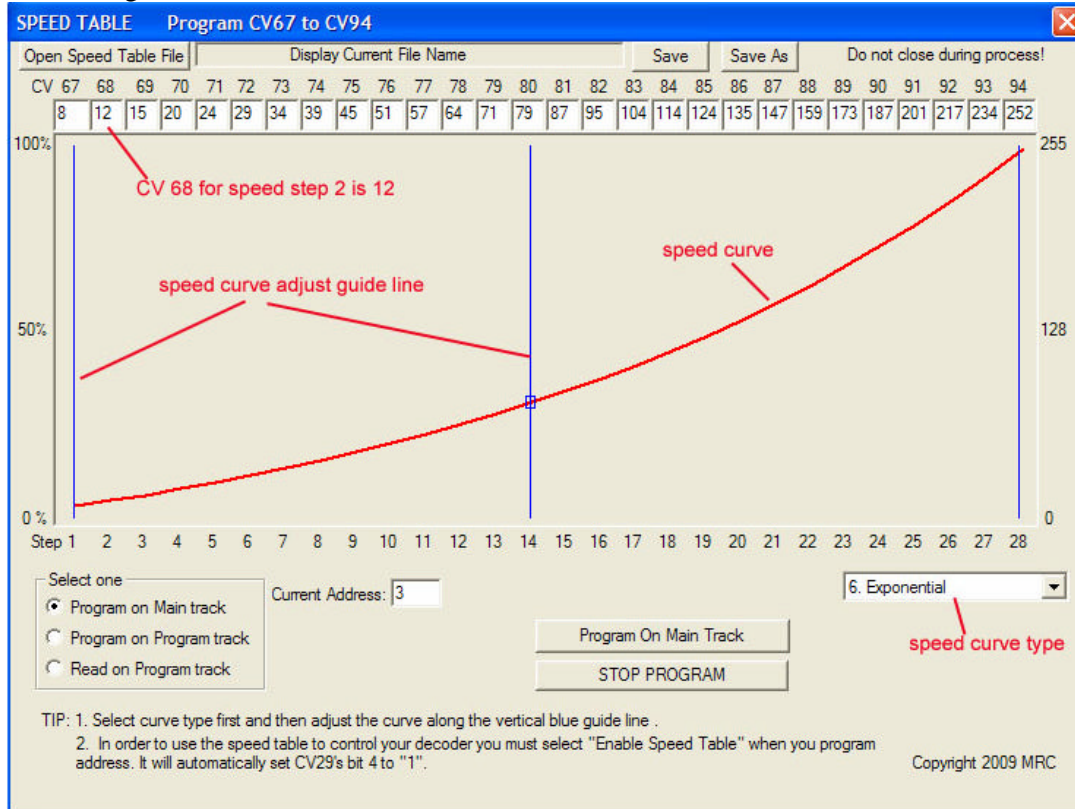
Select the program method and then click on the "Program" button. If you select program on main track you have to know and enter the current locomotive address. Without knowing the current locomotive address you cannot perform programming on the main track.

Read CV profile:

Select Read on Program track and then click the “Read” button. Make sure to put your locomotive on the program track when you are performing read on the program track.

Program / Read Speed Table CV67 – CV94:

Click the Speed Table CV67 - CV94 button on CV Blaster window to launch the Speed Table Program window.



The 28 edit boxes from left to right are the values of CV67 to CV94. CV67 is for speed step 1. CV68 is for speed step 2...

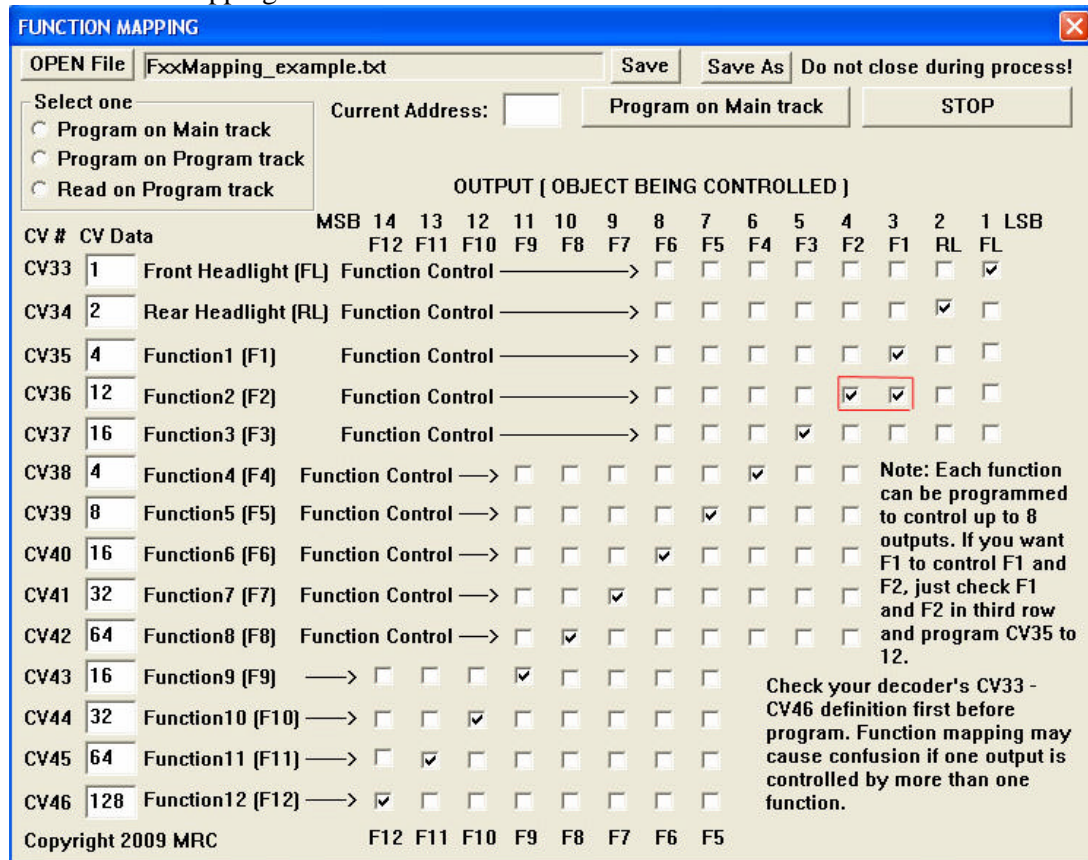
You can select several pre-defined speed curves such as one segment line, two segment lines, three segment lines, four segment lines, five segment lines, and Exponential curves from the drop down menu. Once you load the speed curve you can adjust the curve by clicking and dragging along the blue guideline. CV67 to CV94 will change as you adjust the curve. You can also directly type in CV values if you wish. As you type in a number, the software will draw the graph on the screen. After you are done with the adjustment, select Program on Main track or Program on Program track to program in your speed table.

Once you finish the speed table adjustment you can save it. You can load, edit and save it just like you do in setting up the roster page.

You can also select “Read on Program track” and click the read button to read out your locomotives speed table. Make sure you have your locomotive on the program track before you click on the “Read” button.

Function Mapping:

Click Fxx Mapping CV33 - CV46 button on the CV Blaster window and it will launch the Function Mapping window.

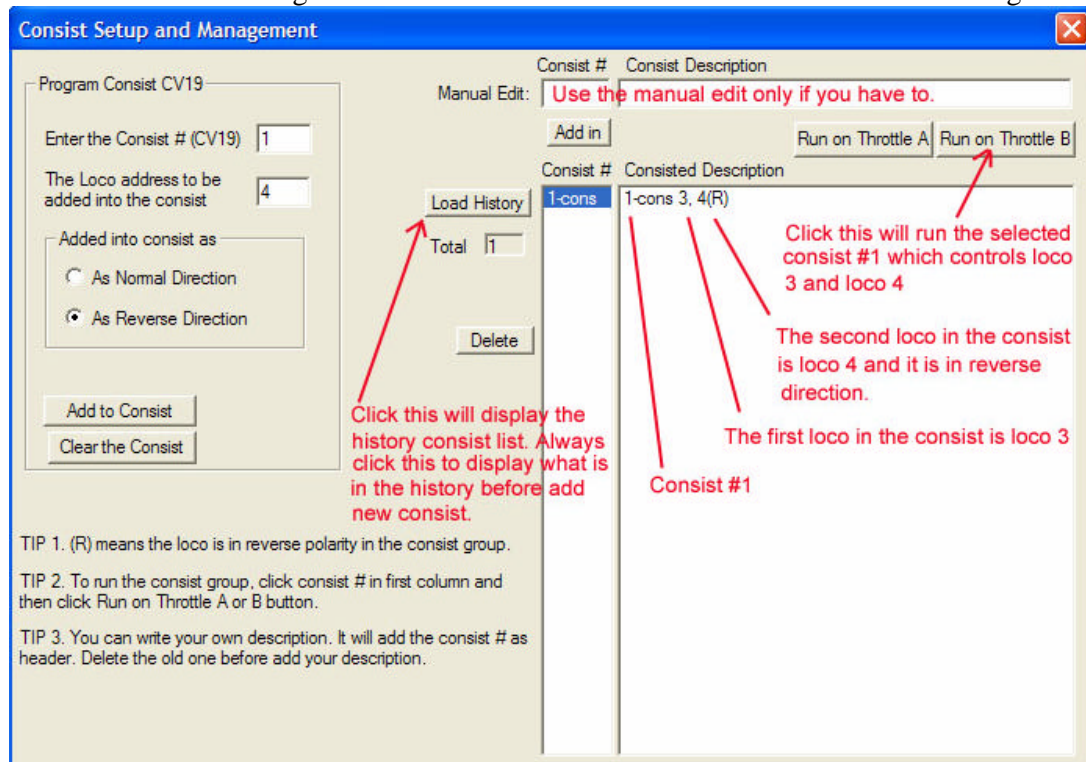


The Function Mapping allows you to assign your decoder’s function outputs to different function buttons. Each function has a CV assigned and tells it which function outputs to be controlled by it. Each function button can be programmed to control up to 8 outputs. There is a row of eight check boxes on the right side of each function. They represent 8 function outputs that can be assigned to that function. A checked box means its function output is controlled by the function. An unchecked box means it is not controlled by the function. For example, the above Fxx Mapping profile shows that Function F2 controls both output F1 and output F2. By programming CV36 to 12, function F2 will control output F1 and F2. This means when you blast the horn the bell will also ring. Function Mapping may not be available on some decoders. Check your decoder’s manual to see if you have Fxx mapping feature.

The Function Mapping profile can also be loaded and saved.

Consist Manager:

Click the Consist Manager button on the main window to launch the Consist Manager.



Sometimes you will need more than one locomotive to haul a heavy load. These grouped locomotives are known as a multiple unit or consist. The Prodigy software allows you to set up consists quickly and easily. This will also keep all consists in memory for easy consist management. Clicking the “Load History” button will display previous consist lists. Programming a locomotive into consist actually programs the consist number into the locomotives CV19. Whenever you program a non-zero value into CV19, CV19 will then override the locomotives original address to become the operational address.

To setup or clear a consist, click the “Load History” button to display current consist history and then follow these steps. Make sure the locos to be setup are on the main track. You can do so by selecting them and operating them.

1. Enter consist number (must be in the range of 1 to 127).
2. Enter the locomotive address to be added into consist.
3. Select normal or reverse direction.
4. Click the Add to Consist button.

After clicking the “Add to Consist” button, it will program the consist number into the locomotive’s CV19. It also create the consist list in consist history and add the locomotive into the consist list. You can add more locos into consist by repeating step 2 to step 4. If you select reverse direction, a (R) sign will be added after its address.

The consist history list has two columns. The first column lists the consist # followed by “cons” sign. The second column repeats the first column and lists the locomotive you have added into the consist.

If you do not like the default format, you may use the Manual Edit in the top right corner to create your own description of the consist list. However, this will not program the locomotives into CV19. We are not recommending that you to use it.

To clear a consist, enter the consist number, and click the Clear Consist button. This will clear the locomotive’s CV19. It will also remove it from the consist list. Make sure that your loco is on the main track.

You can manually delete a consist list from the consist history. Select the list in the first column and click the Delete button. This will delete the list from the consist history. ***However, it will not program the locos CV19.***

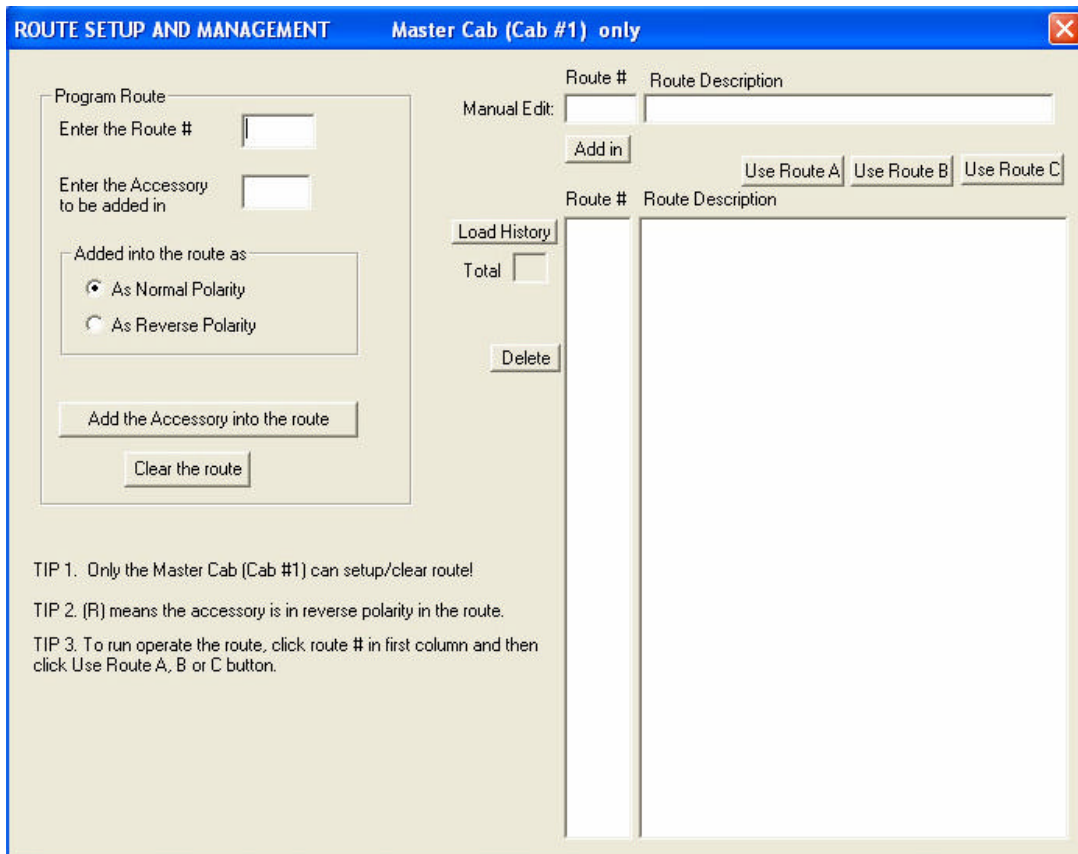
Once a consist has been setup, you can choose which throttle to run it on by selecting your consist from the first column, and then clicking on the Run on Throttle A or Run on Throttle B buttons. You may also type in the consist # into the address box on the main throttle window to operate it.

Note: When you set up or clear consists please make sure that your locomotive is on the main track. So the system can program the locomotive while it updates the consist list. Otherwise, the list will not match your locomotive’s consist settings and it becomes meaningless.

For example, if you program locomotive #3 into the consist #1, it will create a consist list and add locomotive #3 into the list. The list tells you that locomotive #3 is programmed with consist #1. The address #1 should be the operational address for the locomotive #3 should be #1, not its native address #3. You should use address #1 to control the locomotive’s speed. But if you forget to put the locomotive #3 on the main track when you setup the consist. The DCC system cannot program locomotive’s CV19. So the locomotive #3 will not respond to address #1. The consist list become meaningless and will cause confusion.

Route Manager

Click the Route Manager button on the main window to launch the Route Manager.

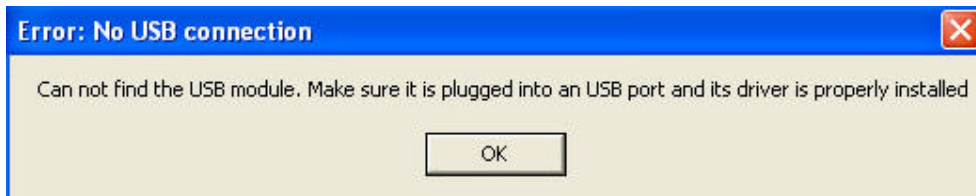


The route management is much like consist management, except that **only** the master cab (cab #1) can setup and clear routes. Route setup process does not involve any programming of accessory decoders. It programs the base unit. Once programmed, the base unit will memorize the settings. Make sure the Prodigy interface is connected to the base unit and the base unit is on while you set up or clear the route. Otherwise, the route list in route history will not match the settings in the base unit. The route lists will become meaningless.

Note: Only the master cab, cab #1 can setup a route. Before modifying an existing route, clear it first. Then re build it to eliminate potential errors. For example, if you want to set up route #4, clear the previous route #4 first. So there is no accessory in the route #4. Then you can add up to 8 accessories into the new route #4.

Troubleshooting:

If the following window prompts, it means that the computer does not detect the USB module. Please make sure that the USB module is plugged in and its drivers have been properly installed. You may try other USB ports on your computer.



More troubleshooting tips will follow as we get feedback.
So now have some fun using our new software/interface and let us have some comments.

Regards
Your MRC development team.