**USING THE MIB FOR REVERSE POLARITY LAYOUTS AS IN Crossovers AND WYE TURNOUTS.**

Below is an example of using the MIB blocks with TRACK powered DC voltage in HO Scale with full Radio control.

It shows the situation for a crossover enclosed in a loop and also the use of the MIB in a WYE turnout application.

The use of the MIB is to be used for where the two rails come into a reverse polarity situation.

Most small Locos do not have enough room in them to fit the electrics for full Radio Control. In this situation you would put electrics in the Tender and still use pickups on the train and pickups on the Tender.

Two full wave bridge rectifiers have to be used in all applications as a minimum requirement. This is mandatory to prevent electrical shot circuiting. I use two 400v 4 amp full-wave bridge rectifiers in my setup, also a 25v 2000uf capacitor to help smooth the electrical signal between the bridge rectifiers and the ESC.

My setup works fine without any pausing or hesitation into a reverse polarity.

I have tried to include as much information as I could into the other documents about this, but if you have any questions I am willing to answer them for you.

Any questions on wheel spacing’s and rectifier connection just email me donnaandianian@bigpond.com your axle centre spacing’s of all axles and total overall length of axle spacing’s

On the Athern loco being alloy chassis I had to isolate the front and back bogie pivots from the chassis. This gave me four isolated corners on the wheels. I only needed two full wave bridge rectifiers for this setup. On similar loco’s to the Athern 3 axle twin bogie train the wheels cannot be individually isolated as they pick-up through the end of each outer axle tip.

If there is any loco’s in HO scale that have a solid fixed axle spacing centres greater than 76mm I would like to know as the MIB might need one extra 14mm insulation spacing in it to cover all possible scenarios. These pages are only a guide as you have to start somewhere.

They are still developing DCC even today to try and solve the reverse polarity situation. No doubt trains for DCC could be wired this way as for my RC Train without any problems as long as you use the two full wave bridge rectifiers to isolated front from back and left from right giving four independent and fully isolated pickup points.

If you have a closer look at the layout below you will notice that the outside line is a full complete loop which would still allow you to plug in your normal DC controller and run your little DC train like normal especially if you had some older collectable trains you would still like to run every now and then, you just would not be able to run them into any sections that have the reverse polarity situation. You could if they were fitted with two full wave bridge rectifiers but you would need to manually throw a switch on the train for reverse on the train.

The ideas and setups are endless with this setup and I believe it could cover all possible type of train operating systems in HO Scale and the scales either side of HO SCALE.
The thick dark line represents Negative DC volts. The thin line Positive DC volts.

Two MIB required for crossover inside a loop.

This represents the multi section isolation block sections (MIB).

The MIB is designed to be used when only a direct short in the rails is produced. The MIB does not have to be powered if the distance of the outer most two axle centres exceeds 75cm on the train you are using.

VYE turnout, Notice the use of only one MIB needed to be used in this scenario.

Placing the MIB in a track powered setup.

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