

Lighting Your Layout (or Module) 2 Products, 1 Elegant Solution!

By Paul C. Taylor

MRC recently released an interesting product called Light Genie. The Light Genie consists of a circuit board, (roughly 1 x 2.5 inches), a wireless remote control unit, 10 resistors and a number of cables that plug into the circuit board. The circuit board can power up to 12 circuits with 4 LEDs on each for a total of 48 LEDs. Bulbs can also be used rather than LEDs but the number of bulbs would be restricted to 24. The 12 circuits are split up into 5 “zones”. Each zone can do one special effect such as flash, strobe, beacon simulator, fire effect, TV flicker effect, arc welder effect, traffic light, level crossing and more. 3 zones have 2 circuits and 2 zones have 3 circuits for a total of 12 circuits. The price is \$49.95 USD.

During normal use the wireless remote control is used to turn each of the zones on and off. There is a “programming” mode which allows you to set the lighting effect and the dimness/brightness of the zone.

One key feature: the Light Genie can be powered through 12-18V DC, AC or **DCC**. This makes the Light Genie very versatile from a power point of view. If it is connected to DCC, it can also be controlled and programmed through DCC as well. Using DCC you can give it an address of 1-127, (3 is the default, as usual). Once I read this, I started to think about my situation and what I could potentially do with this little device. We'll get back to the Light Genie in a moment...

I belong to a Free-mo modular club that builds and runs Free-mo modules at various train shows and set-ups. Free-mo is a fabulous standard that includes Digitrax DCC as part of the standard for the modules. Free-mo modules include a track bus, (2 x 14 AWG wires for carrying power to the track) and an “Accessory” bus, (2 x 14 AWG wires for powering accessories on the module(s)). As part of the standard, the Accessory bus should be approximately 16V AC or DCC power. The accessory bus should be powered separately from the track bus. I am no electronics wiz but it always bothered me that we don't really know how the Accessory bus is going to be powered, (AC or DCC and what voltage) from one set up to another.

Tam Valley has a “dumb” booster available that can be used as a DCC track booster or as a DCC accessory booster and the price is \$54.95 USD. They also have a power supply to go with it for \$16.95 USD to provide up to 3 amps of continuous power. The Tam Valley booster has an option to be set up and run as an “Accessory” booster. When run as an accessory booster, it will stay up and running for up to 5 minutes after the main DCC system goes down. This way your accessories stay on or remain usable. If you have your turnout motors connected to your track bus and DCC goes down, you will lose control of your turnouts. If you have the Tam Valley booster (accessory mode) running turnout motors then your turnouts will still be operational in spite of a track short. The other advantage of using the Tam Valley booster to power accessories is that you are now, not robbing power from your locomotives, (track bus). The Tam Valley booster has 2 inputs and 1 output, one input is for a power supply, the second input is for track power DCC, (only to receive DCC commands, not for actual power). The output goes to your accessories or your accessory bus, (or track power). The Tam Valley booster gives us a very cost effective booster for either track or accessory use for any DCC system or setup.

After thinking about the Tam Valley Booster and the MRC Light Genie, I started to think that these 2 products could work very well together. I set up a booster box using the Tam Valley booster and a small dedicated tool box. I set it up as an accessory booster which could be easily connected between any 2 Free-mo modules, (electrically-wise). I installed an MRC Light Genie on my Free-mo module and connected it to the Free-mo accessory bus, now powered by the Tam Valley booster. The nice thing about the Light Genie is that it can run on DCC power and as long as the voltage is 12V or more, I am guaranteed 12V DC of output at the Light Genie outputs. Installing bulbs and LEDs to the Light Genie should be the same as installing bulbs or LEDs in any DCC decoder. Another advantage to this setup is that there are no switches on the module to worry about, (kids can't play with switches on the module) and I don't have to worry about installing a series of electrical switches either. (Remember that I can control the lights through either the Light Genie remote or my DCC throttle.)

If the accessory bus is powered through another means, say 15V AC, the Light Genie will still work, I just won't have DCC control. The Light Genie remote will still work though.

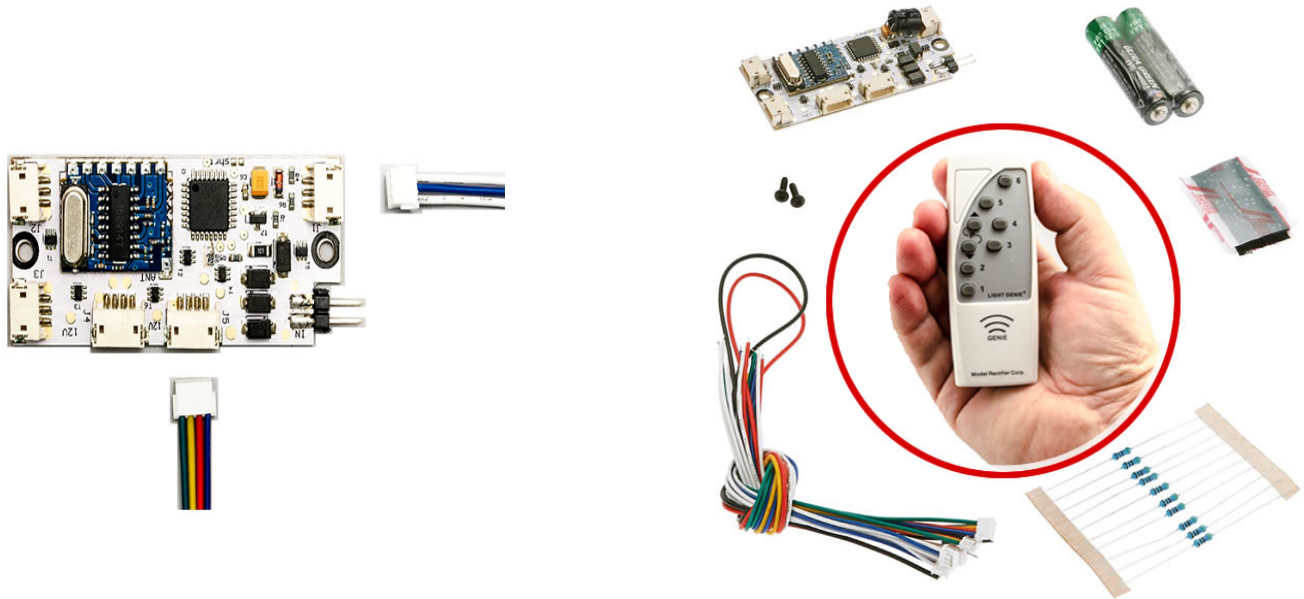
To test everything, I decided to do some lighting in my engine house on my Free-mo module. I set up 1 x 3 mm bright white LED in the middle, (of 3 locomotive pits) towards the rear of the engine house and put it on one circuit in zone 1. I set up another circuit consisting of 4 – 2x3 LEDs in series along one wall of the third pit on one of the zone 5 circuits. I proceeded to program zone 1 to use the arc welder special effect. I left the 2nd circuit, (zone 5) as a normal on/off circuit, (no special effects). Everything worked as expected and I am very pleased with the result! I plan to add another arc welder LED in one of the other 2 pits and install at least one other 4 string of LEDs in one of the other pits. I also plan to add some LEDs

to the inside, roof of the engine house as well as some external lights. Attached are some pictures of what I have done so far. Some links are also included for more information.

[MRC Light Genie - Information – Link](#)

[MRC Light Genie – Manual](#)

[MRC Light Genie - DCC Instructions](#)



MRC Light Genie package contents

MRC Light Genie board

[Tam Valley - DCC Track/Accessory Booster Link](#)

[Tam Valley Booster - Manual](#)



Tam Valley Track/Accessory Booster

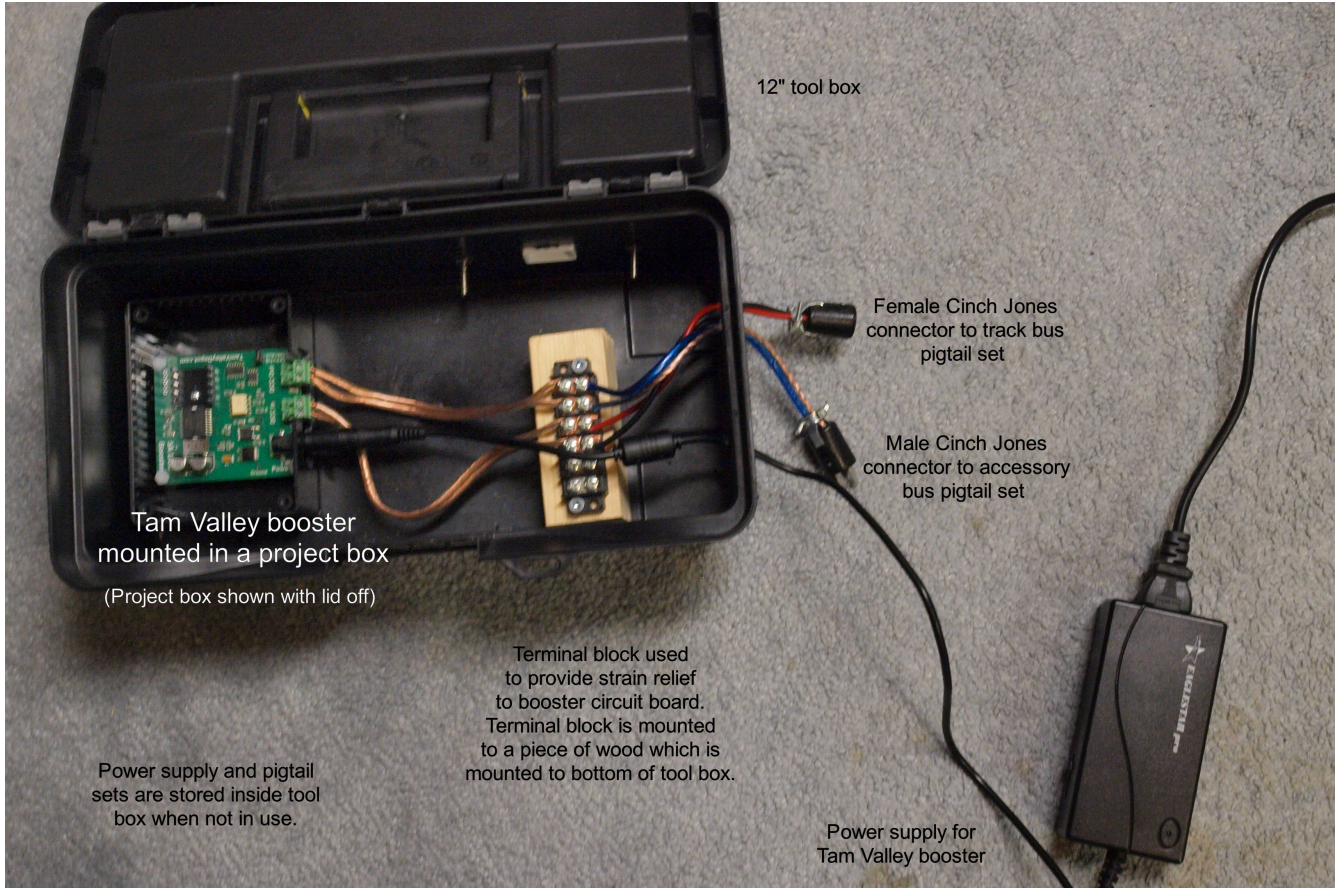


Arc welder effect in my engine house



Lighted engine pit

Tam Valley Free-mo Accessory Booster Box Set Up



Pigtails

