

RICHMOND CONTROLS NEWSLETTER - THIRD QUARTER 2003

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conversions are \$6.00 per LED when the trade-in is supplied. This includes the LED, a diode, a capacitor, and the labor to make the conversion. For example, conversion of the Atlas 645-X001 board is \$12.00, since it has two LEDs. To just replace the front LED and completely remove the rear LED without replacing it, the price is \$6.00.

SPECIAL MODULES

The following are examples of special applications that were accomplished using Richmond Controls modules.

Kato / Atlas N Scale Hood Diesel - Non-Directional Stratolite - One customer specified a mildly special version of the EZ02 with NONDIRECTIONAL Prime Stratolite (only) and a special flash rate. The application is for a trailing unit in a consist with the headlights off, but with the Stratolite operating regardless of direction.

Walthers HO Scale Observation Car - A customer specified adding a white LED tail sign and red/green markers to this car. We used the Walthers lighting kit for interior light, and obtained power for the other lights from this module. This was a DCC application, so constant voltage was already available from the Walthers board. Richmond Controls supplied the two tiny red and green LEDs plus a small white surface mount LED to be used in a Tomar tail sign, and the installation labor. This is not an easy installation, since the car's design did not anticipate adding these lights.

Recommendation: If you use DCC and install the Walthers lighting kits in their beautiful corrugated cars, be very careful about monitoring the heat produced by the VOLTAGE REGULATOR on the lighting module. Unlike N Scale Kato lighting kits where the danger is heat from the lamps, I believe the concern here should be the possibility of damage from heat created at the voltage regulator. (The regulator is the large black component at the input end of the module.) Whether this is really a problem will probably depend on things like the amplitude of the DCC track voltage and whether some form of heat sink is installed between the voltage regulator and the plastic car roof.

N Scale Crane Tender Car - This car is essentially a flat car with a small shed occupying about half of the deck space. The lighting desired was two red tail lights plus two non-synchronized yellow rotary beacons. These specifications were met using a single EZ-LITE module to provide track powered, flicker-resistant lighting effects, using only LEDs for light sources.

PLANNED NEW PRODUCTS

Kato N Scale TVG, EuroStar, etc. - These high-speed trains have many articulated cars, and are supplied in the typical Kato book-style boxes. The challenge is to provide flicker-resistant interior lighting without using wires between the cars, so the cars can be readily disconnected and replaced in the boxes. The first version of wipers has been made and will be tested in the coming months.

Marklin Z Scale Caboose - Several customers have requested interior lighting and a red tail light for these cars. The lighting can be achieved using a modified EZ53, but new wipers will be required. A sample was prepared and sent to a customer for evaluation, and the response was positive.

Intermountain N Scale Tunnel Motor and SD45-2 - Since many of the prototype Tunnel Motors had dual Gyalights, we expect to have a module that adds dual Gyalights and dual constant intensity headlights to these locomotives.

Atlas N Scale Alco C628 - Some of these locomotives were equipped with signal lights by the owner railroads. When this locomotive model becomes available, we intend to find a way to add dual Mars Lights or Gyalights as well as headlights for those who want this special lighting.

(We do all other scales besides Z and N, but these two scales are the most challenging.)

TRAIN SHOWS

Train Show plans for Richmond Controls for the third and fourth quarters of 2003 include the Burnet TX Train Show (8/23-8/24), Centramod Train Show (Temple TX 9/20-9/21), SP Historical Society Convention (Sacramento 10/1-10/5), Lockheed Martin Train Show (Ft. Worth 10/11-10/12), San Antonio Train Show (10/18-10/19), Ft. Worth Train Show (11/15-11/16), and the BIG one, the Oklahoma City Train Show (12/6-12/7). It is always a pleasure to meet customers face-to-face at these shows, and to renew acquaintances with friends.

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INTRODUCTION

The following discusses what's new at Richmond Controls since the Second Quarter 2003 Newsletter. Feel free to call if you need additional information - Jim

NEW LOCOMOTIVES AND CARS

Marklin Z Scale Powered FP7: It was a very pleasant surprise to discover that the EZ01 fits comfortably in the back end of this locomotive without requiring any of the chassis to be chopped away. The body shell comes with two headlight holes, making it a natural for adding a signal light (Mars Light or Gyalight) and a headlight. In this application, the EZ01 receives its power from the track, and the lights achieve their final intensity when the DC level of the track voltage reaches about 3.5 volts. Bezels are required because both headlight openings are significantly larger than the lamps. The appropriate module is the EZ01-120, its price is \$36.00, and the scale, locomotive brand and model, and the type of signal light (Mars Light or Gyalight) must be specified when ordering.

Con-Cor N Scale Superliners (first release): George and Debra at Wig-Wag managed to obtain some Superliner interiors from the last run of Con-Cor Superliners that can be retrofit into earlier runs. They are a bit over \$5.00 each, in four different styles. This means that it is now reasonable to install lighting kits into the Con-Cor Superliners from any production run. (Lighting a car with no interior is a waste of time and money, in my opinion.)

The EZ51 fits this car. The standard EZ51 comes with flicker-resistant interior lighting, and a wide variety of other lights could be ordered. The most likely addition would probably be two red tail lights, which we provide using two small red LEDs. The basic circuit with interior lights and axle wipers is the EZ51-00W at \$38.00 each for small quantities.

Micro-Trains N Scale Troop Cars - The EZ41 fits quite easily into this car, providing flicker-resistant, constant-intensity interior lighting. Intermountain metal wheels fit very nicely into the Micro-Trains trucks. The appropriate module is the EZ41-00W, whose single-unit price is \$33.00. We can supply four Intermountain wheel sets (enough for one car) for an additional \$4.00.

Kato N Scale E8 with Golden-White LEDs - several customers have specified Golden White LEDs in place of lamps for EZ04 modules purchased for use in the Kato E8/E9. There is plenty of room in the nose of these locomotives for these LEDs. No bezels are required for

this application. We have the LEDs modified by reducing their tip diameters so they fit directly into the headlight holes. The EZ04-002W module uses Golden White LEDs for a headlight and signal light (Mars Light or Gyalight) for \$36.00.

The same module is also suitable for the Kato PA1. The same idea should work for other N Scale cab units, however, most of the other cab locomotives do not already have enough space for the LEDs. For the Life-Like E units and PA1, for example, using LEDs for headlights will probably require the user to cut slots in the metal weights or chassis to clear the LEDs. The LEDs should fit into the Con-Cor PA1 and Life-Like Erie Built, but these locomotives only come with one headlight opening. A nice solution to this problem is to drill a second hole lower in the nose, and then use a bezel in the hole to form the rim of the headlight housing. This tends to make a lamp an easier choice than an LED for these two applications.

OTHER PRODUCTS

Ready-to-Install Golden-White LEDs - We are now offering Golden White LEDs in either the 3 mm or 5 mm size with the protective diode and capacitor already attached. This is for people wanting to convert their headlights to Golden-White LEDs but not wanting to go to the trouble of obtaining and attaching tiny surface-mount diodes and capacitors. The user still will need to remove his existing LED and substitute the new LED with its protective components. In small quantities, these LED / diode / capacitor assemblies are \$4.00 each. If the LED leads will need to be bent during installation, the location and direction of the bend should be **PRECISELY** specified. This will determine the placement of the other components.

Golden-White LED Conversions - We have started supplying headlight circuit boards already converted to Golden White LEDs. For this, it is necessary for the purchaser to send a board to be converted. (A few conversion boards will be available at train shows, but it will still be necessary for the purchaser to bring the board to be replaced, as an example and a trade-in.)

It is necessary to obtain a trade-in for several reasons. First, we do not have an inventory of these boards and it would be wasteful to purchase them new, only to immediately modify them. Second, some boards (like the Kato "77A" board, for example) are used in several different applications, not all identical. Variables include the length of the LED wires, the LED polarity, and the side of the board where the LED is attached. Basic