

# RICHMOND CONTROLS NEWSLETTER - SECOND QUARTER 2004

P.O. Box 1467, Richmond, TX 77406-1467 (281)342-4895 (Phone and FAX), FAX Code = 46

www.richmondcontrols.com

sales@richmondcontrols.com

**Minitrix N Scale K4 Pacific** - This locomotive has been around a long time, and is highly regarded by many people. It can readily be refitted with a Warm White surface mount LED mounted in a bezel inside the headlight housing (which is on a bracket above the top of the smokebox front.) If a constant intensity light is desired for DC or Aristocraft applications, the EZ10-001B module (\$25.00) is the obvious choice.

**Aristocraft G Scale FA1** - This model comes with a large incandescent lamp mounted in a large clear plastic lens installed in a large headlight opening. There is plenty of room for single or dual headlights in the existing headlight opening when 5 mm LEDs are used. At this time, a bezel arrangement must be custom made for both single and dual headlights. For single or dual signal lights in addition to single or dual headlights, a second headlight hole must be created below the existing hole, and a second bezel mounting arrangement must be created. A single EZ-LITE™ module in the EZ08 or EZ09 family can easily furnish a wide variety of directional or non-directional headlights, signal lights, beacons, strobes, classification lights, marker lights, ditch lights, cab light, or virtually any other type of light. Perhaps the hardest aspect of this conversion is specifying what end result is desired, because the actual installation is easy.

**N Scale LED Marker Lights** - The modules discussed last quarter, intended for George Hollwedel's special run and other MicroTrains cabooses, have been ordered and hopefully will arrive about the time this newsletter is distributed. N Scale Railroading published a wonderful article by Kim Saign in the May/June 2004 issue, describing this module and its installation. The companion interior kit created by Dick Billings at Fine N-Scale is also featured. Details are now available on the Richmond Controls web site.

**Athearn Bombardier Commuter Cab Control Cars** - When the Warm White surface mount LEDs became available, we knew the modules for the HO and N Scale versions of this car would benefit greatly from a redesign. The HO redesign is completed, and the N Scale redesign will be next.

**Pecos River Brass N Scale Pacific** - This locomotive can be fitted fairly easily with an EZ13-001B module (\$25.00). This uses a modified bezel in the existing headlight housing to mount a Warm White surface mount LED installed sideways. These beautiful locomotives look even better when equipped with a bright, constant-intensity LED headlight.

Eagle Imports produced beautiful HO Scale brass models of the Sam Houston Zephyr E5 and the SSW PA1. Both locomotives look stunning when equipped with working Mars Lights. We hope to work with Eagle to adapt modified Sunny White LEDs to these locomotives for headlight and Mars Light functions.

---

---

## SPECIAL LIGHTING MODULES

Recently, customers have ordered special lighting modules. Some of them include:

Sunny White directional headlights - Rapido N Scale GG1.

Headlight and Mars Light - Marklin Z Scale F Unit.

Sunny White LED headlight - Life-Like N Scale FA2.

Dim Blue LED interior lights for the Kato N Scale Business Car's bar area.

Red vestibule tail light - Kato N Scale passenger car.

Full interior lighting - Kato N Scale high speed trains.

Track powered FRED - *empty* Alan Curtis N Scale spine car.

Adjustable flash rates on beacons and Mars Lights.

Porch Mount ditch lights - Athearn HO Scale C44-9W.

---

---

## TRAIN SHOWS

Train Show plans for Richmond Controls include the Denver N Scale Meet (April 24-25), the Big Train Show (G Scale) in Long Beach (June 5-6), Santa Fe Historical Society Convention in Wichita (June 24-27), the National Train Show in Seattle (July 8-11), the N Scale Collectors' Convention and National N Scale Convention in Chantilly VA (August 4-8), and the NMRA Pacific Southwest Region Convention in Glendale CA (September 15-19).

I'm also taking my trusty, hard-working 1977 Buick with 477,000 original owner miles to the Buick Owners' Club Convention in Plano, TX (June 17-20). If you think model railroaders are a free-spending bunch, you should see these Buick people in action.

---

---

## PLANNED NEW PRODUCTS

# RICHMOND CONTROLS NEWSLETTER - SECOND QUARTER 2004

P.O. Box 1467, Richmond, TX 77406-1467 (281)342-4895 (Phone and FAX), FAX Code = 46

www.richmondcontrols.com

sales@richmondcontrols.com

## INTRODUCTION

The following discusses what's new at Richmond Controls since the First Quarter 2004 Newsletter. Feel free to call if you need additional information - Jim

### **"WHITE" LED SUMMARY, Part 2**

More customers are specifying "white" LEDs for their lighting modules instead of incandescent lamps. The advantages of LEDs relative to lamps should now be obvious to everyone -- much greater expected life, far superior quality and uniformity, smaller size, less current drain, less apparent change in brightness with changes in applied current, far less heat dissipation, etc.

Initially, I felt that lamps looked better than LEDs for applications where the light source is installed in a hole in the locomotive body shell, as with locomotive headlights, signal lights, and ditch lights. Out of necessity we have learned how to modify the LEDs to make them look better than lamps in virtually all applications. Unfortunately, at this time, commercially available LEDs must be modified to achieve this visible improvement. The most promising of these changes or adaptations are listed below.

(1) For cab units, put bezels into the headlight openings, and then insert Warm White surface mount LEDs into the bezels END-FIRST. This gives the appearance of a tiny light source in the center of a polished metal reflector, just like the real thing. This also works particularly well for many steam locomotives where using a "normal" LED is out of the question. Examples are steam locomotives where the headlight fixture is suspended on a bracket in front of the smokebox, or is on a bracket mounted on the pilot deck (particularly for articulated locomotives). The tiny surface mount LED instantly solves the space problem and eliminates any need to use fiber optics to get light out through the headlight. This approach is probably best suited for the three smaller scales: Z, N, and HO Scale.

Option 1 is great for N Scale and Z Scale steam locomotives and cab units like the Life-Like FA1 and Erie Built that have very little interior space without chopping out part of the chassis

(2) For hood units, a Golden White LED can be modified so it fits inside the body shell behind the existing headlight lens and illuminates both headlight openings. This appears to work best when the headlights lenses are simple and do not include extensions for illuminating numberboards or classification lights.

We have only applied Option 2 in N Scale Tunnel Motors and Alco Centuries, where for railroads like SP or D&RGW you want both a steady headlight and a signal light. It is also suitable for Z Scale hood units.

(3) For locomotives with LEDs mounted on circuit boards back inside the cab area, a simple change to a Golden White LED is very effective. Changing from a non-white color like yellow requires special considerations to protect the LED from the motor and drive circuit. Perhaps the most obvious example of where this simple upgrade can make a tremendous difference is the Kato N Scale Mikado.

Option 3 is ideal in applications where an LED or lamp headlight already exists on a circuit board mounted on the chassis, and a light guide is used to direct the light out through the headlight openings in the body shell. This applies to many Atlas, Intermountain and Kato N Scale locomotives, some Intermountain and Stewart HO Scale locomotives, and locomotives with factory-installed or drop-in decoders.

(4) For ditch lights on all units in the three smaller scales, and headlights on locomotives like the P42 and F59, the Warm White surface mount LEDs produce very good results when installed inside the headlight or ditch light holes, or when installed broadside over light fixture holes inside the body shell. Sometimes it is appropriate to remove any existing lens, and sometimes the lens is beneficial. Exterior lights for commuter cars can be fitted in the same manner.

Option 4 is great for the P42, Life-Like SW9, and particularly the F59, where there is no convenient space at all inside, even for fiber optics. This approach is ideal for HO Scale ditch lights, both pilot-mounted and porch-mounted.

(5) For cab units, we have been reducing the tip diameters of Sunny White LEDs to make these LEDs fit snugly into the headlight holes after removing any existing lens. The tip of the LED then becomes the lens. We have recently started reducing the diameter of the last 1/2 mm of the tip even further, to about 1 mm diameter. If the surrounding areas on the LED and headlight opening are painted silver and the 1 mm tip is left unpainted, it gives the appearance of a very tiny and very bright bulb in the center of a larger reflector, just like the real thing. The result is stunning.

I personally think Option 5 looks the best, although its use is limited to where there is enough space inside the body shell for the LED's body. It is ideal for HO and larger scales, and for N Scale cab units.

### NEW PRODUCT APPLICATIONS