

# RICHMOND CONTROLS NEWSLETTER - SECOND QUARTER 2006

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## INTRODUCTION

The following discusses what's new at Richmond Controls since the First Quarter 2006 Newsletter. Feel free to call if you need additional information - Jim

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## NEW PRODUCTS

**Large Scale LED Lighthouse Searchlight:** White LEDs that are extremely bright and emit light in all directions are now readily available. They are ideal for model lighthouse searchlights, particularly for the larger scales. An EZ08 module has been used to drive a high power LED searchlight whose intensity variation simulates the rotation of a searchlight beam.

**Z Scale FRED (End-Of-Train Flasher):** Sunrise Enterprises now makes a Z Scale FRED (NZ-50, \$15.00) similar to their HO and N Scale FREDs, with built in red LED. The Richmond Controls EZ26 FRED flasher can be installed inside Z Scale freight cars, and UNDER some open cars (like Micro-Trains gondolas). We also have several Z Scale axle wipers to obtain power from the rails to operate the flasher. The difficult part is finding metal wheels to fit the trucks on the freight cars.

**White 2 mm Axial Lead LEDs:** The manufacturer of Golden White and Sunny White LEDs recently released a white axial lead LED with a lens approximately 2 mm in diameter, which we offer for \$1.50 each. The light has a very faint blue tint, which the manufacturer is attempting to remove as with their Golden White LEDs. Meanwhile, the faint blue tint can be removed by dipping the LED in Tamaya yellow stained glass paint.

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## NEW APPLICATIONS FOR MODULES

We have worked with various customers to develop new applications for existing lighting modules. Some of these are:

**Kato N Scale California Zephyr Observation Car Lighting:** The EZ51 has been used to provide constant-intensity, flicker-resistant interior lighting, marker lights, white LED tail sign, and an operating red Mars tail light for this car. Installation of the module, interior lights, and Mars Light are easy. Modifications for the marker lights and tail sign are not so easy.

**EZ02 for Early Kato and Atlas N Scale Hood Diesels:** The early split frame hood diesels from Kato and Atlas came equipped with two small light circuit boards. A typical example is the Atlas GP7/9. Previously, a standard EZ02 module would not comfortably fit inside one of these models. Recently, I found a way to modify the EZ02 design to make it a fairly easy fit. So now, I am no longer discouraging customers from using this module in these locomotives. (This illustrates the importance of specifying the target model when discussing or ordering a Richmond Controls module.)

**HO SD45 Strobe Lights:** Several customers recently requested lighting kits for the Santa Fe Bicentennial SD45s which had two white strobes on the roof. The EZ05 easily handles this application, regardless of whether the strobes are independent or synchronized.

**HO Lighting Kits Using Incandescent Lamps:** By now, most customers know that Richmond Controls only stocks Golden White and Sunny White LEDs for use with modules. Some customers still like the look of incandescent lamps and their relative ease of installation, and are willing to accept responsibility for the quality of those lamps. Thus, for those customers, we are willing to install customer-supplied lamps instead of LEDs, on request.

**N Scale and HO Scale Athearn Bombardier Commuter Cars:** Modules for these cars, particularly the cab control cars, have started to trickle out. This is a very complex application, because of the large number of lighting features that can be offered, and the need to vary the module based on whether it will be controlled by itself or by a DCC decoder. I found it necessary to develop a specification chart to prompt potential customers through creating a specification. Potential customers are urged to request a copy of this chart if they are considering purchasing one or more of these modules.

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## PRODUCT DESIGN CHANGES

**Showcase Miniatures Radio Tower:** This beautiful etched brass radio tower can be built as an 11" or 22" (or more) tower. It has been purchased by modelers in Z, N, HO, and O Scales. We supply versions either as ready-to-run models and as bag-of-parts kits.

Originally, the Richmond Controls lighting kit utilized grain-of-wheat incandescent lamps for the two white strobe lights, and red LEDs for the eight steady and winking-out aircraft warning lights. Those incandescent lamps were failures waiting to happen, as soon as the filaments wore out.

The kit has been redesigned to use white surface mount LEDs for the white strobe function. Ideally, this means there should never be any need to replace any of the tower's light sources. Towers shipped recently have this upgrade included.

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## POSSIBLE FUTURE PRODUCTS

Items discussed below have been proposed by several potential customers. They will be developed if demand justifies that effort.

**Mars Light for 1-1/2" Scale:** Some 1-1/2" scale locomotives are equipped with 12 volt high current incandescent tracklight bulbs for headlights. Our EZ07 can drive these lamps in Mars Light and other special patterns. Modules will be tailored to specific lamps when lamp specifications are furnished by customers. The main differences are the lamp diameters and the amount of current needed to keep the filament warm for optimal lamp life.

The same module is capable of driving the same lamps used as alternating ditch lights.

**Low Cost Lighting Kit for O Scale Passenger Cars:** This proposed kit essentially consists of a suitable circuit board, several 3 mm Golden White LEDs with resistors, and a driving circuit. To keep costs low, the customer will install the LEDs and resistors on the circuit board at appropriate intervals for the car being fitted, and connect the driver circuit. Several different driver circuits are envisioned, ranging from nothing (for users desiring battery power) to a regulated power source with antiflicker provisions for track powered installations.

**O Scale Marker Light Driver:** Our marker light drivers include an antiflicker circuit and employ the EZ23 module for constant intensity lighting. For O Scale, the track voltage peak value can sometimes be quite high, beyond the EZ23's input rating. The circuit will be fitted with some form of input voltage limiter to allow use of the EZ23 in this application.

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## SPECIAL SERVICES

**Brighter Headlights and Ditch Lights:** In many new locomotives, the headlights and/or ditch lights are not as bright or as constant in intensity as the owner desires. Sometimes, the track voltage must be quite high before the lights become obvious. Sometimes the light color is perceived to be unattractive, as in the case of headlights using bluish white LEDs. These situations can generally be improved, but not necessarily by replacing the stock lighting with a Richmond Controls module or a decoder.

For example, it is often possible to obtain a brighter headlight by replacing the stock lamp or LED with a high-brightness Golden White or Sunny White LED. In some cases, this makes the light too bright, so a change in the current limiting resistor may be appropriate.

An interesting special case is the Atlas N Scale H-16-44. This locomotive comes from the factory equipped with directional headlights and directional red/green marker lights. Some owners have expressed a desire for more brightness from both types of lights. This has been achieved by changing the headlight LED to a Golden White LED, reducing the series resistance by soldering a second surface mount resistor on top of the existing surface mount resistor, and aiming the LEDs differently.

Richmond Controls can supply the LEDs and resistors. I enjoy investigating these situations and offering advice or instructions for making changes. If you have a locomotive whose lighting is not totally satisfactory to you, don't hesitate to inquire.

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## TRAIN SHOWS

Upcoming Train Show plans for Richmond Controls include the Southern Pacific Historical Society Convention (Oakland, July 12-16), the Santa Fe Modeling and Historical Society Convention (Amarillo, July 20-23), San Antonio Train Show (July 29-30), and the N Scale Collector's Convention and National N Scale Convention (Denver, August 9-13).