The Trolleyville Times

November 2014

Bowser is considering another run of New Orleans cars. If you missed out last time, suggest you reserve yours as

EU Decoder to NMRA Hard Wired Decoder Conversion for Latest Bowser Trolley models!

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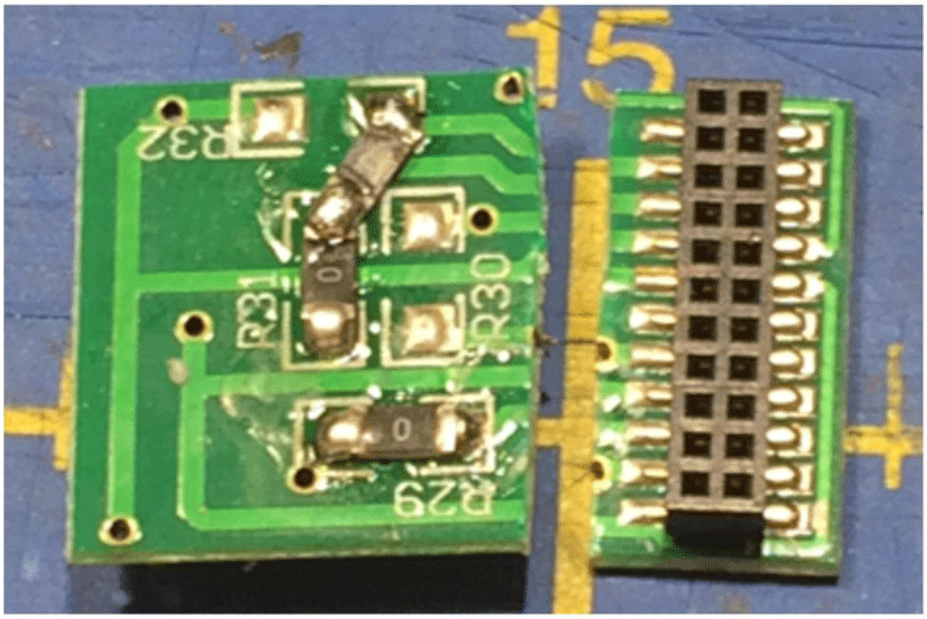
By Eric Sitiko

The latest releases of the Bowser DCC Ready-To-Run trolleys including the recently released Perley-Thomas New Orleans 900 series streetcar (June 2014) and the latest of PCCs that just arrived early last month have a new decoder plug with which many of us in the US are unfamiliar. The plug is a European type 21-pin plug. To convert this to an NMRA Hard Wired Decoder or even an NMRA 8- pin plug the easiest thing to do is to modify the dummy (DC) plug included with the DCC/Sound Ready models. There are also commercial EU 21-pin to NMRA 8-pin plugs available for those that want to go that route. Making the adapter plug is fairly simple, but due to the circuit board being double sided, care must be taken to cut all the traces remaining when modifying the circuit board. To modify the board, remove the shell from the model. Remove the dummy board by the pulling it away from the large board. It is a tight fit, but only a friction fit. Once you have the board removed from the model note where the through holes are on the board between the 21-pin plug and the diodes and resistors on the other portion of the board. Using a razor saw or sheers, cut the board right through the center of the through holes and discard the section of the circuit board without the 21- pin plug.

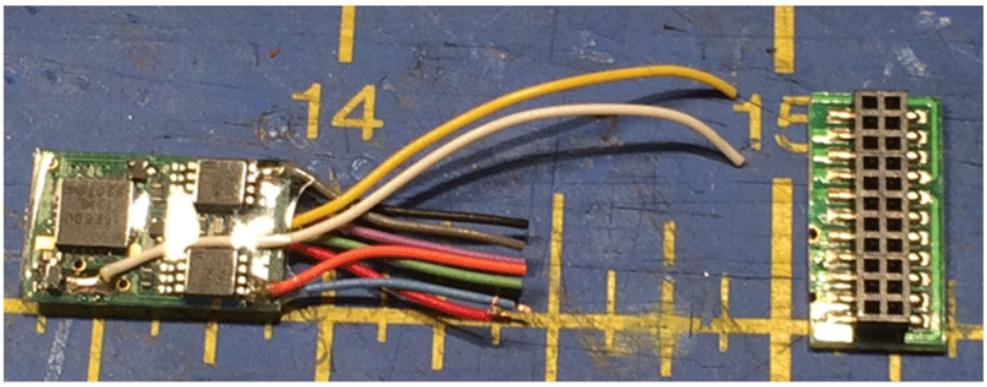


Using your volt-ohm meter, check the continuity between each of the pins and all other pins. I found a couple of sneak circuits between the headlights and track power. Cut the traces where you find continuity and inspect the board for anything that might cause a future short circuit, like frayed copper traces and other conductive circuit board material. Now that you have a clean circuit board containing the 21-pin plug, use the diagram below to identify to where to solder the decoder wires.

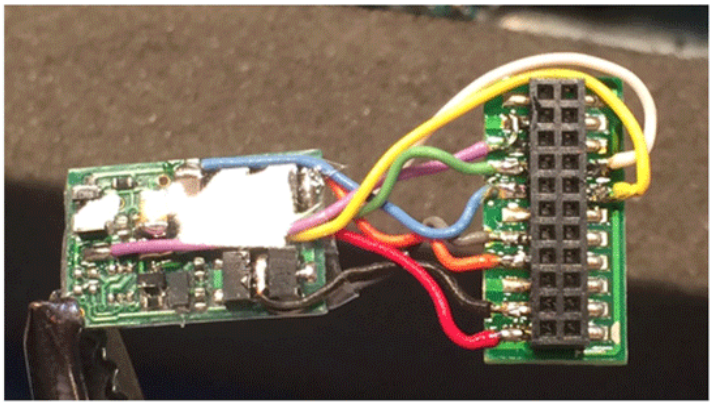
MTC 21 pin male connector (Euro type 21 pin connector)

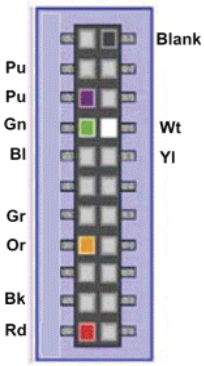
VCC	Controller internal VCC	12	11	NO Pin	Coding or registration
AUX 3	Output 5	13	10	LS	Loudspeaker Terminal B
AUX 2	Output 4	14	9	LS	Loudspeaker Terminal A
AUX 1	Output 3	15	8	FRONT LIGHT	Output 1 / Front Light
V+	Controller Plus (behind rectifier / Blue)	16	7	REAR LIGHT	Output 2 / Rear Light
MOTOR 3	Motor Output 3	17	6	TBDTA	Train BUS - Data Line
MOTOR 2 MR	Motor Output 2	18	5	TBCLK	Train BUS - Clock Line
MOTOR 1 MF	Motor Output 1	19	4	AUX 4	Output 6 / Pick-up control
GND	Controller GND (Behind rectifier)	20	3	HALL 3	Hall Sensor #3
TRACK LEFT	2 Railtrack Left/3 rail outside rails	21	2	HALL 2	Hall Sensor #2
Track Right	2 Railtrack Right/3 rail centre rail	22	1	HALL 1	Hall Sensor #1

I used a M4 decoder from TCS. As this is a 4 function decoder and there are 5 functions on the car, I combined the route signs and destination sighs by soldering the purple wire on both pads. This gives 4 separate functions. One each for the headlights, interior and route/destination control in DCC.



Once soldered, I checked all the connections using a magnifying glass to ensure that there were not any shorts or stray wires.





After all checking was complete, I installed the board back into the model and put the model on my programming track. I use JMRI to do all my programming. I started by just checking my wiring using address 3 and turned on all the lights and checked motor operation. It all worked! I then programmed the functions and motor to my liking. New Orleans RTA runs the headlights on all the time in service, but I wanted to know which way the car was going, so my trailing headlight is slightly dimmer. This was a simple project to make use of a decoder I already had in a great new model. If you have any problems with either this conversion or others drop me a note. For an upcoming issue I am going to continue this DCC corner with a sound conversion and other wiring changes I made to the Con-Cor Electroliner. Until then, happy modeling.

Note: *The Trolleyville Times accepts no responsibility for damage caused to models by modelers attempting this procedure. Modelers are cautioned to realistically assess their capabilities before attempting this procedure.*

About the author:
Eric Sitiko is an Emember of the Southern California Traction Club. He has been interested in model railroading most of his life and has been interested in traction modeling since his early teens. In college, he became involved with a streetcar museum operation and after college became a transit professional working with both heritage and modern streetcars. His interests are both in native Southern California as well as the places that he has lived. He is interested in electric freight operations as well as passenger operations. His modeling is mainly focused in the 1950s, but he does enjoy models of the contemporary equipment that he works with in his career. Eric lives in Portland, Oregon with his wife Julie and cat, Diesel.

New York Trolleys in San Diego!

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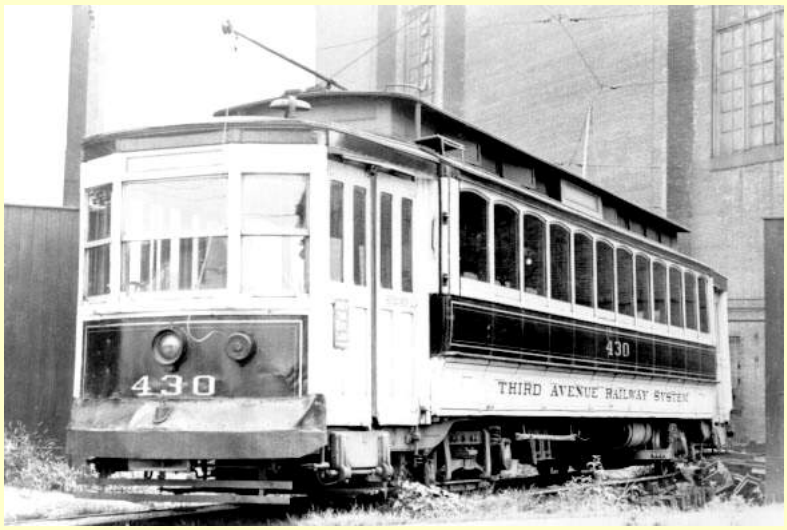
During World War II, San Diego was desperate for trolley rolling stock to keep up with wartime passenger loads. The Office of Defense Transportation decreed that city transit systems should rely on rail to the maximum extent possible to save petroleum and rubber for the war effort so many bus routes were discontinued for the duration.

In Philadelphia, for example, Philadelphia Transportation Co. [PTC] was forced to reinstate the single track and passing sidings on the narrow Bridge Street shuttle, Route 73, between the Frankford Elevated Bridge Street terminal and Frankford Arsenal.

San Diego bought 20 ex-Third Avenue Railway System [TARS] box cars from the New York City operator, which had retired most of its secondhand 400 series before the war. They had been acquired in 1924 from New York Railways and were among the longest deck roof cars ever to run on the TARS system. All in the 401-528 series had 12 windows per side except 528 which had 13 windows. The 46'-11" box cars all were re-trucked by TARS on Brill 39E maximum traction trucks. Here is what they looked like in San Diego:

Here is a 400 series cars on TARS property:



NJ Custom Brass imported the TARS 400 series in 1/87 HO brass: Many brass imports imported in natural brass never were painted or custom finished by their owners and now are showing up on the resale market, notably on eBay, most recently April 7 and June 2 when they sold for $199.99 and $165.50, respectively.

Model traction supplier Custom Traxx formerly produced a set of decals for TARS cars: **New York City, TARS / Steinway Lines, (Premier Set) - $16.95 [CN-629]** This premier HO scale finishing set was requested by many professional model painters and included all required numbers, lettering, striping and heralds New York City Third Avenue Railway System (TARS) streetcars. Included were silver, black and yellow striping, silver and red numbers, over 100 different destination signs in three different sizes and 48 signs with red or maroon backgrounds. Heralds for the Third Avenue Railway System, Third Avenue Transit System and Queensborough Bridge Railway were also included. Below is a photograph of Custom Brass TARS 400 series car lettered with this decal set. This set is currently out of stock. There are no plans to re-run at this time!

Some Possible Issues with Bowser HO Scale Streetcars!

(And Some Solutions!!)

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The Times has been advised about two issues that may affect a very small group of Bowser HO scale trolley users. One is electrical conductivity of some of the trolley poles and the other is the turning radius. The trolley poles issue may be present on all the New Orleans cars and their clones (SKU 12810 through and including 12831) and the PCC cars just released in October (SKU 12691 through and including 12704). The other is a problem affecting the turning radius of the latest group of PCC cars just released.

By the time of the latest release of PCC streetcars, Bowser had released three separate runs of the San Francisco ex-Philadelphia PCC cars and three runs of the original PCC cars. These models, with over 5000 units delivered, had trolley poles using the basic Miniatures by Eric (Eric Courtney) HT-P2 design. The Southern California Traction Club (SCTC) and Custom Traxx would merely take the trolley pole out of the wrapping, clean the shoe and the pin base with a Dremel wire brush, put it on the car and away they would go, DC or DCC.

All of this changed with the New Orleans cars. A couple of the trolley poles just would not give good operation on DCC. Some of those that would not work on DCC seemed to work on DC. We did not really pursue the issue at first and just exchanged the original poles with some Miniatures by Eric HT-P2 poles on the cars and they worked fine. Then last month, the latest batch of PCC cars arrived at the club test facility and one or two of those trolley poles exhibited similar performance issues. Custom Traxx and the SCTC checked everything relevant including the relocated ANT-TRK switch, the trolley pole pin base and the pin base receptor. The cars would work fine running two-rail but very erratic on overhead wire using the provided trolley poles.

During an intense testing session conducted on October 8-9, 2014 in two separate locations, it was concluded that the trolley pole base was the source of the problem. They soaked the bases first in Lacquer Thinner and then in Acetone. There was some improvement in the pole's performance after the soaking in Lacquer Thinner and Acetone. However, the performance was still not what they would have expected. But they were now convinced that the problem was in the pole base.

Then they realized that after all this soaking, the black coating that we assumed was paint did not dissolve or show any signs of weakening. It was then that they hypothesized that the manufacturer might have been painted (or blackened) the poles using a procedure called Electrostatic Spray Painting (ESP). ESP makes a strong durable finish by electrostatically negatively charging the paint or chemical blackening and positively charging the object to be painted. It also saves paint and forms a very good bond. Items to be painted must be conductive or made conductive prior to painting for ESP to work. The resultant paint particles have the same

charge, so they repel each other and this helps to distribute the paint particles evenly and get uniform coverage. Also every bit of surface area including areas not able to be seen get covered in a coat of paint or blackener. Paint and especially blackening agents are known for their insulating qualities. So whatever covering was used most likely had electrical resistance and insulation properties that would impair the ability of the trolley pole to carry the track voltage and especially the DCC signals from the computer.

It became more of an issue in September when a customer of the New Orleans cars sent a pole to Bowser for evaluation and the pole was sent to Custom Traxx. At first it was thought that there was paint in the trolley shoe but that proved not to be the entire problem with the pole. Both Custom Traxx and the SCTC began testing the pole but found that it acted the same as some of the other poles with which they had issues.

It was not until the Custom Traxx/SCTC team started to remove the springs and check out the entire pole base that they arrived at their rather simple remedy. There was a solid coating of paint under the place where that springs had been formally located. The springs were not soldered to the pole, just held in place by grooves and friction. It was obvious that very little or no power could be transferred via the springs or the pole base hinge. The paint or blackening agent was acting as an insulator and a pretty good one. So the team removed the springs, which were also totally painted/blackened, scraped the black from the spring end loops and the mounting surfaces on the pole base itself. This was not as easy as one would have thought. Whatever the material was, paint or blackening agent, it was bonded to the surface and difficult to remove. They used an Xacto knife and a Dremel wire brush to prepare the areas. Then the springs were replaced and soldered to the pole base. This was done first to the top of each spring and then the bottom. This assured two reliable circuits from the pole base to the trolley pole itself.

Within one week, the team had modified at least six Bowser poles in this manner and the results are identical....all good. As far as the Times knows, this problem only applies to some of the trolley poles supplied with the New Orleans cars that were released in June 2014 and the PCC cars released during September/October 2014. Bowser has assured us that this problem will be corrected prior to the next issue of any streetcars.

Issue Two - Turning Radius:

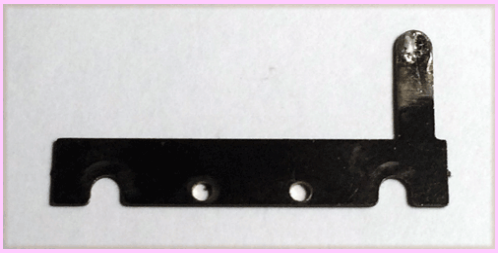
These issues may affect those who have purchased one of the latest release of Bowser PCC cars and wish to operate them on curves less than 9" radius.

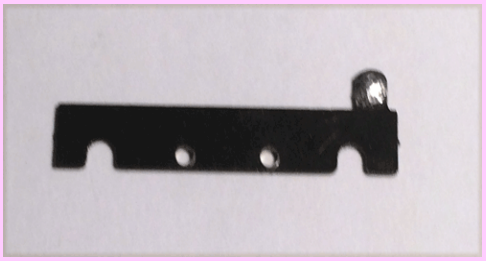
Bowser Manufacturing introduced their Phase IV PCC cars in October with the arrival of the LATL "Fruit Salad" 3126 and 3137, Pittsburgh 1730 "Mod Desire", Toronto TTC 4317 and 4399, and SEPTA Phase II 2095 and 2730. These are the smoothest and quietest PCC cars running cars yet.

We have been made aware of three possible issues with these PCC cars. The first is the trolley pole issue reported in the first paragraph in this article. Since it's introduction in 2009, the Bowser Ready-To-Run PCC car has always been able to negotiate 9" radius curves but has been able to be modified to negotiate curves as small as 5.75" radius. While there was an effort to build this low-radius capability into the Phase Four models, a second issue still remains with these cars and a third has arisen.

The second issue is the thin brass guard over the power truck gear tower that should be carefully removed. This guard, installed as an oil splash shield has been placed on all model PCC cars manufactured to date, and can strike the window casting inside the car, and restrict the swivel of the power truck. According to Bowser Manufacturing, this guard will be removed in all future streetcar releases. But, unfortunately, you will must remove the shell to access this part. This was not an issue when using the ANT/TRK switch required the shell removal. The relocation of the ANT/TRK switch makes the removal of the shell unnecessary. The shield is a thin brass part that can be carefully removed. Avoid the thin enameled wires that power the headlights and dash lights when removing the shield.

The third problem which just has arisen involves the brass pickups, known as part 1388. This is the part that transmits electric power from the wheels to the circuit board. When the decision was made to install speakers in all cars, the tabs on this part were shortened by the manufacturer to clear the bottom of the speaker housing which is directly over the rear, unpowered truck. Below left is the part 1388 as used until recently. At right is the manufacturer redesigned part now used.





The manufacturer for some reason has chosen to solder the pick-up wires only to one side of their fabricated part, regardless which side the of the truck that the part is placed. Unfortunately, on one side of the car, this places the wire and the solder on the outside of the part which can reduce the swing of the truck. Up to this point this is confined to the operators (no doors) side of the car and involves only the black wire from the power truck.

After many possible remedies were evaluated, John McWhirter of the Southern California Traction Club developed the simplest solution. Just remove the original equipment part 1388, detach the wire, remove all solder from the one side, prepare and resolder the wire to the opposite side and replace the part. You can also reshape the top of the tabs to fold over the power truck gearbox before you resolder the wires to that area, ensuring that there would be no interference with the swivel of the power truck. This should be attempted only by serious modelers with good soldering skills and a steady hand. Both of these procedures can be done without disassembling the car. The club subsequently performed this procedure on five such cars after which they all worked satisfactorily and operation on tight radius curves resumed.

For the record, Phase I Bowser PCC cars are defined as the first ones released in 2009. They have flat faced nickel silver wheels and the older track brakes used on the Bowser traction mechanism since 1999. The Phase II cars came with windshield wipers, simulated super resilient wheels and B-2 "sideframes". Phase III cars eliminated the original brass bearings, part 1257 and replaced part 1256, the current pickup with part 1388, which performed the functions of both former parts 1257 and 1256. Phase IV cars have the ANT/TRK switch relocated to the bottom of the floor, thereby eliminating removal of the shell to activate. Process improvement has been continuous with these cars.

Notice: Trolleyville will not accept any level of responsibility for models damaged during the conduct of any of these procedures.

TCS supports the traction modeler....again!

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Back in 2009, when Bowser introduced the DCC-ready PCC car, there were no decoders ready for that task. TCS' John Forsythe jumped in and created the M4T which gave the modeler actual realistic PCC brake lights and an automatic passenger stop sequence and the decoder used the NMRA 8-pin plug to attach to the circuit board so no soldering was necessary.

Later, when they were developing their "Keep Alive"™ decoders, they selected Custom Traxx and the Southern California Traction Club (SCTC) to test the item. You can imagine how elected the test observers were when a trolley operating on overhead wire ran through almost 8 inches of fishing line which had been substituted for powered overhead wire.

Then John and company added the trolley features to all of their decoders. The traction modeler had only to set CV 8 = to 11 or 12 to activate those features. But at that time all of the TCS decoders were either hard wired or installed using the NMRA 8-pin plug.

The decision by Bowser to go to the European 21- pin plug caught a lot of us by surprise but the purpose was to introduce the DCC/Sound Ready vehicle. This would mean that a speaker would be installed in every vehicle, whether DC operated or DCC operated and to upgrade a model to DCC/Sound would entail just plugging in the sound decoder. Again no soldering would be needed to upgrade the car. The New Orleans 900 series were available with ESU Lok Sound decoders using the 21-pin plug.

We knew that ESU had a non-sound decoder that could be used with the New Orleans 900 and possibly a PCC car but since we were very comfortable with the management style and customer service continually displayed over the years by Train Control Systems (TCS), both SCTC and Custom Traxx approached John again. Recently, John in concert with Jordan McBride provided us with a the first EU621 decoder programmed the same as the M4T. It arrived at the Custom Traxx test facility on Saturday, October 11 and was installed in a DCC/Sound Ready Bowser LATL PCC freshly renumbered to 3156 already reserved for this task. It performed as we have become accustomed to from products by TCS.....excellently!

So modelers with DCC/Sound Ready (Phase IV) PCC cars not interested in sound may opt for the EU 621. Just set CV8 = 11 after you install the decoder and you are off and running.

We expect to test a Keep Alive™ decoder next.

San Francisco Muni Orders their Third Group of LRVs!

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It was reported in Tramways & Urban Transit Magazine, September 2014 issue that on July 15, the San Francisco MTA Board agreed to award a contract for 175 new light Rail Vehicles for about $648,000,000. There is even an option for 85 additional cars. The cars will be fabricated in Siemens Sacramento facility and would be delivered between 2016 and 2018. The first 24 will cost about $3.3 million per car and would be used on the Central Subway Extension. The cars will have a designed life of 30 years. These cars are reported to be three truck, six axle cars with similar physical specifications as the current Breda cars. An artist's impression of three possible front end designs was provided.

Southern California Traction Club Opens a New Door!

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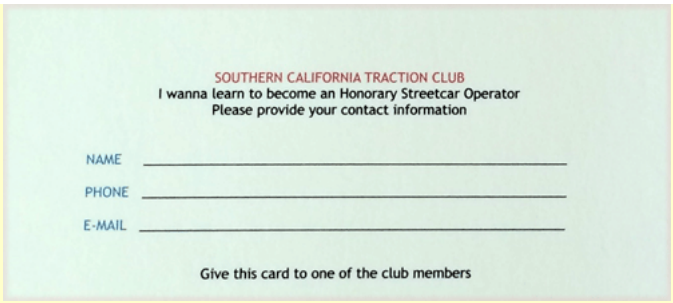
The Southern California Traction Club (SCTC) often wondered why more young people did not embrace the fun of running model streetcars. The obvious answer was maybe they did not know. They probably had never done so. We knew of no hobby shop that had a layout on which customers could actually operate trains. So the best way would be to show them and maybe the club could do that.

The club decided to embrace DCC and set a loop of track on the layout aside for visitor operation. Stops were designated with yellow bands on the trolley line poles at corners of intersections similar to that done in Philadelphia many years ago. Trolleys with the automatic stop feature (Trains Control Systems, Soundtraxx and ESU decoders) were selected for this loop and visitors were selected. After some training runs, the visitor would be allowed to operate the car, ring the bell and stop the car. The plan was that once the visitor mastered the ability to control the car, they would be given a Certificate naming them as "Honorary Streetcar Operator ".

The training loop was located on two modules constructed in 2006 and 2007 which encircled a four track trolley barn. The visitor would have to make four stops without having the car enter the intersection. Visitors interested in taking part in the program would be asked to fill out the form below and they would be called when the loop was ready:


SOUTHERN CALIFORNIA TRACTION CLUB
I wanna learn to become an Honorary Streetcar Operator
Please provide your contact information

NAME _____

PHONE _____

E-MAIL _____

Give this card to one of the club members

The first show where this was to be introduced was the NMRA-LA Division annual model train show at the South Coast Botanic Gardens in Rancho Palos Verdes, CA on October 25-26, 2014. This show had layouts of all major scales except O scale. The O scale club cancelled the evening before the show due to an emergency with one of its members. The large scale group was set-up outside among the plants as is normally the case. The SCTC offered operation of the model trolleys to several young visitors and many of them accepted the offer. The car used was Bowser Los Angeles MTA PCC 3148 which had been retrofitted with a Bowser/Soundtraxx-Tsunami chassis. This car gave the user the sounds of the motor-generator, doors opening and closing, bell, passenger signal and wheel squeal. It also had an automatic passenger stop sequence with brake light activation. But the car has a built-in deceleration rate which must be mastered by the operator before the car will stop where desired. Shown below while operating the car are Charley Henry (below left), Joseph Chang (below center) and Nathan Reynoso (below right) taking their turns operating the car on Saturday:

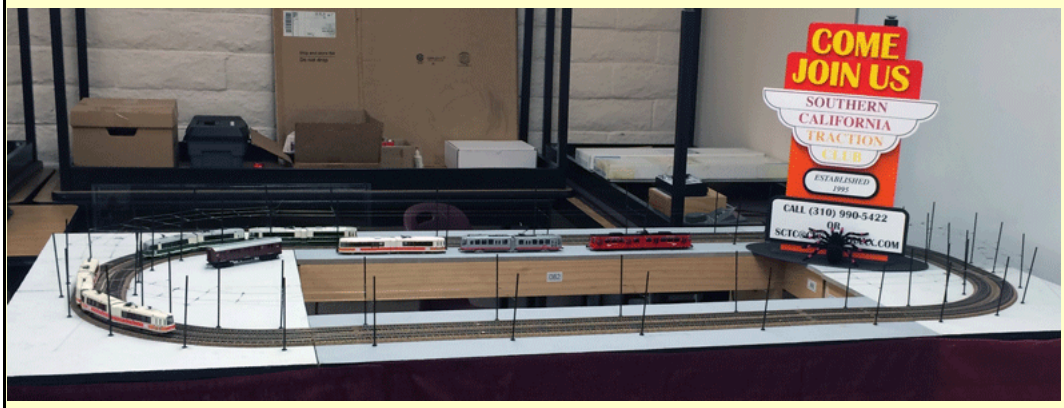


The chance to operate the car was received well. In fact two of the three operators shown in the previous photos came back for another crack at running the car. It was amazing to see the looks on their faces as they mastered the operation of this car.

On Sunday twice as many prospective operators lined up for their turns. Below left are Max & Leo Amir with instructor John McWhirter after their turns were completed. The center photo shows Gabriel Aguiar while operating the car and Jared and Lawson Kramer during their turns.



The club displayed their developing Light Rail Vehicle Display for the first time. On the display you can see models of Boeing LRVs from both Boston and San Francisco. A red San Diego Siemens LRV along with a model of a San Francisco Breda LRV. Philadelphia Kawasaki LRVS and PCCIIs were also seen on the display throughout the weekend. The New York City subway car had just become inoperative and was just placed there when the photograph was taken.



The club had returned to the South Coast Botanic Garden after a one year absence. This year the Los Angeles Division has a new Superintendent, Michael Allee, who has held this position since February 2014. He brought to this show a degree of intelligent management not seen for some time. After a brief conversation, we are convinced that he will return the show to it's apex which occurred while under the direction of Mary Barstow. The club will continue this program at the Anaheim Train Show in January 2015 and possibly at the Del Mar Train Show in February 2015.