The Trolleyville Times

February 2012

gun deliveries of the new HO scale Boston PCC car. Payment is now due for all reservations! - - - TS1

Bowser PCC Cars with Tsunami Sound!

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It was with a great sense of relief and accomplishment that the Bowser PCC cars with sound finally became available to the traction fans. This project was heavily supported by Trolleyville, Custom Traxx and the Southern California Traction Club (SCTC). The search for PCC sound began at the same time that the San Francisco F-line PCC Project was proposed to Bowser in May 2007.

During the summer of 2007, John McWhirter and George Huckaby of the SCTC made arrangements to visit San Francisco and record the sounds of both PCC and other trolleys (just-in-case). Sounds from ex-Philadelphia 1948 all-electric PCC cars 1059, 1063 and Muni 1948 all-electric double-end "Torpedo" 1007 were recorded using equipment recommended by one company. They examined the results and they sounded more than fine to them but when they sent them to the first company, they were not found suitable. After consultation, different sound recording equipment was obtained and another visit was made. This time the sounds were fine but a suitable quantity agreement could not be made with the company for making the sound chips. Meanwhile the clock was ticking.....

Meanwhile, the project soldiered on and by the summer of 2008, the first shells of the PCC emerged at the National Train Show in Anaheim, CA. Two additional companies would be contacted without success in arriving at a cost of quantity that the Bowser team deemed feasible. With the hope of having sound for the first F-line cars dashed, the aim was to have sound for the first batch of the traditional single-pole cars.

Preliminary inquiries with Soundtraxx (Tsunami) had not gone too far up to this time as they insisted that they record their own sounds to ensure the quality that they demanded of their products. Two factors emerged that would eventually make a Tsunami-Sound-Equipped PCC possible. The first was that Bowser was already a customer of Soundtraxx for many of their diesels and that when Bowser insisted that they seriously consider the SCTC recorded sounds, they were found to be acceptable to meet Tsunami quality standards.

Of course, Soundtraxx had to design a new circuit-board that had some of the features pioneered by Train Control Systems with their M4T and T6XT decoders, namely the brake light and the automatic acceleration/deceleration function that had been available to Bowser PCC operators for over one year. This ensured that Bowser would not have sound for the first batch of traditional PCC cars and would be lucky to have the sound equipped cars available by 2012.

Designing a speaker enclosure to fit the car would be challenging. Unlike a diesel locomotive or steam engine, the PCC streetcar has windows on all four sides (large in both the front and back), and the Bowser drive, while rugged and proven, take a considerable amount of space inside the car. The overseas manufacturer had skillfully mounted the circuit board in the roof of the car on four metal posts to solve the window problem and it was hoped that there was a way for Soundtraxx to solve the speaker issue.

Well, they did and the first test circuit board was provided by Soundtraxx in February 2011 and placed in a model of Muni 1055 (Philadelphia) shown below:

The M4T Decoder and the Bowser PCC Cars!

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Users of the Bowser PCC cars and the Train Control Systems (TCS) M4T decoder should be aware of certain issues with these decoders that have arisen during their production cycle.

When the M4T decoders were first produced in 2009, the first group, version 49, were defaulted to work with the Muni F-line PCC cars, namely, the decoder operated both the brake lights and the tail lights unique to the PCC cars rebuilt for service in San Francisco in the early 1990s.

After Bowser finished the production run of their models of the 14 San Francisco Muni ex-Philadelphia PCC cars, M4T decoders produced were defaulted to the standard PCC car configuration of brake lights with NO tail lights. This occurred around the beginning of 2011 when the first traditional Bowser PCC cars (SEPTA "Gulf Oil", Toronto, Johnstown, Pittsburgh, Los Angeles MTA) were released. These were versions 51 and 52.

Note: CV7 reveals the version number.

Specifically, CV 61 is the main issue with the rear lights. A value of 1 turns on Back EMF. If a value of 9 is in CV61, only the brake lights will illuminate. There will be no tail lights. To illuminate the tail lights, which are prototypical for the Muni 1050-1063 series PCC cars, a value of 137 must be entered.

TCS is working on incorporating a new processor which will give increased capabilities to decoders, and allow much more flexibility to steam, diesel and trolley modelers in all scales. We will be reporting on these from the trolley modelers point of view as soon as our testing is completed.

Meanwhile, M4T users with peculiar questions are invited to contact Custom Traxx by email (decals@customtraxx.com) or phone (310-990-5422). Custom Traxx has been working with TCS since the beginning of the DCC/M4T development program in 2009.

Evaluating the Bowser PCC Cars with Tsunami Sound!

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Custom Traxx received their production Tsunami-Sound-Equipped (TSE) Bowser PCC cars in mid-December and began evaluating them on the Southern California Traction Club Test Track. Upon acquiring any DCC-equipped car, Custom Traxx normally places the car on the programming track, hooks up the Digitrax PR3 Sound/FX Decoder-Programmer and Mac Book, changes the address to the car number and then obtains a complete reading of the decoder using DecoderPro, obtains a printout and stores it for later reference

Although the car will operate smoothly on DC layouts, the car has been designed to operate on DCC where all the functions can be controlled, adjusted and monitored.

After extensively testing this car on the SCTC test track, there were some recommended changes. mainly to the button assignment of the functions and Bowser wanted to set a "standard" for future trolley sound projects that they were planning so the recommendations were sent to Soundtraxx and this resulted in two additional sample boards provided in models of Muni 1056 (Kansas City) and SEPTA "Gulf-Oil" 2111 provided in April 2011 shown below:

When Custom Traxx operated the 2111 continuously at the East Penn Traction Club Meet in May 2011, the crowd reaction told us that Bowser had a 'winner'. We were only able to display the car because George Jones, another member of the SCTC, drove the test module in his Toyota Hybrid SUV from Los Angeles to Pennsylvania for the show. To ensure that the Toronto (TTC) PCC would have the correct color light for the Advance Light, a fourth test unit, decorated for TTC was provided for examination.

Although test units 2, 3 and 4 had performed according to specifications, the problems were not over. Soundtraxx began production of the boards and Bowser sent a team member to participate in their annual Dealer Symposium in August 2011. During this visit, the same Bowser team member became familiar with their production and quality control procedures. Soundtraxx claims to test every board before it leaves the plant. It was verified that each and every board is tested for each function prior to delivery. The Bowser team member WATCHED IT DONE while he were there.

The Bowser team was not out of the woods yet. Problems in integration still came up during the integration of the boards provided by Soundtraxx onto the chassis built by the overseas supplier. This resulted in the replacement of about 100 boards, causing another two-month delay. So they were sure relieved when everything seemed to be done and the units shipped from China in early November.

The cars arrived at Bowser on December 6th and distribution was made within one week to all who had ordered them. So far, Custom Traxx has tested seven units, four pre-production and two production units and all have operated as specified. So the team now begins work on the next five PCC cars, Philadelphia (PTC) 1948, Birmingham Electric Co, Boston Elevated Railway, Shaker Heights Rapid Transit and Pittsburgh along with a re-run of two popular San Francisco Muni F-line PCC cars.

We then started to examine our two test units from the production run, Cleveland 4265 and SEPTA 2185, shown below on one of the SCTC modules:

Just for the record, the taillights on both cars shown above are red, even thought they appear white. The first one, a Cleveland unit, was placed on the programming track. First, we noticed that after we changed the address from 03 to a long address, CV29 was only 34. This means that the car would not operate on DC. So we changed the value to 38. Out of the box, the default value for CV29 was 6 so users should check this value after readdressing the car using DecoderPro if their car does not operate on DC.

Functions are arranged very logically when compared to other locomotives:

Note: Functions 0, 3, 4 and 5 are "latching" functions. This means that one button depression turns the effect on and the next button depression turns the effect off.

Function 0 turns on the headlights and taillights (if applicable).

Note: If running a traditional (as-built) PCC car, which did not have taillights, set CV34 to a value 0. If brake lights are required as they are on a Muni F-line PCC car, set CV34 to a value of 3.

Function 1 will release one gong sound every time the button is depressed.

Note 1: Control of sound levels is always useful to know since the sound emanating for any car is affected by the acoustics of the locations where the car is operated. CV128 is the Master Volume Control and is default set as 255, which is the loudest setting. The range is 0 to 255.

Note 2: CV130 controls the bell/gong sound and is set at the mid-range of 128. So this could be made louder or softer. So far, we have not heard from anyone wanting it louder.

Function 2 is a momentary function in some command systems, such as the Digitrax Zephyr series. Depress the button for as long as you wish to hear the resilient wheel groan. In other command systems, it is also a latching function similar to the lights above.

Note 3: CV151 controls the wheel groan sound and is set at the mid-range of 128. So this could be made louder or softer.

Function 3 controls the roof-mounted subway light on SEPTA (Philadelphia) PCC cars or the roof-mounted Advance Light on TTC (Toronto) PCC cars.

Function 4 controls the roof-mounted Emergency (Gumball) Beacon Light on SEPTA (Philadelphia) PCC cars.

Note 4: This light is configured to have a 'rotary beacon' effect. It may be desirable to apply an 'LED compensation' to the effect, which essentially applies an exponential curve to the brightness of the light. To do this, set CV54 to a value of 135. To disable the LED compensation, set CV54 to a value of 7.

Note 5: The flash rate of this light can be configured using CV59. The default value is 4, with higher values yielding slower rates and lower values giving faster rates.

Brighter Days Coming for the San Francisco "F" Line! Some are already here!

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During January 2012, several of the ex-Newark, ex-Minneapolis PCC cars entered service for the first time. Seen on the Muni NEXTbus site were 1071 (Minneapolis), 1079 (Detroit) and 1080 (Los Angeles Transit Lines). All three were in service on January 11th. Click here to check what cars are in service on the F-line at this time. 8XXX series vehicles are buses.

PCC 1040, reputed to be the last PCC car built in North America, is back from Brookville with the rear window restored to the original configuration, similar to the ex-Newark PCC cars. Matt Lee provided the next two photos, taken on January 9th at Beach (formerly Geneva) of the exterior of the car and the restored conductors station. The 1016-1040 series PCC were originally two-man cars.

Brookville seems to be getting better and better at streetcar restoration. Car 1079, painted in Detroit Street Railway colors, was also caught at 11th & Market Streets early last month:

Car 1071 (Twin Cities Rapid Transit) is shown last summer during service in Fishermans' Wharf.

Function 5 activates the interior lights and the front destination sign light.

Function 6 is the sound of the motor-generator (MG) set, which on the prototype car must be running or the car will not operate. When shutting down the car and the MG set sound is running, depress the function 6 button and the MG set will go into a slow shutdown mode. When starting up the car, depress the function 6 button and the MG set will go into a start-up mode at the beginning of which you will hear the dampers open. Of course, modelers may decide to leave the sound on at all times.

Note 6: The volume of this background sound is controlled by CV131. It is default set at 50 with the range being 0 to 255.

Functions 7 and 9 are automatic start-stop sequences controlled by "latching" functions. In both cases when the appropriate button is depressed, the car will decelerate to a stop and the brake lights will illuminate. When the appropriate button is depressed, the brakes lights will go out and the car will begin acceleration to the original speed. When Button 7, Passenger Stop, is activated, first sound heard is the Passenger Stop Request signal; the car decelerates to a stop and then there is the sound of the doors opening. When the button is depressed again, the brake lights go out; the sound of the doors closing is heard; there are the mandatory two gongs and the car resumes acceleration. Function 9, Normal Vehicle Stop, has no sounds at all connected with it.

Function 8 mutes all sounds. It is also a "latching" function.

The individual sounds of doors opening and closing are available at Function 10 and the Passenger Stop Request Signal is available at Function 11. They are both "latching" functions.

Note 7: Volume for the doors opening/closing is controlled by CV152 and is default set at 100. The volume for the passenger signal is controlled by CV150 and is default set at 100. These two CVs are not yet shown in the current DecoderPro runs so would have to be changed using your command station procedures.

The instruction sheet provided with the Bowser Tsunami-Sound-Equipped PCC cars can be viewed by clicking here.

As stated in the first column in the review of DC operation, the car has a dramatic acceleration and deceleration curves built-in which is fine if the car is operated at about 35-50 scale MPH. At speeds higher than that, it takes a long time to stop or reach full speed. These acceleration and deceleration/braking curves are defaulted at values of 20 each in CVs 3 and 4, respectively. Lower values will reduce the amount of acceleration and deceleration with a value of 0 totally eliminating it.

One more item we should mention. As reported earlier, the trolley pole and shoes were of the same design as the Miniatures by Eric HT-P2 poles. Eric permitted Bowser to use his design for their 12600 trolley pole. He sent the original patterns to Bowser to send to China but they never arrived and have never been returned. So the current shoes and bases were copied from an existing pole. Naturally this made the shoes smaller than intended. This brings a current overhead wire operation issue to the forefront. Most of the components traditionally used in HO scale overhead wire are base on NMRA Specification S-5 which calls for a collector 1/16" wide. Since this is way oversize, many modelers have preferred to use Precision Scale Trolley Shoes and Trolley Wheels which were smaller than 1/16" but could be mad to work by filing them. The original HT-C3 shoes made by Eric fall into the same category but shrinking them made some of the shoes unreliable in the current frogs and crossovers even when filed. The best solution is to use the NMRA collector, available from Bowser or Custom Traxx as part #12502. Bowser is working this issue and hope to solve this problem with the next batch of PCC cars.

The Bowser team has worked diligently to eliminate any problems with these decoders. should you experience strange occurrences, always do a factory reset. If that does not cure your problem, please let us know all the facts so a solution can be obtained.

Operating the Bowser Tsunami-Sound-Equipped

Car 1080 (Los Angeles Transit Lines) is also shown during service last summer:

Two other ex-Newark Cars, 1070 (New Jersey Public Service Coordinated Transport), 1072 (Mexico City) and 1074 (Toronto Transportation Commission) are in the 500 hour burn-in process and should soon enter service. All cars are shown in the next three photos taken at different locations in San Francisco during this "burn-in":

PCC in the DC mode !

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Custom Traxx normally operates DCC equipped cars on the DCC-controlled City Streetcar Line so we have rarely tested any DCC car in detail in DC other than to se if it runs in the DC mode. In this case, we selected one of the Tsunami-Sound-Equipped-units and tested it in the DC mode right out of the box.

The streetcar will not do anything until about 6 volts direct current (VDC) is received. At that point, the headlights and taillights illuminate. At about 8 to 9 VDC the motor generator sound begins. At about 10 VDC the bell rings twice (three times) and at 11 VDC the car begins to move forward (backward). The car has a dramatic acceleration and deceleration curve built-in which is fine if the car is operated at about 35-50 scale MPH. At speeds higher than that, it takes a long time to stop or reach full speed. The car will run very smoothly on DC with headlights and taillights operating with the sounds of the gong and the DC mode.

While the lights and sounds can not be changed with a DC power pack, several items can be changed for DC operation, if the car is placed on a DCC programming track.

CV 13 controls what functions are enabled in the DC mode. The default value for CV13 is 32, which enables the motor generator sound. However, the modeler may enable some/all of the lights in analog mode, using a DCC Command System. Add up the values in the following list to enable the corresponding lights in analog mode:

SEPTA Subway Light /Toronto Advance Light - 4;
SEPTA Emergency Beacon - 8;
Interior/Destination Lights - 16
Motor Generator Sound - 32

Some examples:

1. If you wanted the SEPTA Emergency Beacon and the SEPTA Subway Light enabled in analog mode, you would set CV13 to 12 (4 + 8).

2. If you wanted the TTC Advance Light and the Interior Lights enabled in analog mode, you would set CV13 to 20 (4 + 16).

3. If you want to maintain the motor-generator sound in both of the above examples, add the value of 32 to both the 12 in example 1 (i.e. 44) or the 20 in example 2 (i.e. 52).

The headlight and taillight are enabled using CV14, which are both enabled with the default value of 3. Placing a value of 0 in CV 13 turns both the headlight and taillight off. Tail lights are disabled, leaving the headlights on by setting CV14 to 1. Placing a value of 2 in CV 14 will turn off the headlights and leave the taillights on. Both are re enabled by setting CV14 to the value of 3.

[**Boston PCC**, from Col. 1]

Note: Between the USPS and the Canadian Post Office, it takes an inordinate amount of time to get anything between Custom Traxx (Los Angeles, California) and Miniatures by Eric (Busby, Alberta). A recent package of shells mailed from Busby on 12/30/11 took until 1/17/12 to get to Los Angeles. We have had packages that have never arrived and never been found.

Below shell #4 is the modified Bowser 1283 floor in pewter with the Bowser power and trailing trucks mounted. Next are the screws and mounting collars that will faster the floor to the shell. The next two castings are affixed into the underside of the roof with the holes apart. The floor will be secured to these mounts. finally these is the Pullman trolley pole casting and the full roof fan shroud. Although the front vent is not shown here, it will be available with the 'original version' cars

The basic shell will be capable of being fitted either with the full roof fan shroud [TS15f] or the original trolley pole base with front vent [TS15o], so modelers will be able to order the cars in either the "original version" or "full fan versions". Holes are provided in the roof to aid in the proper location of these items.

Of course, the model will come with a Bowser 12600 trolley pole and pivot along with a set of CN-3172 Custom Traxx Boston PCC decals designed for this car. As is normally the

The year 2012 may be a great year for the F-line, for San Francisco Municipal Railway and the City of San Francisco. We will report status on 1073 (El Paso City Lines), 1075 Cleveland Transit System), 1076 (D.C. Transit), 1077 (Birmingham Electric) and 1078 (San Diego Electric Railway) as events unfurl. Stay Tuned!

Latest information on the new HO scale Boston PCC!

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At press time, it appears that the Boston 3172 series PCC car will be available to modelers sometime around the end of this month. There will be an announcement on both the Custom Traxx web site and possibly this newspaper when they are available.

As we requested in our last issue, Custom Traxx received some very good suggestions from modelers and most will be incorporated into the final models.

The model is intended to represent the 25 cars (3172 through 3196) built by Pullman in 1945 with G. E. electrical equipment; the 25 cars (3222 through 3246) built by Pullman in 1945 by Pullman with Westinghouse electrical equipment and the 25 cars (3247 through 3271) built by Pullman in 1945-1946 also with Westinghouse electrical equipment.

These cars were originally delivered with Clark B-2 trucks and super resilient wheels, although solid wheels were installed on all the cars prior to their removal from service. All these cars were eventually equipped for multiple-unit operation. The model can be used to represent the 150 1944/1945-built cars, 3022-3171, with some modifications.

So here is the way this model shapes up. The model will have a one piece shell that will fit on a modified Bowser 1283 floor reworked in pewter to fit an air-electric PCC car. The floor will mount to the shell using pewter castings similar to the way that a Bachmann PCC shell is mounted to the 125142 Bowser mechanism. The model will be available with a Pullman standard trolley pole base and front vent **[TS15o]** or with a full roof fan **[TS15f]**. The car will come with the Bowser 125100 mechanism mounted in the floor and, as long as the very limited supplies last, the kit will case with any resin-bodied kit using the Bowser traction drive, it will probably be recommended that modelers add between one and two ounces of weight under the floor between the trucks if operating the car on overhead wire.

As part of the engineering process, our pre-production shell #4 was painted, assembled and tested prior to release of the first production kits.

The next photo shows the car while being tested on the Southern California Traction Club test track.

Our assembled car weighed just 5.1 ounces so we added 2.0 ounces of weight under the floor between the trucks behind the skirts as is our practice when operating cars under powered overhead wire.

Then the car began testing on the Southern California Traction Club modules. There were some performance issues but they could be traced to the installation and were corrected.

Using Custom Traxx decal set, CN-3172, and colors provided by Tony Tieuli (Floquil Bright Silver/110101, Floquil Antique White/110085, Floquil Union Pacific Light Orange/110168 and Floquil Old Silver F110101), the car was finished as BERy 3225, a car actually operated by Custom Traxx in 1975. The 3225 is shown as a [TS15f] car and the car is equipped with a Bowser 125100 mechanism with both the B-2 truck details and the simulated resilient wheels, plus the A-line 20400 flywheel kit and the standard Bowser 12600 trolley pole. The SCTC-40 couplers shown on the car are NOT supplied with the kit. Production shells will have at least two improvements over the shell shown in the above and below photos.

At press time, it appeared that reservations would be taken after February 14th and that the cars would be delivered starting in early March. The expected MSRP is **$189.00!**

Meanwhile, Custom Traxx and Eric Courtney have begun work on their next model vehicle, now that the Boston 3172 series PCC is about to enter production. They earlier had promised an East Coast vehicle first and then a West Coast vehicle. We were afforded a sneak peek at the car and can only tell you that it is West Coast streetcar and one desired by many HO scale Bay Area traction modelers. Custom Traxx told us that they have been developing this model since 2009 and have a decal set that will finish the car. They insist that the model will be available with Bowser power and a working trolley pole for less than $200.00. We will bet that most of you will want one of these for your layouts

come with the 1382 super resilient wheels and 1383 B-2 truck sideframes commonly only found on the RTR Bowser PCC cars. Holes are provided in both ends of the floor for the mounting of couplers of the modelers choice.

The next photo shows the progress in the development of this model. At the top is shell #1 which arrived from Canada broken. Then there is shell #2 with the incorrect shaping of the rear of the full roof fan. Shell #3 was almost correct except for some small details brought to our attention. The latest shell is the fourth one, but it is not the final as some changes will be made to this one also.

[See **Boston PCC**, column 2]

and/or modules.

Trackside Trolley Action!

Richard Vible responded to our request for model photos and sent us this photo of all four of his SEPTA (Philadelphia) HO scale PCC cars, from left to right are car 2185, Route 56, car 2113, Route 6, car 2168, Route 34 and car 2111, Route 15.

The above photo was taken on Chet Moore's layout during a display at the Shore Mall near Atlantic City, New Jersey. The next photo of two Philadelphia 1923 Brills was taken in Los Angeles, CA on a module built in 1975. Both cars are MTS Imports, Inc products finished with Floquil paint and Custom Traxx decals.