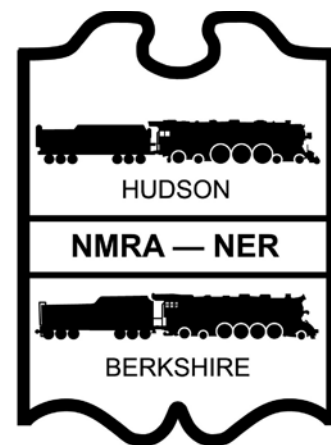


FORM 19

The Official Newsletter of the Hudson-Berkshire Division of the NER-NMRA



Order Number 311

May 2015

Next Meeting Friday May 29 at 7:00 PM
Layout Visit

Jack Cutler's Branch of the Pennsylvania RR Electronics with Trains

Custom Designed Control System and A Super Helix with Dispatcher's Station



A 5-turn helix with unique construction features

Jack's layout is a proto-freelanced, CTC controlled single-track branch line of the PRR pressed into mainline service during WWII time period. The layout is a multi-deck linear walk-around design, using NCE wireless DCC control. A five turn helix is used to transition between the two main levels. The layout is operated point-to-point, and there are two 11 track staging yards at each end of the layout. There is also a division point yard schematically about half way between the staging yards. In addition to the two main levels, a third level contains a branch line to a coal mine and a resort.

Each staging yard has a turn-around loop and a wye. These are not used during operating sessions but between operating sessions to turn trains in staging, in preparation for the next operating session. Each turn-around loop is located on the outside the helix, and each wye is located at the throat of the staging yard. The turn-around loop and wye provide for independent continuous running on each level during open houses.

Jack's interests in the hobby are track work, wiring, realistic operation, signaling, and layout control. All of his efforts so far have been in planning of the track layout, building the bench work, installing the main-line track and its associated wiring, and installing signals and their associated control system. He uses Bruce Chubb's C/MRI for the signal control system. All turnouts are hand-built using the Fast-Tracks method. So far, the entire main-line track is installed on the upper level and the coal branch third level, the helix is in place and he is now installing the track on the lower level. You won't find any scenery (yet)!

Map and directions are on page 5

Be sure to read Jack's full description of his layout in the extra pages of the online edition.

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Form19

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The opinions expressed do not necessarily reflect those of the Division. Products and publications mentioned in **Form19** in no way constitute an endorsement by the Division.

Contributing to the **Form19**

The **Form19** staff welcomes all contributions. Letters, articles, photos, and other items may be mailed or e-mailed to the editor. Please include a note if you would like materials returned. Suggestions also welcome.

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The Ready Line By Paul Hoffman

I'd like to take a moment and thank all the members who have sent their thoughts and condolences on the passing of my Mother. For those of you that don't know, my mother, who was 83, passed away recently after a two year battle with cancer. She will be missed.

Her passing has led to some reflections on life and those thoughts, coupled with a recent article on longevity, have resulted in this month's column.

For those of you who get the Sunday paper, I refer you to the *Parade Magazine* insert, April 5, 2015 (www.parade.com). The lead article was titled "The Cheaters Guide to Living to 100". An interesting read which covers a lot of ground, specifically about eating and exercise. It also addresses two other concepts that I feel have a direct relationship to our hobby and Division. The author of the article cited Dan Buettner, who wrote a book called *Blue Zones Solution*. A 'Blue Zone' is an area of the world that can be termed a longevity hotspot due to the higher than average number of people living to be 100 or older.

The first concept is that of moais (rhymes with "doe eyes"). It is an Okinawan term referring to lifelong friendships and the strong evidence that these alliances are longevity boosters. We have our own moais in the world of model trains. How many times have you heard that one of the greatest pleasures to be had at any NMRA convention is the chance to meet up with old friends and like-minded people? Centenarians from Blue Zones take advantage of the life-giving power of social connections, something we can do at every one of our meets.

A second concept that I feel has a direct relationship to our hobby is "Seeking a purpose"; people who live to be 100 share this trait. They have an activity or passion or career that motivates them and gives their life meaning. Okinawans call it "ikigai" and those who live in Costa Rica call it "plan de vida". Basically, "why I get up in the morning". Make no mistake, having a passion, such as model trains, goes a long way toward keeping you focused and willing to "get up out of bed." As my friend Dick Hosmer puts it, "It's better to be vertical".

So, who knew, having a hobby that you are passionate about, surrounded by your moais, can help lead to a longer, more fulfilling life. Something to ponder and yet another "benefit" of belonging to our great Division and wonderful hobby.

I have ruminated over this, and many other things in the last weeks and truly believe that the friendships and people I associate with are one of the keys to a long and healthy life.

Speaking of friends, the GTE is looking for a "Master of Sign." Here is the job description as provided by our show director, Rich Smith:

"The Sign Manager will procure, organize, and distribute all the GTE signage. Basically he would own the entire sign department, including storage of existing signs (I keep them in my garage), cleaning of the old

signs, stickering of the old signs with the new date, and work with HBD membership to get the signs distributed to the volunteers (and UTA guys) and get them planted. With only this GTE activity under his control, he could possibly dramatically improve the process and placement ... efforts I do not have time to do. For example, we lose nearly all of the signs on Rt.9 ... something else needs to be done like different placement, or contacting municipalities, or another idea you come up with.

Please consider volunteering for this vitally important and rewarding job. Your efforts will be seen by thousands and have a significant and direct impact on our show attendance."

As President of this organization, the buck stops with me. If you have a problem or an issue, please contact me directly and I will do all that I can to help solve the problem. My address and email are on the inside cover of the *Form 19*, my "inbox" and telephone are always open to comments, both pro and con. Please remember to renew your membership in the NMRA and to encourage anyone interested in trains to climb aboard.



My staging yard on the operating table.
All I could think of when I took this picture was
"Ancanapanasana"

From the Editor:

Well, modelers, this is a bit different issue of the *Form19* than what the staff has been creating. We have picked up on the comments by President Hoffman in his *Ready Line* column and will seek to show a bit of the camaraderie and friendship aspects of this great hobby.

First, though, writing for the staff and the members of the Division, we want to express our condolences and sympathy to Paul and his family on the passing of his Mother. Pictures on a wall or mantle are no substitute for the familiar voice on the phone. One often realizes how important friendships are in our lives when someone close is no longer there for the normal conversations and interactions. We find our lives change and memories become so much more important. And then we renew our determination to enjoy our activities and time with our friends and make sure we are creating more good memories for us and for them.

Secondly, the picture at the end of the President's column shows three of his friends working on his layout to 'make it happen.' This is one of the greatest benefits of the model railroading hobby and one of the main reasons for an NMRA Division such as ours. It brings like minded people together to share in doing something that we all enjoy and to allow those with specific skills and talents to use them to help a friend.

However, the caption for the picture create a dilemma for the staff, especially the Editor – can we print "Ancanapanasana" without knowing what it means? So considerable time was spent by Staff trying to get a clear definition of the word. They checked the Merriam-Webster, Cambridge, The Free, Your, Reference and even Urban dictionaries on line. All had no recognition of the word. So, of course, someone Googled it. This was disappointing as most of the listings were for video clips. Strange.

It wasn't until after some brave staffer watched seven videos of 'The Three Stooges' that he came to the understanding that "Ancanapanasana" is a gibberish word sometimes used by those clowns to make a profound statement while actually signifying nothing. Sort of like what is often said by our politicians these days. So we all agreed, working together can also be comical, light-hearted and good for the soul.

Again, following this train of thought, in this issue we present some pictures from some recent Division meetings through which, we hope, you can see the great



turn out, support and friendship that our members are enjoying. We have had forty to forty-five people in attendance at most recent meetings. Those who have worked hard to bring them to you thank you very much.

And speaking of working very hard, we ask you to consider the request for a volunteer for the 'Signs Manager' for the GTE as described by Rich Smith, manager of the GTE, in the Ready Line column. This is a job that allows someone with specific skills and talents to use them to help the entire Division as well as all the vendors and the thousands of people who enjoy attending the GTE each December. Please consider joining in the effort to make this great event happen.

The *Form19* staff again requests that if you have a layout or one of your friends has a layout that you think fits in with the 'Hidden Treasures' feature of this newsletter, please contact the Editor via email, phone call, etc. It doesn't take long for our photographer to visit the layout and get some great photographs that give recognition to the owner's skills and talents. He'll also ask a few questions and we will be happy to present the layout in the *Form19* so that others can appreciate the layout, too. And we really want to thank the hard work of the photographer and the staff writers for creating these articles for you. One 'Hidden Treasures' article has been (and we understand a second will soon be) posted on the NMRA National's website. These and the online editions of the *Form19* have generated emails from around the country.

Finally, be sure to enjoy the visit to Jack Cutler's layout this month be sure to make plans to attend the picnic at ALS in June.

GF club gets two Dunham model trains; where to put them?

By David Cederstrom
Chronicle Staff Writer

Two of the huge model railroad layouts from the now-closed Railroads on Parade in Pottersville have been donated to the Glens Falls-based Upstate Model Railroaders Club, club president Mike Burke tells *The Chronicle*.

They are the exhibition's smaller layouts, the New York City Subway and the 1939 World's Fair, Mr. Burke said.

"The ultimate goal of the club is to put 'em on display, preferably in the downtown Glens Falls area, and preferably

together, and hopefully before this summer's tourist season," he said. "We've had a few nibbles about locations, but nothing definite yet."

"Downtown Saratoga would be a good venue, but less convenient for dub members," he said.

The World's Fair layout is about 22 feet by six feet, and the Subway is about 23 by 5.5, he said, so a fairly large space is needed.

There are empty storefronts in downtown Glens Falls, but the 501(c)3 not-for-profit club is not in a position to pay monthly rent, Mr. Burke added.

He said the exhibit would be a tourist attraction that would be good for Glens Falls.

The layouts were donated by John Couri of Richfield, Conn., Mr. Burke said.

Mr. Couri was the major financial backer of Railroads on Parade, the model railroad exhibition opened in 2011 by Clarke and Barbara Dunham of Dunham Studios in Pottersville, showcasing six huge layouts.

Mr. Couri forced an auction of the layouts last fall after the attraction had not become profitable.

The Dunhams bought back two, The Station and Hell Gate, at the auction for \$27,500 each, Mr. Dunham said, but they were not able to buy back the Subway and World's Fair exhibits, which were forfeited to Mr. Couri.

Two layouts, Prince Edward Island and The Amazing World of Z, were on loan to the Dunhams and were not part of the auction.

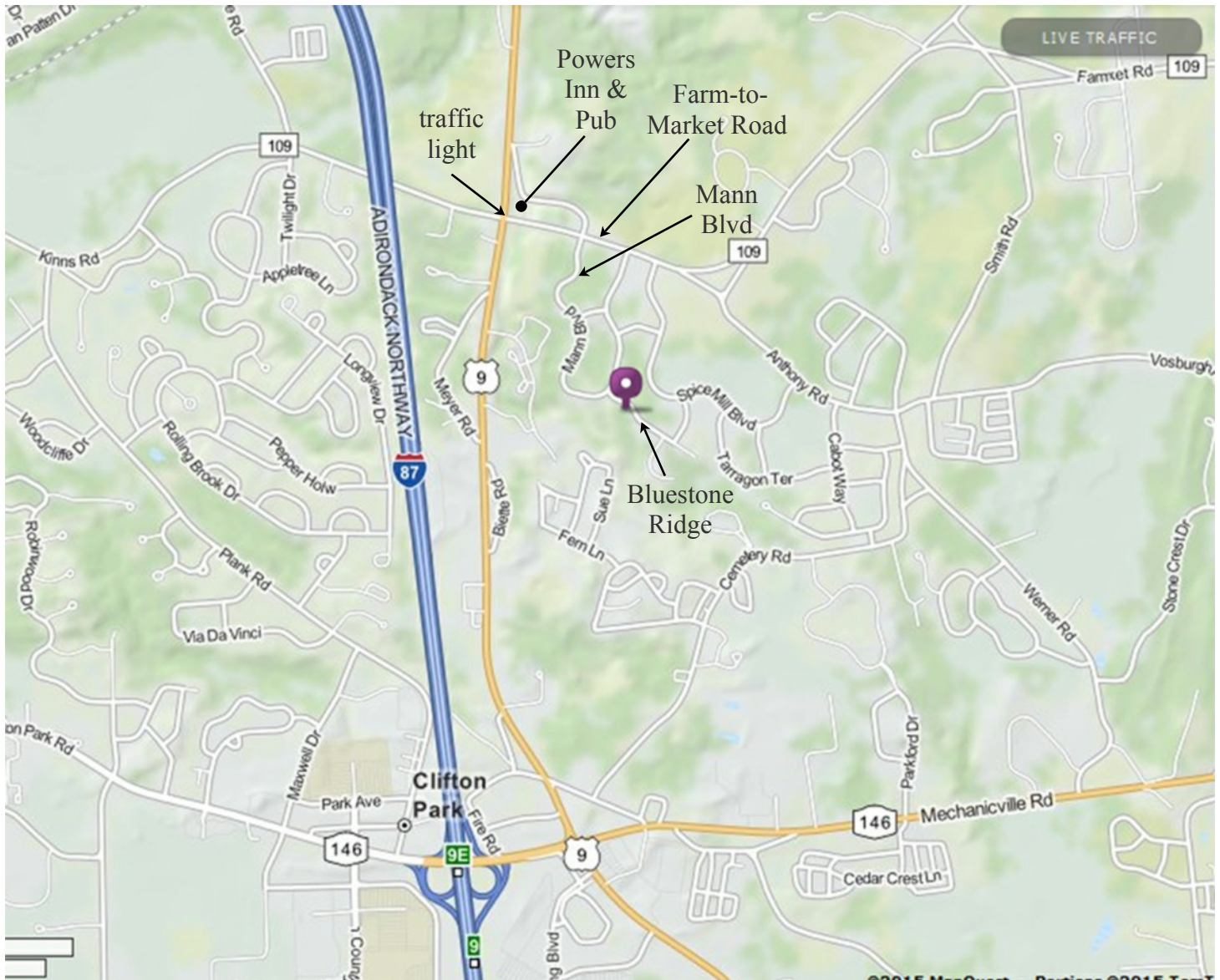
Mr. Burke said the Subway and World's Fair layouts were being dissembled for temporary storage at Dunham Studios. Dunham Studios is still actively making model train layouts and other types of exhibits.

The Upstate Model Railroaders has an active membership of about 45, and model train layouts in their space under Aimie's Dinner & Movie, Mr. Burke said,

"We're one of the few clubs in the country that has eight different scales of model trains' in their layouts, including Standard, O, S, HO (the world's most popular), N [the second most popular, half the size of HO), Z (half the size of N), and Lego," he said. The two layouts from Railroads on Parade are HO.

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This article reprinted as it appeared in the April 23, 2015 issue of *The Chronicle* as a follow up to the article in the March 2015 issue of the *Form19*.



Directions to Jack Cutler at 8 Bluestone Ridge, Clifton Park, NY 12065.

From Exit 9 (or Exit 10) of the Northway proceed east to Route 9 and turn left (right from Exit 10) and proceed to the second (first) traffic light at Farm-to-Market Road. Turn right (left if from Exit 10) and take the first right turn onto Mann Blvd. Proceed on Mann and take the first right onto Bluestone Ridge. Jack's house is the fourth on the right.

Please be careful of the lawns when you park. Please stay on pavement.

Enter through the door in the garage to the right of the overhead doors and proceed straight ahead to the stairs to the basement. When entering basement watch out for any duck-under.

All Aboard New Members

Colum Cross, Albany NY
Barbara Dunham, Pottersville NY
Philip and Sheila Valenti, Delmar NY

As always, be sure to greet new faces at all meetings. Introduce yourself to someone you don't know. It goes along with this month's 'theme.'

Upcoming Events

Picnic with ALS

June 20, 2015



The Traveling Railroad

by Geoffrey Zahn Kelley, President, The CA&B

Chapter Two: A Walk Through the Park

Last month I talked about how I started with a small train set as a kid and was introduced, at a local train show in college, to modular railroading. Being in a modular railroad club in that first year boosted my confidence in model railroading and allowed me to take bigger risks. One of the biggest risks that I took was to actually build my own module. This felt a little daunting at the time. I had seen other modules and all the details and time the owners had put into them. Nevertheless, I was determined to build something but I had one problem. Being in a college dorm, the administration was not going to let me set up a wood shop to build a module. Moreover, where would I keep it when it is not in use. I didn't think my roommate would enjoy another piece of furniture in our already tight space.

Luckily, the club had an old module that a member wasn't using anymore. This module was two feet wide by four feet long and made of sturdy plywood and lumber. Personally, I think he used the heaviest piece in the lumberyard. It had a small hill in the front, for which he cut the fascia to match the contour of the hill, and a small hill made of plaster in the back, along with roadbed and track already attached. It even included a homemade manual turnout control using piano wire, a spring and a small wooden ball at the end. The first task I had to do was remove all the track and the roadbed from the base, while keeping the roadbed on the mainline, and the hills. Only reason I kept the hills was because I couldn't remove the rock solid plaster. Most of this dirty work occurred at my parent's home after bringing it home with me at the end of the school year.

I brought it back to school the next year with only track on it. That year, I didn't have a roommate, so I had additional room. You can only imagine the faces of the incoming freshman's parents as I carried a 'train set' up the stairs, instead of books or dorm furnishings. Using the Woodland Scenic Memorial Park kit I had purchased over the summer, I started building a little scene. It only took a couple of weeks to complete. I later added some small details, like a wedding scene, a construction scene, a hiking trail, and some trees. When I finished it, I was very proud of it and felt a sense of accomplishment. By concentrating on one small scene, I was able to complete it quickly and concentrate on the details that I wanted in it. In addition, whenever I look for something at the store

or shows, I wasn't just buying just something for a 'future' scene that I might never complete. I actually saved money that way! Rather than sit around the dining room table, sketching a layout with little scenes here and there, I actually had created something, and it wasn't just track and wiring. Moreover, it only took a few weeks.

I liked the park scene, and it looked nice. But, like most of us, something catches our eyes, whether it be a kit, a magazine article or something in our travels, and we want to build it. In my case, it was driving through New Jersey and over a railroad line. I knew I now wanted to build an urban scene. I wanted to make it as realistic as possible, or 'magazine' worthy. This is around the same time I started an interest in taking close up photo shots of my trains.

When I first started the hobby, my thoughts on scenery was just green grass, plastic trees, and the over use of lichen everywhere. The park was my first attempt at creating a realistic scene. I attribute my success to the members of the modular group who gave me some helpful advice, as well as leading by example. This advice I used in creating my urban module, which I dubbed 'Springfield.'

So I then stripped the scenery from the park and built a small urban scene with a highway bridge. I used this single module in a couple of shows. It actually fit nicely in my car with a couple of boxes for buildings and my ever-growing rolling stock. I eventually started to build two more modules to expand my urban scene. This time I wasn't using a pre-made module frame but constructing everything myself. I still had to measure and cut the dimensional lumber, attach the plywood to the frame, and measure for track centers.

Being part of a modular club allowed me to explore different areas of model railroad. In addition, it helped me pick up the skills that I eventually would use in building my own home layout. I would suggest, that if you are looking to start building a home layout, join a local club like the Catskill, Adirondack and Berkshire Railroad (www.cab-rr.org) today. Hone your skills and learn new ones on a smaller scale, before you invest time and money into something bigger. Visit them on the web, talk to a member to learn how to join today or visit us at the Orchard Tavern at 6:30 PM on June 9. We are in the train room.

Consider sharing these articles with a friend who might be interested in model railroading. This is a great way to start.



Doug with his Whitefish Station model that won 2nd place at national convention. Note his clouds on backdrop.

From the April 17, 2015 layout visit at Doug Dederick's N-Scale Great Northern Railroad. Just over 40 members took advantage of this opportunity to share friendship, laughter and ideas - as well as to see Doug's great layout



Above: Doug explains Marias Pass as Vic Roman listens, Jim Kirby appears to have a brilliant idea, and Artie still wonders how something so small moves on its own.



Left: The insides of the tobacco shop, which is only about two inches wide, is highly detailed. The clerk is talking to a customer hidden behind the door frame in this photo.



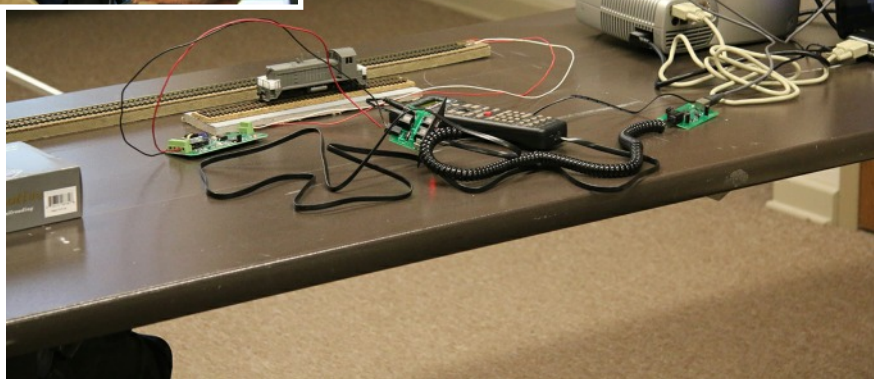
Above: Someone captures a good idea, while to right Karl interrupts conversation to wave to photographer





Left: Many of you turned out at the Malta Community Center on Jan 16th to hear Artie Krass's presentation on Decoder Pro 3, part of the JMRI free software suite. As you can see there were many conversations going on before the meeting. Some came from Plattsburgh to hear his talk.

Right: Artie brought some hardware so that his presentation would include a live demonstration and he could show how the program works when answering questions. Decoder Pro allows the modeler to store multiple configurations for each engine and easily change between single engine, multi-unit consists and running on another layout.



Left: Bob Mohowski reading his article "A Long Journey on the Erie" Before a slide presentation of about some of his travels to see railroad sites around the country.

Bob's writing, published in Vol 22, issue 2 (2009) of *The Diamond*, by the Erie Lackawanna Historical Society, tells how railroads can take us to places other than geographic destinations.



About 45 members listened to Bob tell how, as a child, the nearby railroads sparked his curiosity about the world beyond his neighborhood and led to his desire for education, travel and making lifelong friendships with others interested in railroads.

He then shared photos and experiences of some of his many travels including "an almost" train ride on his honeymoon.



Right: Members of the Hudson-Berkshire Div help with the Great Train Extravaganza early in December.

The *Form19* photographer reports that many of the vendors greet each other as old friends and spend some time 'catching up' with each other.

Other groups of modelers work together to set up their layouts and displays.



Left: During the GTE, members create new friends of model railroading by putting on clinics to assist others in the hobby.

Here Bob Hamm, Kevin Surman (back to camera) and Dennis Hulter (in cap, lower left) show attendees how to assemble a car kit to take home to their current or future layout.

Getting 'newbies' involved with a modular group is a good way to start people in model railroading.





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In this issue, the staff of the *Form19* has tried to bring you an issue that reminds you of the many opportunities to experience the social benefits of the model railroading hobby and the interactions that are available through the Hudson-Berkshire Division.

Our interactions can also help us with the actual building and operation of our layouts. Be sure to read Jack Cutler's full description of his layout in the extra pages of the online edition to see how many times he writes of learning from other Division members.



Left: A photo from Bob Hamm's narrow gauge layout.
 Bob and many others in the Hudson-Berkshire Division are more than willing to discuss modeling with you and help answer any questions you might have about model railroading.

There are also many present and former railroad employees in the Division; they are a wonderful resource to find out how things operate in full scale. They are also good for some great stories. Take advantage of the social aspects of the hobby – it takes a community to build and operate a layout.

SAVE THE DATES!

The Pacemaker
 2016 North East Regional Convention
 Desmond Hotel and Convention Center
 Albany, New York

September 15 – 18 2016

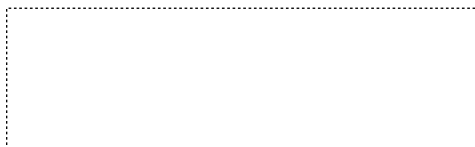
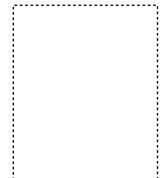
A Taste of the Division
 A Toast to the Region

Sponsored by the Hudson-Berkshire Division

- Hands-On Clinics
- Layout Visits
- Operating Sessions
- Prototype Tours
- Fan Trips
- Banquet
- On-Site Modular Layouts
- Raffle in support of Toys for Tots
- Spouse Activities
- AP Contest
- Models Showcase
- More...

FORM 19

Hudson Berkshire Division
 PO Box 83
 Clifton Park, NY 12065-0083



First Class Mail



Layout Description

NMRA Hudson-Berkshire Division Meeting
May 29, 2105

By Jack Cutler

Overall Description

My layout is a proto-freelanced, CTC controlled single-track branch line of the PRR during WWII. In my version of history, the branch line was pressed into mainline service during WWII because the Germans successfully sabotaged Horseshoe Curve. This justifies running locomotives like J1's and T1's that would never have been found on a branch line. Having a CTC controlled branch line is probably not very realistic, but I am the one writing history here!

The layout is a multi-deck linear walk-around design, using NCE wireless DCC control. A helix is used to transition between the two main levels. The layout design maintains East to the right. The layout is operated point-to-point, and there are two 11 track staging yards at each end of the layout. There is also a division point yard schematically about half way between the staging yards. In addition to the two main levels, a third level contains a branch line to a coal mine and a resort. During WWII, some resorts were used to house German POWs. Towns are named after family members: Lukestown, Mattsburgh, Abbiville, Jesseton, Concetta Springs, and Marcia Park.

Each staging yard has a turn-around loop and a wye. These are not used during operating sessions. They are used between operating sessions to turn trains in staging, in preparation for the next operating session. Each turn-around loop is located on the outside of the helix, and each wye is located at the throat of the staging yard. The turn-around loop and wye provide for independent continuous running on each level during open houses.

My interests in the hobby are track work, wiring, realistic operation, signaling, and layout control. All of my efforts so far have been in planning of the track layout, building the bench work, installing the main-line track and its associated wiring, and installing signals and their associated control system. I use Bruce Chubb's C/MRI for the signal control system. All turnouts are hand-built. So far, the entire main-line track is installed on the upper level and the coal branch third level, and I am now installing the track on the lower level. You won't find any scenery (yet)!

Signals and CTC System

The PRR used amber position light signals. I am using a sub-set of the PRR signaling aspects that would have existed during WWII. My subset includes the following aspects: "Clear", "Approach", "Stop" (absolute stop), "Stop and Proceed" (permissive stop), "Slow Approach", and "Restricting". I have a cheat sheet I give each new operator so they know what each aspect means. The fact that I have more than the simple three-aspects (Clear, Approach, Stop) found on many model railroads means I need to use dual-head signals. In the 1940's, the PRR used an arrangement known as the "spider" for the lower head. This arrangement did not have a back plate. PRR used "speed signaling" as opposed to "route signaling". Many model railroaders use a simplified version of "route signaling", but this is un-prototypical for Eastern US railroads. The indications on signals using "speed signaling" convey only speed restrictions, not route information (although a signal protecting a turnout to a siding that displays a "Slow Approach" implies that the turnout is aligned for the diverging route).

On my layout, the signals provide movement authority (being a CTC system). All operators must carefully observe and obey their signals to avoid traffic jams, or worse yet, corn field meets! Presently, because I do not have a CTC panel, a "poor man's" CTC is used. "Poor man's" CTC is a system where the train operator (rather than the dispatcher) controls his own turnouts, but the signal locations are for CTC. This is basically an APB system (but signals for an APB system would be located differently), so train movements are protected for rear-end and front-end collisions. But because "Poor man's" CTC system is a self-dispatching system, traffic jams can still occur. Someday, I plan to have a "virtual" CTC panel using JMRI Panel-Pro (JMRI is the "Java Model Railroad Interface"), which interfaces easily with C/MRI. And ultimately, I plan to have a physical CTC panel. The dispatcher and his CTC panel (either virtual or physical) will be located inside the helix.

I am working on a phone system design, which will allow train engineers to contact the dispatcher (and visa versa). I have been buying period phone handsets, but these are getting hard to find and expensive, thanks to the hipsters (I wonder how many millions of old phones ended up in land-fills).

The signals you see are "mocked-up" mast signals. By "mocked-up" signal I mean an oversized (approx 5



scale) version that is fully functional but not detailed (no ladder or platform, cardstock back plate, no sun hoods, just crude mast with exposed wires, etc). It only takes about an hour to build each “mocked-up” signal because I am not fussing over any details or concerned with how it looks. I am using 3 mm yellow LEDs which I got in mass quantity for a very cheap price; this LED size is what drove the scale of the “mocked-up” signal. To build HO scale signals requires much smaller LEDs (about 1.8 mm). Most of the signals I have built are dual headed, some with the “spider” lower head arrangement. The dual head, and especially the “spider”, greatly complicates construction of the signal because of the increase in number of wires and how to support the “spider” arrangement. The “mocked-up” signals will remain installed until I replace them, one-by-one, with fully-detailed scale versions as I build them (probably over the rest of my life!).

The signaling system is driven by Bruce Chubb’s C/MRI system. The C/MRI signal system is wired and fully functional. Presently I have four distributed SMINI I/O nodes in service on the upper level, with four under construction for the lower level. I also use Bruce’s DCCOD for occupancy detection. In my opinion, the DCCOD design is the best in the hobby; it is relatively inexpensive (about \$10 each in kit form), is very sensitive, and the sensitivity is easily adjustable (using a pot, not fixed resistors). It is so sensitive that it can detect a finger placed across the track.

Turnouts and Turnout Control

All turnouts are hand-built using the FastTrack system. I have built more than 50 turnouts so far, and it still takes me 2 to 3 hours per turnout (more like 3). Those people that claim they can build a FastTrack turnout in 45 minutes aren’t telling you the whole story. It reminds me of the cooking shows where all the ingredients are pre-cut and measured in convenient little bowls. The 45 minutes is the time it takes to actually assemble the turnout skeleton, once all the parts are cut, shaped, and filed. Then it takes some more time to finish the turnout (clean it, install wood ties, cut gaps to isolate the frog to make it DCC friendly, and paint it). But I love the look of the hand-built turnouts, and they perform flawlessly. They do not rely on the points for electrical contact, so it is easy to paint them. However, they are intolerant of out-of-gauge wheels.

Each main-line turnout is dispatcher controlled. However, if the dispatcher gives permission, each turnout can also be controlled locally. This is known as “dual powered” turnout control. A “mini-panel” is located in the fascia near each turnout, and the mini-panel is used for local turnout control. When the green LED is lit on the mini-panel, the train crew has local control of the turnout. The mini-panels are laser-cut by Paul Hoffman from 1/8” acrylic. I use 3rdPlanIt software to produce the pattern that Paul uses in his laser cutter. The mini-panel pattern includes the indexing of holes for mounting screws, LEDs, and toggle switches. The laser cutter produces perfectly clean edges, and saves me from having to drill the holes. If you have ever tried to drill holes in acrylic, you understand how valuable Paul’s laser cutter is!

Layout Design Software

I use 3rdPlanIt for just about all aspects of layout design, including benchwork. I created templates for cutting the subroadbed (plywood) and for marking the track centerline by printing out the plan full-scale on cardstock sheets and taping the sheets together. For the track center lines, I lay the template sheets on the subroadbed, carefully align them, tape them down, and then use a sharp awl to poke holes through the track center line into the plywood. I poke enough holes so I can just "connect the dots" (after I remove the template sheets, of course). Before I remove the template, however, I mark several alignment lines. I then remove the template, cut the template on the track center line (with scissors), re-install the template using the alignment lines, then use it as a template to draw the track center lines. Easements are therefore automatically laid out with this approach (because I used easements in the track planning).

I like 3rdPlanIt, but there is a steep learning curve. It is second nature to me now. There are some quirks associated with connecting track, but it doesn't let you cheat. I always find when I look at a space I think I can fit way more stuff than I really can. The track libraries are very good; almost every imaginable commercial track components is available (including FastTracks, which is what I am using). I have difficulty visualizing in my head what something in a plan view will look like in 3 dimensions so I have used the 3D capability of 3rdPlanIt many times. It is very good. I even used its terrain editor to help me visualize how my coal branch interacts with the upper deck (and ultimately transitions into a 3rd deck).



I also use 3rdPlanIt to create the artwork for the mini-control panels, and the patterns for the mini-panel laser cutting. I also use it to document the layout wiring.

Helix

The helix was a major project. It is based on Bob Hamm's threaded-rod design, with some modifications. I decided to use 3/4" plywood for the deck roadbed rather than the thin laminated roadbed that Bob used. In that regard, it is very similar to Rich Smith's helix, except that, unlike Rich's, my helix is going to be completely enclosed. Paul Hoffman already had the great idea to disguise his helix as a water tower, so I needed to come up with something different. My helix is covered by a tempered hardboard shell around the perimeter (most of which is installed), and will be topped with mountain scenery. The mountain will allow the dispatcher to stand inside if he wants to (normally he will be seated).

By the time I built the helix, the separation of my lower and upper levels had already been established. This forced me to use a specific distance between helix decks, and I couldn't get the necessary vertical clearance between the helix decks using 3/4" plywood with splice plates and steel mounting brackets like Rich used on his helix. So I used biscuit joinery to connect the roadbed sections, and screw eyes as the deck support. I discovered these construction techniques on two different helix projects on the internet: Charlie Comstock gave me the idea to use biscuit joinery, and I don't remember who owns the helix that uses screw eyes. To the best of my knowledge, my helix is the only one that has a combination of these two construction techniques.

The helix structure also houses the two staging turn-around tracks, one for the lower-level and another for the upper-level. These were added to the design after I saw a similar loop on Rich's helix.

Because my helix will be enclosed, I decide to put an infrared detection system with LED indicators on the helix sleeve. The LEDs are like elevator lights, as they tell an operator what level his train is on. There are two sets of LED indicators, located in areas where there is adequate aisle space for the engineers of two different trains to stand, watching their train's progress as they patiently wait for their trains to exit the helix.

Finishing the Basement

The finished basement that you see today was originally unfinished (concrete floors and walls, and unfinished

ceiling). In order to appease the family, the basement was finished in two phases, as follows:

Phase 1 was the home theater room, recreation room (aka crew lounge, but my kids don't know that yet), gym/sewing room, and office/computer room. The basement flooded a few years back, and the office/computer room was never rebuilt; that space now holds the bubble hockey game. The home theater is 95% complete and is fully functional. There is nothing quite like seeing (and hearing in surround sound) a steam locomotive on a 92" screen!

Phase 2 was the model railroad room and shop. I have lost some turf battles, and what is left for the railroad required the multi-deck layout I now have. After the turf war, I gave up trying to model the PRR "Broadway Limited" 4-track mainline of the Pittsburgh division – not enough room! I have since learned that I also don't have enough years left in my life to build the dream layout I once wanted. Plus after learning so much about operation from other NMRA members, and operating on various local layouts (e.g., Marcel, Kevin, Ken, Henry), I now know the fun is in operating on single track with passing sidings, with lots of industrial switching, and one or two yards.