

# THE BRASS POUNDER



Newsletter of the Carolina Southern Division 12, Mid-Eastern Region,  
National Model Railroad Association

Volume 23 Number 12

December 2023

## Division Coming Events

**December:**

**There will be no meeting  
in December. Enjoy the  
holidays with family and  
friends.**

**January:**

**Division Annual Meeting  
January 20, 2024, at  
Newton Depot – Be sure  
to sign up to get your  
boxed lunch. More info  
later in the issue!**

## Superintendent's Corner

By Andrew Stitt

We have entered the holiday season which coincides with the end of the calendar year. For many of us, it becomes a time when we are more likely to become outgoing about our hobby. Children and grandchildren come to visit. We get to show them the work we have been doing on the model railroad since the last time they visited. The grandkids might even like to see trains run or try to run one themselves! The recently completed Charlotte Christmas Show featured a display of trains running on the Metrolina Model Railroad Club's layout for everyone attending to see. I'm sure many eyes were focused on the trains running on the tracks as well as the many small details packed into the scenes passed through. The model train center at the Newton Depot has decorated for Christmas and extended their hours. We know from reports that this has become a popular destination in that area.

For many of us, it takes us back to the time when we saw our first model train or became interested in them. I found my brother playing with our uncle's train under the Christmas tree which wasn't there when I went to bed. Something about that first sighting just appealed to me. Others I know (like Dave Thrans) had a parent or older relative that was already "hooked" on model railroading and picked up that interest from them. I'm sure some young (and not so young) eyes and minds became interested enough from seeing trains at the Christmas show or other venues (e.g. the Newton Depot) to give some serious thought to taking up the hobby.

So, I close this with a thought. Ours is a hobby that lends itself to both individual work as well as sharing it with other people. Whatever your interests may be about the hobby as a whole or specific aspects, now is a great time to share these with those around you. While you might

think nobody around you has your passion for model trains (probably true) they may well appreciate your efforts or skill at doing something more than you think. Be proud of that and share it! Ours is a great hobby!

Merry Christmas and Happy New Year!

## **UPCOMING AREA TRAIN EVENTS**

**Fort Mill, SC  
Train Show  
Clarion Hotel  
3695 Foothills Way  
Fort Mill, SC  
December 16, 2023  
9:00am – 3:00pm**

## **Editor's Notes**

By Chad Barnette

It's a little strange looking there...."By Chad Barnette". I am so used to seeing "By Ed Gumphrey" ever since I joined the NMRA and happened upon the Carolina Southern Division two years ago. I'd like to start by saying how thankful I was to have Ed bringing me the division news month in and month out, especially those times I could not make it to division events. And what a great job he did! Ed, I think I speak for the entire division when I say thank you for all your hard work and dedication these last five years. I will do my best to keep the bar high.

So let me take a moment to introduce myself. My name is Chad Barnette, and I am a recent addition to the Carolina Southern and to the NMRA. I have always been interested in trains from a young age. Interestingly it was my brother who had a toy train (I have no clue what kind it was) and I remember being drawn to it. However, it wasn't until I was an adult and my wife and I had a home of our own when I would officially step foot into the hobby of model railroading.

One of my favorite things I've done since getting into the hobby was car hosting on weekend excursions at the Florida Railroad Museum. I didn't get to do it much, but I just loved the feeling of riding the rails on that old equipment. I look forward to new adventures in our new home here in South Carolina and with y'all, my fellow Carolina Southerners!



## **SUBMISSION GUIDELINES**

**I target the 1<sup>st</sup> of each month for publication. Please submit articles for publication by the 27<sup>th</sup> of each month.**

**The preferred format is MS Word, but I can convert most other formats.  
For questions and help, email me at [editor@carolinasouthern.org](mailto:editor@carolinasouthern.org)**

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## Division and Regional News

By Chad Barnette

### Train Town Update

Contributed by Ed Smith

Here's the November update on Wade's Legacy Room at the Newton Train Museum:

<b>Train Town Box Score</b>	
November 2023	
Open Houses	6
Attendance	58
Hosts: Ed Smith (3), Keith Iritsky, Bob Halsey, Gil Brauch, Tim Rust	
<b>To volunteer, go to:</b>	
<a href="http://carolinasouthern.org/ttvolunteerrequest.html">http://carolinasouthern.org/ttvolunteerrequest.html</a>	
(#)=frequency (r)=first time host	

It's the holiday season and the Newton Museum is participating in the annual Marine Corps Toys for Tots campaign. We will be open Fridays from 12 - 5 pm, Saturdays 10 am - 4 pm, and Sundays from 1 pm to 4 pm through Dec. 17. If you're interested in helping less fortunate children, you can drop off donations of new toys or monetary gifts at the museum during the next few weekends.

### November Activity

The October Division meeting and clinic were held at the David C Waymer Recreation Center in Huntersville, NC. We enjoyed a great turnout and enjoyed hosting the monthly meeting at a different venue. The meeting kicked off with a few announcements from Andrew Stitt, including:

- Update on Newton Depot Wade's Train Town. Weekly attendance has dropped off recently probably due to the season. The N-scale layout, although not part of CSD's commitment to the Depot, is being renovated by CSD members.
- The Division's annual meeting will be held on January 20, 2024, at the Newton Depot. Joe Skorch and Ed Gumphrey are the Nominating Committee. Contact either one if you are interested in serving the Division. Lunch will be provided by the Division. Pre-register your choice of sandwich from the Depot Deli menu. The

Division will use this occasion to present our check to the Depot as a corporate member.

- Achievement Program awards were presented to Ed Smith for Cars, Kieth Iritsky for Structures, and Joe Skorch for Dispatcher.
- Division Expansion has been submitted to NMRA national headquarters. CSD territory will now extend from the present counties in northern South Carolina, through our current territory in North Carolina, to southwestern Virginia. A letter will be sent to the new members of the division announcing their inclusion and inviting their participation.
- RMU arrangements for the spring are pending.

The clinic for November was hosted by none other than Keith Iritsky. Keith was gracious enough to show us his process for tree making. With so many schools of thought surrounding tree making, it can be extremely helpful to see a hands-on demonstration. It can also help to motivate us on what can otherwise feel like an insurmountable task – especially if you need hundreds of trees! Below are a couple of photos taken during Keith's demonstration.

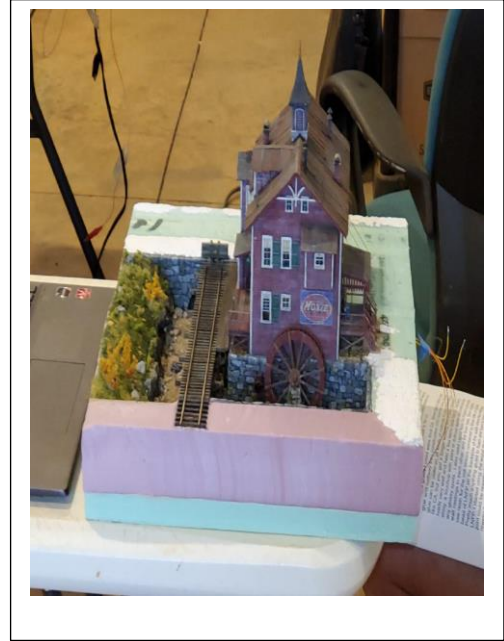


Here Keith demonstrates the varying types of flocking material that can be used to apply to your tree armatures. Above we can see the finished product. A photo realistic tree is the end result of Keith's efforts.

Also, during our November meeting, Andrew had the honor of presenting three of our members with a couple of well-deserved awards. First up was Keith Iritsky – Keith received an NMRA Achievement Program award for superior craftsmanship in the construction of a model in the structures category. For those who might not be familiar with Keith's model, I will put a photo below. We were lucky enough to get a first glimpse at Keith's work on this model during our August meeting at the home of Rick Beam.



**Left:** Andrew presents Keith with his structures AP award.



**Right:** Photo from the August meeting. Keith shows his Fine Scale Miniatures small factory building that he intends to use on his layout as an iron and steel works.



Next up we have Joe Skorch. Moving from one end of the of the hobby to the other – from the physical construction of the model to the enjoyment of operating the model. Joe is pictured here receiving his AP award for Chief Dispatcher from Andrew Stitt.

Finally, Andrew announced that Ed Smith was receiving his AP award for Cars. Unfortunately, Ed was unable to attend the meeting. Fantastic work to all three of you – it should be an inspiration to the rest of us to get moving on our endeavors when we get to see the hard work of those in the program.

## Southern Christmas Show

Metrolina recently represented our hobby well at the Southern Christmas show with an awesome layout! This was the 56<sup>th</sup> annual show, held November 17-18.



## Minicon

On November 4<sup>th</sup> a joint conference was held between the Potomac and James River divisions in Warrenton, Virginia. Although an invitation was extended to the Carolina



Southern, none of our members were able to attend. Over 50 members between the two divisions attended, along with one visitor from the Chesapeake division. The official report mentions that they had layout open houses, clinics, model contests, and AP evaluations.

Pictured (left) are division superintendents Ernie Little, MMR, and Phil Taylor.

## Division Annual Meeting for 2024

I'd like to draw everyone's attention again to the division **Annual Meeting** coming up soon in January. Last year's venue was so popular that the BOD decided to do the same thing again. Our **Annual Meeting** will be held on Saturday, January 20, 2024, at Newton Depot, 1123 N Main Ave, Newton, NC 28658. Like last year, the Division will provide **FREE BOX LUNCH** individually customized by the Depot Deli for all attendees. In order to claim your **FREE BOX LUNCH**, go to our [website](#), click on the link for registration, fill out and submit the form. The annual meeting is especially important for elections. Make sure you have a say in selecting Division leadership going forward.

Hop in your DeLorean for a moment as we travel back to take a peek at last year's annual meeting. Take a look at all these smiling faces! We had 35 members attend last year – let's see if we can beat that number this year!



Thirty-five members attended the annual meeting. Many sported Certificates of Appreciation for their help with the MER Convention last October. Photos by Alan Hardee

## Donation to CSD



Dave Thrans recently contacted me and let me know about a wonderful donation received by the Carolina Southern Division. Fred Miller, MMR, was kind enough to donate his incredible computer-controlled switching animation. Dave says it all:

“On behalf of the CSD, I would like to thank Fred Miller MMR, for donating his N-Scale switching animation to the CSD.”

I'll second that! Thanks so much Fred! The following is a wonderful article Fred put together that explains how this masterpiece was put together. Enjoy!

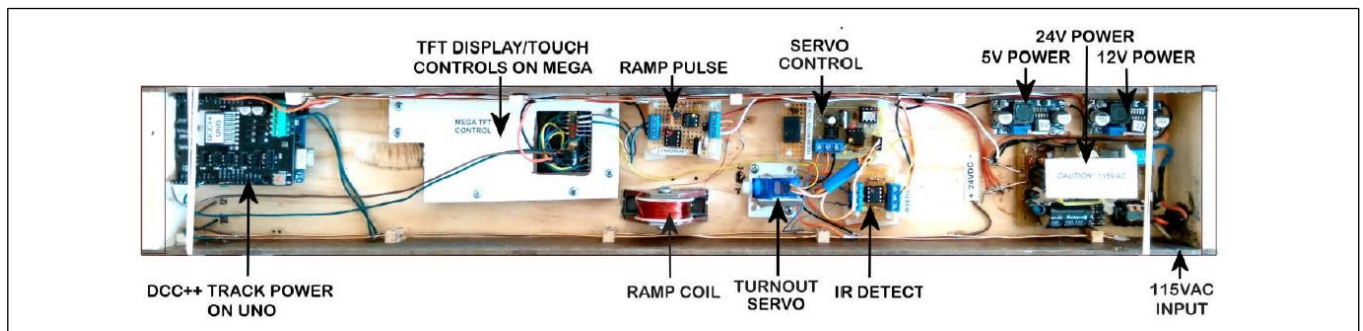
## Computer Controlled N-Scale Switching Animation

By Fred Miller, MMR

This little layout was developed as a fun project to demonstrate the capabilities of Arduino micro-controllers in animating Model Railroads and using Touch Panel controls. The layout is a simple set of sidings suitable for switching two cars between sidings. This project makes use of micro-controllers to operate the layout and Locomotive switching activities. One Arduino Mega, one Arduino UNO and three ATTINY85s are used to complete the automation.



The layout is powered by DCC delivered through a self-contained DCC++ Base Unit (Arduino UNO). The turnout is controlled by DCC Command Activated Servo Switch Machine (ATTINY 85 Micro-Controller). An electric Uncoupling Ramp is activated with ATTINY85 Micro & MOSFET Transistor. One IR Detection circuit is activated with an ATTINY 85 Micro-Controller.



A single self-contained 24VDC adapter supplies power for the uncoupling ramp coil. The 24V is also reduced by a 5VDC Buck Converter to power the Arduino circuitry and a 12VDC Buck Converter to supply rail power.

The electronics for the Turnout Servo, Powered Uncoupling, IR Detection, Automation Controller and DCC++ Command Station are described later in this document.

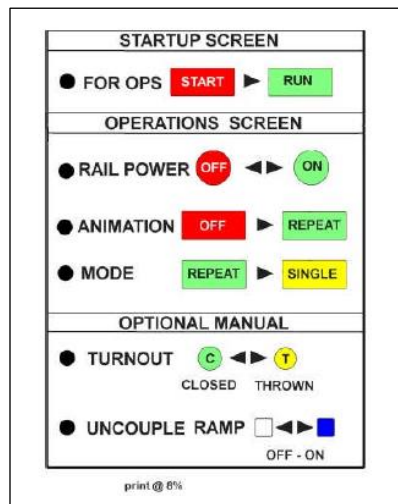
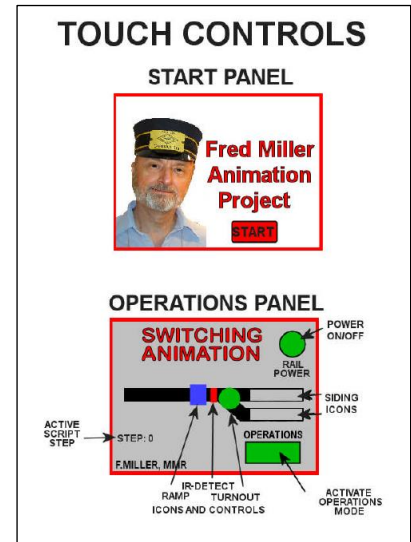
### Animation Controls

The Animation Controls are initiated with a series of 'touch' spots on a TFT (Thin Film Transistor) Touch display panel operated by the Arduino MEGA micro-controller. The two pre-drawn panel images are read from SDHC files.

The Animation Controls use a 'script' or schedule stored in the memory of the Arduino MEGA. The micro-controller program (called a sketch) can activate various activities. For example:

- Set Turnout positions to THROW or CLOSED
- Run a Locomotive Eastbound or Westbound at a specified speed for a specific time
- Perform an uncoupling action at the Uncoupling Ramp
- Pause operations for a specified time delay.

The Animation Controls can operate the switching Script repeatedly or run through the steps only once.



The Operations Panel is displayed by pressing on the 'START button' in the initial power-up screen. Then the Rail Power can be activated, and the switching 'schedule' started using the touch 'buttons'. The animation will step through each action and then repeat the schedule, unless the Mode switch is set back to SINGLE, in which case the schedule will terminate before restarting at the next first step.

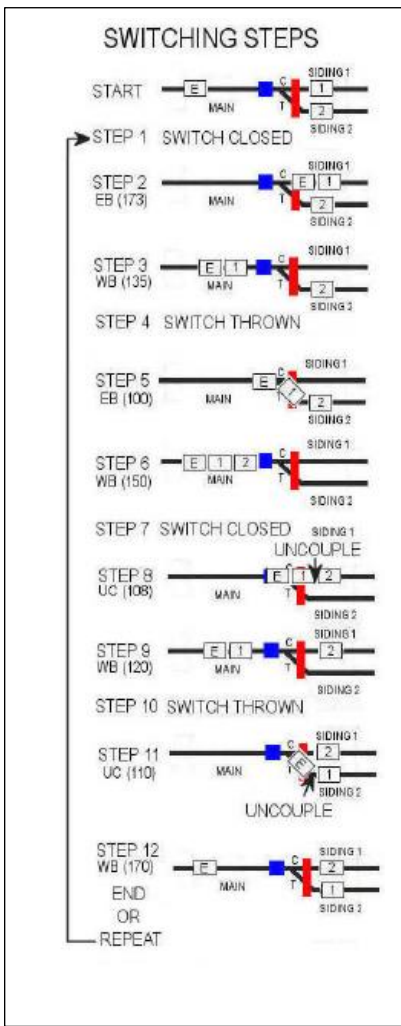
The Turnout and uncoupling ramp functions are activated from within the switching schedule. However, they can also be manually activated by pressing on the touch screen icons. The Rail Power can be deactivated at any time by pressing the touch screen 'button'. NOTE: if a short is detected, the Rail Power will be automatically disconnected.

### The Schedule

The switching schedule, stored in the MEGA memory, activates the following steps in sequence. The schedule assumes the Loco is positioned in the far West and cars in Siding 1 and 2.

1. Set Turnout to CLOSED position (to access Siding 1).
2. Run Loco Eastbound (Reverse) at slowspeed and duration to couple onto car in Siding 1.
3. Run Loco Westbound (Forward) at slowspeed and time to position the Engine and Car west of the turnout.



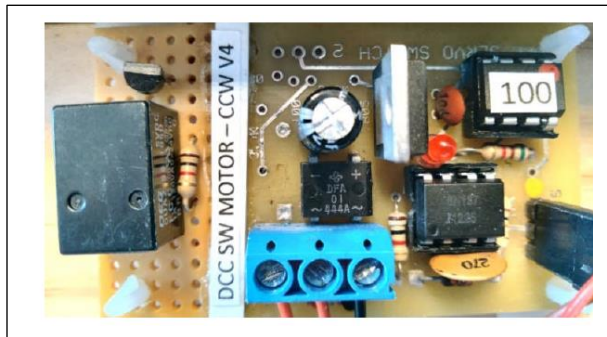


4. Set Turnout to THROWN position (to access Siding 2).
5. Run Loco Eastbound (REVERSE) at slow speed and duration to couple onto car in Siding 2.
6. Run Loco Westbound (Forward) at slow speed and time to position the Engine and two cars west of the turnout.
7. Set Turnout to CLOSED position (to access Siding 1).
8. Run Loco Eastbound (REVERSE) at slow speed, activating uncoupling ramp when IR detection is sensed at car 2. The Loco initiates a Forward/Reverse motion to disengage the couplers, and then resume eastbound travel to spot car in Siding 1.
9. Run Loco Westbound (Forward) at slow speed and time to position the Engine and Car west of the turnout.
10. Set Turnout to THROWN position (to access Siding 2).
11. Run Loco Eastbound (REVERSE) at slow speed, activating uncoupling ramp when IR detection is sensed at car 1. The Loco initiates a Forward/Reverse motion to disengage the couplers, and then resume Eastbound (REVERSE) travel to spot car in Siding 2.
12. Run Loco Westbound (Forward) at slow speed and time to position the Engine at original far west position.

Depending upon Mode setting, the above schedule will be repeated, or all operations will cease.

NOTE: the Loco will sound appropriate signals for direction movement and ring the bell during Reverse (Eastbound) motion. Coupler clanks and hisses will also be sounded when

switching. A 'pause' is also issued between each Loco motion step.

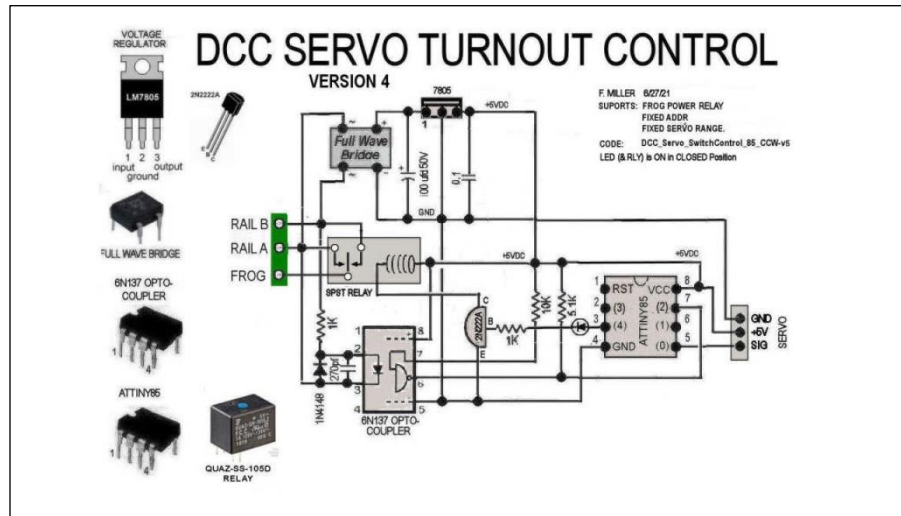
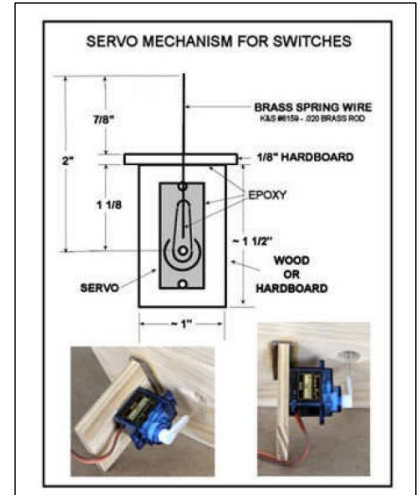


### Turnout Controls

The turnout points are controlled by DCC Switch Commands issued from the Animation Controls (MEGA and DCC++ UNO). The turnout mechanism is a small Servo Motor operated by a circuit running in an ATTINY85 Microcontroller. The DCC Switch Commands are presented on the rails from the DCC++ unit. This circuit is powered from the rails.

The turnout control board runs the servo motor at a slow speed, not snap action. Half-way through the motion, a relay is reversed to apply applicable rail power to the turn-out's isolated switch frog.

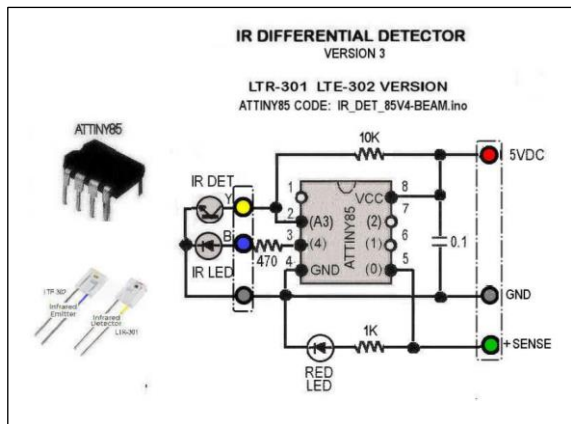
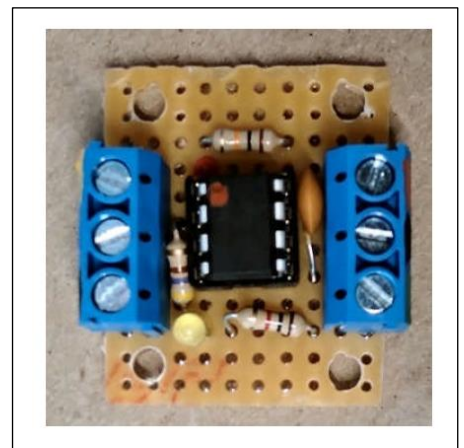
The software running on the ATTiny85 microcontroller was developed in the standard Arduino IDE environment and then downloaded to the smaller microcontroller. The Switch Address and the servo positions and direction are 'hard-coded' in the software and matched to the specific turnout.



### Detection Circuits

The Animation Control logic needs to monitor locomotive/car positioning while operating the uncoupling ramp on the Switching layout. This position detection is provided by an IR-Detection circuit. An interruption of the IR beam

across the track signals a detection situation. An ATTINY85 circuit runs the IR LED emitter and IR transistor receiver in such a way that spurious light does not affect the detection. (The circuit compares received IR energy in both an energized and quiescent IR LED emitter. When the difference reaches a threshold, the detection is signaled.)



The IR detection circuit is powered by the 5VDC supply used for all of the Arduino based circuits. The IR LED Emitter (LTE-302) and the IR transistor Receiver (LTR-301) are very small units, easily hidden in the scenery or buildings surrounding the detection site.

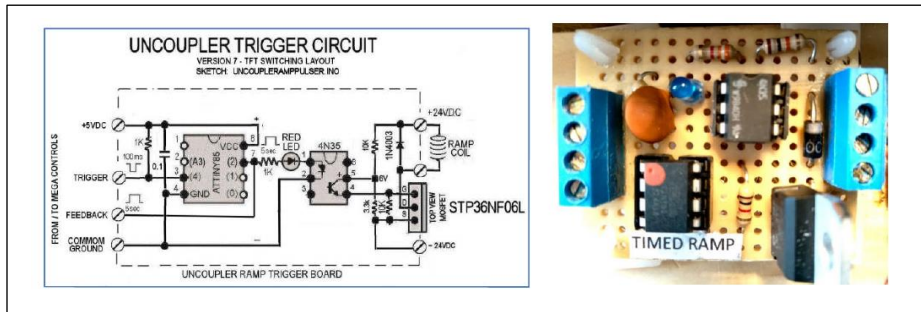


Color coded wires are soldered directly to the LED and Transistor leads and the wires are passed through the layout down to the detector circuit boards. The IR LED and IR transistor are painted black and mounted across one or two tracks facing each other. For reliable detection the small bubble on the IR detector unit is painted to offer a minimal spot opening.

### Powered Uncoupler Ramps

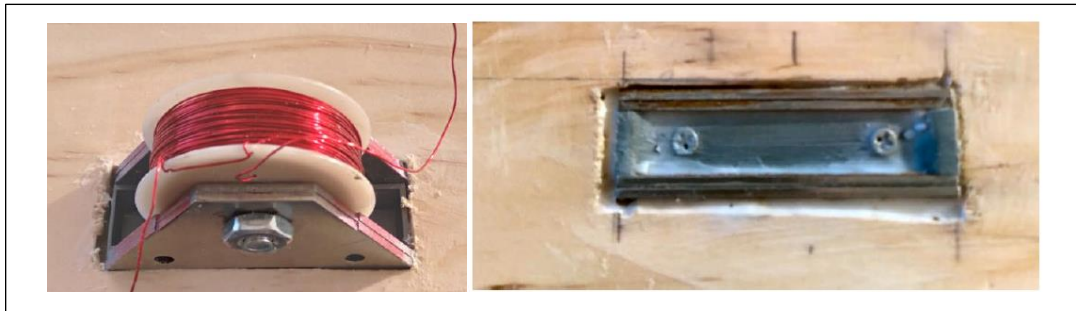
The Kadee® #309 Magne-Electric Uncouplers, when mounted under the rails, provides a solution to inadvertent magnetic uncoupling of the Micro-Trains couplers which would result from the traditional magnet bars. This powered uncoupler requires several amps of DC current at 24volts, enough to overheat the coils if left on.

A separate 24 VDC power source is provided to power the uncoupler coils, however the ATTINY85 controlling circuit is powered by the 5VDC supply used for all of the Arduino based circuits.



The uncoupling circuit gives only a 10 second burst of the required power to prevent overheating. Activation of the ramp is accomplished from the MEGA software, or the touch spot on the control

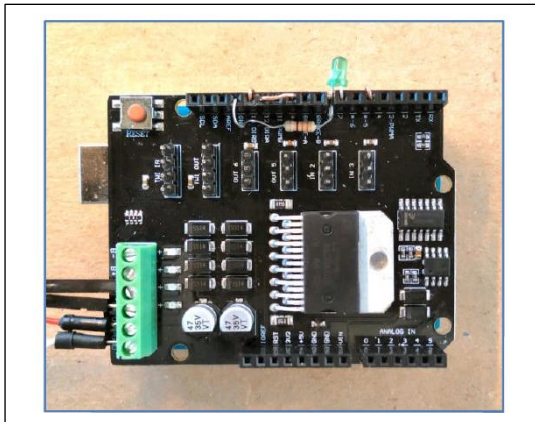
panel. The uncoupling circuit ‘debounces’ the input pulse to eliminate false triggers from noise. Feedback is provided to the Animation Controls (MEGA) to signal the ON or OFF condition.



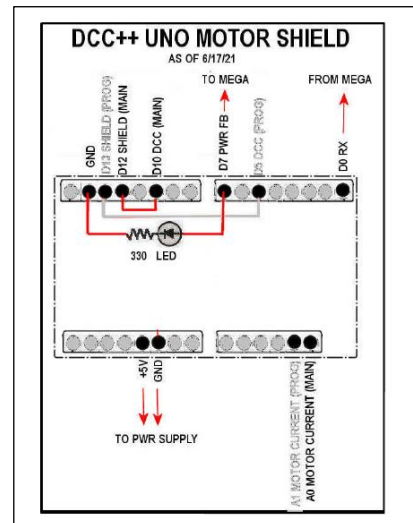
The outer plates on the coil assembly are reversed to better match N scale rail separation.

### DCC++ COMMAND STATION

I use an Arduino project called DCC++ BASE STATION which makes use of an Arduino UNO micro-controller and a plug-in Motor Control Arduino “shield.” The software is readily available on the Internet, but I made various changes to suit my needs.



The UNO circuit is controlled by input serial commands. My implementation sends those commands from the Arduino MEGA control board. The DCC++ software operates the Motor Control shield to place DCC commands on an output DCC Rail



Power supply. The power ON state lights a LED and feedback interfaces back to the MEGA board to signal power ON/OFF.

My modifications eliminate 'programming track' support and other generalized functions but enhance the DCC Function commands in addition to the Power ON/OFF and current sensing functions.

### TFT/Touch MEGA Control

As noted above, the Animation Control is carried out by a program (sketch) in the Arduino Mega. The TFT/Touch pad mounted on top of the MEGA provides the controlling interface.

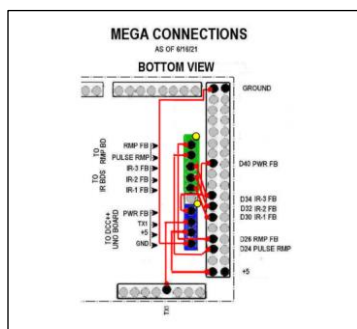


Bottom view of Mega showing interface connections



Top view of MEGA with TFT/Touch shield inserted

Simulated buttons are displayed on the TFT and 'touch' presses on those areas results in a 'button-press' function.



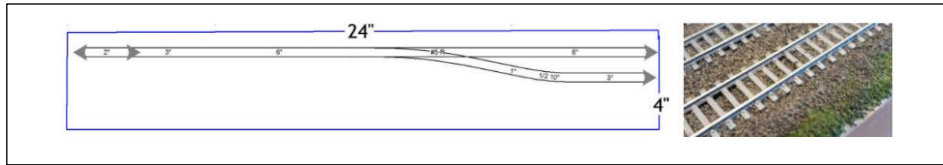
The two pre-drawn panel images are stored on a SDHC card and read through the card reader slot of the TFT board.

Connections are made from the MEGA to the DCC++UNO board as well as command and feedback lines from

- Uncoupling Ramp
- IR Detection
- Turnout Servo

## Layout Construction

The switching layout is constructed on a 4" by 24" enclosed platform. Atlas Code 55 N-scale track is used. The Atlas Track Planning program was used to select and position the track elements.



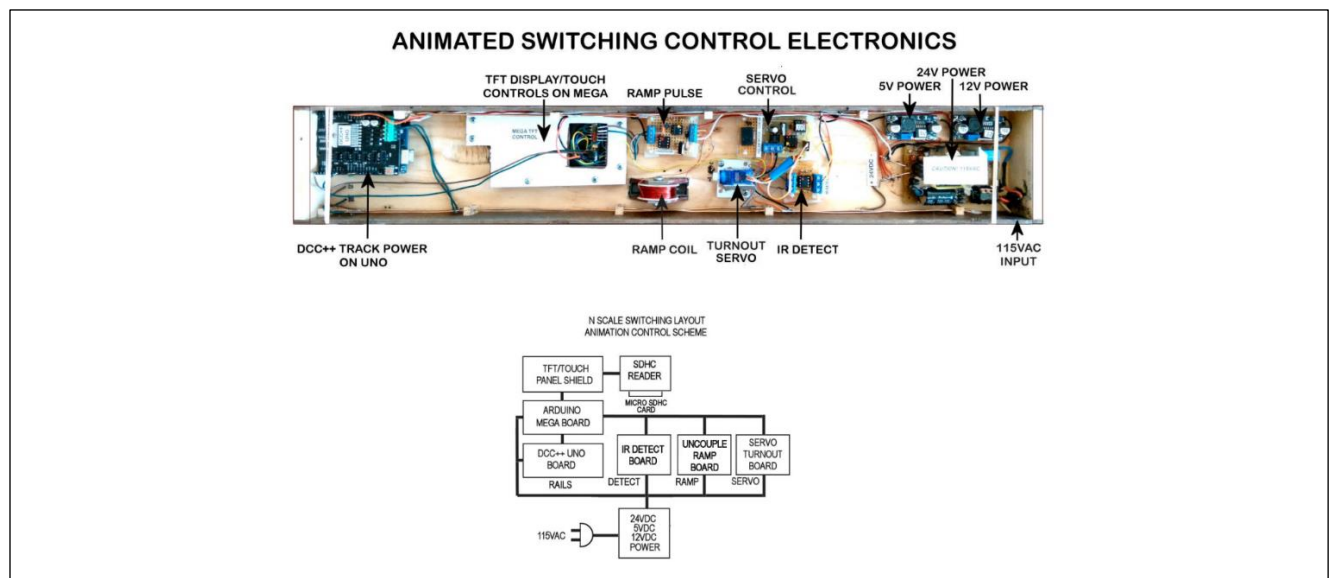
LAYOUT Parts List					
No.	Image	Number	Name	Scale	Producer/Pc
1		2002	6"	N	Atlas 2
2		2004	3"	N	Atlas 2
3		2005	2"	N	Atlas 2
4		2007	1"	N	Atlas 1
5		2011	1/2 10"	N	Atlas 1
6		2051	#5 R	N	Atlas 1
					<b>Total: 9</b>

All of the track work is ballasted in cinders (Woodland Scenics #B76-Fine Cinders). Some surrounding territory is covered in fine grass and earth (Woodland Scenics#T45 & T42). A



scattering of bushes (Woodland Scenics FC148) is also used to blend areas. The cinders and fine grass are positioned dry, and then mist sprayed with 70% alcohol. Water-diluted Carpenters glue is then dribbled into the ballast and ground cover.

The Arduino Mega with attached TFT/Touch pad is mounted on the layout base for easy access from the top of the layout. As noted before, all electronics are contained within the layout base. Only the 115VAC cable is plugged in through an external connection. The electronics for the Layout box are completely self-contained.



## N-Scale Rolling Stock

An Atlas Gold Series S2 Diesel Equipped with LokSound® Select Sound is used as the locomotive power for the switching layout. Two Micro-Trains 40' Box cars round out the roster. The cars have Micro-Trains couplers and retaining springs on each axle to offer good uncoupling performance. The cars are also weighted to almost 2oz (beyond NMRA standards).

Demonstration Video: A video of the layout in action can be found at:

<https://youtu.be/sgTumt4YiTI>



## Johnny Appleseed

By Ed Smith, MMR

I'm making a concerted effort to work on the background scenery on the upper deck of my layout. The layout is fairly large, so I literally have hundreds of square feet to cover. Fortunately, I have two things going for me. First, I model the Northeast in New York and Pennsylvania. The scenery is miles of gently rolling mountains covered with canopies of deciduous trees. And I model the summer season. The tree canopies are various colors of green. The other seasons would be labor-intensive. Fall would be a kaleidoscope of colors, that, frankly, would be too overwhelming. With winter, I would need thousands of skeletal tree armatures and spring would be the transition from bare limbs to budding leaves. So, summer it is.

This article is about how I transition from backdrop trees to 3-dimensional trees and, finally, more detailed foreground trees. First, the background canopy trees. I call it my "shake and bake" method. Using poly fiber that I usually buy from Micro-mark, I make hundreds of approximately 1" puffballs (pic 1, 2). I make these in the evening while watching football or other TV programming. I predominately use black poly fiber, but green works as well. The black, when covered, gives a shadowy illusion and depth. White poly fiber is not advised. Next is the "shake and bake" step. In a well-ventilated area, I spray the puffball with cheap hairspray (my choice is Rave), drop it in a container filled with your preferred



Pic 1



Pic 2



Pic 3



Pic 4

green ground foam, cover the container, and shake. Remove the covered puffballs and set aside to dry (pic 3). I use hazy green ground foam from Scenic Express. The drying time is usually one day. On my backdrop, I use cardboard strips and red rosin paper to



Pic 5



Pic 6



Pic 7



Pic 8

create mountain contours. I cut the green puffballs in half and, starting at the top of the mountains, I hot glue the trees on the mountains (pic 4). I stop about 1" from the bottom where the backdrop and ground cover meet. Here, I randomly add cut twigs to the bottom of the puffballs to give the appearance of the tree trunks (pic 5).

Next, after adding ground goop and ground foam to create the basic terrain, I add very basic 3-dimensional trees in front of the puffball trees. I use Woodland Scenics plastic brown armatures (pic 6). I form the branches and then paint the trunks a grey color (pic 7). Using Hob-E-Tak, I coat the limbs and let them sit for about ½ hour (pic 8). Next, using green coarse ground foam, ground up in my blender, I dip each armature in the mixture and let it dry (pic 9). After drying for about a day, I plant them in the terrain in front of the puffball trees (pic 10, 11).



Pic 9



Pic 10



Pic 11



Pic 12

With the foreground trees, you want a little more detail. You can accomplish this by using Scenic Express Super Trees (pic 12). First, I separate the tree armatures into the style and size I want. I also use tree remnants to create smaller trees by gluing the pieces on tree armatures, using Hob-E-Tak (pic 13, 14). Once again, using Rave hairspray in a ventilated area, I spray the trees completely and cover them with a mixture of green ground foams. The color is your preference. I paint the trunks grey and clamp them upright to dry (pic 15, 16). Once again, after drying for a day, I plant the trees in the foreground areas (pic 17, 18).



Pic 13



Pic 14



Pic 15



Pic 16



Pic 17



Pic 18

It's a relatively easy process. It takes a little time, due to drying periods, but I think the results are worth it (pic 19, 20, 21). Now, all I have to do is scratch-build the interchange tower and add the final details (pic 22). That's it for now but, trust me, there are many more trees to be planted. Until next time,.... ED



Pic 19



Pic 20



Pic 21



Pic 22

P.S. - From my wife and I, Merry Christmas, and have a great holiday season!

## Carolina Southern Division to expand!

By Andrew Stitt, CSD Superintendent

### Background

For those of you who have attended a Division meeting during the last several months (in person or via Zoom) what follows is something I have already told you about. For the rest of our members, welcome aboard. What follows is a sequential series of events that will bring you up to the current status.

As everyone knows, the Carolina Southern Division of the Mid Eastern Region of the NMRA has been centered around Charlotte since its inception 25+ years ago. We border the South Eastern Region's Palmetto Division in South Carolina, and Carolina Mountain Division in the western part of North Carolina. For years, we have bordered the (now inactive Piedmont Crescent Division centered in Greensboro, and the now inactive Blue Ridge Division centered in Roanoke Virginia). The other primary MER division in North Carolina is the Carolina Piedmont Division (CPD) based in Raleigh.

### This year

Earlier in 2023, the CPD began to be approached by several NMRA members living outside their boundaries about having their counties of residence becoming part of that



Division. This summer, I was contacted by their committee that was formed to investigate the expansion of CPD's boundaries. During this discussion, the idea was explored (in conjunction with the CPD as well as MER officers) about CSD joining the effort to incorporate counties in North Carolina deemed not to be a geographical fit with CPD. After discussion with CSD's BOD, we agreed to their proposal, and originated documents to submit to the MER BOD to include several counties in North Carolina adjacent to our current boundaries.

A procedure was established (with the help of the national office in Chattanooga) to identify those members that live within the effected counties (to be included in either CSD or CPD). This then resulted in a letter of acceptance or decline being sent to every effected member for their consideration of this. Those ballots were sent out and compiled by a member of MER's BOD. The returns were positive on behalf of both Divisions.

In the interim, at the 2023 MER Convention held in October in Altoona, Pa., the NMRA President, Gordie Robinson, made it clear that this was a positive step forward, but needed to include any additional counties not assigned to a Division within the MER to be so assigned. At a meeting that followed, the Superintendents of the active Divisions, as well as some MER officers, reviewed existing maps of both active and inactive Divisions, and adjusted adjoining Divisions to include unassigned counties. The results of these discussions were to extend CSD's boundaries into southwestern Virginia. Since the James River Division is based around Richmond, it was decided that these counties would be better served by being associated with CSD. These maps were presented at the 2023 Annual Meeting of the MER and passed by those members attending.

### **What does this mean for CSD?**

A new map of the Division is being produced and will be distributed to all members when it becomes available. What I can describe for you now is CSD will extend along the border with South Carolina to Scotland County. Extend east of the Yadkin River to include Montgomery County, north to the Virginia state line (excluding Forsyth County) and west to Watauga County (where we meet the border with the SER). Roughly 14 members will join us from North Carolina! In Virginia, our Division will follow I-77 north essentially extending 1 county to the east north to West Virginia. The Division will then extend all the way southwest to the Virginia state line with Tennessee which remains in the SER. Roughly 9 members will join us from these counties!

In the next several days, I expect to get a new corrected roster for CSD. At that time, I will send a letter to all of our new members welcoming them to the Carolina Southern Division. They will be included in all future correspondence and invited to participate (in person or remotely) in all Division activities. Perhaps in the future, we will have an opportunity to have a meeting or open house within this new area. Please help me in welcoming them aboard!

# Ouch, This Hurts

By Chad Barnette

Some of you may have recently attended my clinic at the RMU this year. That was a lot of fun – I had never thought much about sharing what I know because I didn't think I had a lot to offer in terms of teaching someone else in the hobby. Much less folks that have been at it longer than I have. Well, I guess I realized that everyone has something to offer – a skill, an insight, or a different way of approaching an age-old problem.

In my case I had been interested in finding an alternative solution to cutting styrene by hand. You see any time I tried to grip an Exacto or utility knife, my hands would go numb within seconds, and painfully so. "Ouch, this hurts!". Yep, that's right. I had the onset of carpal tunnel in not one, but both hands - Probably because of years spent behind a computer screen. So what did I try first? Well at the time, the most top-of-the-line thing I could find was a Cricut machine. And to be clear I think these still have a place in modeling. I love my Cricut machine! So I would start there in my quest to find things to assist me in modeling – and more specifically in modeling structures. Modeling structures is one of my favorite aspects of model railroading. Creating an immersive scene that myself or a visitor could get lost in – that's the goal. I am far from that goal, but I am determined to get there!

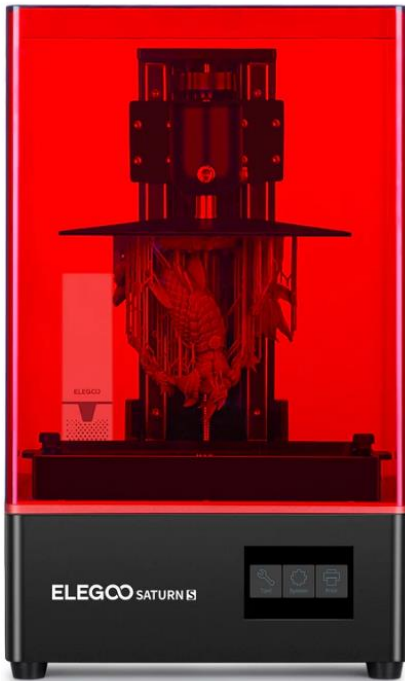
So, the Cricut it was for quite a long time. I was able to get it to cut through 0.02" styrene and score 0.04" styrene enough to snap it. My focus didn't last too long though with the Cricut. I had spotted somewhere along the way one of these new machines – engravers are what they called them. I thought to myself "there's some potential there!" The price of this new item was just out of my reach and not something I could just go out and get. I thought it's just me and my Cricut from now on.

The next thing that I would discover was destined to become my next machine. The "3D Printer". That's what I called it, but I would later come to find out it was one of many types of "3D" printers. More specifically, it was an FDM printer – fused deposition modeling. Think of it as a sophisticated hot glue gun that melts plastic instead of glue and has a very fine nozzle. That's really it – the technology behind it is fairly advanced of course, but physically speaking that's what it does. I have made all sorts of things with my FDM machine, but mostly focused on structures and their components.



I found that there are all sorts of things that can go wrong with FDM prints. It definitely has its own set of challenges. Most of them I have learned to overcome. Funny enough, it was one of those very challenges that led me to my next machine. I thought, well this next machine will be exactly what I need for structures. That next machine was my very first laser cutter. I'll be honest – the laser I got is awesome. For a small investment, you can purchase a laser that will cut through 1/4" wood with ease. I would say that this

machine is the one I have had the least number of challenges with. It does what you tell it to do. I found though that what it lacked was the ability to put the right texture on the walls of structures that I used it to cut out. Even if I attempted to put the lines of clapboard siding – that’s all they were, just lines. I didn’t feel like I could ever get the textures I was really looking for with it. Just to circle back to the FDM printer for a minute, you can certainly get a reasonable amount of detail out of that machine. I’ll save the story of what went wrong with that machine for another article. For now, let’s just say I had my eyes on something that (I thought) would do everything I ever wanted.



My most recent addition to my arsenal of structure-producing machines is none other than my Elegoo Saturn resin printer. That’s right, resin. I have tried to stay away from resin for the longest time as I had read so many terrible things about the resin and its safety (or lack thereof). But, I thought, if I’m gonna get it I’ll get all the proper safety precautions. And so I did, and I don’t regret getting the resin printer for a second. The things that I’m finally able to get it to do are amazing. I have found, though, that there are at least an equal number of things that go wrong with resin printers as they do with FDM printers.

Well, I’ve set the stage for now. In coming newsletters, I’ll share a more in-depth look at each of these machines and the ways in which I think they can be beneficial to the hobby. For now though, as I think about what I’ve spent on these machines, all I can do is look at my wallet and say “Ouch, this hurts!”.

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## Merry Christmas & Happy New Year

I’d like to personally wish you and yours a Merry Christmas and a Happy New Year! Let’s all take some time to remember what’s important to us this season. And, to maintain a little sanity, get yourself some me time in the train room every now and then! Finally, remember not to put a down payment on that loco unless you know your Christmas bonus is coming! See you in the New Year!

- Chad



## CLOSING PAGE BONUS



Pictured is a new Brightline Loco – Brightline has become the first privately owned passenger operator to connect two major U.S. metropolitan areas in decades.

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