Sunrise Herald

July 2021 Volume 14, Number 7

Sunrise Division Officers

Superintendent……William Boorman
Asst. Superintendent……Dennis Hagen
Secretary……Bob Hochstetter
Treasurer……Rich Flammini
Program Chair……Gary Myers
Division AP Chair……Bob Rothgery
Youth Coordinator……Ernee Edwards
Education Chair……Stewart Jones
Modular Layout Chair……Larry Stephens
Herald Editor……Bob Hochstetter

In the Herald

Layout of the Month

This month's photos are from Rich Flammini's Grand Trunk Western themed layout.

From the Editor

It is the best of times; it is the worst of times (my apologies Mr. Dickens).

Well, maybe not either of those extremes but you get the idea. Two months ago, when it seemed that the pandemic was winding down, restaurants and theatres were allowed to reopen, and we thought that life would return to the prepandemic "normal", we began planning for a Sunrise Division layout tour and included teasers in the Herald concerning future information about the tours. Now that has all changed. The Delta variant of COVID-19 has reared its ugly head. Many are suggesting returning to mask wearing even for those who have been vaccinated and once again avoiding indoor gatherings. It has been decided, therefore, that the layout tours for those with basement layouts will be cancelled. The one outdoor layout will still be available for viewing on August 14th. You will find information regarding it near the end of this edition of the Herald.

While fear of contracting COVID-19 continues to force the Division to have virtual Zoom meetings, an amazing amount of useful information is presented during the meeting and from the chats that occur before and after the actual meeting.

If you have not joined in a Zoom meeting yet, give it a try. You might like it.

Bob

July Meeting Notes

Signing in to the virtual Zoom meeting began at 6:30 p.m. July 1, 2021.The meeting began promptly at 7:00 p.m. with 18 participants in attendance. The meeting began with Announcements followed by Tool Time, two Mini-Clinics, and Show 'n' Tell, all of which are reported on in greater detail in this edition. The meeting concluded at 9:00 p.m.

Next Meeting

All future Division meetings will continue to be via Zoom until the COVID-19 guidelines allow us back into Holy Love Lutheran Church.

The next meeting will be Thursday, August 5, 2021.

Log-in will start at 6:30 p.m.

The meeting will start at 7:00 p.m.

URL of the Month

The Magic of Scale Model Railroading
https://www.youtube.com/watch?v=q5y8SLis9s8

Upcoming Clinic

Super-Detailing Structures---Gary Myers

Upcoming Tool Time

Hot wire foam cutters—Bob Hochstetter

Upcoming Show 'n' Tell Themes for 2021

August – Scratchbuilt Model
September – Roundhouse/Turntable
October – Covered Hoppers
November – Maintenance of Way
December – Snow is the Season

Announcements

Larry Stephens announced that he had repaired four modules, reinforcing the corners.

Mini-Convention-Pueblo, CO
September 9-12, 2021
Registration form and schedule may be found near the end of the Herald

Mid America Train and Toy Show, KCI Expo Center, Kansas City, MO
August 8, 2021

North Platte Rail Days
August 6-8, 2021

It was announced that the Rocky Mountaineer, famous for its Canadian Rockies rail tours, is now offering two day tours between Moab, Utah and Denver, Colorado

Layout tour

Three of the four layouts originally included for the layout tour have been withdrawn due to COVID-19 Delta variant concerns. Tom Wilcox's outdoor layout will, however, still be open. Information on the layout and the location can be found in this edition of the Herald.

Show 'n' Tell

July's Show 'n' Tell subject was Depot. Five modelers submitted photographs.

First up: Three depots from Stu Jones' layout.

This is the Boreas Union Station building on his Boreas & Saguache layout. The prototype for this is a station in Stuttgart, Germany but the design looked like it was appropriate for the US. Drawings appeared in the September 1955 *Model Railroader*. This is a "flat" structure that is against a helix behind it. The station tracks are beneath the helix.

This is a small commuter station on the B&S. This fits nicely into a narrow space on a curve.

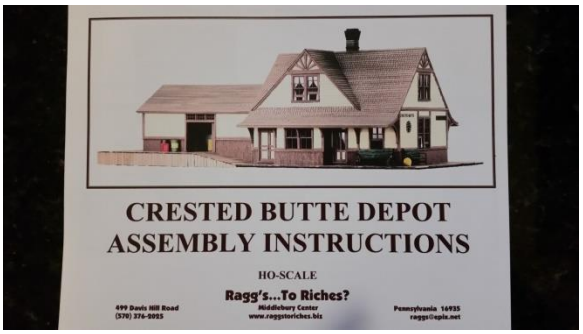
The prototype is a station in La Mesa, California about 20 miles east of San Diego. Drawings appeared in Model Railroad Craftsman, issue unknown.

This depot serves the mountain town of Wexford on the B&S. If it looks familiar, the prototype can be found in Jefferson, Colorado. It is designated a historic landmark and is currently painted blue.

Rich Flammini showed this depot from his layout.

Ken Cruise submitted photos of his Union Station. The depot is a Walthers kit that is being detailed. The kit supplied clock decal was replaced with a clothing button that is a better replica of a clock. The entrance roof is

coated with a fine black gravel substance that he found in a commercial hotel ashtray. All of the entrances have overhead lighting. He is still working on a better LED lighting design for the interior and figuring how to add an interior and passengers to the terminal.

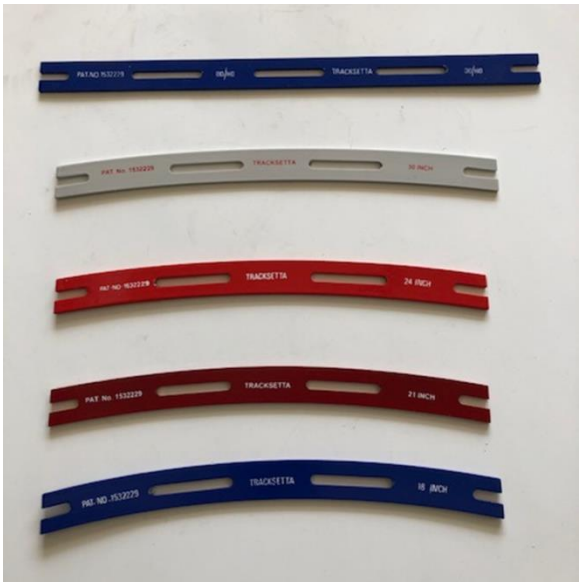


Gary Myers showed a building kit that he will be assembling. It is an expensive kit ($225) with a 39 page instruction booklet so he wants to make sure that he assembles it correctly.

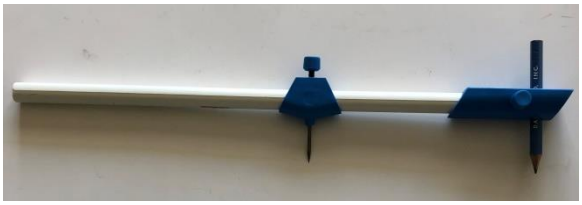
Lastly, I submitted these photographs of the prototype (top) and the model of this board and batten combination depot based on a Missouri Pacific prototype that stood in Boston, Missouri, just north of Carthage on the White River Line. Long since abandoned from active railroad service, this depot was moved in late 2005 from a farm field to Carona, Kansas and has undergone a complete restoration and is now at the Heart of the Heartlands Museum Complex.

Tool Time

Dave Clifford presented a very complete description, with accompanying photos, of tools used to draw track lines on a layout.



Tracksetta Templates



Dasco Pro 1405 Giant –Circle Beam Compass

Ribbon Rail curved HO track template

Proses Parallel Track Tools


Flexible curve tool

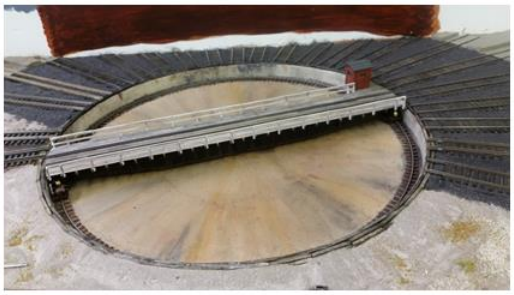

And, of course, straight edges

Mini-clinics

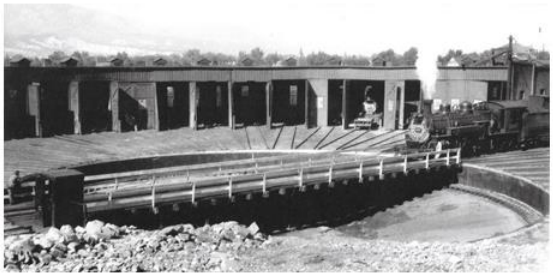
Presented here in their entireties are the mini-clinics from the July meeting.

Gary Myers presented this Alternate Wiring for Diamond Scale Turntable mini-clinic.

Diamond Scale 105' Turntable
(Dual Gauge Rails installed!)



Salida Dual Gauge 100' Turntable
(circa 1930s)



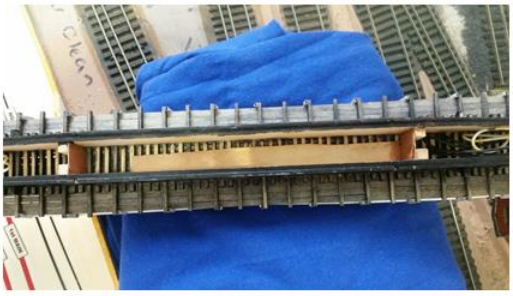
Bridge Dollies

Solder leads from right Rail(s) to both dollies

This gives a lot more positive contact from each dolly

Bridge Plate

The other rail is soldered to a metal plate (brass or copper) that is glued to the underside of the ties. Plate rides on phosphor-bronze "spring".



Bridge Support

The bridge support is mounted slightly off-center such that the bridge can only mount one direction, and is labeled for one end

Worm / Drive Shaft

Center Spring

1) Hole cut through plastic to steel post
2) Hole drilled into steel post
3) Phosphor-bronze wire bent to a "U" and folded over
4) Phosphor-bronze "spring" pushed down into hole

Sheet styrene "shims"

Drive-Shaft

The Worm shaft is connected to a "drive-shaft" with a Universal, and supported with bushings through the frame.

Copper Slip Wipers

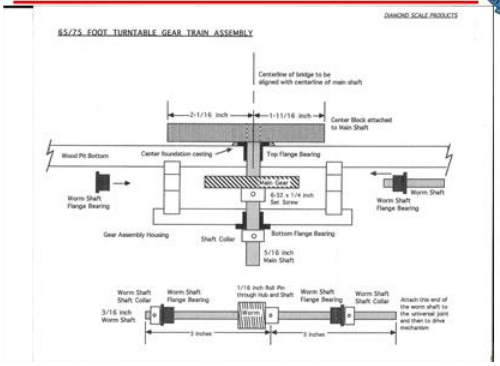
The hot track lead is connected to the center post wipers.
The ring rail is connected to the common track lead

Turntable Rotational Control

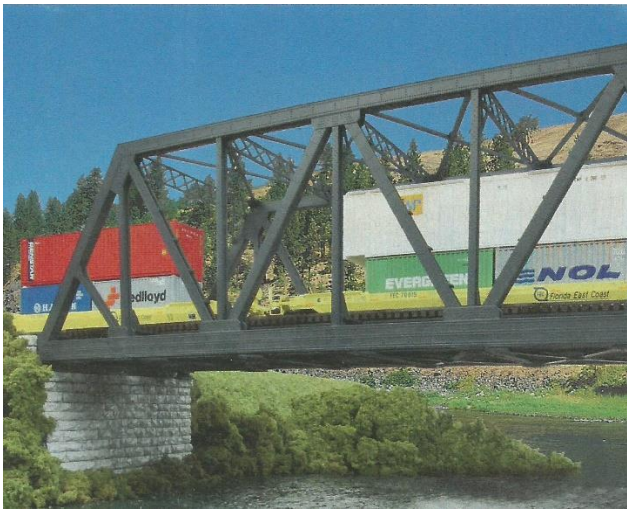
A simple window crank was attached to the end of the worm shaft instead of a motor.

The table is aligned by eye.

Turntable Gearing



Stu Jones presented his mini-clinic showing how he made cross braces for box girders. It is a terrific idea that I never would have considered myself.



Stu wrote "I built a truss bridge for the Sunrise Division modular layout. Because I wanted a robust structure that would withstand heavy handling, I selected this Walthers Kit. However the diagonal members were modeled as "H" columns that would rarely be used on a prototype bridge. I wanted to capture the look of a Rio Grande bridge found between Leadville and Salida.

The vertical and diagonal members are "box girders" made by lacing structural (cont'd.) shapes together with "X" bracing. To achieve this look I fabricated the "X" bracing with Evergreen styrene strips, then cemented them over the "H" columns. While this does not provide the "see-through" look of the prototype, it is a reasonable approximation.

Most bridges of this type were fabricated between 1900 and 1940 and most are still in use. The "box-girder" is much lighter than an "H" column, and since it uses less steel was more economical for the period. Steel was sold by the ton. Certainly it took more labor to fabricate, but labor was cheaper than steel.

Below is a diagram from Paul Mallery's book *Bridges and Trestle Handbook*, showing how these truss girders were constructed. This book is long out of print, but if you can find a copy at a swap meet or on E-bay, it is 130 pages packed with diagrams and information covering every type of bridge used in railroading.

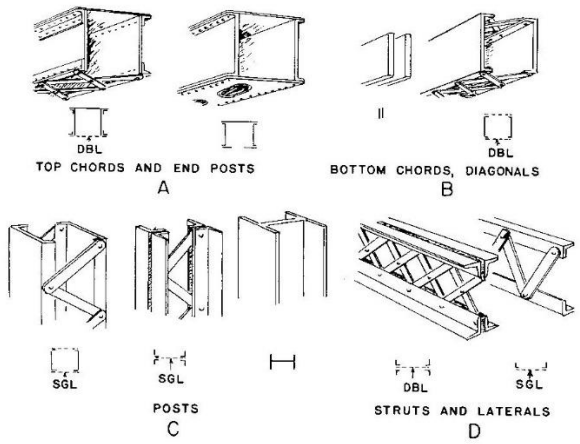


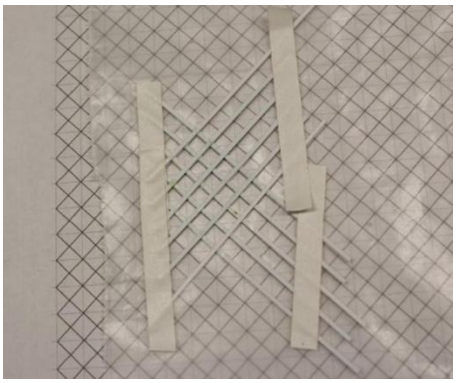
Fig. 10. Typical prototype construction of truss members.

What I was modeling is the type of girder shown at the upper right

The tools for this project are quite basic: a sharp hobby knife, a 45^0 drafting triangle, and some masking tape. Materials include styrene strips and styrene cement. I began by drawing a layout on plain paper. The vertical and

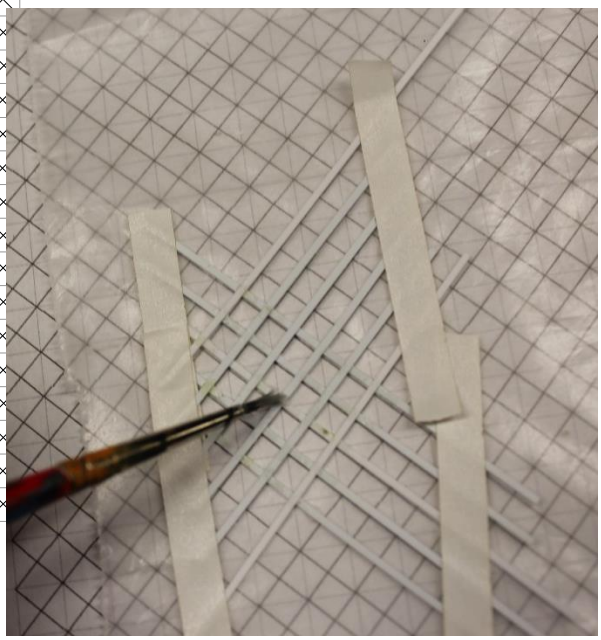
horizontal lines should be the outside width of the columns on your model. The diagonal lines can be filled using your triangle against a straightedge. Personally I use a CAD program to prepare the drawing.

When your drawing is ready, tape the paper to a flat surface, and then tape a piece of waxed paper over it:

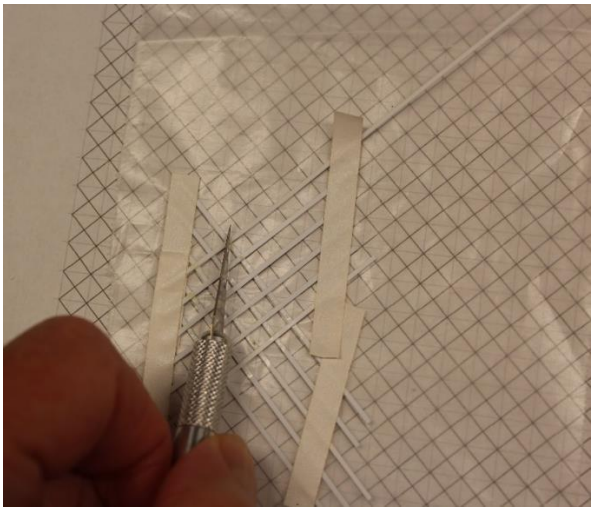


Now align pieces of styrene strips with your diagonal lines in both directions. It's best to tape then down so they don't slide around while you are cementing then together. I used 0.015 x 0.040 Evergreen styrene (0.010 thick would work also). You may select a width that looks right for your scale.

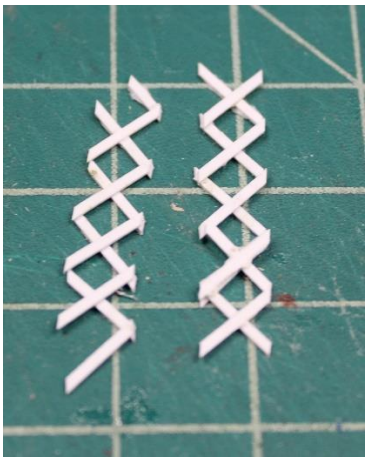
When the strips are in place, use a fine brush to apply styrene cement to the crossing points. Make sure all points are securely cemented. The strips tend to slide around a bit on the waxed paper so align them carefully as you apply the cement.



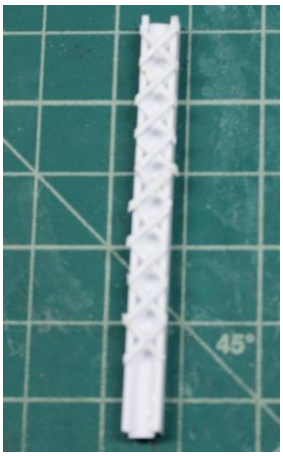
When the cement has cured (in a matter of minutes) you are ready to cut the "x" bracing. Cut on the crossing points.



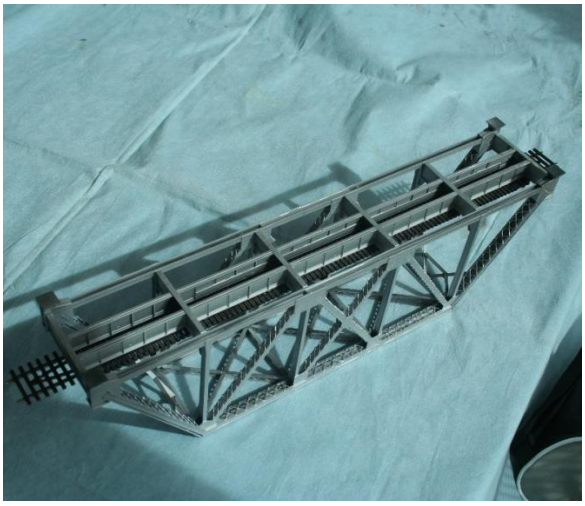
You should now have strips that look like this: Don't worry about the ragged edges. We'll trim then later.



Now cement your "X" strips to your "H" columns and trim the protruding edges.



The last few photos show the finishing steps as the bridge was constructed and its eventual installation on the modular layout. The results speak for themselves."



CONVENTION REGISTRATION FORM

September 10 thru 12
Pueblo Convention Center

Primary Registrant (Must be over 18) _____
Address: _____
City: _____ State: _____ Zip Code: _____
Email: _____
Phone Number:_____
NMRA Member: (Y/N) _____ NMRA # _____ Non-NMRA add fee
Names of all family members attending, please include age for those 12 and under:
_____

Primary Fee: Including Train Show Admission	$50.00/Ea	_____
Spouse and Family Members (Over 12)	$10.00/Ea	_____
Primary Fee for Non-NMRA Primary Registrants	$60.00/Ea	_____
Greg Long Operating Session (Refundable Deposit)	$5.00/Ea	_____
John Denny Operating Session (Refundable Deposit)	$5.00/Ea	_____
Bob Foltz Operating Session (Refundable Deposit)	$5.00/Ea	_____

***Deposits Returned at Session Upon Attendance**

TOTAL FEES: _____

All Registrations are **FULLY REFUNDABLE**

Make check payable to: Rocky Mountain Region, NMRA
Mail to: Denny Krausman, 9609 Silver Hill Circle, Lone Tree, CO 80124

2021 CONVENTION SCHEDULE

Some times and events may be tentative!

Thursday, September 9
9:00 AM to 6:00 PM Operating Sessions

Friday, September 10
9:00 AM to 6:00 PM Contest Room Open
9:00 AM to 5:00 PM Clinics
6:00 PM to 10:00 PM Layout Tours

Saturday, September 11
9:00 AM to 5:00 PM **Train Show**, Pueblo Union Station
8:00 AM to 4:00 PM Contest Room Open
9:00 AM to 4:00 PM Clinics
7:00 PM to 8:30 PM Special Presentation

Sunday, September 12
9:00 AM to 4:00 PM **Train Show**, Pueblo Union Station
8:00 AM to 10:00 AM Contest Awards and Breakfast

We have 12 interesting clinics planned along with the contest room at the Pueblo Convention Center.
There are plans for operating sessions and layout tours along with many things to see and do in Pueblo (See Pueblo Activities List)
The Train Show on Saturday and Sunday will be held at the Pueblo Union Depot. Attendees will be responsible to pay their own admission fee to the Train Show as it is sponsored by the PMRA.

Things to do while in Pueblo, Colorado

Convention

Pueblo Convention Center (320 Central Main Street)

- Registration (9 AM Friday/9 AM Saturday)
- Clinics on the Hour
- Model Contest
- Door Prizes
- Sunday Breakfast

Rail Fair – Pueblo Union Depot

- Many venders with models
- Pueblo Railroad Museum (next to Depot)
  - Train rides in cabooses

Other Stuff to see in Pueblo:

- Steel Mill Museum
- El Pueblo Museum
- Pueblo County Historical Museum (across from depot)
- Rio Grande Freight House Museum
- Rosemount Museum

Restaurants

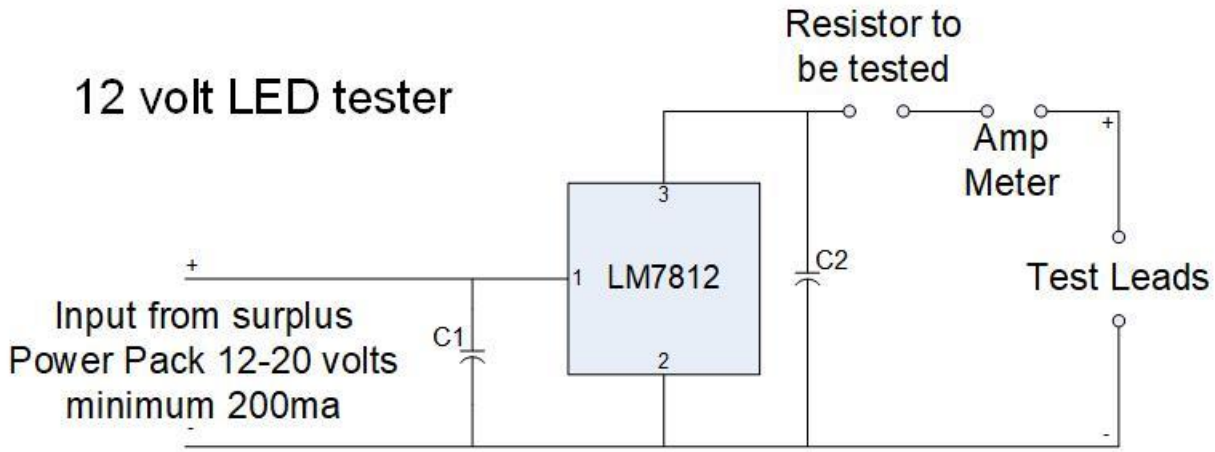
- The Clink
- Brues Alehouse
- Angelo's Pizza
- B St Café (across from depot)

Hotels

- There are many motels/hotels, not counting Bed & Breakfasts and campgrounds, RV park

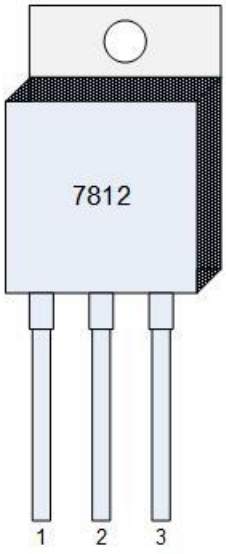
LED power regulator diagram

During the chat before the meeting began, we discussed using power packs from a thrift store, and the voltage problem they present. Here is Larry Stephens' diagram to solve this.



12 volt power pack might not provide a full 12 volts under load.

C1 is needed only if power pack has no capacitor. To check put meter on output of power pack, if voltage drops immediately when power pack is removed from ac, add C1.
C1 10uf to 100uf C2 .01uf to .33uf
C1 & C2 values are not critical. Not worth a trip to Radio Shack unless there's a donut shop on the way.



Open house
Saturday, August 14, 2021 9:00-1:00

Tom Wilcox
23442 E. Otero Dr., Aurora, 80016 303-862-8491

Directions: From the intersection of S Parker Rd and E Arapahoe Rd, head east on Arapahoe Rd, 4.5 mi. Turn right onto S Gartrell Rd and proceed south 1.6 mi to E Heritage Pkwy, which is the first intersection/light south of the light at S Gartrell Rd and S Aurora Parkway. Turn left onto E. Heritage Pkwy. **STOP** at the keypad on the left side of the **VISTOR** lane in front of the gate and key in **"#9974 or #5678"** to open the gate. Proceed east on E. Heritage Pkwy 0.2 mi through the gate and down to the T at the bottom of the hill. Turn right onto Addison Way and then right at the T at E. Otero Dr. The layout is at the third house on the left. You can park on either side of the roads near the house.

This layout is not HC-friendly because two steps are required to access the patio from the walk.

The Railroad: This is a U-shaped loop-to-loop layout surrounding three sides of the house. It has about 460' of mainline and another 130' in sidings. It has one 1.5% grade connecting the garden level to the patio. The layout evolved using the RR-Track Windows application, iteratively interleaving design and construction correlating the real world in the garden to the virtual world within my computer.

The layout depicts no discernible road name, location, or era.

Most of my rolling stock is vintage LGB 1:22.5 narrow gauge. All of the track is LGB sectional track with a minimum radius of 300mm, although most curves are LGB 16000's. Locomotives are track-powered using DCC. LGB MTS system components are used throughout. To control the layout, I use a TCS LWT-100 hand-held throttle that talks over WiFi to a WiThrottle Server running on a desktop computer. The WiThrottle Server is part of JMRI (Java Model Railroad Interface), which translates the button presses and knob settings on the hand-held into the specific tasks that the DCC central station needs to perform to make things happen on the layout. On this layout, these messages are defined and implemented by DCC++ software running on an Arduino micro-controller connected to JMRI via the LAN. This Arduino-based DIY base station now replaces the LGB base station I used originally.

The major update to the layout this year, is the addition of automation to the layout—i.e., the ability to use JMRI on a computer to automatically monitor and control the movement of one or more trains on the layout. To this end, the layout has been partitioned into 30 electricallyisolated blocks, (contiguous sections of track). Each block has an occupancy sensor that is active whenever there is a locomotive running somewhere in the block and also has one or more sensors embedded in the track that are triggered (magnetically) whenever a locomotive passes over it. Each sensor is wired to an Arduino micro-controller, which continuously monitors their state and sends messages to JMRI whenever it changes.

Five Arduinos of this type are distributed about the layout, each monitoring and reporting on the sensors associated with the 6 different blocks lying closest to the Arduino. A sixth Arduino, places the necessary DCC signals on the track using the DCC++ algorithms. Two additional Arduinos connect to the LAN to provide communication with JMRI and to provide a portal for setting up and debugging all of the Arduinos on the layout.
All of these Arduinos communicate with each other via a CAN (Controller Area Network) bus. The CAN hardware and basic communication protocol is the one used in the automotive industry to tie together all of the electronic components of a modern-day vehicle. CAN is also the hardware and low-level protocol used by the LCC (Layout Command and Control) project. The messages exchanged on this layout, however, are not those proscribed by LCC, but the messages already defined by the JMRI-DCC++ interface.

Picture of the month

October 8, 2017 Bob Hochstetter photo