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the

MainLine

magazine

the official journal of the

**National Model Railroad Association Incorporated
Australasian Region**

NMRA Inc - Australasian Region Directory

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All members of the Australasian Region are invited to submit articles of a railway nature for publication in the 'MainLine' magazine.

I would appreciate all articles to be sent to me in an editable format, such as 'Word, Pages, text, email, but not pdf, and high resolution photos sized between 1 to 5mb.

Please send your articles to editor@nmra.org.au

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New Articles

6	<p>Trackside with the SM - “People” Have you ever noticed how miniature People can add realism to a scene on a layout? In his third instalment of the ‘Trackside With The SM’ series, Arthur Hayes - MMR outlines how he has added that next step in realism on his South Western Railway layout and describes in detail how you can add people to scenes on your layout to achieve a better scene. <i>by Arthur Hayes - MMR</i></p>
14	<p>Quill-able Whistle / Horn In the steam era days, the crew of a loco could make the whistle play up and down by using the cord to manipulate the valve admitting steam to the whistle. This effect is available on some sound decoders and Eric Bennett outlines how to set up and achieve this effect. <i>by Eric Bennett</i></p>
16	<p>Repair of Failing Contacts in Tortoise Switch Machines These switch machines are normally very reliable for switching turnouts on your layout, but if one of the contacts fail it is an expensive item to replace. Malcome Jenkins shows us an easy and inexpensive method for repairing the contacts in these switch machines. <i>by Malcome Jenkins</i></p>
17	<p>How BEMF is used in Controlling our Locomotives For the technically minded, Stephen Reeves provides a further explanation on how Back EMF (bemf) is used to control the DC (<i>direct current</i>) motors used in model locomotives, irrespective of whether they are DC or DCC (<i>digital command control</i>) locomotives. <i>by Stephen Reeves</i></p>

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the Cover Photo

A railway employee trackside on Arthur Hayes South Western Railway layout, adds interest and realism to a trackside scene.

Editor's Comments

In the last edition of MainLine we had a bumper issue with 57 pages, which was clearly the biggest edition of the magazine that I have had the pleasure to produce. We had eight of the ten divisions provide reports, some divisions provided multiple reports, and there was plenty of model railroading activity occurring and being able to be reported on and be shared amongst members.

Then came the lockdowns which again reduced our ability to mingle regularly with our model railroading mates. I hope those affected are hanging in there and getting some comfort by having more time to be in your train rooms.

With reduced activity within the divisions comes an equally less amount of information to be shared in the pages of MainLine, so this edition is probably the smallest that I have produced to date. But the quality of the articles certainly hasn't been reduced and we still have some very interesting articles, so sit back and have a read.

I am always looking for interesting articles to share with our members and of late, articles on members layouts have been in short supply. If you would like to see your layout shown in the pages of MainLine in a future edition, then I would encourage you to start putting pen to paper and to take some photos of your masterpiece. I am sure other members will enjoy seeing what talent we have within our region.

In this edition; Have you ever noticed how miniature People can add realism to a scene on a layout? Starting on page 6 and being the third instalment of the 'Trackside With The SM' series, Arthur Hayes - MMR outlines how he has added that next step in realism on his South Western Railway layout and describes in detail how you can add people to locations on your layout to achieve a better scene.

Eric Bennett likes the sound of a quill-able whistle from the steam era days, when the crew of a loco could make the whistle play up and down by using the cord to manipulate the valve admitting steam to the whistle. This effect is available on some sound decoders and on page 14, Eric outlines how to set up and achieve this effect.

Tortoise switch machines have a good name for being a reliable switch machine and are normally very reliable for switching turnouts on your layout, but if one of the contacts fail it is an expensive item to replace. Turn to page 16 and Malcome Jenkins shows us an easy and inexpensive method for repairing the contacts in these switch machines.

Now here is an article for the technically minded. On page 17, Stephen Reeves provides a further explanation on how Back EMF (bemf) is used to control the DC (*direct current*) motors used in model locomotives, irrespective of whether the are DC or DCC (*digital command control*) locomotives.

In this edition there is also a report on page 21 outlining some of the layouts on show at the Adelaide Model Railway Exhibition, which was held back in June 2021.

It is always great to receive information on what is happening within the 100% NMRA Inc.-AR clubs, of which there are 17 clubs noted on our web site and operating within the Australasian Region. This month on page 20 we have information on how the progress of a new HO scale Club and Display layout is progressing and which is being built by the Wide Bay Burnett Model Railway Club Inc. I look forward to receiving further updates as the layout progresses and to also see the layout in action when completed.

And that begs the question, are there any other 100% clubs who would like to share what is happening and what they are up to within their respective clubs?.....

Meru Bagnall

Editor - MainLine On-Line

Trackside with the SM

“People”

by Arthur Hayes - MMR

People can tell a story and add realism to your layout. They add value to the scene, just as we engross ourselves in our day to day activities. It could be at work or in leisure at home, maybe in the park with the family. All can be added to our layouts to make it look real.



Mostly, figures we purchase from the hobby shop are moulded plastic and don't move. This is OK for a platform scene **1** with passengers waiting for their train. Some could be seated, others standing, some with children, others with bags etc.

And of course we have the railway employees going about their duties assisting passengers with their bags and loading baggage cars **2**. There is no action, but the people set the scene; a

train is coming and people are travelling. We can look for figures with action in their posture, like someone holding a bottle to their mouth as if they are drinking. Seeing this we think movement although there is no movement. Looking around it is possible to find figures in various positions or using tools.



Or a tool could be added to indicate work is taking place. Our platform porter on the platform could be given a

broom and be placed near a rubbish bin. Some manufactures provide unpainted figurines that allow you the attach arms to any position.

Figurines we see in hobby shops are mainly manufactured off shore, many have heavy winter clothing or the uniform is of an overseas railroad/railway or service. The era you are modelling can influence dress standards and colours. Looking back at my local railway in the 1960's, the railway department provide trousers, vest, coats and a choice of headgear subject to classification, employees provided their own shirts, socks and

shoes/boots. As a general rule if rail workers are not supplied with a uniform, red and green clothing is not allowed near the tracks. These colours are used to control the movement of trains and could be misread by approaching train crews. In later years, a full uniform was provided. Over time the provided uniform changed in colour and style. I model my local prototype, purchasing railway workers is not possible. I am sure I'm not the only modeller with that issue.

To set the scene I may need to alter or modify what's available. Clothing can be altered using a hobby blade by cutting unwanted items off, scrapping the blade across the figure can alter the shape of clothing or limbs. At times, limbs are removed, altered and reattached to the required position. Filler maybe required to fill the gaps, this may also require some shaping with a fine file. Given most of our figures are viewed from a distance, repainting in the required colours may set the scene for you.



For this I mount the figure on a used cotton reel using double sided tape **3**, this allows me to rotate the figure to various angles without handling it. I can also rest the edge of the reel on the bench to steady hand shake. As various colours maybe applied to

any one figure, drying time is required between the colours, having the figure on a cotton reel make it easy to set aside and pick up when required. I prefer to paint in batches, this allows mixing of colours between tops and bottoms, shoes, hair etc.

Of late I have been using Acrylic (water base) Vallejo paints in 17 ml eye dropper plastic bottles **4**. Shopping around they can be picked up for around \$ 5.00 each. Check out the war gamer suppliers, they usually have a full range of colours. More and more hobby shops are now stocking the range. A couple of drops goes a long way and the paint dries quickly allowing for another colour. Vallejo have a large range of colours that can be mixed together.



To assist stirring the paint, a small stainless nut or ball bearing can be added to the bottle. I stir my paint using a cordless drill **5**, a chair leg rubber cap **6** mounted onto a metal thread screw is inserted into the chuck. The paint bottle fits into the cup, the speed of the drill can be controlled in both directions.

The cap can be removed and a bamboo skewer can be used as a stirrer if so desired for paint that has not been used for some time. A drop or two can be placed on a piece of styrene off cut for a palette. I find keeping the brush moist works best, wet the brush in



cleaning fluid as below and remove excess fluid from the brush. Only add paint to the tip of the brush, this help to extend the life of the brush. Regularly cleaning of the brush prevents build-up of paint in the bristles. A selection of fine pointed brushes allows you to apply paint to the various parts of the figure. For H0 scale I mainly use 10/0, 5/0 and 0 fine pointed brushes.

Care is required in cleaning the brush **7**, I rotate it on the side of the container containing cleaning fluid and remove excess fluid by rotating the brush in paper towel. Dabbing the brush on the bottom of the cleaning container will surely wreck your brush quickly. At the end of the day the brush is washed out rotating it on a cake of soap, this helps in keeping the point on the brush. A magnifying headset/visor is a great help to enlarge the area you are working on. For thinning of paint I mainly use the paint manufactures thinners. Cleaning fluid I make my own, distilled water (tank water), a drop or two of windscreen washer fluid with a couple of drops of Isopropyl.



If you have a fashion policeman living in your house and you are like me, always in trouble for not mixing and matching colours correctly, these combinations have been given to me as a guide to help me when adding people to the layout, you might find them helpful as I do. Blue/Tan, Blue/Grey, Red/Grey, Yellow/Brown, Tan/Blue Jeans, White/Green, Blue/Black, Dark Blue/Light Blue, Green/ Brown. A few years ago Blue/ Green were never to be scene together, but today I understand it's OK. I'm sure on the internet, Mr Google will assist with colours that were in fashion for your era.

I indicated before about employees you could have working on your railroad/railway and their uniforms. Many could be wearing hats and other head gear. Likewise many



Aussies may also be wearing hats or helmets **8**. These can be easily made from styrene, a strip of .005 thou and a leather punch near the correct size can make a rim. The crown can be formed from styrene to the shape and size needed. The head can be trimmed back with a file or cut to allow the hat to sit as needed. Fine detail like a belt or a small badge can be added using a lace pin purchased from Spotlight or similar retailers. The point is flatten a little with a file, dip the end of the pin into a drop of paint and draw the pin along where you need the line. The same method is used to add eyes. Practice a few times on a scrap piece of styrene to work out the required amount of paint that is required for what you are looking for. Small

diameter brass rod can be used as well. Once happy with your masterpiece, a weak black wash can be applied to highlight the various features. This can be achieved by using a drop of paint, thinner to consistency required.



People in and around structures can tell a story **9**, mowing the lawn, children riding a scooter or playing with a ball adds action. A quick coat of paint can make them unique to your layout. The era you model can inspire you to something to enforce the set period. There is a good chance that a gate house at a level crossing in the country during the 1950's had a wood stove, someone chopping wood or working in the garden in the back yard **10** show living standards around that time. This all adds interest to your layout and becomes a talking point in inflection of the past.

Adding passengers to your carriages **11, 12 & 13** will lift them to the next level, do one the rest of your carriage fleet will look out of place with empty windows. Unpainted seated passengers can be found on eBay for just a few dollars. We add engine crew to our locomotives, what about the back of the train.



I bet when you were a kid, you wanted to ride on the end veranda. Make it happen on your layout.

Figurines are often included in vehicles/tractors. If these vehicles are being used for a wagon/car load, the driver would be out of place sitting at the steering wheel. These sitting figures in **14** could be used to make a sitting scene, a small piece of thin styrene can be placed between hands as a newspaper.

Action has been added to this scene in **15** where the track worker doing inspections (Road Runner) was stopped for lunch and waits for a train to pass. Nothing like a cup of billy tea in the bush, the billy fire is a battery tea light available from the cheap shops for just a few dollars. Make sure you purchase the warm white lights, they also



come with various changing colours. The LED is removed carefully from the light body,

add a 1K resistor and hook the LED into your 12 volt lighting bus. The LED can be painted red/orange and using twigs for the yard and a bit of black paint, build the fire around the LED mounted on the layout. Much the same can be achieved for a drum fire, stove or copper in the back yard.



Animated figures can be purchased to provide action to a scene, some may come

with sound. These can also be altered to reflect other applications. Greeting card message recorders can be purchased separate for a few dollars, endless sounds of just about anything can be found on the internet, these can be added to the recorder quite easy.

This wharf scene **16** on Bob Harding Mosquito Creek layout is completed with unloading crew at work, the captain is on the bridge as the supervisor, a winch-man on the winch and three swingmen, one on the ship and two on the wharf are controlling the load of pipes as it moves off the ship. This shows action and completes the scene.

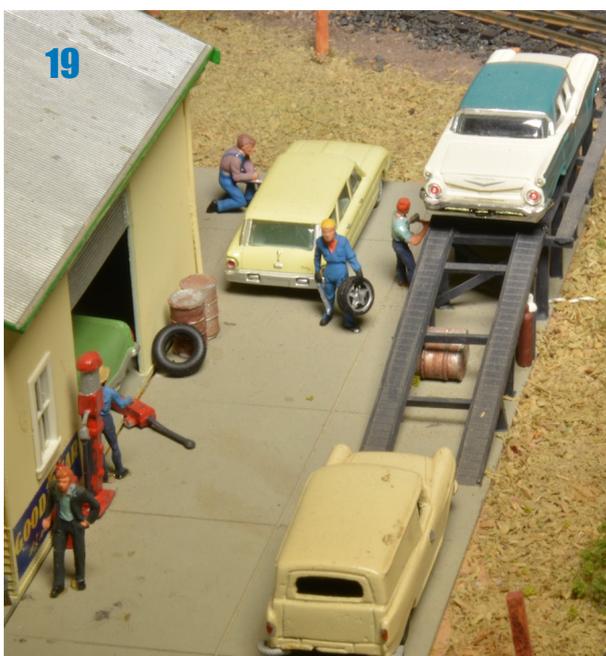


If adding a group or numbers of people into a scene, odd number look better **17** and draws you attention to the scene.

Adding a coal man to the coal stage **18** give that “at work” look.



Woodlands Scenics and Noch have motor (auto) mechanics as in this scene **19** straight from the box.



Presier have a different set of mechanics.

Figures of this nature can be at home for any prototype modelled.

A Signalman hanging out the window of the signal cabin **20** indicates the cabin is cut in and is controlling train moves within the yard or station. This signalman has his hand out giving an “all clear” signal for the next move, or it could be an acknowledge to a passing train entering the yard.



I’m sure as a kid you would be in trouble for swinging on the Hill’s hoist **21** if found in the action. Why not make it happen on your layout. The Hill’s hoist was scratch build and the clothing are Bar Mill’s etch brass kit.

“How’s That”? A family fun day in the park



and a game of cricket **22**. Not all areas of the layout are suitable for structures, an open area beside the tracks allows for viewing of the train moving across the country side.

Likewise, animals can add to a scene in the same way. As with the figures, they can be purchased ready to go or unpainted. With 3D printers some manufactures are producing many Australian animals as well. Once again, with your paint brush these can be changed to



suit you and the scene you are creating.

This scene on Bob Harding layout Mosquito Creek **23** captures wildlife around a creek. The bird life are from the Mini-Print (Canada) 3D range.

Adding figures to a scene can recreate history, many of us are era modellers, and things we did and saw as a kid make a great scene and a talking point on the layout. Figures complete the scene and give the layout life as if something is going on.....



Quill-able Whistle / Horn

By Eric Bennett

In the steam days, the crew of a loco could make the whistle play up and down by using the cord to manipulate the valve admitting steam to the whistle. In a way similar to blues harmonica players, they could “bend” the note of the whistle.

In the DCC world, some DCC equipment can make the whistle or horn increase or decrease in pitch - to give the same effect. This is called the “quill-able horn” feature, which gets its root from the Latin word quillabus, which means to increase or decrease the pitch of a horn or whistle.

Some modern sound decoders have one or more quilled horns or whistles recorded and stored in the decoder. When you play these, you hear a quilled horn but you can't vary the duration or pitch of the quill. These are not quill-able in the context of this article. A true quill-able horn in DCC means for the operator to be able to vary the pitch of the horn or whistle at will.



DCC Implementation

The quill-able horn uses an advanced analog specification in the DCC standard. It's an optional feature and implemented by only a few DCC manufacturers.

A few DCC system manufacturers have implemented it, meaning that their systems have the ability to send out the instructions to cause a decoder to vary the pitch of the horn.

A few sound decoder manufacturers have implemented the capability for their decoders to receive and act on the instructions sent by the DCC system. The quill-able horn is the result.

NCE has implemented it in their system and they outline the NCE implementation. Note that even if you set the feature ON in your NCE system, you need a decoder with the feature implemented and turned on to be able to quill.

Decoders

It is implemented very well in Paragon 2 and 3 decoders in the Broadway Limited range of locos.

It is implemented to a limited degree in the Tsunami decoder range and in the upmarket Tsunami OEM range, such as Athearn Genesis locos. It is not implemented at all in the economy OEM range, such as Bachmann sound locos.

I have been unable to find it implemented in any version of Loksound or QSI decoders. WOW decoders have a range of recorded quilled whistles. The operator can play these but not quill at will.

NCE Cab Setup

The “analog” capability is set for each cab, ie, you can have it working in one cab and not in another.

NCE uses analog channel number 127 for quill-able horn, so to enable it with NCE you click on Prog until you get Set Cab Params. You then click until you see Analog Horn Channel. Set it to 127.

On the next click, you see another channel available per cab, called Aux Channel. This is for an as yet undeveloped feature in the future. You don't need to set it for Quill-able Horn.

On the next click you see Offset which means the amount of pitch variation. You can use this to quill upwards, downwards or both.

You set it to a number between 0 and 15. If you leave it at 0, you can only quill upwards. If you set it to 15 you can only quill downwards. If you set it to 7 or 8, you can quill upwards and downwards by about the same amount.

Decoder Setup

In Paragon 2 and 3, no setup is required; the decoder firmware automatically checks for NCE's channel 127.

In Tsunami, you set CV 47 to the analog channel number, 127 if using NCE.

Operation

In Paragon 2 and 3, the horn behaves normally if blown from either the horn button or F2.

If you press the horn button and move the throttle thumbwheel up or down, the horn quills up or down. (The loco speed is unchanged.)



The quill action only works from the horn button. If you press F2 to blow the horn and move the thumbwheel, the horn blows normally and the speed changes.

In other words, you can set up your cab and optionally play the horn normally or quill it.

In Tsunami, with CV47 set to 127, the horn behaves differently.

If you press F2, the horn does not blow.

If you press the horn button only, ie, without moving the thumbwheel, the horn sounds for a second or two at an increased pitch over normal, then dies off to normal and stops - irrespective of how long you hold down the button.

If you press the horn button and move the thumbwheel, the horn quills but you must keep the thumbwheel moving to keep the horn playing. If you stop moving the thumbwheel, after a second or two, the pitch reduces to normal and the horn stops.

If you have a cab that is not set to Analog Horn Channel = 127, the horn does not blow from that cab.

In other words, in Tsunami, the quill-able horn is implemented instead of normal horn, ie, CV47 = 0 means normal horn, all cabs; CV47 = 127 means quill-able horn only for cabs set to Analog Horn Channel = 127.....

Repair of Failing Contacts in Tortoise Switch Machines

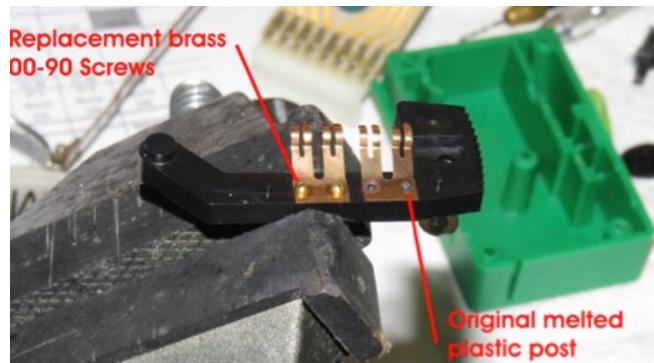
by Malcome Jenkins

Have you, like me, suffered from failure of the contacts in the electrical switch in Tortoise switch machines? Usually, like today, in the hours of preparation for a running session. If you have your frog polarity switched by the Tortoise, as well as indicator lights, this can be quite a pain. Altogether I now have a collection of over a dozen Tortoises with one or both contacts failed. At about \$30 a pop to replace, this can be quite daunting.

So, I pulled an offending motor apart with the intention of repair. I had previously pulled them apart and found that the failure is because the connection between the metal wiper blade and the operating plastic crank arm had failed.

This connection is, in my view, by far the weakest link in what is, otherwise, an extremely good and reliable design. The wipers have two small holes which pass over moulded plastic posts sticking up from the crank arm. Obviously this gives a cheap manufacturing method, with the posts melted down to make a sort of rivet to hold the wipers in place. The only problem is that the plastic breaks, leaving the wiper either loose or totally unsupported. It is not clear whether this is through fatigue, or maybe I just got a whole batch of poor ones (I did buy 36 in my initial purchase, presumably all from one batch). It is possible that the damage occurs if you do what you are told not to, and manually move the turnout during troubleshooting, but it is hard to see how this would cause the problem.

Initially I thought that I could remelt the plastic and remake the rivet. But too much material was missing. So, I checked the diameter of the holes in the wipers and they neatly fit a 00-90 screw (good news for N-scalers - exactly what you use for your MicroTrains couplers). So, already being equipped with the drill and tap for couplers, off I went. The result is shown in Photo 1 and so far performs faultlessly. It looks as if I shall have a rainy day devoted to fixing the other dozen. It would also be possible to use very small self-tapping screws if you don't already have the tap.



By the way, if you haven't done it before, to pull the Tortoise apart there are five screws - one in each corner under the label and a cunning one right in the middle. You can feel and find them and cut little circles in the label if you want to preserve a relatively neat appearance. Presumably by the time they fail, you are past the warranty period so you can ignore the threat about the label.....

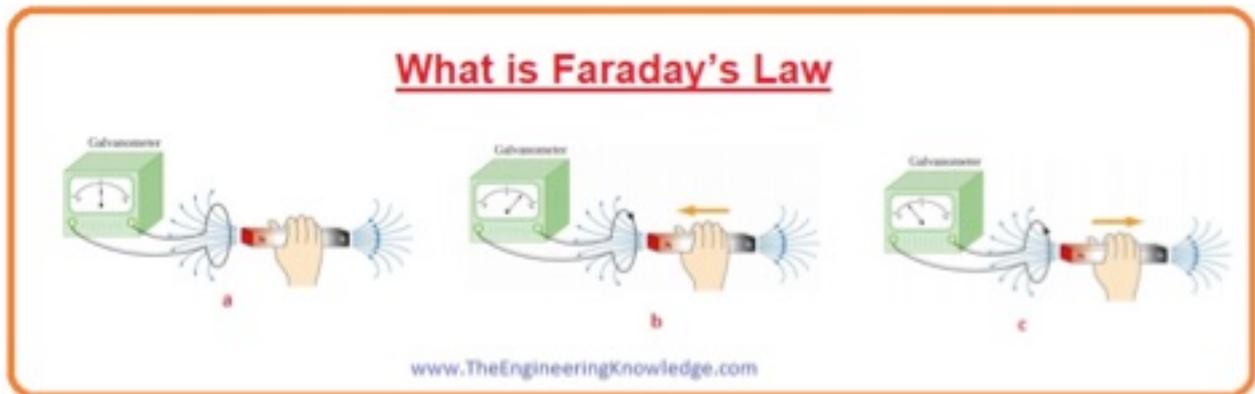
Acknowledgement:- (This article was initially published in the Newsletter of the Victorian N Scale Collective)

How BEMF is Used in Controlling Model Locomotives

By Stephen Reeves

As I was scanning through the March-April edition of Mainline, I came across the article submitted by Gerry Hopkins, titled: "Is It Progress". In reading the article Gerry spoke about Back emf (bemf), or Counter-electromotive force being used in Digital Command Control (DCC) devices. As an electrical teacher employed in Queensland teaching apprentices about direct current (DC) motors, I have some knowledge of this principle and I am able to expand on Jerry's explanation.

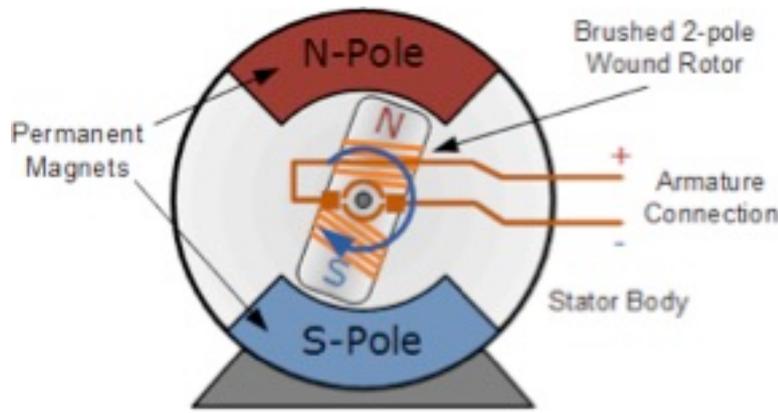
First some background information: Early in the 19th century Michael Faraday discovered the principle of electromagnetic induction. This tenet is the basis for all our electric machines such as motors, generators, alternators, and transformers. The core feature of electromagnetic induction is that a voltage will be induced or generated within a conductor moving through or cutting a magnetic field. It doesn't matter whether the conductor, or the field, or both are moving, the important thing is there must be relative movement between them.



In a DC motor, such as those fitted into our model locomotives, we have an armature spinning within a magnetic field (provided by permanent magnets). Because the conductors are moving within the magnetic field or cutting the lines of flux, a voltage will be induced within the conductors of the armature. This voltage will oppose the voltage applied to the motor which causes the armature to rotate. The opposing generated voltage is similar to Newton's third law of motion: For every action there is an equal and opposite reaction.

This opposing generated voltage is known as back, or counter electromotive force. It naturally occurs in all DC motors and maintains a steady level whilst the load on the motor is constant.

Furthermore, bemf provides automatic governing within all dc motors and applies regardless of whether the locomotive is DC or DCC controlled, and if it has a sound



equipped or standard decoder fitted. Think of bmf as cruise control for a DC motor.

DCC decoders monitor the bmf to determine the state of the motor, i.e., steady, accelerating, or decelerating and depending on the programming and features in the decoder may adjust the current draw required. Back

emf is used in “real world” applications of modern DC motor drives to control motors accurately.

Using a basic equation helps to clarify generator action, including bmf.

Equation 1:

$$E = Blv$$

- where:
- E = generated voltage or electromagnetic force
 - B = Magnetic Flux Density in Teslas
 - l = length of conductor in metres
 - v = velocity in metres per second.

If a motor starts to accelerate then it is producing excess torque to that required by the load. In this case the bmf increases due to the increased rpm of the motor, i.e., v increases in Equation 1, therefore E will increase. In turn the motor requires less current from the supply and if the current is reduced the motor will begin to slow down provided the load doesn't overspeed it. For example, when a locomotive is going downhill it requires less torque and the decoder will sense this and reduce the current drawn if programmed to do so.

On the other hand, when the load is increased the motor slows down, and the bmf is reduced, i.e., v decreases in Equation 1, therefore E will decrease. The motor can now draw more current so it can increase its torque to a point when it will cope with the load. For example, when starting off, running at slow speed, or climbing an incline. Again, the decoder may be programmed to control this to allow acceleration to occur smoothly.

I think this is why Jerry used the term “flat spots” because if the decoder is programmed to monitor and react to the bmf it provides smoother and more constant running at lower motor speeds or rpm. Otherwise, the locomotive can be “jerky” in its movement, or the bmf can pulsate as Jerry described.

Another application of bmf control in decoders is when we apply momentum to our locomotives to imitate both overcoming the inertia of a train when starting or accelerating, or when slowing to a stop, again Jerry referred to this feature in his article. In this function the decoder can monitor the bmf and adjust the voltage and current to the motor to provide smooth action over a large range of speeds.

Lastly, bemf, i.e., monitoring and control of bemf, is a standard function on non-sound decoders as well as sound equipped units as I stated above. It would be very difficult for modern decoders to precisely control the locomotive speed, and enable functions, such as momentum and braking, without the ability to monitor and regulate bemf. From an electrical control perspective voltage is much easier to measure than current, especially at the integrated circuit level, such as those used in DCC decoders.

If only sound decoders possessed this function then we would see a huge difference in performance of sound equipped versus non-sound locomotives. Whilst sound equipped decoders feature more settings and functions, very accurate prototypical operation can be programmed into, and achieved with non-sound decoders.....

Letters to the Editor

Web Site and Zoom for NMRA Inc.-AR

From Laurie McLean - MMR

The NMRA Inc.-AR membership needs to have the website repaired and set up by a professional so a member can then look after it.

It is currently in need of updating however it is too much time and effort for a member to do this and needs immediate attention.

The Australasian Regional Committee (ARC) needs to action this matter and pay for it out of our funds in the bank.

In addition, we need the NMRA Inc.-AR to have its own Zoom site where ALL members can share in virtual contact and a host of clinics and other helpful means.

With Covid and the technology now available this will mean regional as well as those in cities can come together on a regular basis to interact.

We have the funds available for this to happen. All we need is for members to email their support for the above to the ARC members to make it happen.

As a suggestion, the Zoom room can have individual nights or days on weekends for special interest groups to meet.

Meetings such as Achievement Program sharing tips, Operations, Narrow Gaugers, Show & Tell night, HO scale etc etc.

It simply means sharing and contacting to provide a useful mechanism for all of us in the hobby.....

100% NMRA Inc.-AR Club News

Wide Bay Burnett Model Railway Club Inc.

Bundaberg, Queensland

A 100% NMRA Club

By Stephen Reeves

The Wide Bay Burnett Model Railway Club is planning ahead for the next Bundaberg Model Train and Hobby Expo to be held 19th and 20th of March 2022. We're aware that due to the cancellations of both Pine Rivers and Redlands shows this year that ours will be the next Model Train show in Queensland and hope that modellers and the general public will be looking forward to our show with anticipation.

With funds from previous shows, we commenced preliminary work at the end of 2019 on a HO layout that will function both as a club and a display layout. We initially contacted Lincoln Driver, owner, and exhibitor of Wallaville, for information and advice on how to build a "letterbox" style layout where the display is fully enclosed with its own lighting and background.

With Lincoln's assistance we commissioned a local company to cut out plywood pieces for the display structure using CNC (Computer Numerical Control) cutting equipment, thus providing accuracy and uniformity in the cutting of the pieces as the machine is guided by CAD (Computer Aided Design) drawings. The machining was completed early last year, but due to having no show to raise funds in 2020, and COVID-19 also causing disruptions to our club activities we temporarily halted progress on the layout.



At the most recent club committee meeting held on Saturday 21st August we took the pieces out of storage and examined them to re-familiarise ourselves with the project.

We decided before starting construction we will look at Lincoln's reference photos to determine exactly where each piece goes in the structure. We hope we will be able to progress further at a working bee prior to our next meeting in September, when we will start putting the structure together and working out the next steps in the layout building process.



The components for making up three modules laid out on our Clubroom floor are shown in **1** and a close up view of the "ribs" of the layout modules are shown in **2**.....**M**

ADELAIDE MODEL RAILWAY EXHIBITION 2021

By Ken House

After being “postponed” (cancelled) in June 2020 AMRE was again held June 12,13 & 14 this year vindicating those who insisted that it could be safely and successfully held in 2021. The smaller number of layouts exhibited, to allow for social distancing, meant that it was easier for the paying public to move around to look

at the layouts, The quality of the layouts present was high especially pleasing because there was no interstate layouts. There was several new layouts as well as some old favourites.

The upgraded Powerline 830 class and Centenary cars is on SARMA’s layout Strathburn **1**.



Strathburn **2** an old favourite was essentially as shown previous years.



The photo backdrop, from photos taken at the actual location, was expertly blended into the scenery on Dan



Shepard’s new layout Tarlee **3** which was an excellent representation of Tarlee about 80km north of Adelaide. The station was a trackside models kit from Somerset Models all be it heavily modified. The canopy and trim was 3D printed as well as the posts. The goods shed was completely scratch built and all woodwork was cut by the layout builders on their laser cutter.



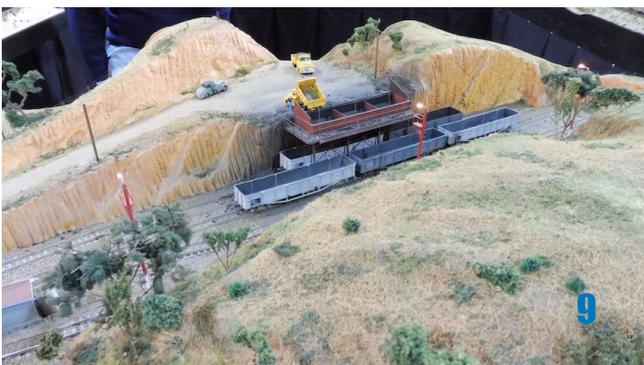
The Tarlee institute **4** is an essential structure. You drive past it on the way to Clare. The Institute took approximately 23 hours to build and all windows and trim were measured from the prototype and rendered in

3D. The core walls were designed and laser cut and all window apertures cut to fit custom 3D printed parts.

Another new layout was Marree change of gauge 1957 - 1980 by Jim Cochrane **5**. HO and HOn3.5 with Roco DCC.



Portland which has been exhibited many times before but as usual was a crowd pleaser. N scale



The barites loading tippel on the narrow-gauge on Terowie North **9**.

Pacific Pines by Dan Shepard is a HO scale American logging layout with Shay geared and Heisler locomotives. A new layout **10**.



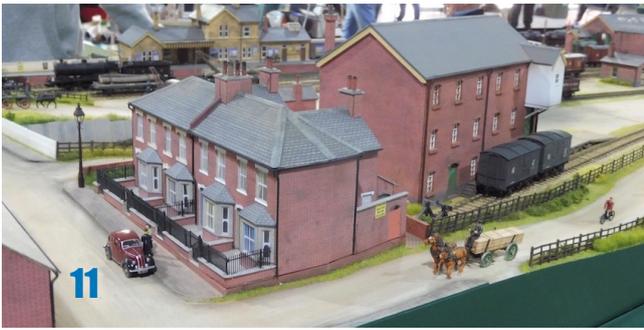
Noarlunga MRC entered Lakeside **6** once again but as an extended version. This detailed DCC controlled layout had much to look at. HO scale.

SANGS offering was Planes of Fame **7** which was a variation of their layout



The working coal tippler **8** on Terowie North is used to transfer coal from narrow gauge wagons to broad gauge wagons. For a thirty year old layout Terowie North looks as fresh as ever and it's authenticity always makes it a crowd pleaser winning both awards this year. Terowie North, built by Gavin Thrum and the Adelaide Modellers Group, portrays the break of gauge station at Terowie 230km north of Adelaide during SAR days. HO & HOn3.5





Exhibited by the British Model Railway Association and built by Gavin Thrum and Andrew Emmet was OO scale Spirsby **11** which the portrays British LNER branch line terminus of Spilsby Lincolnshire. Control is DC and code 75 track is used. Another new layout.

Gavin Thrum (navy blue jumper) operating Spirsby **12**.



New layout Luketon & Amyville **13** was built by John Wilson. It is in two parts, two shadow boxes. The left hand box is Luketon, above, a small switching layout connected through the back drop to Amyville which was developed from a Woodland Scenics Grand Valley foam train set commercially available. HO scale.



Timber seems to be the main industry at Amyville on the Luketon & Amyville RR **14**. A Sata Fe F unit was pulling a short train over the steep grades and tight curves, down to 15".



Grunewald **15** was the Marlin Club's HO scale Layout. Based on a generic German station was altered from the last exhibition.



Those are a few of my highlights from AMRE 2021. There was several other layouts worth mentioning. Crystal Brook, HO, featured long current era South Australian trains, other layouts that impressed were OO Ponders End, N Elloit, Lego, triple gauge roundhouse, G, Saint Bernard sur Mer. There was the usual displays of collectable tinsplate trains, Hornby dublo and outdoor G scale. NMRA member, Vern Cracknel displayed several G scale dioramas as well as demonstrating how he makes his exquisite G scale figures....

AMRE 2021 on You-tube

<https://www.youtube.com/watch?v=79er8lwVlew&t=161s>

Divisional Reports

Division 2

Extracted from "the Flimsy", by Robin Foster
(Stephen O'Brien (NMRA Inc.-AR Div2 Superintendent)

Comments from the June & July Meetings:-

15 Members attended an unusual meeting venue for this year at the Southern Cross Club Phillip ACT. On opening the meeting, the Div 2 Super asked a question: "what are you looking for with your NMRA Membership".

In the preceding years, prior to COVID-19, members were asked to hold meetings at their residence where a yearly calendar for events could be noted. The current 'Corona virus circumstances' has thrown Div 2 Meetings, as all others, into what the State & Territories Medical Health Authorities advise, where during these periods of uncertainty the situations to medical advises are on a daily basis.

Travel is now no longer viable as in the past, so what for the future?

There was a lengthy discussion to the possible reasons on how to improve meetings, where the Div 2 Members are scattered over a vast area of the ACT & NSW and where not all members have space to hold a meeting and there are those who do not have a layout. Does this really matter, as not all Members can or do attend all meetings, and it also gives some latitude to visit areas that are 'away from home'.

Comments to some factors are certainly the 'ageing & downsizing of one's abode / residence, as well as mobility & transport'.

Comments were also "I read the MainLine, The FLIMSY or other mediums" for information.

The June Div 2 meeting being hosted by the Eurobodalla Model Railway Club, EMRC, over two days was a huge success where the EMRC have indicated another venue slot for 2022.

Other possible meeting venues such as Railway stations, GOULBURN / JUNEE Roundhouses, these being something for thought as consideration. Keep on training! .
....

Extracted from "the Flimsy", by Robin Foster
(Stephen O'Brien, NMRA Inc.-AR Div2 Superintendent)

Comments from the August Meeting:-

NMRA President's AWARD for Service to the Division.

John GILLIES received this award by mail on 3 August 2021 in his words: "being delighted and very surprised to receive a letter on 22 June from then NMRA President

Pete Magoun, MMR® advising me that I was the 2021 Australasian Region recipient of the NMRA President's Award for Service to the Division “.

I am honoured and proud to join previous AR recipients Grant McAdam (Div 3), Martyn Jenkins (Div 1) and twice winner Al Harris (Div 8).

Congratulations John.....

Division 4

From Frank Godde - MMR (NMRA Inc.-AR Div4 Superintendent)

July 18th Meeting:-

The July meeting. We meet on the 18th at Dave's place in the G gauge shed which was nice and warm.

Placed around were all the models that Dave had built, it was quite cosy.

In attendance were my self Peter Scarfe, Alan Burrough, Dave Whibley and Dennis Turner all the way from Greenfields Rod sent his apologies.

The topic was on saw mills, Frank brought his ON30 to show Dave has started his G gauge saw mill and was in its position on the layout.

Frank said that he had rung Gerry to thank him for all the work he has done for us.

Frank said that we had lost a member in the country, Peter Flower did not renew so I rang him and sent an email but no reply.

Alan B presented Frank with his twenty five year plaque and seeing I am writing this I can say what I like about myself, but it went like this which is true:-

“Frank goes into the bush and comes home with a whole heap of rubbish which he uses to make the most wonderful layouts” to which he said that he had a great teacher; Geoff Knott.

Linda supplied the food which was great for the afternoon. Thanks Linda.

Magazine Publishing Deadline Dates

If you are submitting An Article for MainLine, your article may be submitted at any time and it will be included in a future addition where the subject matter will allow for a balanced number of differing subjects in MainLine, where the number of available articles will allow that to occur.

If you are providing a Divisional Report, it needs to be submitted prior to the cut off date of the 5th of the month of MainLine issue, to ensure the editor can complete the edition in the required time frame prior to release.

100% Club & SIG Activity Reports can be submitted at any time but preferably well before the cut-off date of the 1st of the month of MainLine issue, to ensure that their report is included in the next MainLine edition.

The following are the deadline dates you may need to know for the next two editions:-

November / December 2021

For 100% Club & SIG Activity Reports = 1st November, 2021

For Divisional Reports = 3rd November, 2021

Publish Date on Web = < 10th November, 2021

January / February 2022

For 100% Club & SIG Activity Reports = 1st January, 2022

For Divisional Reports = 3rd January, 2022

Publish Date on Web = < 10th January, 2022

Dave took Dennis into the HO room and they were some time in there.

Our next bi monthly is on the 19th of September at Rod Tonkin's place. Meeting was held at Frank's place in Forrestfield.....

Division 7

From Gerry Hopkins - MMR, FNMRA
(Les Fowler, NMRA Inc.-AR Div7 Superintendent)

Virtual Meetings:-

Ladies & Gentlemen, as you know, many of our planned meetings in the division have been cancelled due to an edict from Aunty Gladys about meetings in the Covid Lockdown right across NSW. Being so long without a meeting is both good and bad.



Bad because we are not getting the social benefits of meetings. On the other hand, we are getting a lot more time to spend on our model layouts - railway and railroads.

To bridge the social gap, here in Division Seven, we have two virtual meetings a month on the first and third Saturdays of each month. We start at 2.00pm, and at 2.30pm we have a 10 - 15 minute clinic by a member on a modelling subject. Then back to chatting until 3.00pm

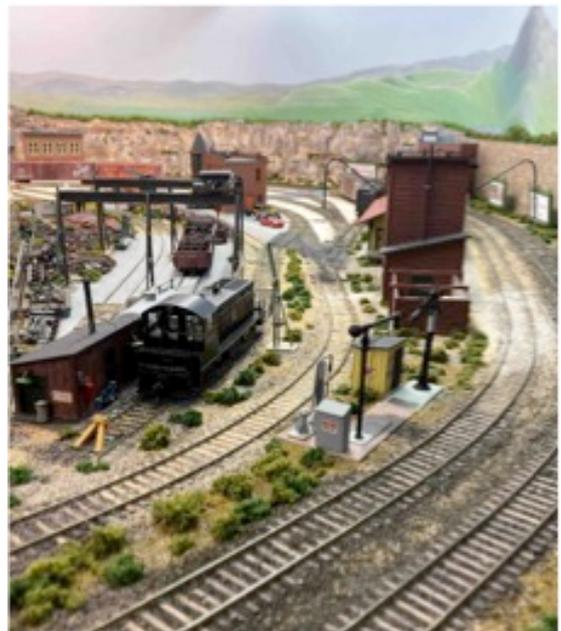
when we have a virtual tour of a member's layout. This can be live, photographically (?) or a short video with a voice over from the host.

We have FOUR chat rooms and members can move from one chat room to another, quite freely. They are currently labelled NSW - USA - NG- and N scale. These are purely labelled this way to give them a name. There are no real rules except - no talk of Religion, Politics and the member must turn their mike off when not talking. This cuts down on cross talk (human) cross talk (feedback) and background noise.



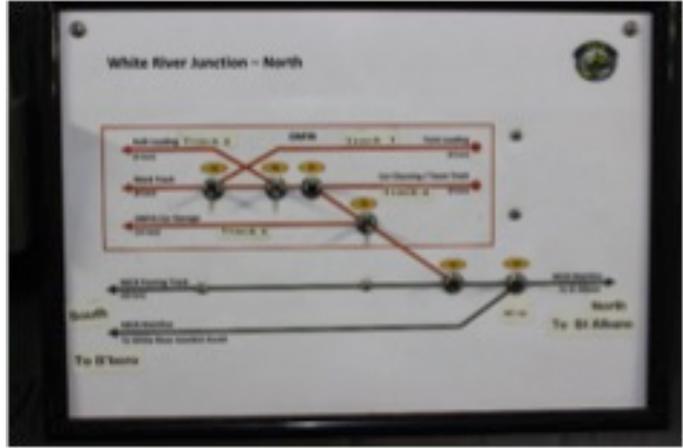
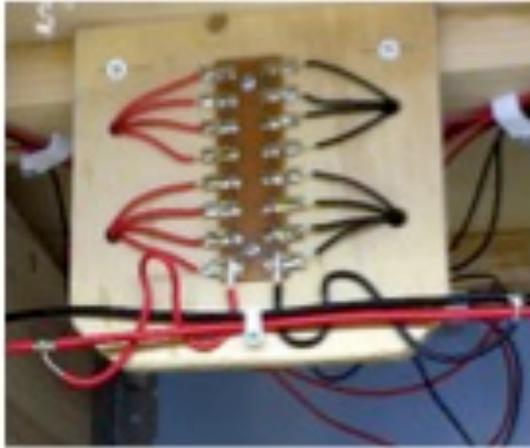
There is no software to load, no security problems. The member just clicks on the link sent out by the

Divisional Superman in the week before the meeting. The member just needs to enter a name he is known by - Blue, Tubs or even Sexy!

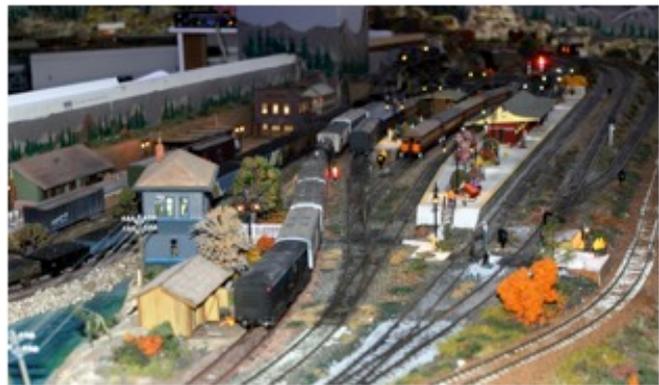


Many simple tips are passed around to members - always something to learn from others. Many members have remarked that they are getting their mojo back and their motivation.

Learn how to do tidy wiring on your layout - easier for you to fault find later if needed.



Learn how to make very easy to understand control panels. Easy to read locations and track diagrams. This one is nicely mounted in a photo frame. There is a hinge on the bottom so that the panel can be folded forward for easy access to the wiring.



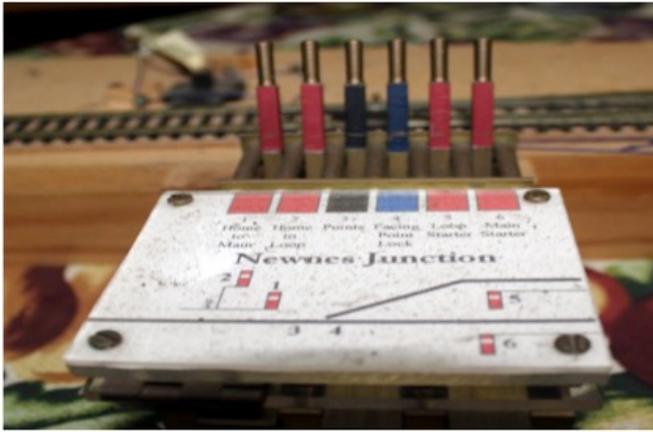
Plenty of work has been done on many layouts as can be seen on the layouts shown here.



Many Layouts to see around the division - we cannot drive to layouts - but - we can have the layouts brought to our homes and we can view them in comfort. No driving, no mask to wear (optional) and the down side?

No free feast at 3.00pm unless you make your own.

Learn how to get the lights working in your favourite loco.



Learn about lever frames and interlocking - without standing out in the rain.....

Division 8

From Ian West (NMRA Inc.-AR Div8 Superintendent)

June 27th Meeting:-

Time since the last meeting has gone very quickly, and we had our latest meeting on Sunday 27th June at the Coffs High School Auditorium where our local Coffs coast group was running a workshop to repair their layout before its next showing on the October long weekend. If you have not seen it then that might be a good excuse to come to Coffs and meet some of your fellow NMRA members.

Our next meeting will be held on Sunday 15th August 2021 in the Coffs Coast Railroad Modellers Inc Club House in the grounds of the Coffs Harbour Showground, Pacific Highway, Coffs Harbour. The meeting will be at 11am followed by a sausage sizzle lunch

There have been no reports of Divisional meetings or other activities received for NMRA Inc.-AR events held during the July - August period from Divisions 1, 3, 5, 6, 9 & 10.

Hopefully restrictions will be lifted soon to allow Divisional meetings to recommence and those activities can then be reported on and read in the pages of MainLine. (Ed)..

What's in the Next Edition



Layout & Supplementary Articles required!