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MainLine

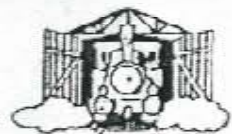
December 2003
Volume 20 Number 4
www.nmra.org.au



In this Issue:
Revisionist History
1/87th Scale Equipment
Digital Command Control
Alan Rockett's On3 Layout
A Trip on the Indian Pacific

Registered by Australia Post - Publication # PP241613/00080

Wishing You All
 a
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 and a
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 From your
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 Region Trustee
 Board of Directors
 Divisional Superintendents
 and
 MainLine Editor



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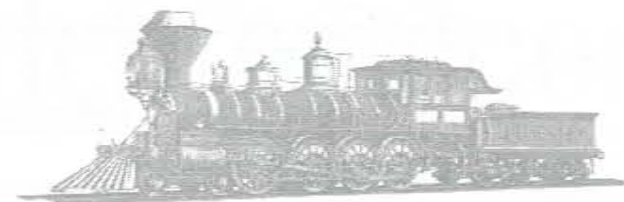
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 Volume 20 Number 4



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ON THIS COVER:

This scene from Alan Rockett's magnificent Puffing Billy On3 Layout.
 Baldwin 2-6-2, side tank, Puffing Billy NA
 Digital Photo by Mario Rapinett, Canon Power shot A20.... 2.1 mega pixels

The next MainLine will be published March 13th.

Schedule of Divisional Meetings for 2004

Division 1 Queensland

For details of Queensland meetings and venue addresses, please contact Glenn Stevens. (07) 3207-2442
Meetings start at 1.30 unless advised

February 7 th	Garth Fraser	28 Sylvan Street,	Buderim
April 10 th	Allan Thomas	116 Bonogin Road,	Mudgeeraba
June 12/13 th	Toowoomba Model Train Exhibition	NMRA (Div 1)	Stand Carolina Pacific Layout
July 10 th	Bob Brown	63 Viscount Street,	Bray Park
September 11 th	Grahame Davis	6 Waimea Drive,	Robina
November 6 th	Glenn Stevens	6 Gunsynd Court,	Birkdale
	Division 1 Christmas Picnic		

Division 2 New South Wales

Sydney meetings organiser John Baker (02) 9629-2349. Meetings start 2.00 Saturday unless indicated differently.

24 hour recorded message meeting information line now in operation for NSW Group (02) 9975-5565

January 17 th	Allan Garbutt	20 Orchard Avenue	Winston Hills	(02) 9686-4270
February 14 th	David O'Hearn	18 Ridcrop Drive	Castle Hill	(02) 9680-2787
March 13 th (AGM)	John Baker	54 - 60 Rosebery Road	Kellyville	(02) 9629-2349
April 4 th Sunday	David Latham	10A Venetia Street	Kangaroo Point	(02) 9522-2193
May 10 th	John Montgomery	12 Lindwall Place	Shalvey	(02) 9628-9921
June 12 th	Erik Bennett	33 Kananook Avenue	Bayview	(02) 9997-7971
July 10 th (11am - 1pm)	John Parker	108 Gallipoli Avenue	Umina	(02) 4341-6347
NB: Double Meeting (2pm - 5pm)	David Swinfield	13 Castle Circuit	Umina	(02) 4342-0700
August 15 th Sunday	Colin Brettle	140 Fragar Road	South Penrith	(02) 4736-4266
September 11 th	Doug Cook	41 Mawson Street	Shortland, Newcastle	(02) 4951-6925
October 9 th	Bob Carr	22 Haywood Street	Epping	(02) 9614-2731
November 13 th	Rod Smith	26 Peel Road	Baulkham Hills	(02) 9624-3912
December 4 th	Christmas Party	TBA		

Division 2 Canberra

January 18 th	Still to be confirmed			
February 14 th	Tony Payne	24 Darmody Dstreet	Weetangera ACT	(02) 6254-6985
March 20 th	Rob Anderson	8 Purbrick Street	Chisolm	(02) 6291-9183
April 17 th	Viv Brice	8 Berne Crescent	MacGregor ACT	(02) 6254-8204
May 8 th	Peter Dinham			(02) 6231-2537
June 12 th	Jess Brisbane			(02) 6260-6427
July 3 rd	Stephen Walker			(02) 6242-8786
July 31 st	John Bullen			(02) 6288-7312
August 28 th	Still to be confirmed			
September 25 th	Still to be confirmed			
October 23 rd	John Gillies	14 Earle Street	Lynham ACT	(02) 6248-8408
November 20 th	David Service	1 Kleinig Street	Nicholls ACT	(02) 6255-7447

Division 3 Victoria

All meetings start 11.30 Sunday.

February 15 th	Paul Richie	28 Ascot Street South,	Ballarat	(03) 5332 1138
March 14 th	Bill Black	15 Steel Road,	Emerald	(03) 5968 3094
April 18 th	John Hunter	54 Hendy Street,	Corio	(03) 5275 8126
May 16 th	John Dennis	62 Owen Street,	Mitcham	(03) 9874 1684
June 13 rd	Geoff Truman	12 Goodwin Close,	Hoppers Crossing	(03) 9748 7864
July 18 th	Still to be confirmed			
August 15 th	Still to be confirmed			
September 19 th	Laurie Green	20 Nambour Drive,	Sunbury	(03) 9744 5188
October 10 th	Gavin Hince	25 Dwyer Street,	Clifton Hill	(03) 9489 4527
November 14 th	John & Lynn Cracknell	55 Donnybrook Road,	Norlane West	(03) 5274 1569
December 12 th	Grant McAdam	194 Booran Road,	Ormond	(03) 9578 8685



MainLine

Official Publication of the
Australasian Region
of the

NATIONAL MODEL RAILROAD ASSOCIATION

Registered at Australia Post
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Editor / Publisher David Jupp
Assistant John Saxon

ARTICLE SUBMISSIONS:

MainLine welcomes articles, photographs, drawings, cartoons, letters to the editor and other related material as contributions to the mutual enjoyment of the hobby by the membership. Material should have wide appeal and preferably be sent by email or post to the editor. Articles may be submitted on either 3.5 inch floppy or CD in any Windows format. Preferably include hard copy of your contribution. Sharp photos, may be submitted for inclusion. Type written articles are also welcome. The NMRA accepts no responsibility for the accuracy of articles, which are published in good faith and at all times deemed the opinion of the author. Publication of any article shall be at the discretion of the editor.

The Editor MainLine
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Ryde NSW 2112

editor@nmra.org.au

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Local Membership fee of \$55.00 includes posted quarterly publication MainLine Magazine. Additional Fee for US Scale Rails Magazine posted monthly \$45.00 All fees are payable in Australian Dollars to Toni Saxon, Membership Officer.

Please note that fees must be received by the 8th of the due month in order to maintain continuity of Scale Rails delivery.

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YATTALUNGA NSW 2251
jsaxon1@bigpond.com
(02 4369-7453)

Australasian Region
National Model Railroad Association
PO Box 382
Forestville NSW 2087

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President's Report

Good times

From a model railroading perspective we seem to be living in the best of times. Innovative new products are a regular occurrence. High quality, value for money, new steam and diesel locomotives are appearing regularly.

The inclusion of a factory installed sound system; suitable in some cases for both DC (analog) and DCC (digital command control) is another step along the way to greater realism of our models. This is a saving in the time and skill needed to install the sound system and probably a cost saving over buying the sound system as an after market item.

In retrospect

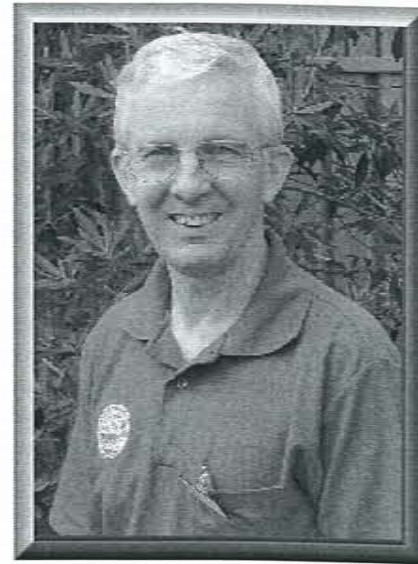
As the year draws to a close we often look back on the year's achievements. The workshop at Dence Park, Epping was a time of accelerated learning for those attending. I have been encouraged by the very positive survey responses from members and subsequent comments about how helpful the workshop was for them.

One member commented that since the workshop he has lifted the track on a long stagnant layout and started again using skills and confidence gained at the workshop. The challenge for all us now is how to best help our fellow members improve their skill base and so get even more enjoyment from the *World's Greatest Hobby*.

NMRA Long Range Plan

This year has seen the NMRA Trustees finalise the Long Range Plan for ratification by the whole of the membership. I encourage you to take the time to consider the information that our Trustee, David North, has prepared in this Mainline.

The aim of the plan is to ensure that the NMRA remains relevant to our hobby in the 21st century. Please take the opportunity to express your support by voting.



South Australia

The sudden death of David Rayson came as a great shock to his family and friends. David had been working towards an initial meeting of members and interested modellers in the Adelaide area with the aim of getting a Division active in South Australia.

Ron Solly, a long time friend of David's, with support from fellow modellers has taken up the challenge to continue what David started. An initial meeting is planned for mid November.

Narrow Gauge Special Interest Group

Following the Narrow Gauge Convention held in Sydney last Easter a group of Sydney based narrow gauge modellers recently held an initial expression of interest meeting. They have decided to form a Narrow Gauge Special Interest Group (SIG) to encourage one another. With members of the Red Stag team involved I'm sure we can look forward to some high quality modelling from the SIG members.

Happy modelling,

Allan Garbutt



From the Editor:

Here we are at the end of another year and I just cannot see where the time has gone. In our model railroad hobby, it has been an exciting year with the introduction of many top class models and announcements of more to come. The biggest news story must have been the return to HO model manufacturing from Lionel, although the choice of yet more ALCO Challengers seems somewhat mystifying. With a range of Challengers from Rivarossi, Challenger Imports (brass) Lionel and Genesis, the large radius modeller is indeed spoilt. A 'first' though, except for brass and a lone resin kit, is the mighty Veranda Gas Turbine from Lionel. Personally I can't wait to see this one and Andrew Jordan will be reviewing it as soon as it is available, hopefully for the next issue. Complete with sound from Quantum, this will be a totally different sound from the steam, diesel and now electric locomotives we are used to hearing. Oh, and to add a bit of variety, expect the cattle and hog sounds in rolling stock soon from Broadway. Sound is definitely maturing.

It seems that shoulder accidents have been the order of the year here in Sydney. Firstly Andrew Jordan suffered a badly broken shoulder in a bike (human powered) accident and then Toni Saxon fell and broke her shoulder on her daughter's steep slippery driveway. Both have had successful pinning operations and are well on the way to recovery. Andrew came off the worst because of the abrasions associated from the high speed contact with the roadway. That delayed his operation and the knitting of the bones. The bike frame was destroyed. He tells me though, another is on order. Toni, well its hard to keep her from NMRA work.

The Trustee election is a thing of the past now. Thanks to those who voted for me if anyone, but the timing was all wrong. With the NMRA Long Range Plan shortly to be voted on by the members, I thought it important that there was some continuity in the representation of our region. Sincere apologies to those who supported me.

Finally, have a Happy Christmas, a Prosperous New Year and if you're on the roads, take care. *David Jupp*

APOLOGY.

Last issue I got the phone number wrong for long time members Jack and Shirley Mac Micking who have recently moved to their new address. My sincere apologies. The correct information is;

Jack & Shirley Mac Micking
3 Lawver Crescent
Pacific Lakes Estate
LAKE MUNMORAH, N.S.W. 2259
Phone (02) 4358-2115

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Regional Roundup

Division 1 Queensland Glenn Stevens

NMRA AWARD BEST MODELLER'S LAYOUT

For the past four years, Division 1 has been presenting an NMRA sponsored Award at the annual Toowoomba Model Train Exhibition conducted by the Darling Downs Model Railway Club (DDMRC). The award is for the best layout on display as judged by a panel of modellers from both DDMRC and Division 1. The idea of having a perpetual shield on display in DDMRC clubrooms was raised during initial discussions when setting up the Award, however the idea was deferred until recently when it was decided to purchase the shield.

As a result, during a visit to the DDMRC Open House held in conjunction with the Toowoomba Carnival of Flowers in September, Division 1 Superintendent Glenn Stevens, presented the perpetual shield for the Best Modellers Layout to DDMRC President, Bob Claydon on behalf of the NMRA. The winners of the NMRA Award for the Best Modellers Layout have been:



Glenn Stevens presents to Bob Claydon

- 2000 - "Caintode Flats" - an QRE layout HO layout in the late steam era.
- 2001 - "Ravenstor", a BR N layout in N Scale.
- 2002 - "Forest Hill", an QRE HOn3 layout.
- 2003 - "Moelfryn", a 9 mm layout depicting a Welsh tramway.

Presentation of Rick Shoup Award

At the regular bi-monthly Division 1 meeting held on 8 November, Division 1 Superintendent Glenn Stevens presented the 2002/2003 "Rick Shoup Award" to Grahame Davis on behalf of the AP Chairman.

The Award is sponsored annually for the best Achievement Program work submitted in the Region.

Grahame is well known in Division 1 for the high quality of his work, with his scenery and structures a delight to behold. Grahame models HOn30, and the name of his layout is the "Silverton San Juan"

We'll Done Grahame.



Glenn presents the Rick Shoup Award to Grahame Davis

Narrow Gauge Special Interest Group

Steve Chapman

We had our first N.G.S. meeting on Saturday 25th Oct. It was well attended by 11 eager narrow gaugers. After a generous lunch provided by our host John Montgomery we had a meeting and decided we would meet bi-monthly, next meeting would be in early January due to a busy December. During and after the informal meet a show and tell session was experienced, a lot of fun was had by all.

Aims of this group is to support each other and raise each others standards at each meeting by bringing along a project to show fellow members. Members suggested that if we could set ourselves deadlines (ie a meeting every 2 months) and achieve progress with modelling projects that may otherwise stay on the shelves.

We have a lot of very talented narrow gauge modellers amongst us, so come along and feel free to join in. If you have an interest in narrow gauge (Any Gauge at all from Z to G) come along to our next meeting at Steve Pettit's place at Quakers Hill, or contact Steve Chapman, (memberaid@nmra.org) for Steve Pettit's home address. An email will be sent out during December with the exact date, possibly Sunday 11th January starting at 2pm. An afternoon tea will be served during the meeting.



John Montgomery, Mark Kendrick, John Dimitrievich and Geoff Noh discuss the finer points of modelling

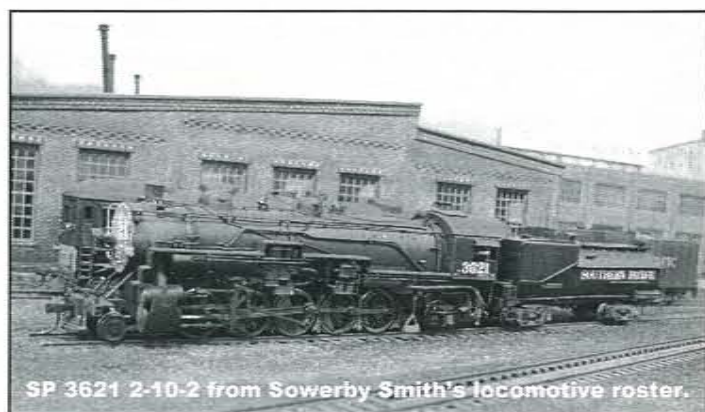
Division 2 Sydney

Kim Bradley

Sowerby and Jenny Smith hosted the August meeting. This is always a popular venue with 60 members attending this time. We were also privileged to have 6 of the Coff Harbour group visiting the division over the weekend with those visitors attending hobby shops and other members layout making for an action packed weekend. Sowerby models Southern Pacific steam era and the sight on his layout of a Cab Forward hauling a long freight consist was indeed a beautiful thing. Sowerby awaits the arrival of the Broadway Limited Flat Faced AC4s and 5s with interest. Several members spoke on topics of interest and achievement program awards were presented to, Erik Bennett, Trevor James, David Latham and Phil Collins. Other awards have since been presented to Steve Pettit, John Montgomery with golden spikes going to both John Parker and Jack Parker. We were treated to lots of yummys and it was great to catch up with everyone.

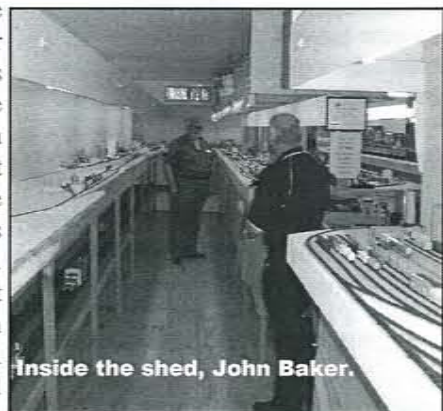
At the BOD meeting held later in the week, Richard Roth was presented with a certificate from David North for 25 years of NMRA membership. Well done Richard. Richard has made a significant contribution to the NMRA both here and in the United States with an incredible dedication to the hobby and of late has been a valued member of the Board of Directors. Early

in September this year, Richard's wife Jan, became seriously ill and underwent intensive therapy as an outpatient. During this time both Richard and Jan also became proud citizens of Australia, such is their love for this country. Unfortunately Jan did not respond to the treatment as an outpatient so it became necessary for her to move into Port Kembla hospital's palliative care unit. This was so she can get the best of on the spot care. Richard is with Jan 24 hours a day and informs us that although she has not responded to the treatment, she is comfortable. The staff of the hospital have been great and Richard appreciates all the kind calls he has received. Richard and Jan, we want you to know, the thoughts of all the members are with you.



SP 3621 2-10-2 from Sowerby-Smith's locomotive roster.

The September meeting was held at Trevor James country estate at Mandalong and the distance (about 2 hours from Sydney) did not reduce the numbers at all nor did the mountainous approach to the property. Trevor has a huge N scale layout and numerous G scale items to support his eventual garden layout. Allan was not present so the meeting was run by David North. A number of show and tell items were on display including submissions from Steve Pettit and John Eagles. A sausage sizzle was supplied with much conversation and fun times in the shed afterwards.



Inside the shed, John Baker.

Division 2 Canberra Viv Brice

The 31st Malkara Model Railway and Scale Model Exhibition and the NMRA Layout The Exhibition

Malkara is a pre-school and primary school in the ACT for students with moderate to severe intellectual disabilities. There are some 90 students, ranging in age from 3 to 12 years, of which a number of them also have varying degrees of physical disabilities. The school works in partnership with parents and the community to provide an educational setting that allows students to develop toward their full potential and to live as independently as possible in society.

Every year, the school P&C, staff and the ACT Model Railway Society present a model exhibition. The exhibition has been running for 31 years, with the last 25 following the format of a balanced scale model exhibition, with about a dozen model railway layouts, together with other scale models, working displays of remote control cars and boats, including working/diving submarines, and rides behind steam trains. The aim is to entertain the entire family, and the exhibition includes displays that not only target the adult modeller, but also the Mums, and daughters (e.g. Devonshire teas, ACT Miniatures, ACT Porcelain painters, ACT Dollhouses). The exhibition uses the entire school, with displays in almost every classroom. This year there were 28 exhibitors, with 10 model railway layouts. The proceeds can be significant for the school and over the years have enabled the purchase of large specialised equipment, upgrading of the school kitchen, purchase of books and resources and playground refurbishment. This year, proceeds will be used to purchase specialised equipment and resources for use by the students in the classrooms.

So when the NMRA ACT Division was invited to attend and support such a worthwhile cause, we leapt at the chance. We brought the NMRA's own layout up from Sydney, set it up and ran it for two days, and in doing so, we learned much. The NMRA is without doubt very easy to set up and start running, and shows that it was designed with a fair amount of thought and practicality. On the Friday before the exhibition, myself and three others had the first train running within an hour and a half, and I was the only one who had been present during a previous assembly! Thereafter, a further hour and a half were spent by just two of us unpacking rolling stock, setting up trains and test running each train and all of the tracks. We started off with just six trains but luckily, after the exhibition started on Saturday, more were supplied by members and we then could run a full complement of eight mainline trains plus a permanent switcher out front.

We used the two days to give a large number of children, big and small, male and female, and young and old, a chance to run a train for themselves, and this was a great success. There is something special about watching the face of a rather timid small child as he first holds the throttle while you explain what to do and then see the way that face breaks into a beam of joy as he or she realises that they are actually driving their very own train! Have that happen to you time after time over a weekend and you too would have a smile on your face for a long time after – very rewarding. And that in itself was thanks enough for the effort put in by all those who took part.

Lessons Learned

While the layout is operationally effective, with the potential for some very interesting switching (especially trying to cross the main lines when there are kids driving two trains around those main lines at the only speed that most kids know – flat out!), it is scenically very flat, and needs some real effort spent to liven it up and give it some purpose.

Trackwork is pretty good, despite a couple of severe S-curves in the fiddle yard, although one set of points needs replacement and one module join is slightly misaligned. This misalignment causes a step in the outer main line which luckily is down in the normal running direction and gives an extremely effective clickity-clack sound. I intend to get these items fixed before we

return the layout to Sydney.

We learned that the layout needs to be set up and operated for at least an hour or two before taking it to an exhibition. This is to perform any necessary repairs and fine-tuning while there is still time before the show starts. Once set up for the show, the time has gone. Also, at this time, all rolling stock and trains need to be checked out for running and coupling/uncoupling. There is no time while setting up for the show to check each item of rolling stock to ensure its couplers are operational and set at the correct height. It is also the time for operators to get familiar with the layout and how you are going to operate it. When problems occur during the show, get any 'bad-order' cars off the layout right away. Only try to fix any problems if you have sufficient people available – do not take away from the operating staff. We tried to have four people available to man the layout at all times. This allows two out front giving 'driving lessons' and responding to visitors questions, one inside to operate the fiddle yard and do some switching of the front (but always from inside) with the fourth person available to spell the others and allow rotation. I have gained a lot of respect for teachers – it's quite exhausting giving 'driving lessons' to kids for any extended period!

Our situation at the show meant that the rear of the layout and its fiddle yard were readily accessible to the public, unlike most of the other layouts and indeed unlike most exhibition layouts anywhere. Surprisingly, this became a significant attraction, with lots of people fascinated by the rows of trains. While we as modellers tend to think that such sights are better kept away from visitors to enhance the 'reality' that we are trying to create, perhaps we don't give enough credit to Joe Public and his ability to separate the two aspects into 'what a great model' and 'how we do it'.

Couplers gave us frequent problems, with none of the uncouplers available (Rix magnetic, wooden skewers, screwdrivers) being effective on all couplers all of the time. It became apparent over the two days of the show that the most reliable uncoupling came when both cars were equipped with Kadees. When there were mixes of couplers, we usually experienced difficulties. It also seems that the point at the end of the screwdriver/wooden skewer needs to be different for different makes of couplers. The moral of this story seems to be that for your own layout, choose one brand and stick to it. It was also noticed that while the majority of the rolling stock were fitted with Kadees, most of the coupler breakages were not Kadees! Indeed, the only coupler type to have no breakages at all, were the half dozen or so X2F units on my passenger equipment. (Before anyone has a seizure out there in model railroad land, I have not yet had time to replace these with Kadees, managing only to replace one at each end of the string so they could be used at the show!).

Only one steam train was used and that was a Southern Pacific Daylight GS4 which looked an absolute picture hurtling around the track pulling the string of Daylight coaches that come with the layout. It almost looked as good as my Pennsy passenger train behind a pair of E units, but I'm biased. In fact, it looked so good that I have donated it to the NMRA so that it can stay with these coaches. Besides, it looks all wrong on my Pennsy trains!

While the layout and the way we used it seems like more of a DCC demo than an exhibition, the interaction between us and

the visitors seems much higher than at other exhibition layouts. I guess it's because if we're letting their kids drive trains. It's most natural for the parents to talk to us as well, and so we get plenty of opportunity to talk to people not only about DCC but also about the NMRA. I now have several people who have shown interest in the organisation.

But it's DCC that causes the most interest. Watching a switcher crossing the mainline between two trains running on that mainline without interrupting those mainline trains caused several jaws to drop. It was even more impressive when the switcher operator remembered to re-align the turnouts after his crossing!



Some of the Malkara team with Viv Brice

Division 3 Victoria Grant McAdam

The July meeting of Division 3 was held at the home of Bob Backway at Belgrave Heights in the Dandenongs to the east of Melbourne. Some may think that we are foolhardy planning a meeting during winter in the Dandenongs, but luck was with us again with it being a pleasant day. However, most of the day was spent indoors staying warm and we only adjourned outside to cook lunch and enjoy the delicious desert supplied by Bob's wife Doreen.

Fourteen members made the trip to Bob's and there were seven apologies from people who could not make it. As a result the number of items for display were down this month. Laurie Green had been busy constructing buildings for his new O scale narrow gauge exhibition layout that has a nautical theme. He had a small depot that is destined for the wharf and "Bob's Bait & Boat". The O scale theme was continued by Brett Whelan who works in Proto 48. Brett's layout is base on Chicago city and as a result the buildings tend to be on the large size, both in length and height. Brett brought along the smallest building that will be on his layout, which contained many fine scratch-built details. Grant McAdam had been busy with his paint brushes again and had some O scale figures that he had painted at a recent Victorian exhibition. Finally Mario Rapinett brought along an assortment of 1 in 30 figures and some O scale cars and trucks by Road Signature.

First time meeting host, Rod Hutchinson, hosted the August meeting of Division 3. Rod models in HO, both standard and narrow gauges. He has a small HO standard gauge layout and a Victorian based narrow gauge layout under construction. Once

again the weather was favourable and it was a pleasant day. Whether this has something to do with Rod working for the Bureau of Meteorology or just our continued luck of picking good days to hold meetings, I am not sure.

There was a bumper attendance at this meeting with 23 members and visitors and six apologies. The number of members in Division 3 have been slowly increasing through word of mouth. A lot of this is due to Mario Rapinett and John Hunter attending different exhibitions and telling people of the benefits of being a member of the NMRA. As an added attraction at this meeting John Hunter offered to conduct a mini clinic of casting and mould making but more on that later.

There was plenty of items for display this month. Both Rod Hutchinson and Grant M^cAdam had an assortment of magazines that included: Australian Journal of Railway Modelling, Narrow Lines, Light Iron Digest and Narrow Gauge & Industrial Railway Modelling Review. Glen Mills brought along some HO scale embossed plastic brickwork where he had used tile grout to represent the mortar. One of our newer members, Bob Jensen, brought along and HOn3 Roundhouse Shay. John Hunter has been busy working on an O scale garage with many of the details made from his own casting. John was inspired by a competition entry that he saw on the Downtown Deco website. Grant M^cAdam had taken an O scale petrol pump produced by John Hunter and modified it to install lights in the globe and behind the dial faces. Graham Rooke also displayed a new mechanical drive systems for locomotives, Automatic

Torque-control Coupling (www.modeltorque.com.au)

After we had enjoyed lunch the members adjourned outside, where there was more space for John Hunter's casting and moulding clinic. John provided a hand out that detailed the materials that he uses (Rhodorsil 585, Fastcast Tc 808, Dry Stone or Hydrocal). He also had some competition during his clinic from the locals (power tools) and natives (kookaburras). The steps in setting out a mould were explained along with the need to be aware of undercuts and the ability to get castings out of a mould once they have set. John made a mould using some masters that had been prepared by Laurie Green. I hope Laurie was able to get his mould home safely as it can take the rubber up to 24 hours to set. The resin that John recommends, Fastcast Tc 808, sets very quickly but only has the draw back of a very short pot life, of minutes. This ideal for the impatient modeller, and also allowed John to cast an item while we watched. The clinic went for about an hour and stimulated lots of questions and discussion. All the members were very appreciative of John's efforts.

The members retired inside to enjoy afternoon tea and all too soon another very enjoyable meeting of Division 3 drew to a close.

The Division 3 meetings keep going from strength to strength. This month saw twenty four member and visitors in attendance. Visitors are always welcome at our meetings. It allows them to "try before they buy" and it show cases the NMRA in our

region. Many of the visitors go on to become members of the NMRA so we must be doing something right.

It had been several years since Peter MacDonald had hosted a meeting so the members were keen to see the progress he had made on his home layout. Peter models Victorian Railways in HO and his layout is based on his home town of Bacchus Marsh. He also dabbles in O scale narrow gauge with the main emphasis on the VR. Peter's other forte is locomotive construction and does commission work for other modellers.

There were plenty of items for display this month with the bulk of them being in O scale. Ken Hughes had a Boulder Valley Models Mighty Midget 5-ton Switcher in On30 and an O scale engine shed. A notable feature of the engine shed was that Ken had cut all his own timber for the building. The O scale theme was continued by Peter MacDonald who had a BGM NA locomotive kit under construction, Bob Jensen an Ian Lindsay log truck and Michael Holian with a scratchbuilt On30 passenger car. Still more O scale models came from Steve Cullen, an On30 flat car and O scale figure, Laurie Green with



Model & Photo Laurie Green

a scratchbuilt passenger steamer (see photo) and Grant M^cAdam with a Chiver Finelines On30 caboose. No buildings this month from John Hunter with him returning to

his roots of plastic kit modelling with a tram in 1:45 by Gunze Sangyo. Paul Richie flew the flag for the small scales with a Barmills Saulena's Kit, RhB Brass kit and scratchbuilt P.E. cars. Rod Hutchinson brought along the following magazines: Light Railways; Newsrail; and AMRM. He also had a constant directional lighting unit. Finally Grant M^cAdam had the book "Let's buy a terrace house" by R. Hillier. Grant finished by thanking Peter for hosting another very enjoyable meeting.

The October meeting of Division 3 saw the members trekking out to Emerald and the home of Graham Meyer. For the steam enthusiasts this meeting holds a special place as Graham lives easy walking distance from the world famous Puffing Billy Railway's Lakeside Station and through out the day you hear steam whistles and the locomotives working hard as they depart. Twenty members and visitors were at this meeting.

Graham has been working hard since our last visit on his permanent home layout in N scale. All the bench work has been built and installed along with most of the track. Sufficient work had been done for a continuous run to be possible. The layout has been designed with operation in mind with many yards for shunting. Graham will be installing DCC but did not have the opportunity before the meeting.

There were plenty of items for display this month ranging in

scale from HO to 1:32. Both Laurie Green and Mario Rapinett have been busy making moulds since John Hunter's clinic at the August meeting. Laurie had moulds for walls, while Mario had a range of moulds and castings. Mario also had a small mining module in 1:32. John Hunter had kindly built a truck for Mario to use in the module. Moving down into O scale John Hunter brought along an Australian shop. The combination of the sea and railroads holds a special place for many modellers. Our own Laurie Green is no different and he is busy working on a new layout that features a wharf scene. The layout will feature three boats, the steamer "Mary Lou", the fishing boat "Annebell" and a paddle steamer "Elizabeth". The Mary Lou and Annebell are both complete and the Elizabeth is still under construction. Grant M^cAdam had a 1934 Ford Utility produced by Classic Carlectables. Believe it or not there are even trains at our meetings. John Dennis has purchased a Backwoods Miniatures On30 "Select a kit". In HO scale Paul Richie had the brass underframe for a P.E. Interurban car.

The remainder of items for this month included a mix of books, magazines and DVD's from John Cracknell, John Dennis, Grant M^cAdam and Paul Richie. There were too many to list.

South Australia

Ron Solly

The first meeting of NMRA members for a few years took place on a very warm Saturday November 15 at the residence of Ron Solly. With only 10 members in SA, a meeting of 6 of them & 3 visitors was exceptional. Ron explained that SA is a Provisional Region waiting on the NMRA Constitution changes & that Ray Brownbill & himself would try to keep things going now that a start has been made.

General chitchat & reminiscing between all took place for a while then Ron showed the group his current HO Hanover & Peterboro RR currently in a small shed in the back garden. Due to the extreme warmth (some may call it hot) & not being air-conditioned, we did not stay there long but then went to the new layout room which is bigger & air-conditioned to see what is proposed.

Len Opie brought some HO rolling stock along & they spanned many years, the USA passenger coach was made in the mid 1940's. With a few drinks & nibbles more verbalising took place & after about 3+ hours the meeting was wound up.

The next meeting will be Saturday, January 17, 2004 at Ray Brownbill's home, Tel: 08 8389-1045, e-mail wildcreek@chariot.net.au

R. Solly, L. Opie, E. Raddatz & D. Lovering



G. Chatwin, A. Harris, R. Brownbill, seated F. Giddings & G. Mitchell.

Continued on page 22

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PRODUCT REVIEW Broadway Limited E-7

David Jupp

You can't help but be impressed with the achievements of Broadway Limited in the short time they have been manufacturing. Their latest release is the EMD E7 A & B locos. Hot on the heels of the beautiful GG-1, this latest offering is also impressive. Boxed under the name of the Paragon Series (read Proto 2000 instead of 1000) the model is available in the following road names. UP, SP, GN, B&O, Burlington, SRR, NYC, C&O, C,B&Q Milwaukee and undecorated. At the time of printing both UP and SP versions were factory sold out and a news release from Broadway stated that another limited number run would be released late November to satisfy the unexpected demand. I have only seen the SP and UP versions and the accuracy of the paint colours seems excellent. A parts bag is provided for detailing but there is no information on where to locate these parts and it is a pity there is not a blank for the front coupler as I would choose to have this permanently installed because it looks neater. My guess is that you will find the detail more than satisfactory as these look good straight out of the box. In an A / B consist the coupled gap between units is realistic and the bellows compress and expand to keep the gap closed. An 18 inch radius curve is the minimum



recommended. Like the preceding models, the Hudson, Class A and GG-1 this one comes complete with the QSI DC and DCC compatible sound module and the twin speaker sound is just superb. Put the loco on track with DC and it works. Place it on the track with DCC and it also works. The selection in the electronics to make all this happen is automatic. Sound and motor drive is included in both A and B variants and a dummy B unit is also available. To miss out on the sound from a consisted B unit would be disappointing although there is a financial saving for ordering a dummy. With DC operation, nothing happens until there is about 4.5 volts on the track. At this point there is a release of air and then the twin diesels start in sequence and stay in idle mode. Keep increasing the volts and when they reach 9 volts the loco starts to move with a ramp up in the sound of the diesel engines. A power pack with a separate reversing switch is required to sound the horn or ring the bell although Broadway now manufacture a product known as 'Sidekick' (see inset) to allow use of a 'centre off' type of control knob. With DC control the sounds other than horn and bell are automatic but it is only with DCC that the true appreciation of the sound module and all the available sounds becomes apparent. Use is now made of the new NMRA standards which allow for function control up to F12 to be used and this loco makes use of all 13 functions including the F0 for the lower headlight control. Gary Spencer Salt from the Model

Railroad Craftsman advises me that NCE are ready to provide an upgrade for approximately \$20 to existing systems to extend the function controls, allowing all those sounds to be

appreciated under command control. I trust other DCC manufacturers will support the extended functions in the not too distant future. In consist mode, the horn and bell sound only in the lead unit. Sound levels of the individual sounds can be adjusted in both DC and DCC (configuration variables) with the talking voice response (really neat and a good way to impress your friends) in program mode making the setups easier and novel. There is also an overall screwdriver adjustable volume control under a removable hatch on the roof. On the prototype, traction motors were on the leading and trailing axles of the A1A trucks but the model drives on all 3 axles with great pulling power. No rubber tyres here and

seemingly not required as each unit weighs in at 1.3 pounds. In an ABA configuration, that is 3.9 pounds of traction weight at the front end of your train. The sound of the twin diesels is like music to your ears and such is the state of art in the software, the engines really sound as if they are working when subjected to an uphill run with a load. As the sound of the 6 diesel engines in an ABA configuration beat with each other, they go in and out of phase and it's difficult not to be impressed. Through the speed trap in an ABA configuration, the top speed was measured at a scale 73MPH with no load. That I believe would be fairly prototypical.

The electronic Mars light pulses realistically in the upper enclosure and if you are right in front of it, it looks realistic. Move to the side though and it is obvious that it is not the rotating beam of the true prototype Mars Lamp assembly. Don't get me wrong though, the pulsating effect is great. You'll need F12 access to be able to change it. The number boards are also illuminated with separate light sources. Knuckle couplers based on the Kadee style are plastic and can be replaced with Kadee No 5s easily.

The model looks good and is pleasing in its appearance and performance. When I went back to operating trains without sound it seemed dull and uneventful. Well done Broadway Limited. Keep moving the performance bar upwards. You are truly making sound in our model world come of age.

Cost is \$390 available now in Australia while stocks last. Don't expect them to be there for long.



WALTHERS' OVERHEAD TRAVELLING CRANE KIT. Stuart Sharp

It is always fun to open a new kit. I purchased the Walther's overhead travelling crane - product no. 933-3102 in the well-known Cornerstone series. I had previously bought another Walther's kit, named the Vulcan Manufacturing Company [product no. 933-3045] which said that the crane is "designed for use with the bridge in the Overhead Traveling (sic) Crane kit". Hence, the desire to purchase the crane kit.

The first thing I looked for in the crane instructions was what I had to do to make the kit compatible with my earlier Vulcan kit. Sadly, there was no mention in the crane kit about the method of adaptation. Being older now, I was able to cope with the apparent crisis.

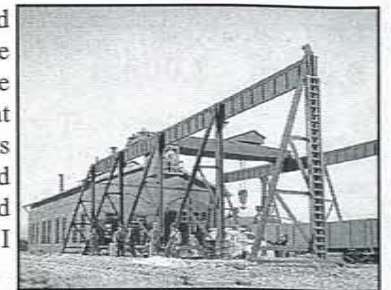
It was also the first Walther's kit I had purchased that did not stamp the 31 part numbers on the sprue. How would I know the difference between a "craneway girder" and a "bridge girder". Luckily, Dan the World's Best Dog was able to explain the difference. Some parts were very fine and care had to be taken not to damage the parts with a full application of Testosterone. One part was broken when I opened the box.

Another unusual feature was the lack of colour of the plastic elements. All other Cornerstone kits that I had acquired were of various prototypical colours. Not this baby. It reminded me

of the Airfix kits of the 1960s with its light grey hue. That was no trouble but it did make nonsense of Walther's claim about compatibility with the other kit, which was painted black.

The diagram with the kit was very clear but one had to proceed with care as it was at times hard to distinguish between sprue and lug. The diagram was misleading about the addition of the two hooks, one in plastic and the other metal. Neither had holes to attach the rigging thread. The clear styrene window sheeting was thin and flexible, not like the usual rigid material found in other Cornerstone kits. There was a reference in the instructions [step 7] that "a damp climate would soon take their toll on a paint job". Unfortunately, no advice was provided to resist the speed of the wooing. Decals were included although there was no mention in the instructions as to where they should go. It didn't really matter as there were no smooth surfaces where they could be applied.

The kit was about \$19.00 and value for money. The copyright instructions were dated 1990 and it seemed that no one at Walther's has bothered to update and correct the instructions. I had parts left over at the end so I guess Dan was right after all.



Proto 2000 SD-45 Andrew Jordan

Proto 2000 has just released their EMD SD45. This is hot on the heels of Kato producing a second run of their SD45's, and just ahead of Bachmans revised SD45. Thus for lovers of the SD45 with its distinctive flared radiators, life could not be better. The SD45 was produced from 1966 using a 20 cylinder 645 powerplant. It was the king of the hill at the time, the worlds most powerful single engine Diesel rated at 3,600HP, (builders had offered double engine diesels rated at 5,000 or over), and brought EMD to the front of the Horsepower race for the first time in a while. Initially railroads flocked to the SD45 and many over-looked the less powerful SD40 which was also being offered at the time. Sales of the SD45 ended at 1,312 units, which at the time was not bad, but the SD45 slipped from grace during the early 1970's with the increase in fuel costs and maintenance on the prime mover. However it was the little brother of the SD45, the SD40 proved to be the real winner and dominated sales over the next 15 years, and with the SD40-2, over 4,000 units were produced.

Most units lasted many years in service and only recently have they started to be retired. Some however have had a second lease on life with the modification to SD40-2 standards by replacing the prime mover. Externally they have not been changed, retaining their distinctive flared radiators. Southern Pacific and Santa Fe were the largest buyers of the SD45 and later bought the SD45-2 version offered in 1972. Protos SD45 is a superb model and the details are excellent as per previous offerings from Proto. Unlike older models, the SD45 comes with the shell already attached to the chassis. All that is required is to unscrew the plastic end guards and slide in the coupler pocket with your favourite coupler, for me it is the

Kadee #58. The locomotive comes with a bag of add on details which can be applied by the owner. They are mostly just generic, so modellers after exact details would be better off buying the appropriate parts separately. It comes with optional plows or footboards as per the prototype. My only gripe is the placement of the Horn. Proto has applied it to the roof which in most cases is correct but not all. I will have to buy the correct horn, which was mounted between radiator fan 1 and 2 for Union Pacific and fill the hole. This aside, they are superb models, in my opinion they are better than the Kato at half the price, as I also have a Kato version as well. The mechanisms are smooth and silent and run well with Kato and Atlas drives. However they will not run with older Proto locomotives such as the GP30's and GP9's. A bit of work is required to convert to DCC and if sound is to be added the see-through fans will let the sound out nicely. The painting is excellent as per usual for Proto, but I must say they have improved the UP yellow over the older models. They have taken much of the orange look out of the yellow after UP modellers gave significant feedback on the issue. Thus I will not have to strip and paint these locomotives.

Two numbers are offered for each road as well as an undecorated version.

Expect to see a second run by the end of the year, which will probably include SP and others which were not done in the first run. For modellers after these brutes, I purchased mine from Tom's at West Ryde.

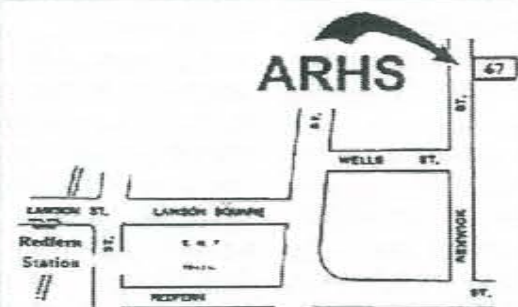
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BACK TO BASICS.

Article and photos by Mario Rapinett

Alan Rocket is regarded as one of Australia's Master modelers. His work has been documented in detail by many Australian Magazines. Recently the Narrow Gauge and Shortline GAZETTE highlighted his work. Boone Morrison, guest speaker at the Narrow Gauge Convention remarked about the uncanny resemblance of Alan's model railway layout and the prototype Puffing Billy Railway. Observers of Alan's work, always comment on the high level of workmanship in his buildings, scenery and detail.

In January 2003, I invited Keith McCarron to come down from Sydney to produce a video of the Puffing Billy Railway and Alan's work, for the Narrow Gauge Convention. This gave me an opportunity to study Alan's work more closely during video "shoots". As a quiet person, I did however ask the odd question or two with some very surprising answers. Alan has kindly agreed to let us into some of his modelling secrets together with pictures of his latest projects. I highly recommend you buy, borrow or steal a copy of the Narrow Gauge Downunder Magazine Summer / Autumn 2000 Vol 5 No.1. There is a comprehensive article about the layout by Grant McAdam.

Sawdust



The construction of Alan's bench work and formwork has been mentioned in previous articles, but here is a brief summary. Bench work is chipboard with a top layer of canite. Hillsides and valleys are formed using chicken wire, covered with "Chux" dish cloth. This is painted with full strength white glue and covered with raw course sawdust as a base coat. No plaster is used on the layout. The final scenery cover and roads is a combination of commercial products and fine sawdust. Hardwood sawdust goes through many sieving processes with different grades of kitchen sieves or tea strainers. This produces up to 4 levels of sawdust grades. If you see some old fashioned, fine grade sieves at Sunday markets or junk shops, Alan suggests you get hold of them, as they are hard to find. Various grades of sawdust are stored in containers or cut up milk cartons. The very finest sawdust is used on all the roads. It was this application of the fine sawdust, that convinced me to write this article.

Each time scenery work is completed, the area is vacuumed. An old stocking attached between the nozzle and hose catches the loose fine materials. This might be a combination of dyed sawdust and commercial products which is then recycled at a later date. Nothing is wasted.

Rope

Hemp rope is coloured by placing in an ice cream container full

of dye. The rope is then cut to form weeds or trees. Colouring your own materials enables the modeler to obtain supplies, best suited to a particular prototype. Australian landscape tend's to be more subdued in most areas, using burnt and olive colours. These days some of the commercial products seem too bright and green.



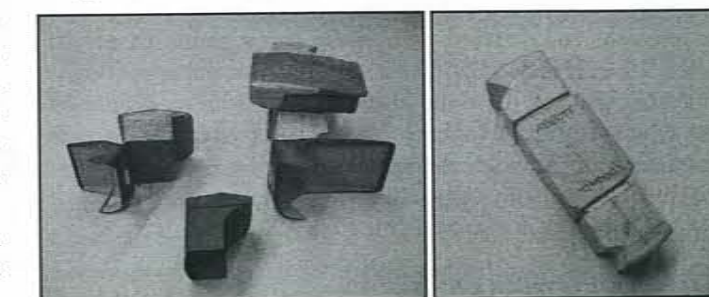
Dyes



The sawdust and rope is coloured using "Dylon" dyes, available at chemists and craft shops. Diluting dye at various strengths helps obtain different shades. Alan had one batch of grey sawdust on hand. Looked fantastic. Some brands need to be used with hot water or cold water, so check the

instructions. As a side note, I have used food colouring dyes with success, but. I recommend using gloves during this process.

Paper Roofs



The Hoods on the horse drawn buggies and cars are made from paper. Paper is cut to shape, wrapped over a timber former, white glue applied at the joins and left to dry for a day. Once dry, the hoods are removed and painted which helps stiffen the paper. A little extra forming maybe needed with fingers for final shape.



Model cars are reworked with new tyres and hood.

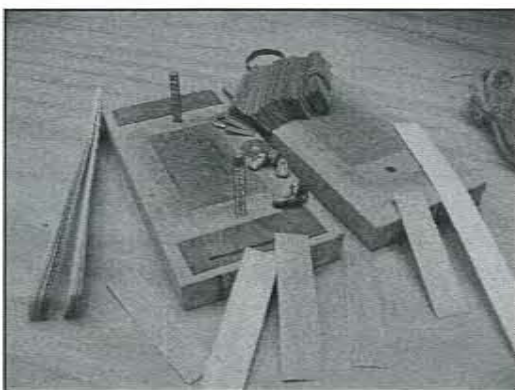
Timber



The piles for the bridge are knot free dowel available at most hardware stores. Because of the non standard timber sizes, braces and large bridge members were cut from scrap pine using a bench circular saw. It

took only a half a day to cut the bridge members including the sleepers.

Roofing Iron



Many of the structures on Alan's layout have corrugated iron roofs and wall claddings. To achieve a realistic scale size, Alan decided to make his own, using 80gsm photocopy

paper. A jig was constructed from chipboard. Original model roofing iron was glued to each half. The bolts act as a guide to obtain a perfect fit. Paper is cut into strips with either a blade or guillotine, wetted and placed in the jig. The wing nuts help clamp the whole thing together tight. Next day the paper roofs are removed and finished with cheap spray paints or acrylic paints. While it may sound like a slow process, paper roofing is something that can be done at anytime to achieve quantities. One major advantage of paper roofing, is it easily fixes to structures with plain old white glue.

The final result is truly outstanding.

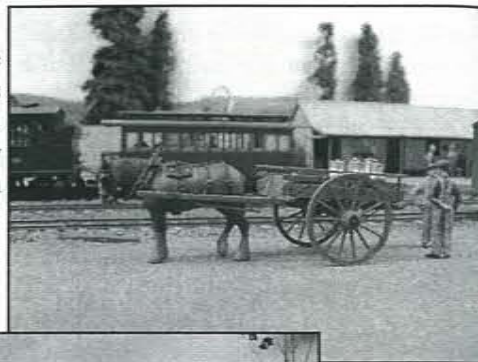
1:48 scale roofing is also available from VR models.

Latest Projects



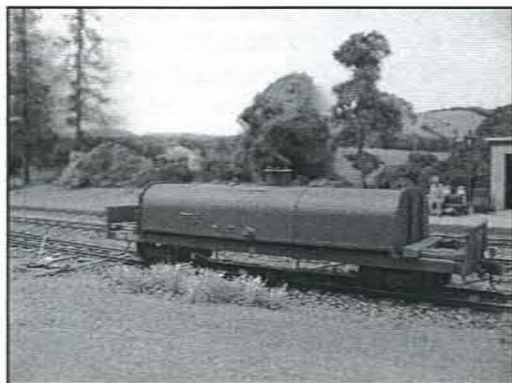
Measurements for the cattle yard were obtained on site at Emerald, Victoria. Sketches were produced and the above is an exact replica as it exists today.

Alan produced the Masters for this horse and dray. These are now available from Ian Lindsay Models.



Engine shed has only been on the layout a few weeks. Designed from an old photograph, Alan prepared drawings and constructed

the shed from commercial strip wood. The shed roof and water tank are made of paper. The prototype of this building is scheduled to be constructed by the Puffing Billy Society in the near future.



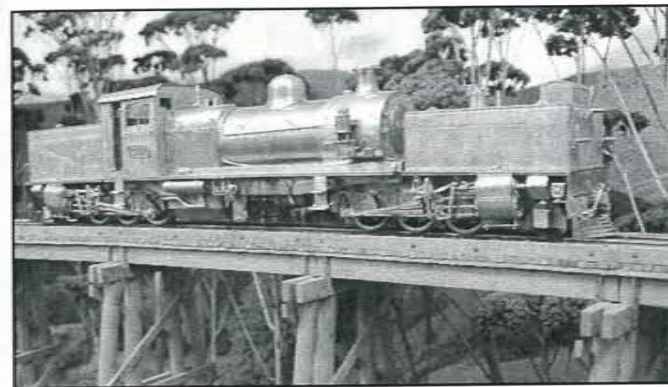
Water tank wagon is made up of paper formed over a block of wood, with cardstock ends. I asked Alan how he obtained a true primer colour. He replied "I use real primer

paint". The rivets were embossed with a clock wheel in a home made brass handle. Puffing Billy rolling stock kits are now available from Ian Lindsay Models.



The ballast used on the layout is finely sieved crushed rock available from your local nursery or maybe your neighbours newly laid gravel driveway.

Alan likes the various shades of grey and browns he obtains using this method. The station is a recent addition to the layout.



Garratt G42 kit by Phil Badger.

Alan had just completed construction of this Garratt kit and I saw it running during the interview. An amazing piece of engineering. Some additional brass sections were fabricated by Alan for his model.

So there you have it. Great modeling and scenery using basic techniques we may have tried when we started our first layout. In Alan's case, he has used the same true and tried "Back to basic's" method for the past 15 years. When Alan needs something, he makes it, the most economical way possible. There were many other modelling tips we discussed during the course of the interview. Maybe we can look at these another time.

Keith McCarron at the Australian Narrow Gauge Convention 2003, giving a demonstration on cutting your own timber.



I hope you have learned at least one new method from this article.

And remember, it never hurts to ask a question. You might be surprised by the answer.

Mario.

Further reading:

http://members.optushome.com.au/jdennis/ng_webex.html

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NOTICE OF ANNUAL GENERAL MEETING

Notice is hereby given of the Annual General Meeting of the National Model Railroad Association, Australasian Region, to be held at 3.00pm, prior to the regular New South Wales monthly meeting on **Saturday March 13th 2004**, at the residence of John Baker, 54 - 60 Rosebery Road Kellyville New South Wales. In keeping with the rules for an Incorporated Association, the National Model Railroad Association Incorporated, must hold its Annual General Meeting within 6 months of the expiration of its financial year being December 31, 2003.

An agenda for business to be carried out at the Annual General Meeting and information regarding nominees for the Board of Directors including personal statements and voting papers should they be required, will be posted to members before February 1st 2004.

Rob Barker Secretary.

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1/87th EQUIPMENT

Donald Davis

Where to begin? The following may not be new information to some, but as I haven't seen it in any magazines with the exception of very minor articles, I put pen to paper. In an attempt to give my gondolas and flat cars a unique/different type of load to the norm I decided to combine several different hobbies in the one. When I was young I had a fairly large collection of 1/72 scale WW 2 aircraft and military equipment as 1/72 scale is to large for HO I called on a friend John Corsair to see what he could source. This opened up a whole new side to the hobby of trains. John loaned me a book called "The Collectors Value Guide for Scale Model Plastic Kits" by John W. Burns although this book was last printed in 1999 and is now out of print it covers Planes, Ships and Vehicles which are now classed as collectables. A more up to date book by John Burns is "PAK-20 Plastic Aircraft Kits of the Twentieth Century" although you may have no interest in aircraft both these books are worth it if only for an insight to the range of manufacturers of kits available. Another source of information is the 1/87th Club at <http://www.1-87vehicles.org> who you can join and they send out a magazine every two months from this site you can download a scale calculator a very useful tool. On the Internet there is a site <http://www.87thscale.info>, which has links to virtually all the manufacturers of equipment for 1/87th. Enough of the why for, to the story it is interesting how some of the big names in plastic kits started. Revell started in 1943 making plastic washing machines and accessories for toy houses and started manufacturing kits in 1947. Aurora started in 1950 manufacturing bottle caps, baby feeding dishes and plastic bows and arrows. Roco started in 1960 firstly manufacturing their 1/87th tanks and then the HO US railroad wagons. Lego manufactured 1/87th vehicles from 1955 to 1968. A New Zealand company Fun Ho sold 1/87th Holdens. These listings are only for kits that it is possible to use on a HO layout. The same books give true scale information as well.

AIRCRAFT

Scale	Aircraft type	Model Manufacturer	Scale	Aircraft type	Model Manufacturer
1/88	Beechcraft	Comet & Aurora	1/87	Boeing Stearman	Williams
1/87	Corben S/Ace	Williams	1/89	Curtiss P40E	Sanwa/Tokyo Plamo
1/89	Curtiss P40N	Tokyo Sharp	1/87	Douglas DC3	Cornerstone
1/88	Douglas FD	Kleeware & Comet	1/87	General Dynamics	Big One
1/89	lockheed P38	AHM	1/87	Lockheed P38	Roco
1/87	Lockheed SR71	Big one	1/87	McDonell F15A	Big One
1/87	P51 Mustang	Cornerstone	1/89	P51 Mustang	Tokyo Sharp
1/89	P51 Mustang	Sanwa/Tokyo Plamo	1/89	N.American XF 108	ITC, Glencoe,
1/88	P47 Thunderbolt	Comet & Aurora	1/87	F4U Corsair	Sanwa & Entex
1/86	F7U Corsair	Trim & Lindberg	1/85	Harrier	Command
1/89	Spitfire	Tokyo Sharp	1/87	Junkers JU 52	Roco,Prieser, Faller
1/87	Junkers JU87	Roco	1/85	Junkers JU 87	AHM
1/87	Junkers JU13	Roskopf	1/87	ME109	Cornerstone
1/87	ME109	Roskopf	1/89	FW 190 D	Sanwa/Tokyo Plamo
1/89	Kawaski Tony	Tokyo Sharp	1/88	Kawasaki Lily	Otaki
1/89	Kawanishi George	IKKO & Arie	1/89	Mitsubishi Jack	Nakamura
1/91	Brewster Buffalo	Sanwa/Toko Plamo	1/92	B24 Liberator	Revell, Ikko
1/93	B58 Hustler	Heller, Revell	1/84	Curtiss Condor	Kleeware, ITC
1/84	Curtiss Helldiver	Aoshima, Entex, BMW	1/90	Douglas DC3	Atma Paulista, Monogram, Necomisa
1/84	A3D Skywarrior	Revell, Advent	1/94	F4D-1 Skyray	Temco, Frog,Comet, Aurora
1/93	Grumman Avenger	Aoshima, BMW, MRC Farpro	1/91	Grumman Wildcat	Nakamura, Sanwa, UPC
1/94	Fairchild F27	Revell	1/91	Lockheed F-94C	Kleeware, Comet
1/84	Lockheed F-94C	Frog	1/84	P38 Lightning	Aurora
1/90	F-4C Phantom	Hasegawa, AHM	1/90	F-104 Starfighter	Hasewaga
1/85	Martin B-57B	Revell, Advent	1/94	B25 Mitchell	Otaki
1/81	P47 Thunderbolt	Otaki	1/94	P47 Thunderbolt	Marusan, UPC
1/84	Republic F84F	Frog	1/90	DH Mosquitoe	Sanwa/Tokyo Plamo
1/90	Boulton Defiant	Sanwa/Tokyo Plamo	1/93	Hawker Typhoon	Sanwa/Tokyo Plamo
1/94	DH Tiger Moth	Plastiques Dermatt	1/95	Spitfire V	Sanwa, Nakamura
1/93	Hawker Typhoon V	Eagle Eaglewall	1/90	Me 110	Sanwa/Tokyo Plamo
1/94	Junkers JU87	Eagle Eaglewall Vulcan	1/94	Fokker DVIII	Plastiques Dermatt

Scale	Vehicle type	Model Manufacturer	Scale	Vehicle type	Model Manufacturer
1/95	Me 109	Sanwa/Tokyo Plamo	1/86	Breguet Alize	Sankol
1/94	Albatross DIII	Plastiques Dermatt	1/85	Nord Noratlas	Heller
1/94	Dasault Mystere	Heller	1/87	Ilyushin	KVZ
1/85	Fiat G-91	Heller	1/94	Mig 21	Tamiya
1/94	Mig 19	Tamiya			

HELICOPTERS

1/87	Bell UH-1D	Roco	1/87	Bell AH-G	Roco
1/88	Bell AH 64A	Big One	1/87	Hughes	Hasgawa
1/87	MMB BO 155	Roco	1/89	MV-PP5 Hovercraft	Nakamura
1/87	Pitcairn Autogyro	Williams	1/87	Sikorsky CH-53	Roco

VEHICLES

1/87	Brabham	UPC	1/87	1961 Chrysler	Concor & Revell
1/87	1930 Ford truck	Concor & Heljan	1/87	1925 Ford truck	Jordan
1/87	1930 Mack truck	Concor, Heljan & Prieser	1/87	1923 Mack truck	Jordan
1/87	Ford CL 9000 truck	Revell	1/87	Jaguar XKE	R&L Australia
1/87	Steam Roller	KielKraft	1/87	Seagrave fire truck	Boley
1/87	Cadillac Fleetwood	AHM, EKO	1/87	Pickup camper	Lindberg
1/87	Schilz Tractor/trailer	Ulrich	1/87?	Beverage truck	Johnny Lightning
1/87	Ford Mustang	Monogram	1/85	Mercedes 220	Lego
1/87	Holden Ex	Fun Ho New Zealand	1/87	West Ham Tram	Kielkraft
1/87	1928 Birmingham trolley	Kielkraft			

MILITARY

Scale	Vehicle type	Model Manufacturer	Scale	Vehicle type	Model Manufacturer
1/87	Thor Missile	Adams	1/86	Bomarc missile	Comet, Kleeware
1/87	Anzio diorama	Aurora	1/87	Saracen	Model Transport
1/87	Pegaso wrecker	Nimix	1/87	M9 tankdozer	Fine Scale Models
1/87	Stuart tank	Boley	1/87	Priest 105mm SPG	Crusader Models
1/87	M113 AA tank	Continental Model Supply	1/87	M4 Sherman	Roco, Marusan, UPC
1/96	Matador w/launcher	Faller	1/90	V1/V2 w/launcher	Faller
1/87	Land rover	Model Transport			

SHIPS

Scale	Ship type	Model Manufacturer	Scale	Ship type	Model Manufacturer
1/84	Tucumari Hydrofoil	Aurora	1/88	Joseph Conrad W/S	Pyro, Lifelike
1/84	Harbour firefighter	Revell	1/87	Japanese PT7	UPC
1/90	Nth Atlantic Trawler	Lindberg	1/87	PT109	UPC
1/82	Diesel Tug Boat	Lindberg	1/92	CSS Casco	Lone Star Models
1/88	Joseph Conrad	Life-Like Pyro	1/83	Mayflower	Revell
1/96	HMS Bounty	Revell	1/90	Galleon	Paramount
1/87	Midget Submarine	Artitec	1/96	Firefighter	Heller

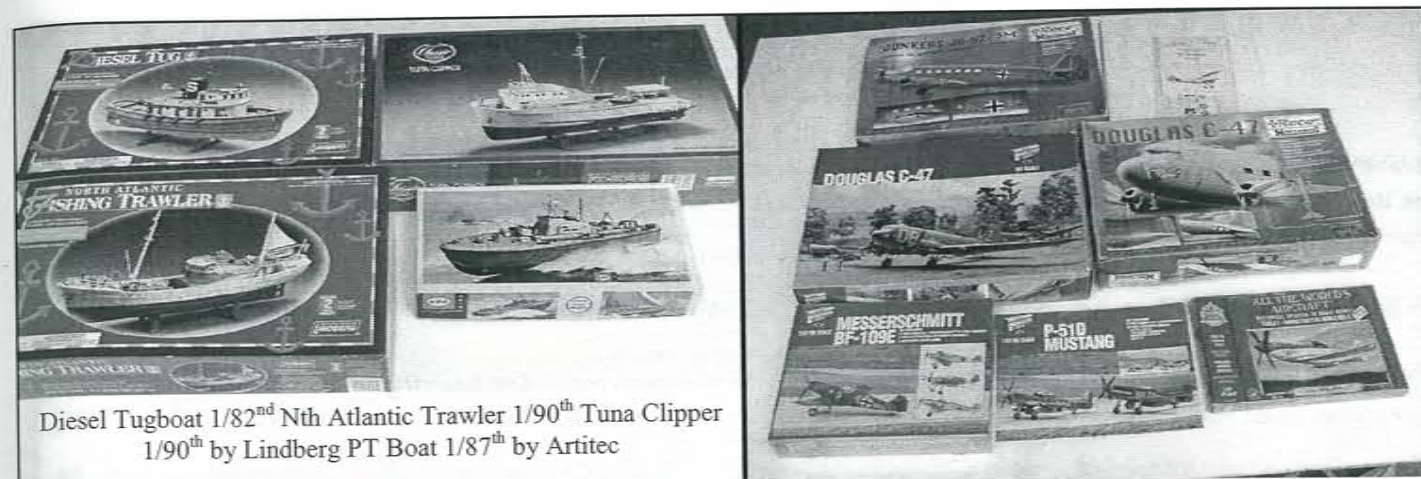
The scales stated here are the actual scale of the kit not what is printed on the box. In the case of the AHM aircraft kits they are all indicated to be 1/87th.

These listings are only examples of what has been produced since plastic kits have been manufactured in the 1940 and 1950s. I have been able to purchase several 30 year old Revell and AHM kits off E-bay and there have also been other items on this list for auction, so just because the kit is old does not mean its not acquirable. This listing has been researched from mainly the books by John Burns and with the help of John Corsair. This raises another point if using other authors! If possible ask for

permission to use their information or at least acknowledge the source. This article does not have kit Nos listed as this would make an already long article longer. Remember, if it's manufactured it probably can be transported by rail.

Any one wanting information on John Burns books or John Corsairs Model Information can contact me via e-mail (southsiderail@hotmail.com) or if you just have an interest in this field, contact me.

Yours in modelling, Donald Davis



Diesel Tugboat 1/82nd Nth Atlantic Trawler 1/90th Tuna Clipper 1/90th by Lindberg PT Boat 1/87th by Artitec



True 1/87th kits.



GERMAN Udet Flamingo 1/87th Junkers Ju12 1/87th by Roskoph Messerschmitt BF-109 1/87th by Cornerstone



B24 liberator 1/92nd, Grumman F3F 1/97th, Avenger 1/93rd, Helldiver 1/84th, Corsair 1/87th, Thunderbolt 1/94th

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EXHIBITION & CONVENTION CALENDAR

WARRNAMBOOL - VIC. January 10-11, 2004 at the Archie Graham Centre, Timor St, Warrnambool. Organised by the Warrnambool Model Railway Club. Enquiries (03) 5560 5215 or (03) 5565 8253 or write to PO Box 1221 Warrnambool, 3280.

THIRLMERE - NSW. March 4, 2004 at the Memorial Hall, Westbourne Avenue, Thirlmere. Open 9am-4pm.

FORESTVILLE - NSW. March 6-7, 2004 at the Forestville Memorial Halls, Cnr Warringah Road and Starkey Street, Forestville. Open 9am-6pm (Sat) 9am-5pm (Sun). Large Bring 'N' Buy stall.

CANBERRA - ACT. April 3-4, 2004. Presented by the Canberra Model Railway Club Inc. at the National Hockey Centre, Mouatt Street, Lyneham. Open 9am-5pm Sat & Sun.

WELCOME TO THE FOLLOWING NEW AND RERAILED MEMBERS

Jessica Brisbane, Narrabundah ACT (Rerailed)	Phillip Booth, Ourimbah NSW	Ray Lucas, Warrnambool VIC
Robin Scott, Moorabin VIC	Robert Ringrose, Pakenham VIC	David Ratcliff, Mt. Waverley VIC
Andrew Jordan, Potts Point NSW (Rerailed)	Stuart Hedges, Katoomba NSW	Mark Betone, Hoppers Crossing VIC
Brian Elliott, Noble Park VIC	John Eagles, Camperdown NSW	Graham Baker, Prospect NSW
Walter Palmer, Sawtell NSW	Charles Reid, Coffs Harbour NSW	

Coffs Harbour Module Group

Ian Phemister



The new set-up with the abundant garage space (and tools)



The Coffs Harbour crew at Rod Smith's Sydney Layout.

Apart from having the best beaches, restaurants and tourist attractions, Coffs Harbour has some of the best garages for a model railway group to rebuild a few modules.

After a most enjoyable trip to the big smoke for Sowerby's layout visit and also with great thanks, We organized to see Rodney Smiths, John Bakers and module sigs layouts. The six of us who were able to come down had a most enjoyable weekend and were blown away with the enthusiasm of everyone we spoke to at the meeting on Saturday. It was said on the way home the NMRA members were thought to be, Quote, "Aliens from another planet, He could see beams of light in their eyes. He was waiting for antlers to pop up out of their caps. Well you could say we came home full of ideas and couldn't wait to get into our modules. Thanks again all for a great weekend.

After much discussion, We completely flattened 9 of the 21, 1190x590 modules. The track plan remained basic however we wanted to get away from running dead straight down one edge of the boards, so a very large S bend was the answer with a passing loop and shunting spur about the middle. It was also suggested, to get away from running round and round, a short branch to be added for a little operation.

Construction started in Graham Quin's garage, but we soon found his tools weren't up to scratch, so a move to new member Charlie Reids. Trackwork has started but a little slow. Someone keeps changing the rules (grin). We have a long way to go, though as we have had an invite to Newcastle hobby show next year, we still have a few things to do.

Thanks everyone for the encouragement

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Model Railways - Lifelike N, Lifelike Scene Master Series, Microtrain couplers, Kadee couplers, Preiser people - painted and unpainted, Peco, Atlas and GT track in N and HO, Gaugemaster and CDA controllers, Heljan buildings etc.

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CODE 83	
No. 4 point L or R	\$32-95 ea
No. 6 point L or R	\$32-95 ea
No. 8 point L or R	\$34-95 ea
No. 4 Wye point	\$32-95 ea
No. 6 Three Way point	\$69-95 ea
No. 6 Double Crossover	\$105-00 ea
No. 6 Double Slip	\$97-95 ea
Flexible Track 1000 mm	\$13-95 ea
Transition Track Codes 83-70	\$10-95 ea

CODE 70	
No. 4 point L or R	\$30-95 ea
No. 6 point L or R	\$31-95 ea
No. 8 point L or R	\$34-95 ea
No. 4 Wye point	\$31-95 ea
No. 6 Three Way point	\$69-95 ea
No. 6 Double Crossover	\$105-00 ea
No. 6 Double Slip	\$97-95 ea
Flexible Track 1000 mm	\$12-50 ea

Ring or call in for a free complete price list.

After laying down all that beautiful Shinohara track and points, you will need something to run on it, so, why not try one of our N.S.W. prototype whitmetal steam or diesel loco kits. Then there are our "N" and "HUB" passenger car kits, plus our range of goods wagon kits, to go behind these locos. On the structure side we have G1-A and G1-B goods shed kits, the signal box kit, the station building kit and the out of shed. Our Seven Ton Luffing Crane loco kit when released last year sold out in less than four weeks. Amazing! Another two batches have been ordered since and are selling well. WARNING. This is not a "shake the box kit". There is a lot of work in building the kit, even with very detailed instructions. However, the result is well worth the effort and is not beyond the capabilities of the average modeller. Complete kit with wheels, motor, gearbox etc. is \$350-00. For a change of pace, why not try one of The Model Company's 7mm scale whitmetal vehicle kits. These range in price from a 1925 Model T Ford at \$69-95 through a range of twenty types to a Dennis F8 Fire Engine at \$175-00. Just imagine one of these sitting on your bookcase, or, better still, on your O Gauge layout. Ring or call in for a free complete price list.

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TRUSTEE REPORT

The ballot for the Long Range Plan should take place by the end of this year. But how will you, the members receive your ballot forms and when do they have to be returned?

NMRA Secretary Bob Dye advises that members who receive Scale Rails will receive their ballot in an upcoming issue. Members who don't receive Scale Rails will receive their ballots by mail.

While the closing date for return of ballots will be extended for non North American members, please do not delay your vote.

I encourage each of you to complete and return your ballot as soon as possible after you receive it.

This ensures your vote counts.

Changes of this nature require a 2/3 majority of the voters to agree, so please have your say.

I have outlined many of the proposed changes in previous Trustee Reports and I'm not going to thrust them at you again

here. However, if you haven't read them, or would like to review them let me direct you to a couple of sources.

In the September and October Scale Rails there is a 2-part article on the Long Range Plan. If you don't have these issues, please ring me on 02 9975 2569 or fax me on 02 9975 4702 with your name and address and I'll forward a photocopy to you.

If you are on the Web go to www.nmra.org then scroll down the left hand column to the box containing Long Range Plan PDF, LRP Q&A and Proposed Regulations. Read online or print and read at your leisure.

Again, if you have any questions about ANY of these proposed changes and want to discuss them with me, now is the time to do so.

Ring me, Fax me, Email me, or talk with me at a monthly meeting. I firmly believe that a YES vote is needed to see the NMRA move forward in the coming years.

David North
Australasian Region Trustee

VALE

We lost a great model railroader mate recently.

Keith Pratt, finally succumbed to emphysema after a battle with it over the last 2-3 years.

NMRA members may remember a couple of meetings Keith & Marion hosted on their "Bega Valley Railway" (HO scale) at Kanahooka near Dapto. Keith always had a twinkle in his eye and a fantastic sense of humour which showed on his layout. I'll never forget the "Wild Lamington Drive" & the other mini scenes & unique industries on his layout. Where there was an opportunity to have some fun with political correctness or the oh-too-serious modeller, "K P Ratt" would take it on. There's a great description of one of his meetings in the "Main Line" for Oct-Nov-Dec 1994 by Ian Hopkins. Later on the BNSF & UP took over the Bega Valley, running double stack container trains through to Victoria. A huge grubby & rusty steel works

complex also was established assembled from the Walthers series of kits.

I'd known Keith for many years prior to his membership in the NMRA. Prior to the merger of Illawarra Electricity and Prospect Electricity to become Integral Energy, I was shopping for a new hot water service. Keith at the time was a senior sales consultant in Illawarra Electricity's Burelli Street, Wollongong appliance sales. Even though I was working for Prospect at the time, I just enquired from Keith if I could get a staff discount. Much to his disgust, Keith's boss knocked it back. Keith with the usual "twinkle in his eye", promptly made the sale out in his own name, got me the discount and made the delivery to my address. The "job address" he called it!

That summed up Keith. Always ready to thumb his nose at the rules, help his mates & have some fun at the same time.

Keith was only 66 years young. He will be missed.

Lyndon Spence.



New Zealand Div Super Kel Sherson recently visited Sydney on business and took the time to attend a BOD meeting and play trains at some of the Sydney venues. From left Kel Sherson, David North and Rob Barker at the Modular SIG venue.



Brett Whelan, Grant McAdam, Graham Meyer chat over Graham's new layout, Div 3.



A John Hunter Clinic in progress, Div 3.

New Products on the Horizon.

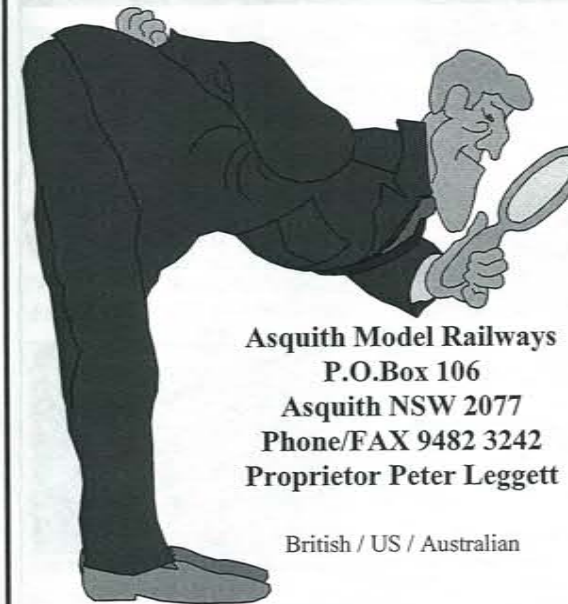
- Genesis Challengers in UP, Clinchfield, D & RGW. Some oil burners and some coal. All equipped with sound but must be purchased specifically to operate with DC or DCC.
- Lionel Gas Veranda Gas Turbines with 24,000 gal Bunker oil tender. Two numbers available #61 and #73. Both Union Pacific naturally, the only operator of these 4,500HP locomotives.
- Computer control of your layout from CTI electronics. Various hardware modules to sense block activity, accessory control. Locomotive control and software. www.cti-electronics.com
- Second run of DL-109 locos from Proto 1000.
- Soundtraxx all new Tsunami Digital sound modules revealed for release shortly.
- Broadway Limited announces stock cars with sound. Cars will be available with either cattle or pig sounds.
- Broadway Limited announces UP Mountain Class 4-8-2 loco, AT & SF Northern 4-8-4 loco, C & O Texas 2-10-4 Loco, EMD SD40-2 in the following roads, BN, BNSF, Milwaukee, UP, Helm Leasing, N & KCS and painted but undecorated all with the usual DC / DCC appropriate sounds module.
- Broadway Limited announces the SIDEKICK control box to allow for DC operation of bell, whistle/Horn with DC controllers that do not have a separate reversing control switch.
- Kato GE AC4400CW in 4 road names, BNSF Heritage, CEFX Leasing, Canadian Pacific and UP.
- Walthers Cornerstone series Locomotive Servicing Facilities including RTR 18" Turntable, Roundhouse, Sanding Towers and Drying House, Power House, Coaling Tower, Cinder Conveyer and Ash Pit.
- Anton's Trains, Big Boy sized fully indexed RTR Turntable.
- Atlas Dash 8-40C locos C & NW, Conrail, CSX, Norfolk and UP, available with or without Atlas DCC decoders.
- Atlas N Mogul 2-6-0 loco in New York, Lake Erie and Western, Rio Grande, Virginia and Truckee.
- Atlas U23B in CSX, Delaware & Hudson, Providence and Worcester, Reading & Northern, Seaboard System, Western Pacific.
- Bachmann are due to release controllers for DCC at very affordable prices. Watch out for them.
- Atlas N GP-7/9 Locomotives.
- Accurail Pacific Fruit Express Cars in 15 numbers.



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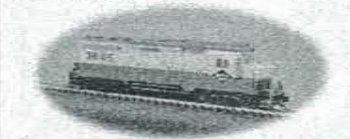
- Australian Model Craft Kits & Accessories
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- Peco fine scale code 75 track & turnouts
- Romaford gears, wheel & worm sets
- Narrow Gauge kits & accessories
- Woodland Scenics - large range
- '0' Scale kits & accessories
- Floquil paints - new stock
- Wide range of Decals

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C449W Powered	\$50.00
GP60 Powered	\$40.00
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Proto 2000	
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E7 Locomotive	\$60.00
GP20 Locomotive	\$50.00
GP30 Locomotive	\$50.00



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50' Automotive Boxcar Kit	\$10.00
52'6" Drop End Gondola Kit	\$10.00
Mather 40' Stockcar Kit	\$10.00
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8,000 Gallon Tank Car Kit	\$10.00

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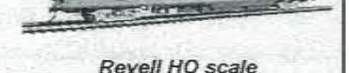


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REVISIONIST HISTORY

By Rich Coleman
Taken From the Kansas City Clinic Notes 1998

Introduction

There are many things that go into our decisions about what to model. Whether we are building our first table-top layout, or planning for our dream basement empire, at some point we have to make some choices about the setting, era, and equipment to model. Some people choose to model a specific prototype as accurately as possible, and others put together whatever elements appeal to them to create a railroad with little or no rhyme or reason, but which is enjoyable to them.

In between, are those who have different interests or elements that they want to combine, but who want to do so in a way that makes sense. They want to have more of an explanation, both for themselves and for their visitors, than simply saying "because it's my railroad!"

There has been a lot written about having a justification for a freelanced railroad: why the railroad exists, what does it haul, from where and to where, etc? In this clinic, we will discuss combining these elements in a way that fits in with the rest of the world not only in the physical sense, but also in the context of history.

What is it That You Want?

The first thing to do is to get a clear idea of what it is that you want that you cannot get by modelling an existing prototype. Examples might include having a favourite railroad that you want to model, but it didn't (doesn't) exist in the era or location that you want to model. Or perhaps you want to have a freelance railroad, but you want it to tie in with existing prototype railroads in a logical manner.

Think about what it is that you like about the prototype elements that you want. Consider which of these are more important to you, and which would be a little less painful to compromise. Also give some thought to how "water-tight" you want the story that you develop to be. You may be happy with a general background for your railroad, or you may want to come up with a more detailed explanation.

When in doubt, lean towards developing a more detailed version of your railroad's background and history. There are two reasons for this: Firstly, you may find, as many modellers do, that as you get more into the hobby and the life of your railroad, that the details become of more interest to you. Secondly, it is much easier to fill in the details the first time around than it is to go back and have to repeat much of the same research to fill them in later.

Questions - and Possible Answers

Here are some specific ideas to consider when trying to come up with your own version of history. Sometimes the most

important questions you can ask is "What if ... ?"

What if a "Fallen Flag" railroad had not gone out of business (or been taken over or merged)?

- What would it look like today?
- Updated equipment
- Updated paint scheme
- Same or new route(s)

Instead of going out of business, what if a "Fallen Flag" railroad had been taken over had been taken over by another?

- Operating updated equipment with the old line's name
- Running the new parent's line on the old line's track
- A combination of both

When a railroad went out of business, or abandoned or sold off a line, what if operations had been taken over by a new short-line operator?

- Run your own paint scheme and / or equipment on "existing" rails
- Lots of contemporary examples with short line spin-offs

What if the railroad had continued to operate the branch, rather than abandoning it?

- What kind of traffic would there be to justify the line continuing to be operated?

Where there were two parallel railroads, and one eventually won out over the other:

- What if the other one had won?

- What if a joint trackage agreement had been worked out (or imposed)?

What if a location or situation had developed differently from history?

- Increased or different traffic levels might justify a fictional belt or short line
- A fictional branch line of an existing railroad

Be Inventive

Take the time to sit down and think about what it is you want to model, and what you want to get out of your layout. If you can find an existing prototype that meets all your goals - great! Go with it. But if there are different things that you want to do that can only be achieved by doing or combining things that weren't actually done in history, then think about how history might have unfolded differently to produce the situation that you want to model.

Submitted by Steve Chapman.



DIGITAL COMMAND CONTROL

ERIK BENNETT

Introduction

This paper is designed for modellers thinking of buying DCC or who want to find out more about it. DCC has matured as a product and systems currently available in Australia are reliable and functional. Most new locos are DCC ready, some are available with decoders fitted.

The systems advertised with local support in Australia are North Coast Engineering (NCE), Lenz, Roco (Lenz re-badged) and Digitrax. NCE is made in the USA, is noted for its ease of use and has substantial sales in Australia. Lenz, a German company, is the largest manufacturer of DCC and is very innovative. Digitrax is a large USA manufacturer but with fewer sales in Australia. Modellers about to buy a system need to satisfy themselves not so much on the functionality of the system (because they all work well) but on their support needs and the local support available, either via their retailer or in their local fraternity of modellers.

Traditional Control Systems

Rheostat, DC Controller, Pulse Controller.
0 - 12V, ie, when V=0, trains are stopped. When V=12, trains run fast.
All trains move in same direction at approximately the same speed.
Isolation blocks allow control of individual trains when on block.
Block control requires complex wiring for blocks and isolating switches.

Digital Command Control

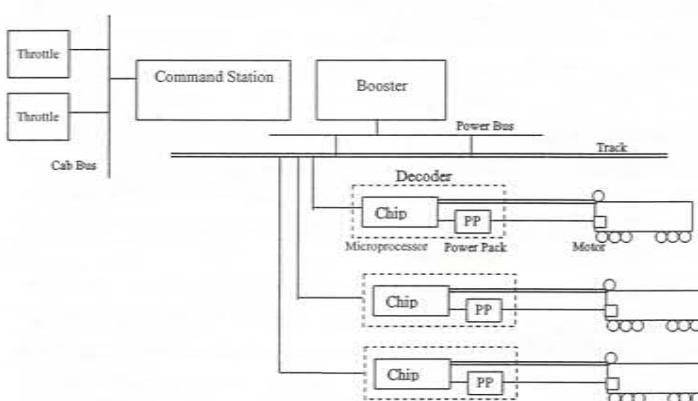
Key Features

There is a decoder in each loco, with a unique electrical address usually the loco number.
Power is always on the track and applied to the decoder only. Power is applied to the motor and lights by the decoder, not the track.
Digital commands are superimposed on the power on the track. Decoders are individually addressed and commanded to use the power or not, and how to use it.

Key Benefits

No block control or isolating switches needed.
Locos individually may travel in any direction at any speed. (Beware head-on collisions.)
As well as motor control, decoders can control additional functions such as lights and sound. Specialised decoders can control point motors.

How it Works



Components

Track Power

The power supplied to the track is in a pulsed format containing plenty of power to supply motors and lights but also containing a digital signal (ones and zeros) superimposed on it. The DC equivalent is about 14V. The voltage is not accurately measurable with ordinary voltmeters.

The power is always there, so it is important not to short the rails at any time. DCC systems can supply up to 100 watts or so - twice the power of a heavy duty soldering iron.

Decoders

Decoders consist of a programmable microprocessor programmed to control a motor power pack, some DC outputs and, with certain decoders, certain other outputs. The power from the track is not directly applied to the motor and lights. That is controlled by the microprocessor.

Loco Decoders

In loco decoders, the microprocessor controls a motor power pack and two or more DC outputs known as function outputs. The power pack is a pulse power pack just like currently available commercial pulse power packs, except it is capable of only about 1 amp output.

The function outputs can be used to supply DC for lights and other accessories. The standard two function outputs are pre-programmed to supply front and rear lights when the loco moves forward and reverse.

Each decoder has a unique 4 digit electrical address. Loco decoders are normally given an address the same as the loco number. It receives all command signals superimposed on the track power but reacts only to those addressed to it. It ignores

continued on page 30

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all others. When it receives a command addressed to it, it carries out the command.

Operational commands command it to control the speed and direction of the motor, and turn on or off the function outputs, ie, lights, etc. Programming commands change the state or behaviour of the decoder itself.

Decoders, being digital, change the speed of the motor in increments, or speed steps. Modern decoders use 128 speed steps, which give smooth throttle control.

Decoders can run on DC but can be programmed not to react to DC. Programming them to run allows loco wheels to be cleaned using your old DC throttle and allows you run them on your friend's DC layout. Programming them not to means they will not run on anything other than a healthy DCC signal. It avoids problems caused by dirty track/wheels or unusual power conditions.

Silent drive (modern) decoders have the motor pulse frequency above the audible range so you can't hear the buzz often associated with pulse power. Back EMF (BEMF, feedback) decoders adjust power depending on load. This assists slow running, and locos don't slow down as much when hauling trains up hills.

Decoder are connected by

- A simple set of 8 wires. There is a standard colour code.
- 8 wires terminated by an 8 pin plug which plugs into a socket on the loco lightboard.
- An 8 pin plug integral with the decoder which plugs into a socket on the loco lightboard.
- A 9 pin plug integral with the decoder into which you plug a set of 9 wires.

Sound Decoders, Accessory Decoders

Sound decoders use digital sampling technology to produce just about all the sounds that a diesel or a steam locomotive make. As well as the decoder, a small loudspeaker is required, so space is a bit of an issue, particularly as the loudspeaker needs to be enclosed in a speaker box - just like your hi fi. Diesel sounds include the sound of the engine including series/parallel transition, dynamic brakes, coupler clank, air tank pressure release, bells, horn, etc. Steam sounds include chuff, blow-down, steam compressor, steam generator, whistle, the fireman shovelling coal, etc.

Sound decoders available in Australia are available with just the sound module or as a combined sound and loco decoder. They are expensive. The loco decoder part of the combination is fairly old technology, so many modellers install just the sound module and a modern loco decoder of a different brand. This works out cheaper and provides a better loco decoder. The downside is space. A sound decoder, a loco decoder and the speaker consume a lot of space.

In accessory decoders, the microprocessor controls pairs of outputs to power point motors.

Cabs/Throttles

Throttles (or cabs as they are referred to in the documentation) allow the driver to select any loco on the track and drive and operate it. They also allows the driver to select a loco and re-program its decoder, eg, to change the rate of acceleration or deceleration, the start voltage of the motor, etc.

Throttles have various knobs and buttons laid out to make operation as simple as possible. Most have an LCD display which displays the current loco selected, its speed and direction, what lights are on, etc.

They connect to the command station directly or via a bus system which allow them to be plugged in at various points around the layout. Each throttle has an electrical address to make it uniquely identifiable to the command station.

Cab Bus

This is the name given to the wiring system that lets you plug in your cab (throttle) at convenient points around the layout. A bus is a wiring system consisting of a series of connection points or sockets. Any device plugged into it is connected to all others.

A cab bus lets you walkaround your layout to follow trains and plug your throttle into a convenient socket. The bus connects you with the command station.

Wireless

Wireless is an emerging technology which allows the throttle to connect to the command station over a two way radio link. A base station plugs into the command station and wireless throttles connect to it, hence the command station, by radio rather than by wire. The cab bus remains in place as backup. At any time a wireless throttle can be converted back to a standard throttle by just plugging it in to a cab bus socket.

The radio signal is at very low power levels and good radio reception is influenced by the RF noise in the room and the number of people in the room to absorb the radio energy. In some layout rooms, it operates faultlessly; in others it is not so good.

Command Station

The command station is the heart of the system. It remembers which locos have been selected by which throttles. For each loco selected, it remembers the last command sent to the loco and resends the command every few milliseconds.

When the driver changes the speed or direction of a particular loco, the command station sends the new command to the loco's decoder. The command station then remembers the new command and continues sending it every few milliseconds.

The reason it keeps sending commands is that if a moving loco runs over dirty track and loses power momentarily, when the power is restored, the decoder does a re-start. It thinks it has just been turned on and wants to set speed to zero. If the last

speed command is continuously being resent, the decoder will receive it within a few milliseconds and continue at the previous speed.

The driver can reprogram the decoder while the loco is running, eg, to change start voltage to match two locos for consisting. If the driver selects programming mode, the command station sends programming commands to the decoder. The programming command is sent for a short time and not repeated continuously.

The command station is a computer-like item and operates on low voltage and power levels. It produces a complex electrical waveform which is fed to the booster.

Booster

The command station connects to the booster which, as the name implies, amplifies the DCC signal to the power level required to run the locos on the track. This is the equivalent of approximately 14V DC. The booster contains sophisticated circuitry to detect a short circuit and cut power until the short is removed.

Programming

Decoders come with various features most of which can be programmed. All decoders have a set of standard features plus a set of additional features that differentiates them in the marketplace.

All modern decoders have the following programmable features.

- 4 digit addressing, ie, it suits most loco numbering systems.
- Minimum voltage start. This helps matching locos for consisting.
- Acceleration rate
- Deceleration rate
- Maximum speed
- Control of the two light outputs
- Whether to allow it to operate on DC or not
- Easy consisting, ie, coupling locos together so they can be addressed with one number.

Most modern decoders have the following programmable features:

- Mid speed, ie the speed at the middle of the range. This, along with minimum voltage start, helps when matching locos for consisting.
- Motor drive frequency. Silent drive decoders come with the frequency set high. To get better low speed operation, the frequency can be set low. It may produce a little noise.
- Control of additional functions.
- Various lighting effects, eg, gyro light, blinking lights.
- Kick start. Helps overcome starting friction.

Each feature is programmed by storing specific values in the memory of the microprocessor. Each feature is called a configuration variable or CV for short. This is a buzzword that

DCC players need to use. The CVs are standard for most of the features that can be programmed, eg, Start Voltage is always CV2, Acceleration CV3, Deceleration CV4, etc. CV29 is a special one that holds a number of features.

Programming Track

When you first install a decoder, you need to give it an address. This is done on the programming track which is an isolated piece of track supplied from special outputs of the command station. By design, the amount of power on the programming track is insufficient to damage the decoder if it has been wired incorrectly. So not only does the programming track allow full programming, it acts as a test bed for correct wiring of a newly installed decoder.

Wiring

Power Bus

The power output of the booster needs to be connected to the track. The best system is a bus consisting of two lengths of serious wire looping underneath the layout, one for each rail. If possible, each length should be formed into a closed loop and connected to one of the booster output terminals. Short droppers of hookup wire drop from the rails through the baseboard to the bus.

Nominate one loop as the common and the other as the active. It doesn't matter which. Whenever soldering droppers from the rail to the bus, double check that you are connecting to the correct side of the bus, particularly for double track layouts, peninsula returns, etc.

Every track location must be well fed electrically for two reasons - to get good supply for locos and to allow the booster short circuit detection system to react quickly. For this reason, use heavy gauge wire for the buses and, ideally, solder droppers from every track section.

Cab Bus

The throttle supplied with a DCC system plugs straight into the command station. If you wish to operate more than one throttle or plug in from multiple positions around the layout, you need a cab bus.

Use good quality cable for the bus. It's worth using category 5E data cable, available from electronics shops. It has more wires than you need but is specifically designed for digital signals. You will also need a plug to connect the bus to the command station and additional sockets for throttles.

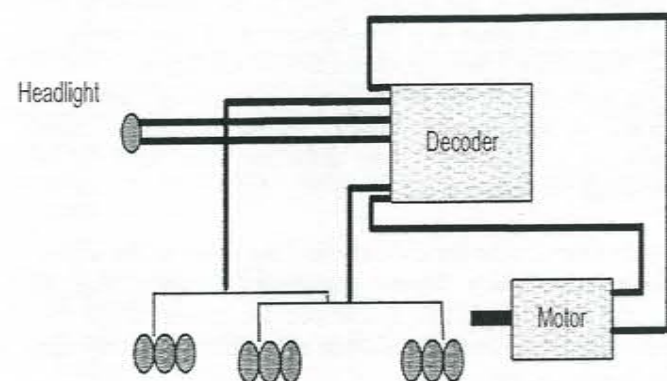
Many DCC systems use RJ12 or DIN connectors. RJ series connectors are used in modern data and telephone connections. If you look under a white telephone you see an RJ12 plug on the cable from the wall socket. RJ12 plugs are small and neat and, despite the impression, are physically robust. Many modellers report no failures over many years of plug-in use. Sockets and plugs are readily available for your cab bus although a specialised crimper is needed to crimp on the plugs.

DIN plugs are the cylindrical 5-pin plugs found on some hi-fi and electronic equipment. They are electrically reliable and physically robust, cheap and straightforward to install. For these reasons, many modellers use them when wiring their cab bus.

Some modellers change to phono plugs. Phono plugs are quick and rugged but can only connect three of the four wires. The wire that it cannot connect is a desirable but non-essential wire which helps reject interference, therefore phono plugs may not be as electrically accurate as the others.

Locate the cab bus as far as possible from the power bus under the layout.

Decoder Installations



General

The decoder must not have any of its outputs short-circuited or have high voltage applied to them (same with your hi-fi amplifier). Some locos have one motor terminal in contact with a metal chassis which connects to the track. If you were to connect the decoder output to this motor terminal it would connect to track voltage and destroy the decoder. This is the reason why, in decoder documentation, there are frequent warnings to isolate the motor terminals from the chassis.

Physical location for decoder

This depends on the model. If it is a steam loco, there is usually plenty of space in the tender. Most diesels have room but the smaller ones may not. You may have to shave some of the weight or use a small decoder. You can use your modelling ingenuity to find a suitable location.

DCC Ready Locos

Some locos are DCC ready and have an 8-pin socket. They usually have a small printed circuit board for the motor power and lights circuits with the 8-pin socket soldered to the board. A dummy plug allows them to run on DC. If you use a decoder that comes with an 8-pin plug, you just remove the dummy plug and plug straight in, and everything works properly for DCC.

If the loco does not have a socket or the socket arrangement is unsatisfactory or you wish to use a decoder with the simple wire harness, you will need to solder the wiring.

Wiring the Motor Drive

Study the existing wiring and identify the track pickup leads and the leads to the motor terminals. Insulate and solder terminal leads to the motor if necessary. Follow the instructions accompanying the decoder and solder the track power and motor leads. To minimise excess wire, you can trim and solder the decoder leads directly to the motor terminals and to the pickups if they reach. When joining wire, insulate the join with heatshrink. Shrink it with the barrel of your soldering iron.

With most steam locos you will need wires between engine and tender. Fit the wires neatly under the drawbar and paint them black. The connecting wires mean that the engine and tender cannot be easily separated. Many modellers accept this and just use a bit more care in handling. The alternative is to fit tiny plugs and sockets and mount them under the tender with double-sided tape.

Suitable plugs and sockets can be made cheaply from two items available from Dick Smith. A 32 pin snap-off IC socket strip, Cat No P4300 can be cut into 3 or 4 (or more) pin sections and used as the socket. A 40 pin DIL socket, Cat No P4250, can be cut into the same length section and used as the plug. You can make 6-10 plugs and sockets for about \$3.

Lights

Modellers installing decoders almost always want to take advantage of the lighting effects available with DCC. Locos come with no lights, light emitting diodes (LEDs) or 12V or 1.5V incandescent globes. Generally speaking, if globes are powered straight from the track pickup, with perhaps one diode for directional lighting, they are 12V. If there are a lot of diodes in the light circuit, usually clustered on a small circuit board, they are 1.5V globes. The problem with incandescent globes is the switch-on current surge for 12V globes and the heat of the necessary dropper resistor for 1.5V globes.

Each light, whether a LED, 12V or 1.5V globe, is powered by two leads. The decoder light system works by using a common +12V DC power lead, blue in colour, to supply power and individual other leads to connect to each light to switch it on or off. A loco with a front and rear headlight would have both globes connected to the blue lead and the front headlight connected to the white and the rear to the yellow lead. With the standard programming settings, when the loco is facing forward, the decoder turns on the front light by completing the circuit to the white lead and turns off the rear by breaking the circuit to the yellow lead. In reverse, the opposite applies.

If the loco uses 12V globes, add a 22 ohm resistor in series with the globes to limit the current surge. If they are 1.5V globes, you need to add a dropper resistor in series to absorb all except

1.5V. The problem with this is that the resistor can get too hot. The solution is to power the 1.5V globes from either of the track pickups rather than the blue function power lead. The reason for this is that each rail is at about 7V rather than the 12V of the blue lead. You use a combination of $R=V/I$ and trial and error. It is easy to do but is outside the scope of this presentation.

If you can, use LEDs, because they are low current draw and do not generate heat. Bright white LEDs are available at electronics shops. If they are too bright, paint them with thinned orange paint which gives them a yellowish glow. They must be installed with a small 680 ohm resistor between the LED and the decoder (either lead). The cathode lead of the LED, ie, the lead closest to the small flat-spot must connect to a negative function lead, ie, white or yellow or any coloured function lead other than the positive blue lead.

Short Circuits

Short circuits can occur on DC or DCC layouts as a result of:

- Foreign objects on the track, eg, a forgotten screwdriver or a pair of glasses,
- A derailed wheelset,
- Bogie - body contact on brass engines,
- Locos running against wrongly set points,
- Wide wheels or out of gauge wheels shorting the stock rail to the point rail when running through points.

On DC layouts, modellers are usually running their trains at low prototypical speeds, so the track voltage is usually pretty low. A short circuit may go un-noticed or be detected and fixed without too much fuss. On DCC layouts, because the full voltage is always on the track, a short circuit can produce quite high current.

Avoid short circuits like the plague. Because of the power available, short circuit current can cause damage to metal wheels, track and points. For example, short circuit current flowing through metal wheels with plastic centres can generate enough heat to soften the plastic. When a loco runs against a set of points, short circuit current flows through the pickup system from the wheel on the shorted section to the wheel on the good section of rail. This can overheat the copper track on the light-board/track pickup board. The worst effect is on loco pickup systems where the modeller has used fine phosphor bronze or

brass pickup wire to enhance the loco pickups. If run against a point, the heat caused by the short circuit current can anneal the pickup wires so that they lose their spring and have to be replaced.

Electrofrog points can be a source of momentary shorts as metal wheels pass through the gap between the point rail and the stock rail - if they bridge the gap. The momentary short may not activate the detection circuit but will cause significant pitting over time. The problem can be simply addressed and there is a great deal of documentation on making points "DCC friendly".

Modellers using Peco code 100 points do not have a problem. The problem does not exist with insulfrog points and Peco code 100 electrofrog points do not experience the problem if used with correctly gauged RP25 wheels.

Some DCC users insert tail-light globes in the connection to the power bus to reduce overload current in the event of a short. This is a good idea for DC but with DCC, it slows the reaction of the booster's short detection circuit. The detection circuit detects the rate at which the current rises rather than the amount of current flowing. So, if the booster detection circuit can easily sense the short, ie, there is good wiring all around the layout, it can shut down before significant damage.

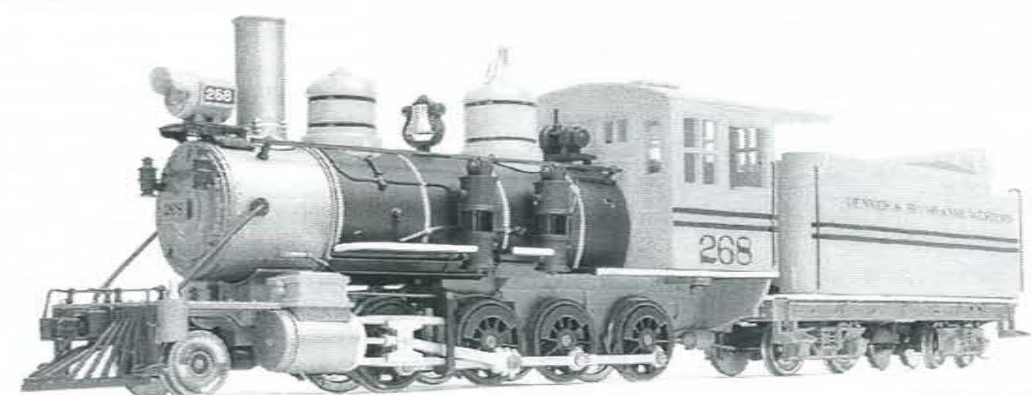
Note that decoders can not be damaged by the type of short being discussed here. This type of short occurs before power arrives at the decoder. Decoders are only damaged if their outputs are shorted or overloaded.

Summary

The ability to control trains individually and independently of others is a major leap forward. The cost of ownership of a DCC system is reasonably substantial, initially about the same as a brass locomotive. The investment potential is greater, however, because you get enjoyment out of every hour you spend operating your layout with DCC. Electric model trains were a great step forward over clockwork. An investment in DCC will return a similar increase in enjoyment.

Erik Bennett, Sydney, June 2003
ebennett@blackwoods.com.au

First Picture of the new Broadway Limited H16 2-8-0 in On3 scale. Due to be released as we publish, this model and variations will feature the QSI sound decoder.



A RAILWAY TRIP TO PERTH



Stuart Sharp

There are numerous articles written about planning a holiday. You are told what to take, what to see and what to do to manage your affairs at home once you are gone. Strangely, there is no advice on how you are to feel while you are on your holiday. Many people, myself included, have never been taught how to relax or what it feels like. We simply do not know the way to either display our countenance or maintain our natural mental state. How does one's mind know that it is on holidays?

Preparing for a holiday is like going on a date. You are excited but it does result in your removal from your comfort zone. You have a notion that holidays are important to take but, at the same time, they are what my grandson calls "scarries". Luckily, I cannot muse too much on the mental aspects because my wife, Susan, gives me a reality check and, suddenly, we are on our way.

Going on the Indian Pacific ex Sydney was like farewelling my Uncle Allan in the 1950s when he left Australia on the ship, Arcadia, to work for Revlon in England. A lot of the family was there. Friends came too. It was my birthday and Susan had organised the delivery of a

nice chocolate cake, which we all ate at various locations on platform 1. Some were in the compartment; some were at the welcome address by GSR in the middle of the platform and of course, there were those standing beside the locomotive somehow having the usual weird relationship between a throbbing diesel and men with unusual interests. The consensus of all those present was that we would be divorced prior to arriving back at Sydney, also by train. Up front I can tell you they were wrong and that the trip was great.

We all live in a country where few people care about the quality of the work or service they provide. One of the good things about America is the high level of service you can get, provided you offer a remuneration. There is no equivalent of the "Red Caps" at Central or anywhere in Australia. More alarming, there is not even a single luggage trolley at Central. Oh yes, at least there was a locker in which to stuff our things for the three hour wait between the delivery of Perky Penguin, our Mazda 121, to the Motorail and train departure time. On the other hand, Perth terminal has trolleys but no lockers. That means that, once you deliver your car, you cannot leave your cabin luggage somewhere and head out, as we intended, to the nearby hobby shop at Mount Lawley, but were foiled.

Another aspect about Australia is that no one supervises the delivery of standards to consumers. You receive a service level determined by the ethics of the individual provider, rather than any pre-set corporate minimum standard. As a sub-text to this

article, I bemoan the reality that Australia seems to suffer from a "bugger you" approach. It is one of the usual tricks of Australian corporate life to advertise something but find out that the advertising is not matched by the service delivery. Quality standards is one of the myths of the modern economy. While all the letterheads we see have a "quality" symbol, the use of such ensigns is a ruse reflecting wider societal problems. Needless to say, the service on the train depended on the crew. A better chef meant better food. The food menu apparently never changes. We surveyed widely the many people who had travelled both ways by rail and they all remarked that it was the same choices. On the sixth day of our train travel, we had to protest that we liked vegetables that were supposed to be cooked to be mildly soft. The Chef heard us. All-in-all, the food was good but the best part of the Dining Car was the many people we met. The biggest thing travellers have to choose is which sitting you will attend for meals - very early or very late. We chose early and, as a result, we would sit in the dining car before sunrise on most days. We soon learnt that, if you tarry, you would end up sitting with the couple universally deemed by sight alone to offer the most boring personality. If you want to find out the model railroaders, you and your spouse have to stand at each end of the Dining Car and survey each guest as they jump from the adjoining carriages.

As I gazed outwards, I also pretended that I was in a model train and that I was passing my plaster scenery.

Sitting in your compartment you see the world pass by and you come to understand just how the railways fits into both the landscape and the economy. As I gazed outwards, I also pretended that I was in a model train and that I was passing my

plaster scenery. Susan sat and read and listened to tapes of books. I naturally thought of model trains, thinking of the discoveries of the Perth hobby shops to be visited. I also performed switching operations in my mind.

The track is so rough for hundreds of kilometres in various places that it is impossible to do nothing but sit down and hold on. Things fell of the table, drinks were spilt and I experienced the only time in my life when a moving vanity basin hit me on the noggin. I had been bending down attending to the folding toilet when crash on to my head came the wash-basin above it. Luckily I survived but if I seem a little strange at a future meeting, you will now understand the reason. There is one more thing that I would like to say about the toilet but it is secret men's business and I shall have to canvass that at a future meeting, as Susan said it would be in bad taste to refer to it in print.

The Lounge Car is a good place to meet more people but the travellers who spoil it were the smokers. They have their little enclosed space but the smoke drifts out. On one occasion the smokers were suffocating through a lack of clean air and they opened the door to the compartment. That attack on our clean air was quickly stopped by a barrage of non-smokers. There were hardly any overseas tourists on the train and hardly any other than people born in Australia.

Off-train bus excursions are organised for Broken Hill,

Adelaide, Kalgoorlie and Perth. The first three of these operate just after or before darkness and are of limited value. The platform at Broken Hill is low in comparison with the carriage floor level. To demonstrate the varying standards, steps were provided on the westbound journey but not the eastbound leg. On the return trip, breakfast on the second day is not provided as the train arrives at Adelaide at 0715. You can either get up and have inadequate rockmelon or replicas of Danish pastries at 0615 or starve. Even those who did get up early, were hungry within an hour. Because we had to twiddle our thumbs for three hours at Adelaide waiting for departure time, we were obliged to pay for eggs at Keswick GSR terminal that seemed to have been fried the prior evening.

Broken Hill is an interesting place and this is reflected in the array of trinkets and other handicraft available for sale on the platform. There was also a small team of people issuing Christian religious material to passengers. Perhaps they had heard of the sordid things that go on behind closed compartment doors and were providing some form of silent confession?



At Cook, passengers can get off the train via portable steps. Like everyone else with a car, we checked Perky at the rear as the cars are removed at Adelaide and, like the loco, turned to facilitate removal at Perth. After the visit to the tail, dedicated travellers proceed to the locomotive for the usual pilgrimage, which is not changed for the entire journey. The third thing people do is visit the ruins of the town, where now two people, two cats and 16 chooks live.

Things went smoothly at Perth. Perky Penguin was the last car off but the delay was nothing compared to the westbound Indian before our departure east. Because of the very bad track condition, a Pacific National freight train broke an axle which caused the Indian to be 15 hours late. While all the passengers were bussed to Perth for the final 200 kilometres, those with cars had to sit at the terminal until midnight to get their vehicles. On the eastbound journey, Perky was on the top level from Adelaide and, when we opened his doors at Sydney, we had the full-bodied aroma of a GE diesel engine. A strong recommendation is that all vents and other openings be secured before the trip starts.

Perth has a wonderful public transport system. Susan and I, plus

up to three kiddies if we had taken them, travelled on the entire network for \$7.50. This included both of us on train, bus and ferry for the whole day. Perth railway system is of much lighter appearance than that in Sydney with lighter, concrete overhead wiring stanchions and single catenary and contact wires. Their two and four car trains look like models.

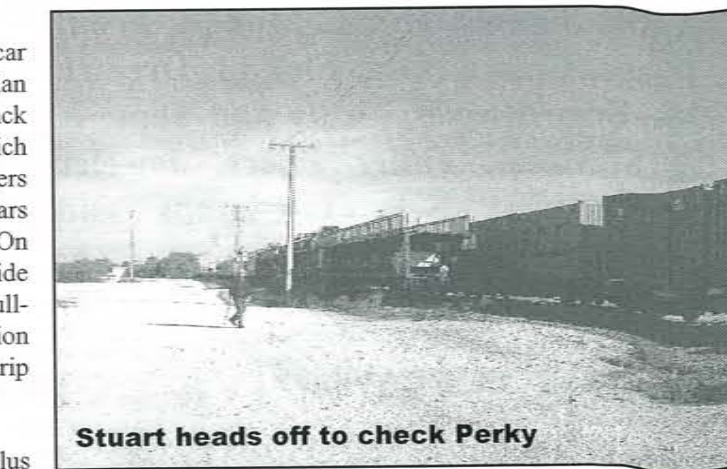
The Australind train is famous throughout Australia and Susan and I took a return trip on it to Bunbury. Like every other train we used, patronage was at a high level. The only trick is that developers plotted and won to have the railway removed from the centre of town. The terminal is located ten minutes from free bus, which takes you to the 1887 original station. The former right-of-way is now covered with the evidence of the influence of the big end of town. Susan and I walked in the rain to the nearby Rose Hotel and repasted in the space of an elegant 19th century dining room with roaring fire and a lovely Moss Brothers wine the nearby Margaret river wine district.

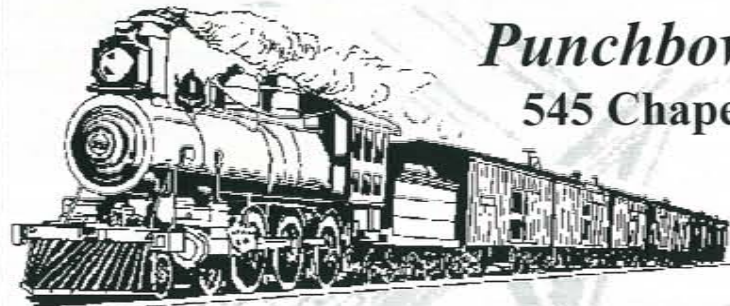
We stayed in Perth at a place called Boutique Apartments in Beaumont road at Highgate. It was only five minutes from the City. We headed for the two hobby shops that advertised in the geographic index in the AMRM. City Models in Picadilly Arcade is five minutes walk from Perth station. It is 90% British prototype. The other place that we visited was the Perth Hobby Centre, some seven minutes walk at 414 Murray Street. This latter shop is more the usual spread of Australian, British and American prototype but at least it had heard of DCC.

Perth is a lovely place and the quieter pace and less traffic are very noticeable. If there were jobs there, many more Sydney-siders would migrate. There is already a large number of Sydney ex-pats ensconced there.

When we stepped back on to platform at Central at the end of the journey, I was relieved to be once again in my zone of comfort. Now I proudly say to everyone that I had an enjoyable, relaxing holiday, even though I still have no idea of what those concepts mean. I must really take a course in relaxation!

Stuart Sharp
18th July 2003





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Mission Statement

The National Model Railroad Association, Inc. advancing the global model railroading community through advocacy, standards, education and social interaction.