

TOM'S DISCOUNT HOBBY WAREHOUSE



Broadway Limited



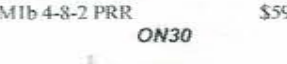
2-6-6-4 A Class N&W \$920.00



4-4-4-4 TI PRR \$795.00



M1a 4-8-2 PRR \$595.00

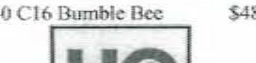


M1b 4-8-2 PRR \$595.00

ON30



2-8-0 C16 D&RGW \$480.00



2-8-0 C16 Bumble Bee \$480.00

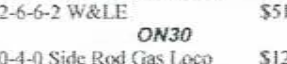


Challenger UP \$1295.00

Challenger D&RGW \$1295.00

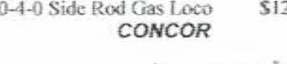


2-6-6-2 Nickel Plate Road \$514.00



2-6-6-2 W&LE \$514.00

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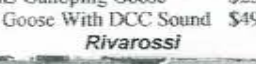


0-4-0 Side Rod Gas Loco \$128.00

CONCOR



HO3 Galloping Goose \$257.00

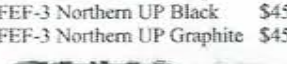


HO Goose With DCC Sound \$498.00

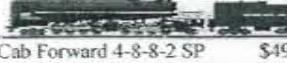
Rivarossi



FEF-3 Northern UP Gray \$450.00



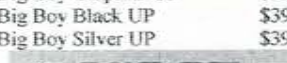
FEF-3 Northern UP Black \$450.00



FEF-3 Northern UP Graphite \$450.00



Cab Forward 4-8-8-2 SP \$499.00



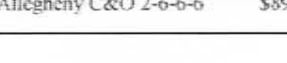
Big Boy Graphite UP \$399.00



Big Boy Black UP \$399.00



Big Boy Silver UP \$399.00



Challenger 4-6-6-4 UP Oil \$399.00



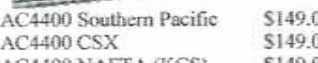
Allegheny C&O 2-6-6-6 \$899.00



READY TO ROLL



AC4400 Southern Pacific \$149.00



AC4400 CSX \$149.00



AC4400 NAFTA (KCS) \$149.00



GP38-2 BN Pacific Pride \$139.00



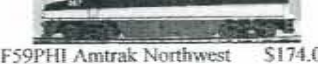
SD40-2 UP Desert Storm \$149.00



SD40-2 EMD Lease \$149.00



F59PHI Amtrak Northwest \$174.00



AMD103 Amtrak \$159.00



GP60M Santa Fe \$149.00



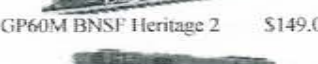
GP60M BNSF \$149.00



GP60B BNSF \$149.00



GP60B Santa Fe \$149.00



GP60M BNSF Heritage 2 \$149.00



GP60B BNSF Heritage 1 \$149.00



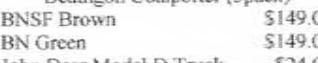
SD50 Conrail \$165.00



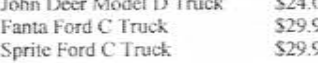
SD50 Union Pacific \$165.00



SD50 C&NW \$149.00



Beathgon Coalporter (5pack) \$149.00



BNSF Brown \$149.00



BN Green \$149.00



John Deer Model D Truck \$24.00

Fanta Ford C Truck \$29.95

Sprite Ford C Truck \$29.95

New Release
Walthers Cornerstone Kits



Sanding Towers/Drying House \$78.95



Modern Coaling Tower \$71.95



Machine Shop \$65.00



Modern Roundhouse \$85.00



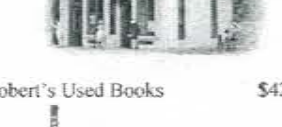
Roundhouse Add-on-stalls \$69.95



Tomaso's Market \$39.00



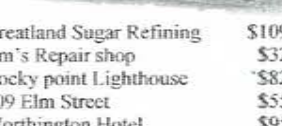
Greatland Sugar Refining \$109.95



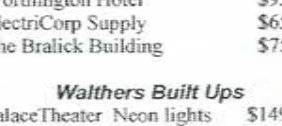
Jim's Repair shop \$32.95



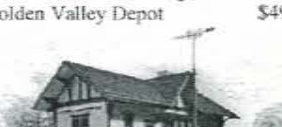
Rocky point Lighthouse \$82.95



109 Elm Street \$55.95



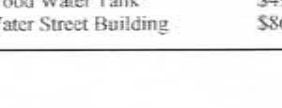
Worthington Hotel \$95.00



ElectricCorp Supply \$65.95



The Bralick Building \$75.00



Palace Theater Neon lights \$149.95

Golden Valley Depot \$49.95

Trackside Structures \$49.95

Wood Water Tank \$49.95

Water Street Building \$86.00

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GP60 Powered	\$40.00
SD40-2 Powered	\$70.00

Roundhouse G scale

Boxcars	\$50.00
Hoppers	\$50.00
Caboose	\$50.00

Bachmann G scale

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Coach	\$70.00
Combine	\$70.00
Baggage	\$70.00
Observation	\$70.00
Center Cupola Caboose	\$70.00
Cattle cars	\$59.00
Trams	\$199.00
2-4-2 Steam Loco	\$199.00
2-6-0 Steam Loco	\$350.00
Industrial Mogul 2-6-0	\$399.00
Spectrum GE 45Ton Loco	\$699.00
Spectrum 2-6-0 Mogul	\$799.00



Spectrum Two Truck Heisler \$1166.00

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Phone (02) 9809-0530
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MainLine

March 2004
Volume 21 Number 1
www.nmra.org.au



In this Issue:
Train Mountain
New Product Reviews
The Burra Valley Railroad
Prototypical Model Train Operations
GN Railroad Great Falls Sub-Division

TRUSTEE REPORT

Fellow members,

As you are all aware I have been commenting and attempting to explain the whys and wherefores of the Long Range Plan for the last year or so. I personally believe that the LRP will be of great value to our Association, but those of you who have read any of my recent columns will already know that.

At the last Region BOD meeting I asked other Board members to put down their thoughts and opinions on LRP to allow you a broader source of local information than just my comments.

As you would expect, John Saxon responded with his usual vigour and enthusiasm and penned what he affectionately refers to as his "expose of the Long Range Plan".

Elsewhere in this quarters mainline you will find John's exceptionally clear explanation of what the coming rule changes consist of. In fact the clarity of his explanation can be measured by the fact that most all of the Trustees are circulating this summary to their members, just as we are here in Australasia.

I honestly don't believe I could have done a better job and I would like to thank John publicly for his efforts in producing this report.

At a local level, I'd like to take a few lines to look at how things are progressing here in the Region. Membership is continuing to grow, increasing by approximately 40 members over the last 12 months. The South Australian Division has had two meetings since reactivating recently. Well done to Ray Brownbill and Ron Solly for their efforts in getting things going again and I know from talking to a few of the guys down there that things are moving in the right direction. I know David Rayson who sadly passed away last year would be proud of you. Allan and I are tentatively taking the Region Exhibition Layout to Adelaide in June for the local long weekend exhibition, with the aim of increasing our profile and hopefully recruiting some additional members.

Viv Brice and the guys in Canberra also used the exhibition layout to raise some funds and hopefully attract some new members recently. These outings for the layout can only help to increase the public awareness of our organisation, which inevitably leads to a growth in the membership.

The boys in Coffs Harbour have also been having some fun with their modular layout and are making an art form of flying weekend trips to Sydney and the Central Coast to peruse members' layouts. These guys are already committed to DCC and are now getting into radio throttles in a big way. Well done boys and we look forward to seeing you again soon.

The HO Module SIG in Sydney has recently attracted a bunch of new members and that augers well for the future of the SIG

with additional attendees at the regular running sessions each week and the operating sessions each month. An N scale ModuleSIG is also starting up so if you are interested or want some info contact Rob Peterson at [HYPERLINK mailto:peterson@depot.com.au](mailto:peterson@depot.com.au)

The Narrow Gauge SIG formed following the Narrow Gauge Convention last year is also up and running and again for info contact Steve Chapman at [HYPERLINK mailto:scha4661@bigpond.net.au](mailto:scha4661@bigpond.net.au)

For those doing some armchair modelling or spending a quiet moment relaxing, each Division now has its own library of 25 tapes for you to borrow. Plus you can still draw from the additional 160 odd tapes in the Region library. While on the subject of the library I'd like to thank the following members for their generous donations of tapes to the library: Kalmbach - 2 tapes on the Worlds Greatest Hobby; Bob Carr - 3 commercial tapes; Hank Pelzer - a tape of his layout; Derek Milby from the British Region - 2 tapes and 4 DVDs of British NMRA trains; Red Roberts, local member also hailing from the UK - a tape of British NMRA 1945-1995; Gerry Hopkins for a continuous stream of videos and DVDs of layouts he has filmed here and in the US; and last but by no means least Mick O'Hanlon who donated a staggering 25 commercial tapes to the Region Library.

If I've missed anyone I sincerely apologise. Let me know and I'll follow up next quarter.

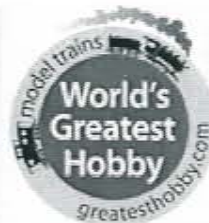
I have been going hammer and tongs dubbing these tapes to protect the original and get the copy (commercial tapes) and copies (stuff we have filmed) into circulation. Our libraries now have an extensive range of prototype and model railroad tapes in both standard and narrow gauge that I hope you are enjoying.

In my humble opinion the Region is in excellent shape and I look forward to some exciting times ahead in the coming year.

That's all for now
David North
Region Trustee

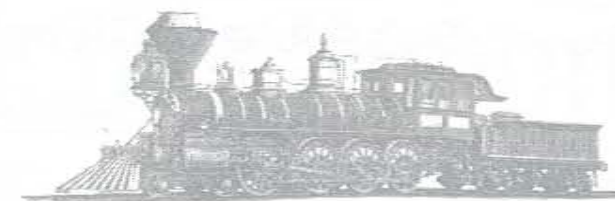


First test run picture of the new Broadway Limited SD40-2 due for release in the US Fall. There may be some variations in the final released version



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ON THIS COVER:

Union Pacific Challenger 3977 makes its way through a curve at Train Mountain Oregon USA. This could be real, however it is a seven and a half inch gauge real steamer. See story from Barry Dupler in the United States on page 26. They don't get much more real than this.

The next MainLine will be released on June 12th.

Schedule of Divisional Meetings for 2004

Division 1 Queensland

For details of Queensland meetings and venue addresses, please contact Glenn Stevens.
Meetings start at 1.30 unless advised

(07) 3207-2442

April 3 rd	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

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 8 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

March 20 th	Rob Anderson	8 Purbrick Street	Chis olm	(02) 6291-9183
April 17 th	Viv Brice	8 Berne Crescent	MacGregor ACT	(02) 6254-8204
May 8 th	Peter Dinham	3 Holden Crescent	Wanniassa	(02) 6231-2537
June 12 th	Jess Brisbane	21 The Pines Avenue	Narrabundah	(02) 6260-6427
July 3 rd	Stephen Walker	5 Pasmore Close	Kaleen	(02) 6242-8786
July 31 st	John Bullen		Weston Creek	(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.

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 20 th	Geoff Truman	12 Goodwin Close,	Hoppers Crossing	(03) 9748 7864
July 18 th	Rod Hutchinson	40 Erskine Ridge,	Mooroolbark	(03) 9726 6187
August 15 th	Peter MacDonald	4 Boyd Street,	Bacchus Marsh	(03) 5367 3601
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 5 th	Grant McAdam	194 Booran Road,	Ormond	(03) 9578 8685



MainLine

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Australasian Region
of the

NATIONAL MODEL RAILROAD ASSOCIATION

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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
51A Greene Avenue
Ryde NSW 2112

editor@nmra.org.au

ADVERTISING: Rear page, full page, half and quarter page space is available at attractive rates. Contact the editor for information. Rates are for one year. Magazine is published quarterly. Advertising contained in the *MainLine* in no way constitutes endorsement or guarantee of product by the NMRA. The NMRA reserves the right to reject or refuse advertising for any reason and it is the responsibility of an accepted advertiser to comply with regulations associated with the Trade Practices Act.

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.

Send address changes to
Toni Saxon
186B Davistown Road
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

The last two years

Thank you all for the support you have given to the Board of Directors of the Australasian Region over the last two years. It is encouraging to see and hear of the enjoyment that members receive from being involved in Region activities.

I would like to thank the Board Members and Volunteers who do so much to ensure the efficient operation of the Region. The consistent support and encouragement by the Board of Directors has enabled the Region to provide high quality services to members.

Although the Australasian Region is the smallest Region in the NMRA the *MainLine* is one of the very best Regional publications. This is thanks to our Editor, David Jupp and all who provide support by sending meeting reports and articles. David does the multiple roles of editor, publisher and printer.

The Region membership has grown from 240 members in May 2002 to 302 members by February this year. The continued growth and strong retention rate of members is due in no small way to Tony Saxon who, with John's support, manages all membership renewals for the Region and liaises with the NMRA administration in USA.

The varied 'grass roots' activities assist in retaining members. My personal experience of members welcoming attitude and willingness to share knowledge means visitors frequently become members on their first visit because of our open and friendly attitude to newcomers.

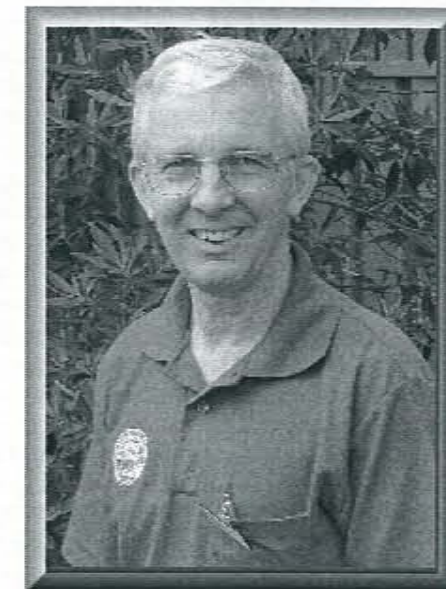
The Division meetings give us the opportunity to see and discuss with other members their modelling achievements and encourage us to continue and renew our enthusiasm for our own modelling projects.

I thank the Division Superintendents and John Baker, the Sydney meeting organiser for their diligent efforts. We owe our thanks to the meeting hosts and hostesses for their generosity in giving us access to their homes and layouts.

The conventions and workshops have been another opportunity to broaden our interests and improve our skills as we have both learnt from and encouraged others in their modelling activities. The organisers and presenters of these functions do a professional job at an economical cost to members.

The Special Interest Groups (SIG's) enable members with an interest in a specific area eg. modular layout operation or narrow gauge, to come together and focus on that special interest and yet still be involved in Region activities.

The Region video and DVD library continues to grow and be well used by members. The library has been able to grow through funds from the Region and generous donations of tapes and DVDs by members and friends.



The Region's many activities and services and the roller coaster ride of the Australian dollar has made the Treasurer's job a challenging one. I thank Ken Scales for the way he has both managed and demystified the Region's finances for the Board.

The fact that around two thirds of our members have Internet access means that our Region website and member email list is an important communication and publicity tool. Thank you to Gery Hopkins for maintaining the content and Wayne Eagle for hosting the Region website.

The number of members that have received Achievement Program awards has encouraged me. Many of these awards have been for various volunteer positions members have held in the Region, as well as awards for modelling categories.

A special thanks to you, the members who continue to support the Region activities. Without member support, Division meetings conventions and SIG's would not continue to be encouraging and enjoyable activities for both the organisers and participants.

On behalf of the Board Members and Volunteers may I offer our thanks to our partners, who both support and tolerate us, indulging in and enjoying this great hobby in our many collective and individual ways.

The next two years

I look forward to the new Board of Directors, with a blend of "new & old" faces, working as a team for the benefit and enjoyment of Region members.

Happy modelling

Allan Garbutt



From the Editor:

Lately you may have noticed that some DCC manufacturers have been disabling or omitting the cruise control / constant speed feature. This is because litigation has been threatened by Mike's Train House (MTH) an 'O' scale manufacturer, upon claims that this feature was developed and patented by MTH and has been copied by the new manufacturers. QSI state that the

feature they are using was developed by them and placed into use well before MTH. Other manufacturers are remaining relatively quiet although you can be sure the lawyers are working hard behind the scenes as indicated in the numerous Internet Groups. Meantime the consumers suffer and hopefully the claims will be resolved soon to the benefit of all in the hobby.

In a similar attack on our hobby, the Union Pacific Railroad has applied to protect the use of their current logos and having taken over many now defunct railroads those logos too such as, Missouri Pacific, Western Pacific and the list goes on with dozens of names. Currently, some manufacturers have complied and are registered which adds about \$US5.00 to each locomotive. If the UP are successful will this see other big businesses jumping on the band wagon to bolster their earnings? Indications are though that the UP has not been too successful yet with the historical logos. Manufacturer MDC, is suspending production of UP and UP predecessor Railroads until the issue is resolved claiming they do not have the resources to go head to head with the railway giant. I am reminded of this headline back in 2001. Microsoft's upcoming "Train Simulator" game won't have any Union Pacific cars in it, and the railroad giant wants to make sure it stays that way. Are we going to see the end of the UP in modelling?

In this issue Andrew has reviewed the Lionel Challenger. There have been many negative comments in the Internet Groups zone about this release regarding poor slow speed performance, binding of the valve gear and the inability of the locomotive to pull the skin off a rice pudding especially on a slight grade. Andrew found no such problems and he is a critical analyser. These problems therefore if they exist, are obviously correctable. So if you want one, grab one while they are still available. The Model Railroad Craftsman (Gary and Maria) or Toms Discount Hobbies (Phil, Bob or Peter) both in Sydney are known stockists. For a first attempt in HO for a long time, Lionel have advanced well in terms of detail. Their Veranda GTEL is eagerly awaited. Personal thanks to Mario Rapinett again this issue for his introduction to Barry Dupler at Train Mountain. They really do take railroading seriously in Oregon. Take a look at the web site, details to be found in the feature article from Barry on page 26. The front cover picture should convince you.

Welcome to the successful Board Of Directors newcomers, (see P39) Erik Bennett, Robert Peterson and John Montgomery and a big welcome back to John Saxon. Even more importantly though, thanks to those leaving BOD positions for your important contribution to the running of our organisation. Finally a special vote of thanks to all members. 58% of eligible members voted in this election. This is a fantastic result. Take a pat on the back everyone! Bye for now,

David Jupp

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Regional Roundup

Division 1 Queensland Glenn Stevens

On Sunday 14th December, a smaller than anticipated group of us made our way to Ferny Grove to visit the Brisbane Tramway Museum where a number of their members made us welcome. After enjoying a picnic lunch under thundery, threatening skies, museum members gave us a guided tour of the Car Sheds, where we were shown a large and quite complete collection of operating and static trams, some dating back to the turn of the last Century, many of which have been beautifully restored and a real joy to behold. The entrance to the Car Sheds are graced with a three way point with all the tracks veering off to the left and then straightening into the Shed, a definite challenge to the hand laid point constructors amongst us {not me, if it doesn't come out of a Peco box it never existed - Author }.

The trams are indeed a credit to the large group of volunteers who labour to return these steeds to their original condition.

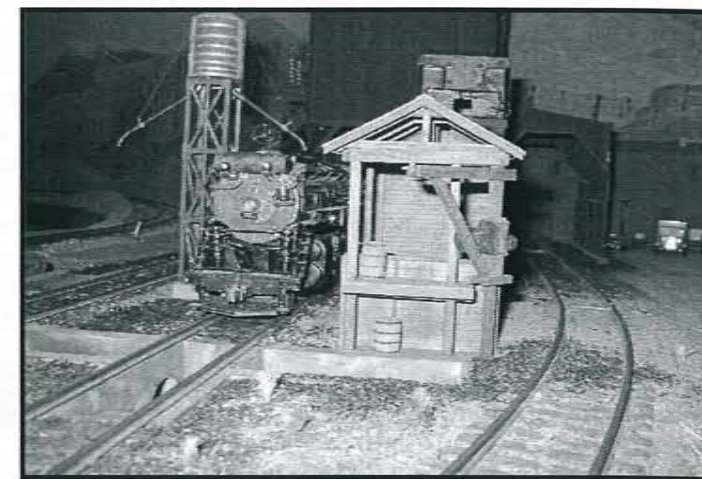
As the weather was still overcast and raining from time to time, a promised run of the trams was not to be at this stage so we wandered down to the other museum building where a vast collection of Tramway memorabilia is displayed. This included uniforms, tickets, photos, books, you name it, it's there. They also have on display a rectifier for converting 415V AC to DC, very complicated and impressive. Why they didn't just duck off down to Ray Nunn's Austral Modelcraft shop and buy a dozen or so transformers from him and hitch them all together in parallel, I don't know, it would have been much cheaper and simpler. Finally the rain abated sufficiently enough that we able to enjoy a run on a couple of trams. These babies go around curves that make the average tight radii on a home layout look positively broad by comparison. Maybe this is the way to go, short trains, frequent service, lots of action. If only no one notices the lack of overhead wires, etc.

All in all, a very enjoyable day was had by those of us who attended and this Model Railroader will indeed be returning on a bright and sunny day soon for another nostalgic trip on the trams. Many thanks to the Tramway volunteers for making our visit to their Museum a real treat. (Denis Lane)

The first meeting for 2004 was held at Garth Fraser's home at Buderim on the Sunshine Coast on February 7th.

To the dismay of all concerned, including the QLD Superintendent, Glenn Stevens, who tries so hard to determine meeting dates and venues, our illustrious Premier of QLD put on a snap election. As a consequence, the numbers were down a little to twelve attendees. Garth provided for those of us who were unfamiliar with his O gauge layout, a run-down on the evolution of his "Copper River RR".

Long time members would be familiar with Garth's beautifully scratch built 4-6-0, 2-8-0 and RS1, with photo's of the 2-8-0 and RS-1 having previously appeared in previous issues of "Mainline". The demonstration of these locos left no doubt as to the quality of his workmanship when it comes to pulling a freight train up the 3% grade on his mainline loop.



Garth's 4-6-0 at Engine Terminal

Garth's latest achievement is the huge scratch built steel truss bridge spanning the "duck under". This masterpiece is built to



Ian Wellings inspecting Garth's new bridge

true engineering principles, and in O scale, supports a substantial load.

Next thing was the adjournment to the "classroom", where with marker pen in hand and reference to his whiteboard, Garth gave us a rundown on the re-gearing of the RS1 to enable more freight cars to be pulled. The members were mesmerized by his use of mathematical formulae from $E=IR$ through gear ratios of spur gears and worm drives, friction loss from motor to wheels, then finally to a formula which vaguely resembled $E=mc^2$. This may be of value to a modeller who has had little success with a particular scratch built model.

After the briefing was "smoko", which was enjoyed by all on the back patio. Garth's wife, Myra, waited on the membership with teapot in hand and took in all the side remarks. The noise of twelve NMRA members all trying to put their point of view on modelling across was deafening to the quiet neighbourhood. No show and tell models were brought to the meeting, but members certainly took home some valuable ideas on modelling methods.

We had the opportunity to meet a member new to Queensland in Colin Upton, who transferred up from NSW, and models GN.

A couple of members "nicked off" to bathe in the excitement of the election, while the more enlightened of us used this opportunity to run a train or just do what modellers do until it was polite to call it a day on another successful NMRA meeting. (Allan Harland)

NMRA Nametags

Remember nametags are available, \$6.60 plus postage to wherever. Orders taken by Sandra or myself.



Narrow Gauge Special Interest Group Steve Chapman

On Sunday February 1st, 2004, Sydney and surrounding areas Narrow Gaugers converged on Steve and Susan Pettit's residence, the gathering officially starting at 2pm. Steve gave us a talk on his Toadcroak Flume and Lumber Co. which is under construction, showing several well-detailed completed scenes and plenty of scratch built buildings. We were also honoured to witness the inaugural train, in the guise of a blue side tank loco named Thomas. Steve's layout will feature a large waterfront scene and tall forests with North American logging as the theme, and promises to be a great work of art.

We took a spell for Afternoon Tea, with a great selection of cakes, biscuits and drinks supplied by our host Susan. No one was going to be hungry after that lot! A table was filled with show and tell items, from hand laid track work through buildings, locos and rolling stock, and even a small demonstration layout. Each person who brought along a project gave a short description of the item and construction methods, and questions were asked and answered. This went on for quite some time, with a large variety of prototypes being covered. After going outside for a group photo, we had a lengthy



discussion to clear some issues raised after the first SIG gathering.

The successful day closed around 5pm, enjoyed by all, many

having gained advice on their projects, and many new ideas to cloud our minds till next time. This being our second gathering, we had an excellent turnout, with 14 members and 13 non-members enjoying the occasion.

Thanks go to Steve, Susan and Cooper for the abundant food and drink, and for hosting all 27 of us while we talked trains and narrow rails. Many thanks go to Mark Kendrick for his fine report. Next meeting of the SIG will be at George Paxon's residence, 5 Appleton Avenue, Wentworth Falls in the Blue Mountains on the 20th March. An election for Narrow Gauge SIG Coordinator will also be held at this meeting.

Division 2 Sydney Kim Bradley

The January meeting held at Allan and Ruth Garbutt's place brought 68 of the NSW members together for clinics, plain conversation and comradery. The temperature of 34 degrees forced everyone inside which was a real test for the air conditioning recently installed. Allan chaired the meeting, welcomed recently joined new member Kelly Loyd and son Josh who came down from Newcastle for their first meeting then passed to Trustee David North for information regarding the approaching Long Range Plan vote. Secretary Rob Barker spoke about the forthcoming BOD elections. From the AP Chair, Gerry presented awards to John Martin, (Golden Spike) Geoff Nott, (Author) Piet Hammersma and David Jupp (Association Volunteers). Piet was responsible for the video library for many years prior to David Latham and has also stood on the board.

Earlier in the day Ken Scales, John and Natalie Montgomery organised and presented clinics on the use of real rocks, simulated water and flowing water falls in modelling. The clinics were well attended and questions flowed faster than the modelled waters. Gerry Hopkins spoke about making turnouts DCC friendly which was also well attended.



John Montgomery and Treasurer Ken Scales

John Martin also presented to the video library several tapes from the family of the late Keith Pratt. Those are much appreciated. We all survived the temperatures and had a pleasant gathering. Thanks to Ruth and Allan, John, Natalie and Ken.

Division 2 Canberra Viv Brice

September 2003 saw us gather in Jess Brisbane's new abode. The theme of the meeting was the result of the design competition that Jess had started some months earlier to get ideas for her new layout. Space dimensions had been provided together with her basic requirements and a wish list. The winner was a standout, probably because he was the only one to respond! However, the poor response was rendered unnecessary since Jess had in the meantime decided on a totally different plan - to build a hexagonal display layout based on an old magazine article. Indeed, she had already completed the layout design and the benchwork was nearly complete. We wish her well and look forward to seeing future progress.

In October, we met at David Service's home where he gave us a run-down on the Black Ball division of the Union and Southern Pacific Railroad (the "BBUSP"). This is a free-lanced railroad based loosely on the Union Pacific, and on its (mythical) recent merger with the Southern Pacific in 1953. The result allows big steam and early diesels in both UP and SP liveries. Basic design is point-to-point with a continuous run option - two main yards with a small yard on a branch line.

David has an unusual problem in designing his layout - he has the use of half of a double garage which must also contain a billiard table, which must remain accessible for use although luckily not at the same time as railroad operation. His solution has been to make a major peninsula over the billiard table that can be rolled into the other half of the double garage when the billiard table needs to be used. In addition, he has carefully selected the height and construction method of the benchwork around the walls to allow for the normal height of a cue on its backstroke - all in all a very clever use of available space. There's obviously no end to the ingenuity of the model railroader in his never ending quest to get the most layout into the available space. Once again, we look forward to future visits to see his progress.

November's meeting at Stephen O'Brien's and despite all his apprehension and his quips about N.M.R.A. (No Model Railroading Activity), the meeting was a great success. Just about everyone brought along something for the show and tell which I found most interesting and very diversified from painting a brass loco to turning down wheels on N scale loco's to foam layout construction by Jess and yes, Stephen O'Brien with his lovely detailed cars he was working on. Stephen did the whole thing in relation to the catering which was more than ample and thanks both to him and the house of Woolworth's. Despite the heavens opening up I heard no one complaining



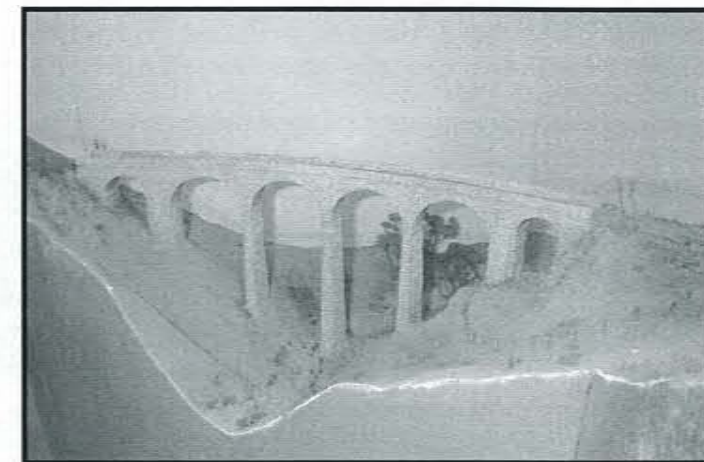
MAINLINE

about the rain, only other road users on the road to getting to Stephens. (I was unable to attend and so this report was brought to you by Peter Weller-Lewis)

On 11 December, we had our Xmas dinner at an Indian restaurant and as usual, the turnout was good and everybody seemed to have fine time despite the somewhat unorthodox setting.

The ACT Division's first meeting for 2004 was very different - the meeting was organised by Eric Hodgson in Cootamundra, Eric being our most distant member. Surprisingly, the attendance was excellent with most of the Canberra members going plus a Canberra visitor from the ACT Model railway Society and three 'ring-ins' from Wagga Wagga Model Railway Inc.. The meeting was hosted jointly by Eric and his close friend Laurie Anderson. First we split into two groups and visited Laurie's and Eric's layouts, where each host was supported by two or three more local model railroader's to help 'manage the crowds'.

Laurie has a beautiful layout based on NSWGR - all his track is hand laid in rail sizes down to code 40 on the branch line - very small and very realistic! His scenery is typical NSW country, and his colours are made authentic by his ground cover being mostly actual dirt from the areas concerned. His locos and rolling stock are all heavily weathered and his eye for detail is very good, even down to the toilet roll in the outside dunny! A



most interesting feature is a handsome curved viaduct, made from wood covered with carved dental plaster, which carries the track across a valley which slopes down and away from the front of the layout, giving an interesting lesson in perspective.

Eric's layout is more modest and is based on the ATSF. It is a folded dogbone design with a single track and two yards. Control is by DCC. In the single town, there are several building 'flats' made from pictures stuck on card and mounted just proud of the backdrop, giving a much more three dimensional look than if they were mounted directly onto the backdrop.

After the layout visits, we all gathered at Laurie's home where the ladies had organised a tremendous spread of refreshments. Ian Alce had also set up small sales area of pre-loved model railroad goodies and I was amazed to find a veritable treasure trove of Pennsy books and equipment which I immediately pounced on. Indeed, several of us found some very good deals and then had two hours in the cars on the way home to think up excuses for our spouses on the amount of money we'd spent!

March 2004

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Thank you, Eric and Laurie and all of the other helpers from Cootamundra, for a most memorable visit.

Division 3 Victoria Grant McAdam

Originally our November meeting was to be held at the home of Geoff Truman, but he could not host the meeting because of delays with the installation of a new shed to house his layout. There was also the possibility that Geoff may have been in hospital having an operation on his ankle. Ken Hughes, who lives near Geoff, very kindly agreed to host the meeting. He is also a member of the Sunbury Model Railway Club and his layout, "Johanna Landing", forms part of their modular On30 system. "Johanna Landing" can also be used on its own as a switching layout and that is how Ken displayed it for our visit.

It was one of our usual lunch time meetings with thirteen members in attendance. The formal part of the meeting was kept short with the main topic being the finalisation of meeting locations for 2004.

Although numbers were down at this meeting there were still plenty of items for display. Broad Gauge Models has recently released an SAR 700 class steam locomotive in HO scale and Peter MacDonald had constructed one of these kits. Ken Hughes had a VW ute in 1:48 and a Bachmann HO 0-6-0 that he had converted to an On30 loco. IN the garden he had a 1:32

battery powered railway that he had bought from his local Coles supermarket. Still more locos with Paul Richie building a PE underframe. He also had a decoder test bench and the latest issues of Mainline, Railroad Model Craftsman and Sn3 Modeller. Still more items to stimulate the mind came from Rod Hutchinson with the magazine: The Clearing House; News Rail; Light Railways; and Narrow Gauge Downunder. Rod also brought along a video featuring the world record breaking (length) train run by BHP. Grant M^cAdam had assembled one of his many kits, a vertical boiler in O scale by Duncan Models. He had the magazine: Narrow Gauge World and Narrow Gauge & Industrial Railway Modelling Review and the book The Festiniog Railway from 1950.

The December meeting saw the members making their way to the home of Grant M^cAdam, the Divisional Superintendent. This is our traditional Christmas meeting. As with all our meetings partners and family members are more than welcome, especially at this time of year. The day started bright and warm and it promised to be hot. Fortunately Grant had arranged a large tarpaulin in his backyard to provide additional shade. This meeting is usually very well attended and many of the partners helped out by bringing salads and sweets.

The day passed quickly in a friendly convivial atmosphere. After lunch Grant conducted the formal part of the meeting, keeping it brief. The main item of business was to once again thank all those who had hosted meetings throughout the year. Grant was also thanked for his efforts.

The items for display this month came from our regulars: Laurie Green; John Hunter; Steve Cullen; Mario Rapinett and Grant M^cAdam. Laurie had a copy of the RGS Story Vol. X. Pearce Miniatures have produced a whitmetal log truck (On30) to which Steve Cullen had added bogies and couplers. Another O scale structure was displayed by John Hunter. Mario Rapinett had some castings he had made from his own moulds. The surprise for the meeting was that Grant M^cAdam has produced the frame for his first layout. He intends to make use of the Bachmann On30 range and it will be based in northern Arizona and the period will be the early 1900's.

South Australia Ron Solly
Photos Geoff Chatwin

Saturday January 17th, saw the first 2004 meeting of NMRA members take place at the home of Ray Brownbill in the Adelaide Hills. Ray's layout - Wild Creek is HO American outline using DCC as the control method. While it is not yet had scenery applied, it allows running of many trains in a long loop. Pros & cons of DCC were discussed & it was generally accepted that if a new layout was to be started & it was the first, then go straight to DCC.

Many ideas both modelling & otherwise was passed around between the six of us. The new videos that were received on the Friday before the meeting were perused & 18 of the total now of 28 were lent out. During the talk on trains (models, prototype, shops & exhibitions) nibbles & refreshments was partaken.

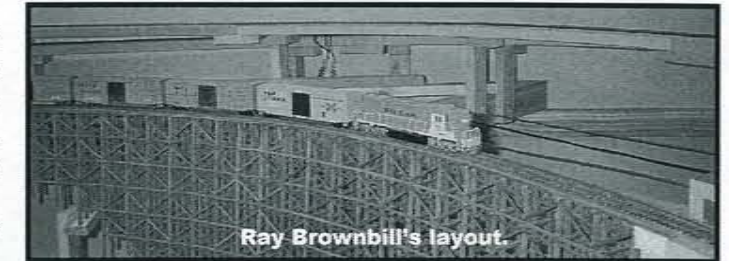
The next meeting will be 1.30pm Saturday, March 20, 2004 at

Ron Solly's home. (08 85222536)
This meeting will have three topics;

1. Who will host & when - for the remaining meetings of 2004.
2. A modelling session of "Show & Tell" .If you can bring a modelling object (vehicle, building, track, etc)or discussion/tip, it would be a start. We may even set up a programme for this so we do not all try to do something on the same day.
3. Normal chit-chat of anything- modelling or otherwise.



David Lovering, Ron Solly, Ern Raddatz, Ray Brownbill.



Ray Brownbill's layout.

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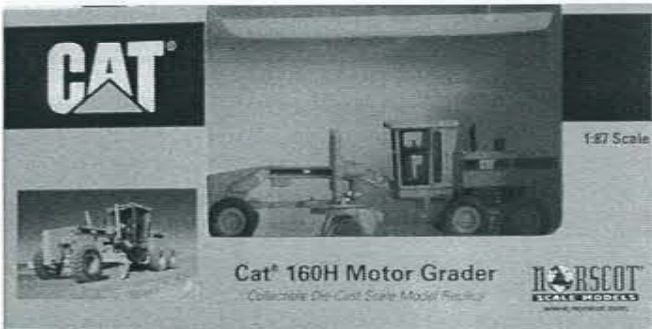
0-4-0 Dockside, 4-4-0 American, 2-6-0 Mogul (coal or oil), 2-6-0 Camelback, 4-6-2 Pacific, 4-6-2 Pacific Streamline, 2-8-0 Consolidation, 2-8-2 Mikado, 4-8-2 Mountain

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Wharf Logging Scene from Laurie Greene Div 3.

PRODUCT REVIEW LIONEL HO Challenger

Andrew Jordan

Lionel introduced their first HO scale locomotive for some time recently and have chosen to model the Alco 4-6-6-4 class Challenger locomotive. This locomotive was redesigned from the early CSA class little challenger produced in 1936. The revised large Challengers were numbered 3930 to 3999, although not all of these numbers were used. Built by the American Locomotive Company, they utilised many parts that were used to produce the Big Boy, thus the similarity of the two locomotives. Weighing in at just under a million pounds and capable of 5,400 horsepower, these Challengers could be found on many parts of the Union Pacific system.

Originally built to burn coal, some of them were converted to oil burning in 1944 and sent to the Northwest division between Huntington and Portland, assigned to passenger duties. With this, they acquired the famous greyhound colours which lasted

includes a dummy and semi working coupler which can be inserted into the front pilot for double heading. Detailing and painting are excellent and the cab windows slide open. Lionel offers 6 different versions with 2 road numbers per version. Please note that 3985 is offered in an "as delivered" set up which is not the current excursion guise. I got out one of my Rivarossi challengers to compare with the Lionel and the differences are immediate and very noticeable, remembering however, that the Rivarossi tooling is over 30 years old. The drivers look much better and closer to scale size and do not have a traction bands, number boards are lighted and the coal versions have a red led to represent the firebox glow. The cab is also lighted. All piping is separately applied, not moulded on and looks spectacular as the Challengers had considerable piping under the footboards. Other features are to be as



Lionel Challenger (centre) meets all expectations beside Key Imports Brass Early Challenger and Proto 2000 Kit based E-9

until 1952 when all locomotives were painted black and later renumbered to the 3700 series. The Challengers lasted on the UP in regular service until July 1959, when all steam operations ceased. Many were placed serviceable in storage but were never called on. A few of them escaped the scrappers blow torch, most notably 3985 which is currently in historic operation today.

In 1943, six Challengers due to go to the UP were diverted by the War Production Board to the Rio Grande which at that time was dominated by Baldwin locomotives. The Challengers were not well received and were returned to the WPB after the war. In 1947, the Clinchfield Railroad purchased these 6 locomotives and modified them to single stacks, using them to haul coal until diesellisation struck in the early 1950's, when they were finally scrapped.

Lionel has produced an excellent model. It is factory DCC equipped complete with QSI Quantum Sound which will operate on normal DC system with sound as well. An in built cam is used to synchronise the chuffing. The model utilises a diecast body and frame and weighs close to 3 pounds. Unlike the Trix Big Boy the tender is not permanently attached using a standard Kadee #5 on the rear. This can easily be replaced with a #58 scale coupler if desired. Lionel also

expected of a new production locomotive. The locomotive is presented in a very nice box for transport and storage and a comprehensive information booklet details features of the model. This handbook is much better than those offered by other manufacturers of DCC ready locomotives. One of my pet hates of modern HO articulated locomotives is the desire of the manufacturer to allow the locomotive to run on 18" curves by pivoting the back set of drivers which were, on the prototype fixed. This makes the locomotive look toy like in my opinion especially when negotiating sharp unrealistic curves. On versions with smoke deflectors, the 3 supports to the smoke box are missing. These could easily be scratch built from styrene but they should have been included by Lionel.

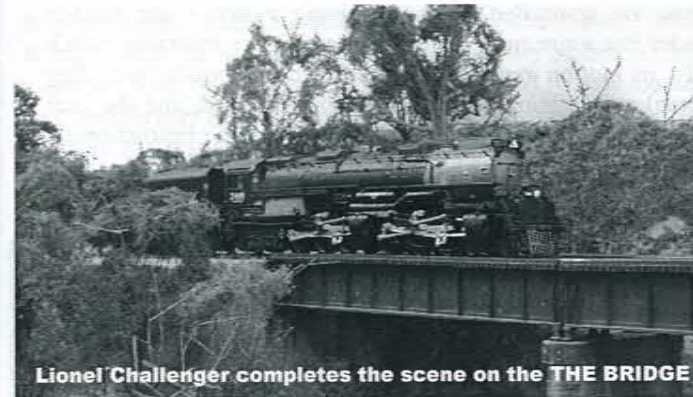
Other piping has been missed but could easily be added using prototype pictures if desired as Precision Scale offers many after market steam locomotive detail parts. These are probably omitted due to the pivoting rear drivers which would foul them on sharp curves.

One of my few criticisms is that the whistle sounded very distorted out of the box and required that the volume be lowered from its factory setting of 15. We adjusted it down to 9 and it sounded much better. The coal load also looks excessively shiny in its black paint. I'll be fixing that with real

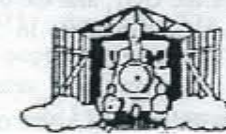
coal.

Overall the locomotive, a welcome addition to my fleet, looks and sounds excellent. This is no display locomotive, it will find itself in action on my layout. The locomotive is currently available in Australia through Tom's Discounts at West Ryde and The Model Railroad Craftsman at Blacktown. Numbers are very limited so custom ordering might be required which they can do for you.

These locomotives however are not cheap and will be in the vicinity of 1,200-1,300 dollars each. Compare this however to a brass Challenger locomotive which would cost around 4,000 dollars as Challenger Imports is currently offering one in HO scale at present. Versions offered are Union Pacific Silver/Black Coal fired 3985, 3989 Union Pacific Silver/Black Oil fired with smoke lifters 3708, 3710 Union Pacific Grey/Silver/Yellow Oil fired with smoke lifters 3976, 3983 Union Pacific Grey/Silver Oil fired with smoke lifters 3980, 3984 Rio Grande



Lionel Challenger completes the scene on the THE BRIDGE



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Silver/Black Coal fired 3801, 3805 Clinchfield Silver/Black single stack coal fired 671 and 673. A word of warning! The loco and tender are shipped dry and oiling is necessary. An oiling diagram exists for the loco but not the tender. Lionel has also announced a Union Pacific Veranda gas turbine with sound to be released in the coming months. These, to include the tender will be numbered 61 and 73. If the Challenger is any indication of the expected quality, the turbine will be eagerly awaited. I look forward to reviewing that model.



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PRODUCT REVIEW Broadway Limited GG-1

Richard Roth

First impression – WOW! As to looks, well, it looked right. I remember seeing GG1s at Sunnyside yard in my youth, and watching them out on the New York – Washington main line at speed. I even once managed a cab ride from Penn Station New York to Newark New Jersey. They even looked fast and powerful sitting still. The model of GG1 Number 4901 was kindly lent to me by David Jupp.

Just picking up the unopened box is impressive; this is really a heavy locomotive. I had to be very careful when lifting the loco out of the box due to the unexpected weight. The model looks well detailed, but there are a few very minor points which could be improved if you really want to count rivets (the first one, number 4800 had a riveted body – all the rest of the 139 built had welded bodies). The pantographs sit a bit high when folded down, though not as noticeably as on some electric loco models. Secondly, the side air intake grills are just flat, rather than filled with mesh. This would be hardly noticeable with a bit of weathering. Just a bit, mind, since the PRR tried to keep them clean. Neither of these really detracts from the model. Lastly the pilot beam handrails are missing, but including these would limit the model to curves above 42 inches (1067 mm).

On the plus side, the pantographs are among the most detailed and accurate looking around, as is the overall roof and other detailing. The pantographs themselves are just a bit short, with a reach of 23 feet above the rails. Pennsy occasionally had wire at 25 feet, usually in yards and loco depots, so this is not critical to the modeler. The first 57 units built had flat, built-up pilot beams, the rest were cast steel with drop couplers. The model is correct for its road number. The roof hatch is held in place magnetically and is removable for access to the sound system and 2-rail/ catenary selection switches, but the join is almost invisible. Read the instructions to open it, otherwise damage to the paint and detail could occur.

Speaking of which, Pennsy "Brunswick Green" was officially called Dark Green Locomotive Enamel, and consisted of one gallon of green paint mixed with 50 gallons of black! The only



time it looked green at all was at noon on a sunny day just after the loco was washed! Under normal train room lighting, this model looks right. The lettering and striping are crisp and appear accurate in color and completeness, and the running gear also looks accurate. A bit of weathered black on the sides of the driver tyres would be a nice touch, too.

Operation of the locomotive is at first straightforward. If you have straight DC, put it on the track, hook up some coaches (around 22) or freight cars (say 60 or so) crank up the throttle and stand back! The starting voltage for the sound system is around 3-4 volts, and the sound functions are somewhat limited. The unit has directional lighting, and the cab interior lights are on at low speed, but switch off over around 15 mph. The bell and whistle are controlled by the reversing switch – the built-in decoder can sense movement, so throwing the reversing switch whilst in motion runs these sounds. Other sounds (including volume) and lighting effects can be programmed, and the loco answers back with voice confirmation! Check the instructions; a small booklet is supplied with the model.

With DCC, it gets even better. Starting voltage is a bit high, but this can be taken care of by using the appropriate speed tables. In addition to the bell and whistle, coupler clanks (when stopping or starting), flange squeal (for curves), cooling blowers, air release etc. can be set via CVs (DCC acronym – DC users please ignore) or set to work automatically depending on what the loco is doing! The best bit is a built in Doppler effect for the whistle and bell; just like being at trackside! If memory serves, the bell and air horn are correct for the GG1, and the other sound effects seem correct. There are instructions in the manual for programming the loco.

Running the GG1 is beautiful. I used a test train of 10 lighted and correctly weighted Pennsy passenger cars on John Baker's layout using DCC. No overhead wires, but you can't have everything! The loco walked away as though it was running light! The loco started at an estimated 4 mph (slightly rough, but this will improve with running in and closer attention to speed programming) but from then on was exceptionally smooth and easily controlled. Unfortunately, there was not enough room to get up to real speed, only around 70 scale mph. The prototype was geared for 110 mph and frequently did more! And with 20 or more passenger cars! Some were re-gearred for freight – only 90 mph! I believe that given the room, the model could duplicate this.

One minor problem arose. The pilot trucks float a bit when running at speed. Either a bit of springing or some weight added to the trucks themselves would eliminate any tracking difficulties. This is only a problem on very rough track or at high speed, and most model steam locos have the same fault, too. Otherwise, the loco runs well and will even negotiate a curve sharper than 22 inches (559 mm) but the overhang is, well, huge! It looks much better on broad curves of at least 30 inches (762 mm), especially with full-length passenger cars.

Of course, with both DC and DCC there is a lot more possible

than just what is in the manual. The Broadway Limited web site (<http://www.broadway-limited.com/>) has the FULL programming manuals available in both PDF and Word formats. The DC or Analog programming manual is 34 pages long, and the DCC programming manual is 142 pages! Lots of bed-time reading there, kids. Like anything, the more effort you put in, the better the end result.

The Broadway Limited GG1 is also reviewed in the November

PRODUCT REVIEW Broadway Limited Duplex T1

Andrew Jordan

In 1937, the Pennsylvania decided it needed a new passenger locomotive to replace its venerable K4 4-6-2s, designed way back in 1914. It started by departing from its tradition of standardised, proven designs with a spectacular 6-4-4-6, the largest rigid frame passenger locomotive ever built. It hoped this S1 could haul 1,000 tons at an ambitious 100 miles per hour, but it's length limited its use and its axle loading was undesirably high and the locomotive was restricted to the Chicago to Crestline raceway on the western end of the system. So in July, 1940, the Pennsy ordered two revised locomotives,



Nos. 6110 and 6111 the first T1s of a 4-4-4-4 wheel arrangement. With poppet valves, light-weight motion, roller bearings, disk wheels and streamline styling by Raymond Loewy, they were modern in every respect. On test in 1944, No. 6110 produced an impressive 6,110 drawbar horsepower and 6,552 indicated horsepower at 85 miles per hour, which was well above that of a similar size Northern. (Q2 No. 6175, Pennsy's other duplex class 4-4-6-4, developed 7,987 indicated horsepower at 57 miles per hour in test plant operation, the highest figure ever recorded for any steam locomotive.)

The two locomotives ran between Harrisburg and Chicago, 713 miles, and although they spent much time in the shop, the Pennsylvania ordered 50 more locomotives without waiting for their teething problems to be resolved. Nos. 5500-5549 arrived in 1945-46, with the first 25 coming from the Pennsy's own shops at Altoona, Pennsylvania, and the remainder from the Baldwin Locomotive Works. The T1s were magnificent when they ran and, with their 80-inch drive wheels, they could run as fast as the engineer's nerves permitted. They rode smoothly and could average over 100 miles per hour with a train of 1,000 tons, although they could slip violently even at high speeds. They might have pointed the way toward future developments in high-speed, long-distance passenger service, there exists a sketch of a similar design for rival New York Central, but their complexity worked against them. They never supplanted the simpler, more reliable K4s before diesel's intervened and as early as 1949, most T1s were out of service. Sadly none were

2003 Model Railroader and December 2003 Railroad Model Craftsman. Both reviewers liked the model as well. The only way I can see to get full effect out of this model is to build an eye-level, LONG, multi-track electrified main line around a LARGE room, get a few of these GG1s with 20-car trains, and sit back and watch 'em go. I still would like one even for the short amount of electrified track I plan to include. It would be no trouble at all to recall the sight and sound of these magnificent locomotives as they were in their heyday.

preserved. In hind sight they have been viewed by history as the most spectacular failure of the steam era but due to the rapid advances of the diesel they never stood a chance to be fully. Broadway Limited has released a HO scale model of the T1 class Duplex 4-4-4-4 locomotive. Painted in deep Brunswick green with gold striping the locomotive looks superb. The model closely matches the scale drawings of the prototype and is representative of the locomotive after much of the streamline skirting had been removed. The T1 is very large in all respects and measuring 120" in length it is as long as all but the largest articulated locomotives. Due to its large boiler diameter and tall drivers the T1 stands very tall on the rails which gives the model presence compared to other locomotives of the era. The Broadway locomotive comes with QSI sound and works on both DC and DCC like their previous offerings. The locomotive

has a rigid frame like the prototype and is not articulated to negotiate tight curves, however it come factory installed with the 2nd and 3rd drivers blind, leaving the first and fourth with flanges. Broadway includes a replacement set of drivers for those who wish to have all drivers with flanges. Tools are provided and the changeover is quite simple. Detailing is well done but due to the smooth lines of the prototype the locomotive looks bare. The roller bearing side rods and poppet valves have been well done. The streamlined tender is massive and contains the decoder and speakers which connects to the locomotive via a socket under the detailed cab. It rides on two four axle trucks hidden underneath the skirting with a water scoop for water on the fly. A Kadde number 5 comes installed on the rear of the tender, while a dummy one is located on the pilot. I have not had a chance to see if this can be replaced with a working coupler. Three different road numbers are provided. Unlike the prototype which lasted only 4 years in active service these models will finally do the duplex concept proud.

If you are after one of these distinctive locomotives they can be purchased from the Railroad Model Craftsman at Blacktown and Toms at West Ryde, both in Sydney and can do mail order if required.



An INTRODUCTION to the **Burra Valley Railway**

by Boris De Bargo (working alias), B. E. (failed)

CHIEF ENGINEER, TRACK & SIGNAL DIVISION.

PREAMBLE

This is intended as the first of a series of articles for the MainLine Magazine (and maybe reprinted elsewhere with appropriate permissions). Other than the 'fame and glory' that goes with having one's name in print, I hope to encourage others to document their work and to pass on some of the lessons learned from others and from my personal experiences.

Warning - the more conventions, clinics and meetings that I attend and the more books and articles that I read - the more I realise that things on the BVR have not been done most efficiently or even optimally.

Having FUN is the name of the game.

HISTORY (ME FIRST)

I am now around 60 years old and mostly retired. As a child, I occasionally played with a wind up Hornby train set when visiting cousins, etc. During High School in the late 1950s my friend Mark and I used to spend many Saturday afternoons operating and improving his OO tabletop sized layout in his father's garage at Haberfield in Sydney.

I understood a bit of Electrical Engineering and got mixed up with the wiring and other similar problems. I recall that we had many limitations - but even in the 1960s when I was a University of NSW student studying engineering, there was the 'Zero-One' system that showed great promise for 'smarter' running of trains.

Then we went our separate ways - primarily with Mark joining the Navy and then moving to Canberra for a career with the Government. He ended up buying a hobby farm with space to build a 'train room', after he built the stables etc.

GEOGRAPHY

The Burra Valley Railway is located approximately 20 Km from the national capital in a purpose-built train room. Concrete block construction. No windows, one door only, domestic type ceiling, designed for minimum dust penetration and temperature changes.

The internal geography is based partly on the Pennsylvania Railroad with a local branch line running up the local mountain to 'Jill Hill'.

The 60 foot by 24 foot (try 18.3M x 7.3M) slab was laid in 1985 and the roof finished in 1986. (It makes a good catchment

area for the rainwater tanks.)

The external geography is not conducive to brief working stints in winter (day or night) nor during the day in mid-summer. The door cannot be left open for summer cooling (or winter sunshine) for fear that the local wildlife might invade and be impossible to remove without doing major damage. [We had a brown snake sun-baking immediately outside the door one day in autumn - a bit scary with only one door.]

PHILOSOPHY

Mark (CEO) wanted to be able to run a mix of steam and diesel with both big and small trains and both passenger and freight traffic. In other words a bit of anything and everything. With the Pennsy Railroad being amongst the world's biggest in its heyday, there is enough to choose from, especially if one is permitted to stray from specific years of prototype operations.

There is no formal restriction on mixing various time periods in any given operating session.

HISTORY (AGAIN)

By the time I got involved again with Mark and the BVR all the track had been laid and wired up for simple (except for the double pole switches required for the reversing loop!) DC operations. Trains were operating and a Wangrow SystemOne unit has been purchased. Mark had accumulated a good collection of locomotives and rolling stock so that a reasonable variety of trains could be operated.

In 1997 I was appointed Chief Electrical Engineer with the task of converting the DC wiring to DCC and installing the SystemOne package.

'Simple Job' I thought - the documentation was all there and whilst the DC wiring was done with many 'drop cables' and the necessary DPDT push-button switches to handle the polarity reversals necessary for closed loops (as in dog-bone layouts) - I imagined that simply unplugging the single/simple DC controller and adding some extra cables to allow the DCC Command Station to be set up centrally would suffice. No Way!

If my memory serves me correctly, my first major task as Chief Engineer was to replace the twelve single 40 watt fluorescent fittings with triple 40 watt fittings to provide good 'working lighting' - nothing to do with track lighting for operations.

For a building fed by a single 20 Amp circuit, this put the static load up from 2 Amps to 6 Amps. Another technical limitation

to work with. This may not seem critical to a normal suburban power consumer - but when one is fed by a fixed maximum loading pole transformer up next to the woodshed one does need to consider these things. And given that the cost of power will keep rising with privatisation, we should all plan to keep ourselves economical.

A real worry (still) is the fact that we have calculated that we will need about 3KW for track lighting when all is finished. Yes - that chews up over 12 amps of the available 20 amps for the building. And having just spent a week there at the end of December there will be a demand for some sort of cooling very soon.

Naturally 3KW of extra heating will be appreciated in winter but NOT in summer.

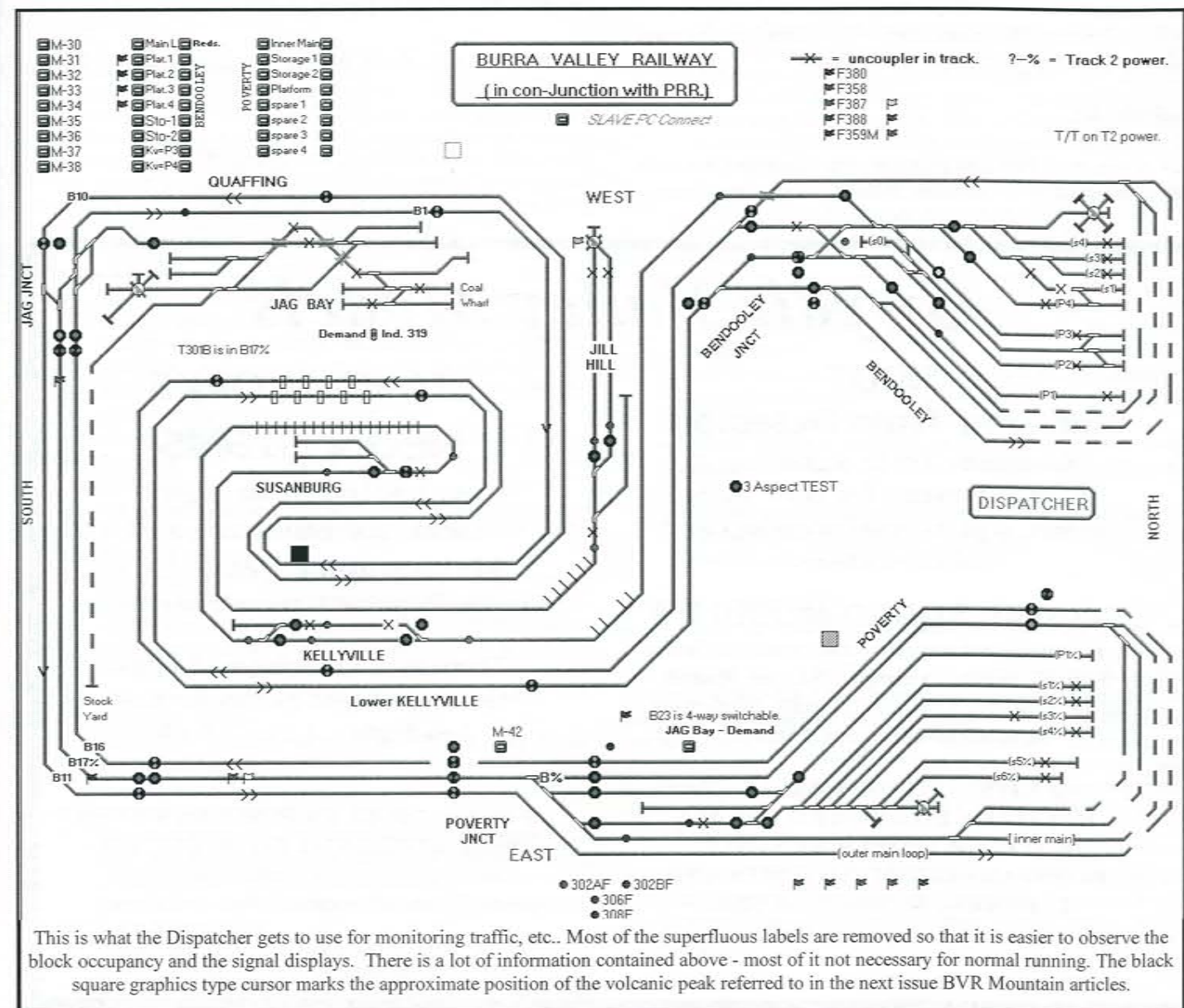
SCHEMATIC

The track layout is basically a big oval of some 300 feet with a branch line running off one side and heading up to the

mountains. The oval has been squashed to what would be the skinniest dog-bone and then folded around the hills and mountains. There are a couple of major stations to suit passenger operations. There is also a little spur line running down to a wharf.

The accompanying schematic was produced using RailRoad&Co software. This was chosen as being a suitable interface to DCC operations (especially System-One) that provided some (make that **lots of**) automatic control of signals and turnouts. But it needs feedback from the layout in the form of Block Occupancy data.

Hence all those DC blocks that were no longer necessary for DCC now became mandatory again. I guess that I should explain a bit more here - the RR&Co software does not need to have physically separate blocks - it just needs 'logical' blocks that can show where a train is on the layout. I decided that having sixteen physical blocks around the main-line oval was a simple(!) way of tracking operations. More later about the signalling complications.



Look at the layout schematic and trace the mainline track around the room. I deliberately drew the track to represent its physical layout as best I could with a package that is not a full graphics track planning package. Note that there are no smooth curves available for the track plan, and hidden tracks are shown by removing alternate segments of track. There are double-chevrons to indicate the running direction on the main.

The BVR has only three functioning junctions. There are no normal 'passing loops' as one would expect on a model railway. Instead there is a large loop of 'inner mainline' around (and bypassing) Poverty Station, with a long section (2 blocks) of two-way track. Another challenge for the Signalling Engineer.

In RR&Co there are two major modes. The first is EDIT mode which allows the design engineer to create and amend a multitude of track and associated features. In RUN mode you can hide all the background information and details and view only that information that a dispatcher would need for normal running / operations.

The attached schematic screen dump looks very complicated, but try to ignore all the numbers and extra symbols at this stage and try to get a feel for the shape of the layout.

HARDWARE

Lots of structural Pine and particleboard. Track is Peco code 100, glued on strips of carpet underlay for sound deadening -

and now we are taking delivery of big PRR locos with factory sound installed. [The BLI T1 (4-4-4) arrived at the Megatronics importers mid January, with 3 others expected soon.]

Signals are either modified LifeLike with LEDs installed or CDA (Australian) types. There are about 70 PECO turnouts with snap-action Peco motors driven mainly by accessory decoders linked to the System-One unit. Many of the accessory decoders have been modified because we have linked turnouts with a single address (not recommended in the literature).

Feed-back for Block Occupancy is via NCE BODs and NCE Auxilliary Input Units sitting on the CAB Bus. I have designed feedback circuitry to report the position of all the turnouts (also via the AIUs and the cab bus). Some of this was necessary because we have not yet found a simple way of intercepting all the macro and accessory commands coming from the hand throttles.

The computer system is a Pentium 1 running NT4 which seems to be more than adequate for RR&Co.

Next issue I'll talk about creating the scenery on the Burra Valley Railway.

John Geremin

Gwydir Valley Models

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LONG RANGE PLAN EXPOSED

The Long Range Plan is coming to you real soon. If you receive ScaleRails (the former Bulletin) you may know something about it by having read some of Charlie Getz's lawyer-speak explanations. However, if Charlie's prose left you cold or if you are an Associate member (no ScaleRails) you are likely to know little about what is being recommended by the Board of Trustees and will be confused as to whether you should vote at all, or if you do, Yes or No.

What follows is a layman's attempt to condense 50 odd pages on the web and 5 articles in the ScaleRails/Bulletin into plain English. Here goes and wish me luck!

The LRP is a plan for future development of the NMRA. It is intended to re-emphasise the organisation's position as leader of the hobby and to meet the challenges of the new century. After more than 10 years in development the Board of Trustees has adopted the LRP but to implement it it is necessary for the membership to adopt new regulations. These run to 28 pages but will replace the 1935 Constitution (as amended from time to time), the Bylaws and the Executive handbook. A vote of in favour by a simple majority of those members voting will be required to make the change.

Why is a change necessary?

Some reasons given have been that the NMRA has lost its focus; non-members see it as serving no useful purpose; it's too political; it's top heavy; lack of perceived value for the dollar; numbers are declining; 90% of serious model railroaders see no benefit in being a member; membership turnover has sometime reached 15%; the hobby is dynamically progressing and we need change to meet the new challenges.

What does it do?

- Rededicates the NMRA to its primary purpose of setting and enforcing standards. (Remember, the NMRA set the standards for interchange, propulsion and lately, and even now more relevant, DCC.)
- Encourages manufacturers to adopt the NMRA conformance warrants program
- Allows Introduction of product testing and reporting
- Expands the consumer protection role of the association
- Re-emphasises the NMRA as the voice of the hobby and as the repository and source of information for the hobbyist and others
- Allows expansion of the headquarters record keeping facilities to serve other organizations for a fee
- Strengthens the national convention and train show organisation allowing a second annual train show in a location other than the convention area
- Improves the profit making abilities of the Kalmbach Memorial Library
- Continues development of the Howell Day Scale Model railroad Museum

What changes are proposed?

- New members will automatically also become regional and divisional members. (Existing members may continue to decline regional and/or divisional membership if they wish - they will be designated Legacy members)
- There will be a small increase in fees, which will be then returned to the regions towards the cost of running National programs such as membership and

the achievement program. Regions will still be able to charge extra independently for additional benefits, such as our own MainLine

- Ordinary (in future to be called Standard) members (our \$A100 classification) will continue to receive ScaleRails, including an insert Bulletin containing operational NMRA news and information
- Affiliate (in future to be called Basic) members (our \$55 classification), currently ineligible for ScaleRails/Bulletin, will be able to download the Bulletin in electronic form
- The 17 member Board of Trustees will be reduced to 9 directors.
- The Australasian region trustee will become the Pacific Division director, responsible for Asia, Australia, New Zealand and the Far East. (Note that the directors, as for current trustees, are not personal representatives of the regions and act in the best interests of the NMRA itself, not their individual home regions)
- The other 8 directors are the Atlantic (Europe, Mexico, Central and South America, Africa and the Caribbean); West, Central and Eastern North America: one elected by members world-wide; one elected by North American members; NMRA Canada and one elected by Regional Advisory group representing the continuing 17 regions to take their proposals and concerns to the Board. We will be entitled to vote for 3 directors, not just the Pacific director
- Future Pacific director balloting and regional balloting will continue to be run independently of the US but obviously there will be a wider spread of candidates available
- Most directors will be elected for a maximum of 2 consecutive terms of 3 years each but the Atlantic and Pacific directors will be excluded from this requirement.
- A referendum and recall process will be introduced to allow members to have a say if they have concerns that are not being addressed by the NMRA board.
- Dues will be indexed to the cost of living index. Only increases above the index will require a membership vote
- There will be additional classes of membership but the 2 basic memberships we have now will continue as before with a name change only

What if the ballot fails?

Then it will be business as usual. However, the Board of Trustees has worked on the new concept for over 10 years and has voted to accept it. They are all volunteers and have the interests of the NMRA and its members at heart. It may not be perfect but mechanisms will be in place to for the board or the membership to fine-tune it when experience in its operation warrants it. After all the years of work it is unlikely that there will be enough enthusiasm left for another attempt to streamline the NMRA and make it more meaningful to the Hobby for many years to come.

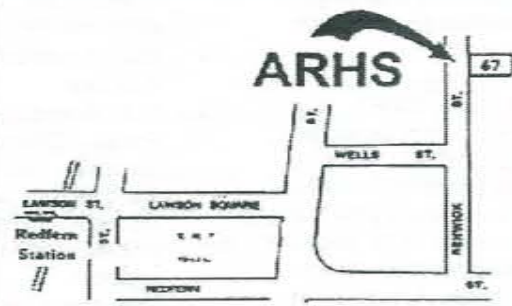
In conclusion, I have done my best to summarise the LRP as best I can. I leave it up to you, the members, to decide if you will support it or not when the ballot papers arrive. Good pondering!

John Saxon MMR HLM

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BOX HILL - VIC. March 5-8, 2004 at the Whitehorse Aquatic & Leisure Centre, Surrey Drive, Surrey Park, Box Hill. Open 6pm-10pm (Fri), 10am-6pm (Sat, Sun, Mon).

WOODEND - VIC. March 6-8, 2004 at Woodend Primary School, Owen St, Woodend. Open 10am-5pm (Sat & Sun), 10am-4pm (Mon). Contact Gary McPherson (03) 5427 1221.

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.

Your Membership Renewal Notices

We are now handling all renewal activity for the Region, even for those few Australian and New Zealand members who belong only to the US parent but not to the Region itself.

For a short while, you may continue to receive renewal notices from the US. You are certainly welcome to renew directly with the US but in doing so, you will be abandoning your local membership UNLESS you pay us the extra \$A16 involved.

Headquarters in the US close off their books around the 23rd of the month so we will be mailing out renewal notices in future in the first week of the month. If you do not renew by mail, telephone, personally or by email by the 20th of the month then you will run the risk of being treated by the US computer as unfinancial so risking a delay (or worse) in delivery of your magazines.

Please call me on 02-4369-7453 if I can help you further regarding this change.

Toni Saxon, Membership Officer.

Welcome to the following NEW MEMBERS

Mark Betone	Hoppers Crossing	VIC	N	Japanese
Brian Elliott	Noble Park	VIC	N	Japanese
Stuart Hedges	Katoomba	NSW	O	Various
John Eagles	Camperdown	NSW	Hon3	Logging
Graham Baker	Prospect	NSW	HO	MIL/NP/WP/GN
Walter Palmer	Sawtell	NSW	HO	Pacific North Coast
Charles Reid	Coffs Harbour	NSW	HO	NSW
Hank Pelzer	Rathmines	NSW	HO	SF/UP/SP/WP
Gary Nicolle	Wallsend	NSW	HO	SP
Bob Jensen	Templestowe	VIC	HO	VR
Allan Thomas	Mudgeeraba	QLD	HO/On3	US/Aust
Neil Birkett	Glenmore Park	NSW	HO	US
John Martin	Oak Flats	NSW	HO	Montana Railink
Frank Giddings	Dernan Court	SA	N	Great Eastern
Phill Perry	Ferny Hills	QLD	N	UP/SP
Mark Taylor	Port Macquarie	NSW	HO	B&M
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Allan Harland	Oxenford	QLD	HO/On30	GN
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INDUSTRY NEWS

NEWS STATEMENT JANUARY 5TH 2004 HORIZON HOBBY, INC. ACQUIRES ATHEARN TRAINS

Champaign, IL has purchased Athearn Trains of Compton, CA, a leading manufacturer of model train products. Athearn's headquarters will remain in southern California under the continued leadership of its President, Tim Geddes.

Athearn's management and staff will remain the same and Athearn's production and new release plans will continue uninterrupted throughout the transition. The only significant change resulting from the acquisition is that after March 1, 2004, Horizon will become the exclusive distributor of all subsequently released Athearn products and all new production of existing Athearn products.

Horizon Chairman Rick Stephens stated, Since

we began distributing model train products in 1996, we have been committed to providing model train retailers with the best service and selection. The acquisition of how seriously we take that commitment.

Tim Geddes the President of Athearn, Inc. commented, We are extremely proud and pleased to be able to form this affiliation and permanent relationship with Horizon Hobby, as we feel it will help Athearn best realize its future potential. Under this new arrangement and structure, we will be able to turn over the major advertising, marketing and distribution efforts to Horizon and use their outstanding expertise for those important activities. We will be able to focus our energies and attention on the continued enhancement and expansion of our product line and on the careful and detailed development of new products to meet the wishes of our customers.

Oriental Limited BRASS IMPORTER Closes Shop

The importing of models under the Oriental Limited name has been halted. The existing inventory of models is being sold through selected dealers.

All outstanding projects have been canceled. These include: L&N cabooses (HO), PRR Broadway

Limited (HO) and the Boxcab electrics for GN (Y-1) (N) and PRR (FF-2) (N).

The GN S-2-4-8-4 (HO) project will be completed and delivered under the Broadway Limited name. Tony Wenzel, proprietor of Oriental Limited has been closely involved with the Broadway Limited Line of die cast based models and the time requirements of this new endeavor have been too limiting to allow the operation of two entities.

R.I.P. Mail trains

MAIL TRAINS have reached the end of the line. No more the night mail, crossing the border, bringing no cheque nor postal order.

After more than 160 years of service, the Travelling Post Office - where post is sorted en route on special train services - has finally gone to the sidings.

Summed up memorably by WH Auden in his verse Night Mail, cruelly misquoted above, the TPO made its first journey in 1838 from London to the Midlands. By the First World War more than 130 services were in use.

By the end of the Second World War only 43 services remained and the 1980s saw further cuts.

The decision to finally bring about the end of the line for TPOs was greeted with much sadness.

Staff members past and present, together with

enthusiasts, see the death of the service as the real Great Train Robbery, as guestbook tributes lovingly left on TPO fan websites show.

The Great Train Robbery proper did, of course, offer the TPO's most infamous hour when a 15-strong gang made off with about £2.3m after holding up a train.

While 3,000 letters an hour were being sorted on the overnight trains, Royal Mail says automated equipment is now capable of a 30,000 per hour turnover.

The decision to transport post solely by air and road means the end to the "Victorian solution to a Victorian problem" of moving post around the country.

The move will save Royal Mail £10m a year (a third of the sum lost in the Great Train Robbery, in today's prices). No flowers.

New Products on the Horizon.

- Norscot Caterpillar Scraper to join the recently released HO Grader and Articulated Truck in HO.
- NCE introduces torque control on their decoders out now.
- Atlas announces N Scale Shay Locomotive.
- Lenz LS150 stationary decoder operates 6 devices.
- Broadway Limited GE AC6000CW DCC and DC Sound in UP, CSX, SP, Unpainted and wait for it, BHP Iron Ore!
- Hornby LNER OO scale 4-6-2 A4 Class 'MALLARD' Live Steam set COMING SOON!
- Kato HO-Scale GE AC4400CW available sound ready for ease of installation of 1 inch speaker in the fuel tank. Available in CEFX leasing, BNSF, UP and Canadian Pacific.
- Yeloglow white LEDs now available from *Miniaturics*. White LEDs without the blue glow.
- Bachmann 2-6-6-2 now available.
- Kato SD38-2 delayed. AC4400CW, (HO and N) their first locomotive to be sound friendly. Provision exists in the HO fuel tank for the fitting of a customer supplied speaker. SD70MAC also on HO and N scale.
- Atlas SD-24 and U23B, RS-1 re-release.
- Lenz has lowered the bar on HO Decoder pricing with the introduction of the LE1000W, 1 Amp, 1 Function (Headlight or Other), "Value Line" Decoder. Price approx \$US12.
- Atlas HO Fairbanks-Morse Train Master locomotive, with and without QSI Sound module, available September 2004.
- MRC announces second generation sound decoders with improved features. The new HO (1.5amp \$US70) and G scale (8amp \$US80) Synchronized Steam Sound Decoder comes complete with onboard speaker, and is loaded with 12 assorted sounds including synchronized steam chuff, three whistles (two American and one European), two air compressors at idle, blower hiss, fire box door, and coal shoveling. The decoder features F1-F12 functions, 2 or 4 digit addressing, advanced consisting, and programming on the main. They work with 14, 28 or 128 speed steps.
- Kato N scale BethGon Coalporter with removable loads and close coupling.
- Lionel HO Veranda Gas Turbine with QSI sound due April.
- Broadway Limited AC4s and AC5s due shortly.

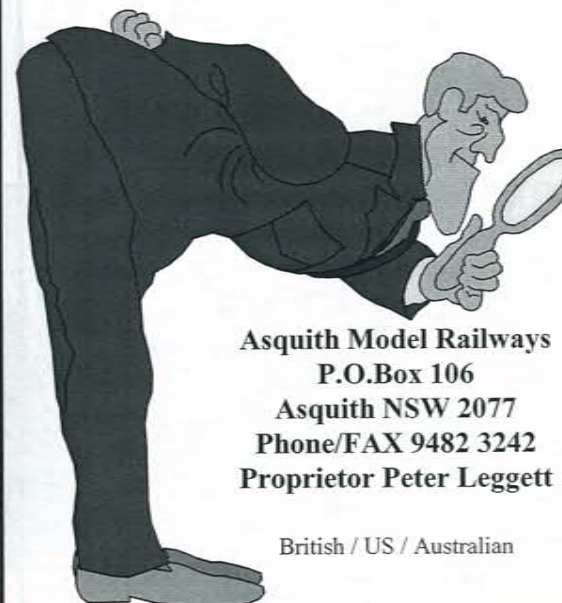


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- Wide range of Decals

Train Mountain – Model Railroading in the Grand Style

By Barry Dupler

All photos by the author unless otherwise noted

In June 2003, over 900 model railroaders gathered in a remote Oregon town for nine days of railroading - Train Mountain Style. What attracted people from as far away as Australia, Sweden and Germany was Train Mountain's second Triennial Meet from June 21 to 29. The meet was nine days of non-stop railroading action involving over 230 seven and a half inch gauge trains. The highlight of the week came on Saturday, June 28 when all the trains gathered in the main yard and held a grand "Cavalcade of Trains" for the assembled visitors.

The track plan offers a variety of different routes and terrain to match the power of the locomotive and the skill of the Engineer. For the novice Engineers, there are level routes looping through the campgrounds and yard facilities of the site. For more experienced Engineers, the hilly terrain poses a particular challenge with some grades over of 3.2%. One of the highlights of the Triennial was the sight of a 91 car train being pulled up the hill by two 4-8-4 Northern and a 4-8-8-4 Big Boy after a standing start on a 2.6% grade.



Figure 1: Over 200 trains gather in the Main Yard prior in preparation for the 2003 "Cavalcade of Trains". Photo courtesy of Trevor Heath

Not many hobby railroads have the facilities required to simultaneously handle over 200 trains – particularly on this large scale. The facilities and infrastructure to support the simultaneous operation of so many steam, electric and gasoline powered locomotives are formidable, but Train Mountain is up to the task. By any measurement Train Mountain defies description. The Guinness Book of World Records lists Train Mountain as "The Largest Miniature Hobby Railroad in the World".

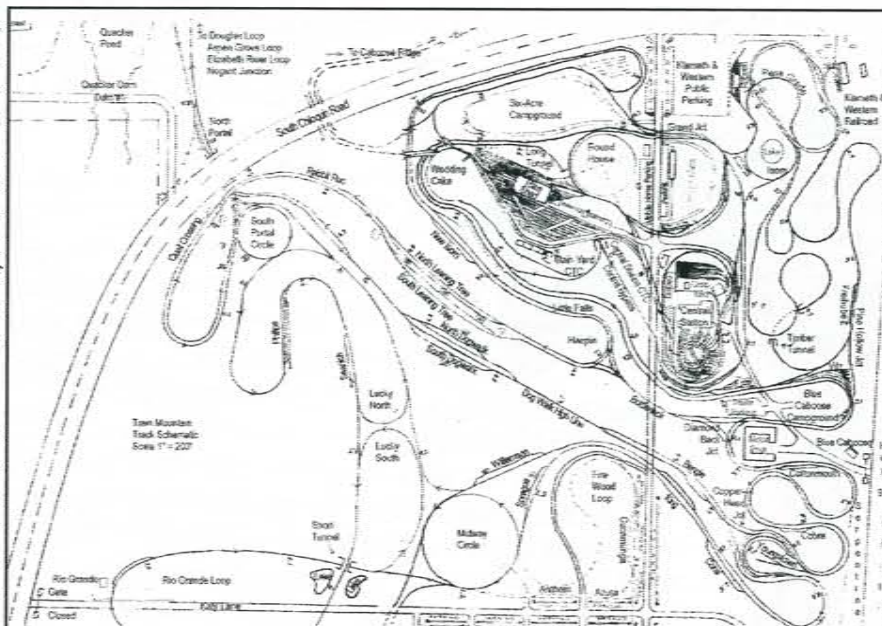


Figure 2: It's no wonder that a map and a radio are the novice Engineer's best friend when venturing out on Train Mountain's 21 Km of mainline track

Train Mountain is situated on over 2,000 acres of Ponderosa Pines and Aspen groves in the hills of south-central Oregon just north of the California border. The railroad currently consists of over 21 Km of 7 1/2 inch gauge mainline track and an additional 19 Km of yards and sidings. Even with a large number of trains operating, Train Mountain never feels crowded.

Train Mountain was founded in 1987 by Quentin Breen, an Oregon resident with the understated goal of providing a place to run trains. Quentin's long-term aim was considerably more ambitious. The location was selected because of the relatively inexpensive land cost and the dramatic scenery of rural Chiloquin, Oregon, a former sawmill town of 750. Because of the relatively inaccessible location, many would have thought it would be difficult to attract the membership and volunteer labor needed to create and sustain so large an undertaking. Quentin correctly assumed that the promise of a world class destination resort for model railroad enthusiasts and that it would remain a permanent sustainable facility would draw the necessary critical mass of volunteers needed to make Train Mountain a reality.



Figure 3 and 3a: The Triennial provided a number of opportunities to double and triple head large trains. Here the "Rio Grande Sandwich" traverses the backshop area. The train was pulled by Denver and Rio Grande Northern 1308 "sandwiched" between Union Pacific Northern 828 and Union Pacific Challenger 3977. Photos courtesy of Doug Auburg and Trevor Heath

That bet has paid off handsomely. In the sixteen years since it was founded as a non-profit museum the work accomplished by a small cadre of paid employee and a large group of enthusiastic volunteers is impressive. In addition to the over 40 km of track the facility boasts:

- Central Station, a permanent clubhouse, housing offices, a banquet/meeting room, a company store and snack bar
- A number of service buildings providing equipment storage and housing specialty shops such as a track shop, fully stocked machine shop, wood working shop and motor pool.
- A main yard with over 100 storage tracks.
- Numerous other yards and sidings, including



Figure 5: A collection of high power steam gathers in the steaming bays of the Crisp Yard



Figure 4: A quiet moment at the Ellingson Turntable and Central Station

the Crisp yard with unloading facilities, 26 storage tracks and 24 steaming bays and the 40 foot hydraulically powered Ellingson Turntable with 32 steaming bays and 83 storage sidings. One of the most eye-catching features of Train Mountain is the dozens of model buildings scattered around the grounds. These too are on a giant scale. Most are 1/6 full size – that is about the scale of the Barbie doll. This scale was selected to allow riders to look out at building and have them appear "in scale" at eye level, rather than look down on smaller scale buildings. The collection of building includes homes, stores and various industries.

Train Mountain also houses a growing collection of over fifty pieces of prototype equipment. Some are preserved for historical purposes, but others are adapted to serve as storage facilities, water storage and other purposes. The impact of Train Mountain extends far beyond the confines of Chiloquin. Train Mountain is actively exploring the use of new material and techniques such as the recent introduction of recycled plastic ties. A number of these innovations are being adopted by other tracks. Because of its size, Train Mountain uses its buying power to purchase large quantities of track, components and even complete cars and

makes them available to other clubs and the public at large through the company store.

Train Mountain is not resting on its laurels. There are ambitious plans for more than doubling the mainline. When asked about the long-term plans, Quentin predicts that in five years many of the three dozen prototype cabooses on the property will be upgraded with modern accommodations to allow members to stay on-site (Train Mountain already has several campgrounds and limited accommodations). In ten years Quentin predicts that home sites will be available to members on long term lease, allowing them to build private homes with direct



Figure 6: The size of the 1/6 scale of buildings can be seen in this view of the Train Mountain Lumber Company Sawmill.



Figure 8: The 2003 Triennial is over. The main yard falls quiet. Photo courtesy of Trevor Heath



Figure 7: The collection of prototype equipment includes this former Weyerhaeuser Lumber flanger/snow spreader

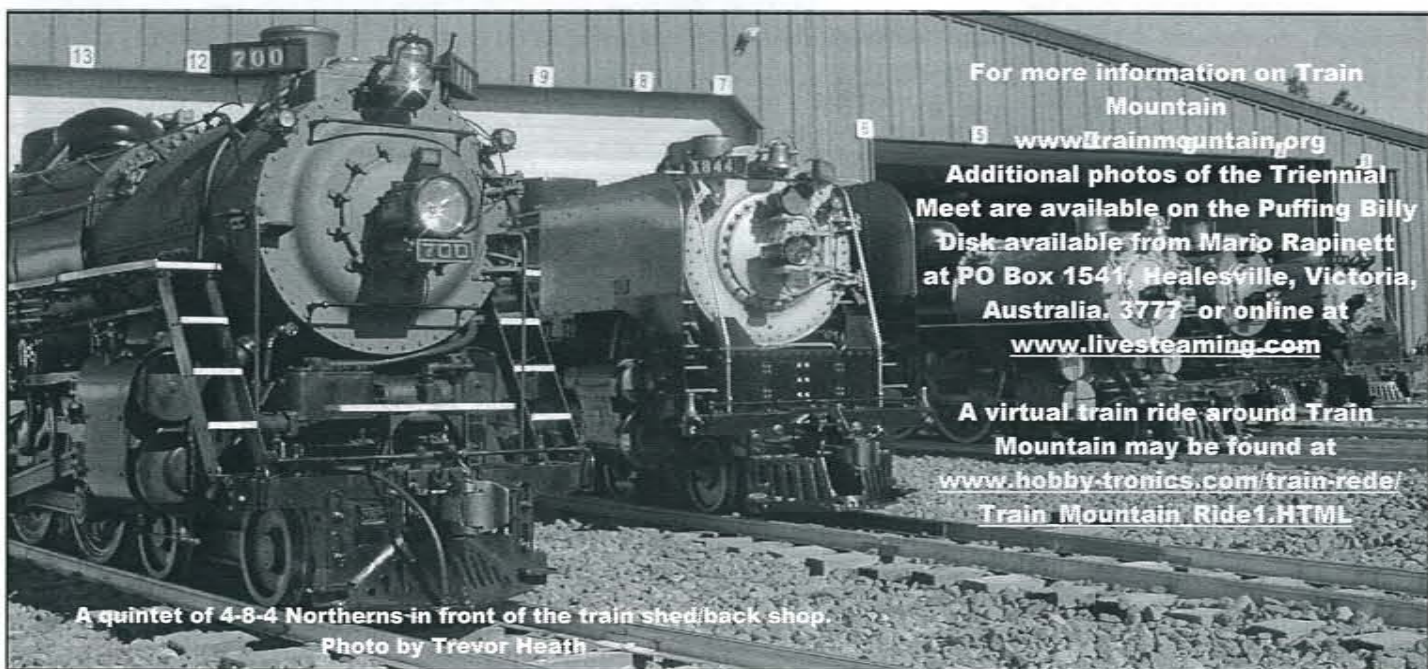


Figure 9. Author Barry Dupler and his locomotive

rail access to the mainline.

Meets are scheduled four times a year at Train Mountain. Plans are already underway for the next Triennial Meet in 2006.

With the steady growth it has experienced each of its sixteen years, it's a sure bet that Train Mountain will have even more treats for those lucky enough to attend. We hope to see you there!



A quintet of 4-8-4 Northern in front of the train shed back shop. Photo by Trevor Heath

For more information on Train Mountain
www.trainmountain.org
 Additional photos of the Triennial Meet are available on the Puffing Billy Disk available from Mario Rapinett at PO Box 1541, Healesville, Victoria, Australia. 3777 or online at www.livesteamimg.com

A virtual train ride around Train Mountain may be found at www.hobbytronics.com/train-rede/TrainMountainRide1.HTML

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Great Northern Railway

Great Falls Sub-division

Gerry Hopkins

The layout is housed in a custom built, fully insulated and air-conditioned room that measures 20ft x 24ft. I decided this time to model my old favourite Great Northern Railway. As I am fond of both steam and early diesel, then the time period had to be the 50's. Having seen books and videos on the GN I decided on Northwest Montana area. This would allow both flat plains and heavy mountain operations.

I like the challenge of switching in small yards. I also like to sit back and do some rail fanning and I like the social side of having a few mates (I do have a few - they don't cost much!) over for an operating session. This meant a single track main line with passing loops, some stretches of good scenery, some

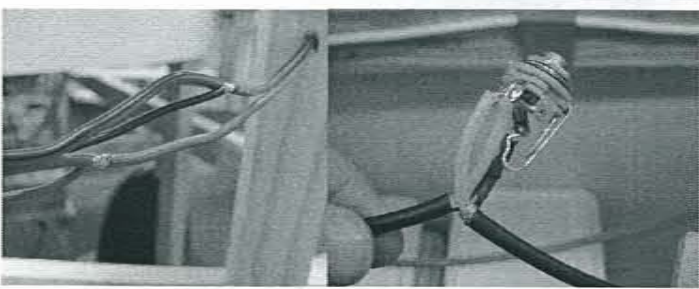
hidden staging yards that are connected by a through track. This allows for testing, re-locating used trains at the end of a session and just for running on show days. There are three other staging yards - at the end of branch lines.

All people have a phobia, mine is good reliable running. This means quality turnouts - there are only 2 good brands around - Micro Engineering and Railway Engineering, and hand laying. I decided on Micro Engineering track. I use code 70 on the main line and passing loops with code 55 on most of the other tracks and some code 40 in industrial spurs. I purchased a few ME c70 #6 turnouts and a few RE c55 #6 turnouts - just to get me started. I made both types truly DCC friendly and added over centre springs to the point blades so that they could be operated by hand. I now build my own turnouts.

The track is pinned down every 100mm or so with 15mm x 1mm panel pins with their heads cut off - Ooooooh! Good metal straight edges are used for the straight bits and the usual easements are used on curves.

Curves - here's another dilemma. I want 72" curves but they don't fit! Inside curves have a minimum of 24", outside curves a minimum of 30", yard and other curves 36". As each 10ft of track is laid, it gets wired. As I am using DCC there are only two track wires required. A red wire for the front track, and a black wire for the back. Hey, I'm a poet and I don't know it!! The power is then turned on and a loco used to test the track and point work so far. I am using the NMRA Track Gauge for the turnouts so all locos and rolling stock must have their wheel gauges checked before they can be run on the layout. Plastic wheels have been replaced with P2K, KD or Reboxx wheel sets.

I am using the EasyDCC system from CVP Products. It only needs two wires for the track and a co-axial cable (TV aerial cable) for the control buss. Dick Smith sells a nice 17-amp cable as a red/black pair and 6-amp red/black for the connection to the track. I had a roll of computer co-axial cable so I used this for the control buss. I can just cut the cable and solder in a throttle socket where needed, the sockets are \$1 each so the cost is low.

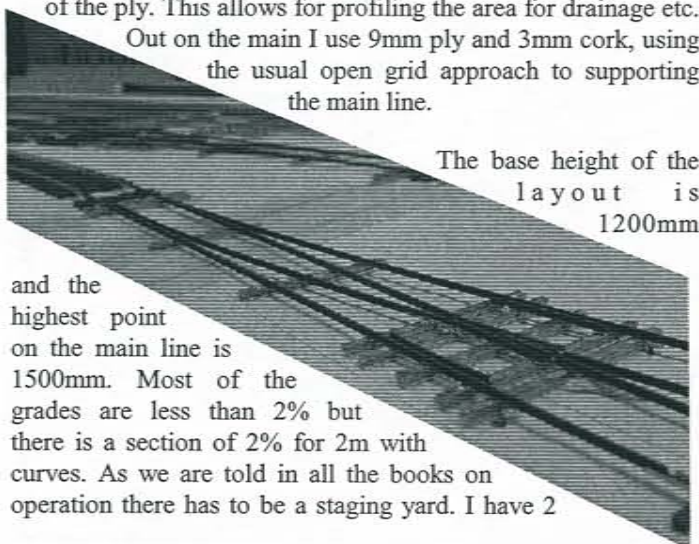


small towns with industries - and industries out on the main. Having a few mates around meant a reasonable isle width, so I settled on a minimum of 900mm (or 3 metric feet).

The roadbed is 9mm blonde plywood which is a good quality 5 ply that does not warp. In larger flat areas, Canite is used on top of the ply. This allows for profiling the area for drainage etc. Out on the main I use 9mm ply and 3mm cork, using the usual open grid approach to supporting the main line.

The base height of the layout is 1200mm

and the highest point on the main line is 1500mm. Most of the grades are less than 2% but there is a section of 2% for 2m with curves. As we are told in all the books on operation there has to be a staging yard. I have 2



As I mentioned earlier, all locos and rolling stock MUST run faultlessly so I am setting all the track standards and wheel spacing as per the NMRA Gauge. It's surprising how very few locos and rolling stock are 100% out of the box.

I have replaced all of the couplings with KD #5 or #58. The plastic types get set to open when coming down a hill and as the loco picks up the slack at the bottom of the hill some cars get left behind. Locos have all been retro fitted with #58 couplers.

Unlike many of the layouts in the USA that are built purely for operation and require a handful of operators, I can operate the layout on my own or with up to 10 operators. 95% of the time I am the only operator. It is quite relaxing to drive a loco out of the yard with 6-8 cars and drop off and pick up as the train moves around the layout.

Basically trains arrive in the yard from the staging area. Here they off load cars for the industries in the division and then run to the other staging area. I sometimes cheat here, by running the train around the system before it enters the staging area. The cars that have been dropped off are then put into local and divisional freight trains.

My biggest challenge? How to run GN (HO std gauge) in the 50's with SR&RL (HOn30) in the 40's. The answer - copy the prototype! Mainville is a theme park in Montana. The prototype? Edaville, it started in the mid 40's and is still running today. This means I can build a small fishing village with a narrow gauge railroad in good condition, and be served by the standard gauge railroad.

The main line turnouts are all powered. They are operated through DCC accessory decoders. This means they can be operated by push buttons on the facia, any throttle or can be computer controlled. Signals are being added as I go. The operator has to keep an eye on the track and obey the signals at all times.

Some of the locos have sound systems fitted. A pair of SD7's will have one sound system. An ABA set of F3's will have one sound system. Most of the steam locos have sound systems. I work on the principle that the cost of 1 brass loco equals ten sound systems and I can still have money left over to buy some car kits. To make the sound decoders work at their best, momentum must be programmed into the decoder. This is a bit of a challenge to new operators but after an hour, driving becomes second nature.

Rolling stock is another area of choice. I like detail on my cars, so I use P2K, Intermountain, Red Caboose and Bowser. As I have tight rail and wheel standards I can run my cars 1oz lighter than the NMRA Recommended Practice. This is quite OK on my layout but for rolling stock that gets taken elsewhere, such as the Module SIG, I follow the NMRA Recommended Practise for weight in the cars. The cabooses are Athearn, Atlas and Walthers and will be detailed over the next few years. All of the rolling stock and locos have been weathered to match the area.

For operations, I use a car card /waybill system. It is the same system that many of the layouts in the USA are using.

Listening to an Alco RS2 as its engine revs up/down, sounding the horn at grade crossings, ringing the bell as it passes passenger locations is much better than listening to some of the rubbish on the box. Or, there is working an ABBA set of Alcos over the mainline with a full manifest. You get the chance to make the dynamic brakes sing as you descend from the summit.

This is my first real layout in this HO broad gauge stuff, I started the layout in April 2001 so I still have a long way to go.....but, I'm having a lot of fun getting there!!!!

Layout at a glance.

- Locale:** Northwest Montana.
- Period:** Mid 1950's
- Layout Style:** Walk round. Aisle width = 900mm (3ft)
- Layout Size:** 6m x 7.2m (20ft x 24ft)
- Layout Height:** 1200mm to 1500mm
- Framework:** 1.5" x 2.5" batten
- Roadbed:** 9mm 5ply
- Roadbase:** 3mm cork on main and branchlines. 12mm Canite in yard areas
- Track:** Micro Engineering Code 70 Mainline, Code 55 Branchline and yard tracks. Some industry tracks are Code 40.
- Turnouts:** Some ME C70 #6, Some RE C55 #6, Most Handlaid #6-#8
- Operating System:** EasyDCC from CVP Products ('cause it's easy!)
- Locos:** Steam from Rivarossi - 2-8-2; Genesis - 2-8-2; Bachmann - 2-8-0 (x3), 4-8-2; Proto 2000 - 0-8-0 (x3), Y3B (x2)
- Locos:** Diesels: from Proto 2000 - GP7 (x2), GP9 (x3), SD7 (x2), SD9 (x2), FA1 (x3), FB1 (x3), SW9 (x2), FA2, FB2, E7 (x3), E8, BL2 (x2); Proto 1000 - F3A (x4), F3B (x3); Kato - RS2(x2)
- Decoders:** Soundtraxx, Lenz, NCE
- Rolling Stock:** Proto 2000, Red Caboose, Intermountain, Accurail, Bowser.
- Couplings:** Kadee #5 & #58, a few Accumate '87's for testing.
- Wheels:** Kadee, Proto 2000, Reboxx, Inter Mountain
- Switch Machines:** Switchmaster



A PROTOTYPICAL METHOD OF OPERATIONS

Stuart Sharp

OBJECTIVE

To consider an alternative to the prevailing card system that does not overly require the use of computers.

THE EXISTING CARD SYSTEM

This system uses small cards on which details are written about the wagon type, number and the origin/destination of the vehicle. It has as the focus the vehicle rather than the industries it serves. For this reason, it lacks the authenticity of the prototype where rail vehicles are ordered and despatched by owners of businesses.

Another shortcoming of the card system is that it does not take into account the seasonal nature of many industries. Fruit, field crops, fuel and other commodities are conveyed according to the season of the year. The card system does not take into account the different times of the year and, with it, the different patterns of train operations.

Also, the card system does not account for the variation in activities from day to day. The card system cannot tell the difference between Sunday and Tuesday. This is particularly important for those who model the modern era and serve industries that work on the just-in-time principle. It is also relevant for those modellers who follow branch or short line prototypes where services do not run every day of the week.

The card system does not take into account variations between times of the day or between night and day. Some industries on heavily trafficked main lines can only be served between the am and pm peaks during the day or after commuter services cease. The card system does not recognize the existence of traffic curfews for freight operations, as exists in Sydney, where main line freight trains have to be clear of suburban passenger operations by a certain time.

Weather plays a big part in the economy of many parts of the USA, especially those nearer to the Canadian border. Severe and on-going snow for many months of the year preclude the conduct of some industries. New housing construction stops. Dead people cannot be buried. The snow brings new types of activities and demands.

There is also a number of other issues relating to the prevailing card scheme. As modellers get older, it is often more difficult to read the numbers of the rail vehicles. The little boxes required to hold the cards can detract from the otherwise smooth appearance of a layout fascia. The boxes also catch clothing of operators, particularly in the case of narrow isle width.

In essence, the card system only provides for a repetitive style of operation where the only variation is origin and destination.

This will never change as long as the center of operations is based on the rail vehicles and not the industries. Modelers who use the card system have forgotten that, to use the term of the economists, railways are a derived demand. In other words, railways have no reason to exist in their own right and their existence is based on a demand for transport by another variable – commerce, industry and people.

A NEW PROPOSAL

The challenge is to formulate a scheme that addresses the prototypical shortcomings of the existing card scheme while at the same time addressing the physical issues.

The number of trains to run in an operation session is determined by the number of industries brought into use on the layout. The strategy proposed involves the allocation of industries to operators. If one has ten industries but only one or two operators, a decision can be made as to which of the industries will be working during the operation session. If the number of people that turn up for a session is less than the number required to place and remove rail vehicles from sidings and factories, then a decision is made to keep a certain number of industries off-line. Trains simply pass these industries without picking up or setting down vehicles.

For those industries brought on-line, the nominated owner of the industry is responsible for ordering vehicles for loading goods for despatch and also for ordering materials or supplies to be used for production or consumption. In so doing, the pattern replicates exactly what happens in real life. To make the system work smoothly, industries that are related are brought on line together. For example, the pickle factory and the siding loading fresh vegetables are brought on-line together. The pure water works and the brewery are brought on-line together.

Industry owners do not order specific rail cars or know what number of vehicle will bring in supplies. Orders for empty trucks or requests for full wagon loads to be collected are given to one of the operators who fills the position of despatcher. Requests for materials go directly to the nominated owner of the industry, who in turn requests a vehicle for loading from the despatcher. Requests and orders for off-layout suppliers and customers are handled by the despatcher.

Requests for empty trucks or for goods from another industry are made on the Industry Truck Order Form, which is figure 1. (Page 35) Requests for the despatch of loaded trucks are made on the industry Truck Despatch Form, which is Figure 2. (Page 35) All these forms eventually end up with the Despatcher, regardless of whether it is direct from the owner or indirect via a supplier, who then places the order for a truck.

The next step is for the despatcher to organise the allocation of

empty vehicles and to pick up loaded trucks. Empty trucks are selected from those standing idle in holding yards. In a manner that accords with the prototype, the despatcher simply selects any vehicle that is appropriate for the client. The despatcher could show a bias towards a certain road flag, but that is a discretionary wish. The despatcher may select a road name for particular parts of the layout which are served by different railway companies. However, the industry owner does not care what road-name or vehicle number he receives.

FORMING A TRAIN

After the despatcher gathers the required number of empty wagons for the train based on the Truck Order Forms, he checks the Truck Despatch Forms and sees whether there are any industries at the point of origin of the train that need to be added to the train.

In line with the real thing, one of the layout operators, who is in charge of the train, completes the Train Composition Form (figure 3 Page 35), taking note of road ownership, truck type and colour of vehicle. No regard is paid to the vehicle number.

One may think there is confusion if there are two or more trucks in a train with the same car ownership, type and colour. However, it does not matter which single or multiple vehicles are placed in a siding. Even if two vehicles are to be lifted from a siding going to two different destinations in the same direction, it does not matter which one goes where. These issues are simply determined by the operator in charge of the train.

If a truck is to be placed in an exchange siding or yard to be lifted by a subsequent train, the appropriate Order or Despatch Form is transferred to the layout operator who will be responsible for the following train. Alternatively, the forms can be left for the next session.

When a train reaches its destination, whether that is a hidden or visible yard or depot, the vehicles are placed in any part of the yard and are immediately available for any random movement or non-movement. There is no need for card boxes for each track and trucks can be switched around the yards without having to continually transfer cards from box to box. The author uses a reception road to stow vehicles which have just arrived. The vehicles are then moved into a yard road and, by doing so, marks them as available for a future turn of duty.

If someone visits your layout with an engine and wishes to see the engine run with any cars or even a particular set of cars, there is no crisis between a mismatch between trucks and cards. All trucks in a yard are regarded as being empty and ready for service. The despatcher simply selects empty trucks from any track from any yard. It does not matter where the trucks end up because the vehicles are regarded as being empty and can end up at any yard for future allocation.

PICKING UP EMPTY VEHICLES

After an industry has emptied a vehicle of its load, the truck is available to be picked and returned to a yard for reallocation.

On some railways, the company will automatically pick up a wagon at the expiration of 24 hours. In other words, the industry owner has 24 hours to remove the load, unless the vehicle was spotted on a Saturday or Sunday, in which case the industry owner has until the next working day to clear the wagon.

In a vehicle is still unloaded 24 hours after being placed in a siding, the railway owner usually charges a demurrage rate for every day the vehicle is delayed. Sometimes, an industry has a contractual arrangement to allow for periods longer than 24 hours. These rules provide variation in the pattern of operation.

For layout operations, empties can be handled in two ways. Firstly, the vehicles can be automatically picked up in the subsequent operating session or after a set time in the same session, unless there is any opposing notation that was made on the Truck Order Form. Secondly, the industry owner can complete a Truck Despatch Form to take the vehicle away.

CONFLICT BETWEEN THE ACTUAL POSITION OF TRUCKS AND THE START OF AN OPERATIONAL SESSION

Sometimes, it is possible to find that the position of trucks in sidings and industries does not accord with Order or Despatch Forms. This can occur when the author's grand-children operate the layout and move the trucks all over the place and not in accord with the closure of the previous operations session. Any visitor who simply wants to run trains without regard to prototypical operations has the same effect.

It may be that the existing Order Form shows a requirement for two trucks but the siding involved only holds two trucks and two trucks are already in the siding and no vehicles are due to be despatched that day according to the Despatch Form. Two options are available. The first option is to write new forms to accord with what are the existing, actual, physical circumstances. In other words, complete a new Despatch Form to remove the vehicles or cancel the existing Order Form. The second option is to allow the existing forms to stand but to invoke a standing rule that applies to the layout as a general rule. This standing rule is just one of the usual layout rules that tell operators the maximum length of trains, the capacity of various locomotives and the pattern of train movements. The standing rule relevant for conflicts between truck locations and Order/Despatch Forms states that, where trucks already stand in a siding and there is no further room to hold additional vehicles and no planned despatch of trucks, the first freight train picks up the vehicles and takes them to the nearest yard.

THE USE OF HIDDEN STAGING YARDS

Some modellers use hidden yards to provide a place whence and whither trains travel. There is no additional impediment if one uses hidden staging areas for the storage of trains. Two options are available. Option one caters for those modelers who operate a closed system of industries, in which all trucks on the layout operate only amongst the industries on the layout, without the existence of off-layout industries. It allows for the assumption that trains arriving at the layout from a staging area are

composed entirely of empty trucks and these are taken to the first available yard where they are stored. The despatcher then uses them as required. Similarly, trains departing the layout for the staging area are deemed to comprise only empties.

Option two takes into account off-layout industries. In this case, the operator of the train is holding a Train Composition Form for a train leaving the layout. Once the train has disappeared from sight, it is deemed to have reached its destination and the Train Composition Form is disposed of. For a train entering the layout, the operator has been given by the despatcher a number of Industry Truck Order Forms and Industry Truck Despatch Forms relevant to the section of track between the staging area and the first yard. If there are trucks of the correct type in the train, the operator uses them to fulfill the orders for trucks. If not, the vehicles are taken to the first yard where orders involving off-layout industries are transferred to the operator of a connecting service and the remainder is stored in the yard.

The common aspect between the two options is that there is no requirement to retain a record system or knowledge of vehicle types or numbers. The system introduces a randomness into operations where the layout despatcher might face the arrival of a train of unordered, unwanted empty wagons on his system. For example, there might be a train of grain hoppers arrive when none have been ordered, the silo is empty and it is the wrong season. Such action is common on the prototype where a despatcher in one region (in this case the despatcher who lives in the hidden staging yard) is facing severe congestion and is forced to make room by transferring vehicles to another region (namely the despatcher for the layout).

If it is possible to have visual contact with the contents of the hidden staging yard, the layout despatcher can control the arrival of trains and the need to cope with the arrival of unwanted vehicles is largely eliminated. There is no need to switch certain vehicles from a train, if such vehicles are not required to fill orders. The whole train comes out of the staging yard and remarshalled according to use and non-use at the first yard. If there is no room in the first yard, the empties can be taken to another yard or, if they are also full, return to the hidden staging area.

NATURE OF THE DOCUMENTATION

Three forms are used. These are:

- an Industry Truck Despatch Form,
- an Industry Truck Order Form &
- a Train Composition Form.

The forms can be any size. The author uses a special layout apron which has custom-designed pockets for a radio cab controller, uncouplers, a railer, spectacles and the forms in A4 size.

An interesting feature is the completion of the Order and Despatch Forms. The question is when are these to be completed. The answer depends on the volition of the layout

owner. One way is to fill out forms as each operational session takes place and as each industry is brought on-line. The easiest manner is to have separate forms for each day of the week. That way one would end up with 14 forms for each industry. As a session starts, the layout owner can make two decisions. Firstly, there is the question of what day of the week will the session operate and, secondly, what industries are to be brought on-line for the session. If forms already exist for the selected day and selected industries, action starts. If not, decisions are made and forms filled. One could complicate things by having a form for each day of the year – i.e. 365 Order Forms and 365 Despatch Forms. This would be cumbersome but its management could be aided by the use of a computer to store the forms. Note that the computer is used only in a restricted form. A compromise would be to have forms for various but not all weeks during the year to take into account harvest time, production variations and seasonal changes.

TASKS OF THE LAYOUT OPERATOR

Each operator takes on several roles in the proposed scheme. Each person is an owner of industries and businesses, both on and off layout. In that capacity, he/she controls the supply of wagons.

Each operator is also in charge of a particular train and acts as both driver and conductor. As conductor, the person keeps the details of the origin and destination of each truck and is in charge of paperwork. The same operator is also responsible for marshalling and splitting trains in yards and at wayside sidings. That same person also does the engineer's job of preparing and stabling the locomotives.

One of the operators takes turns in being despatcher. That person receives the Truck Order and Despatch Forms and distributes them to the other operators in charge of particular trains to enable them to form, run and alter their train compositions. The despatcher also can operate a system of wild cards which have the function of replicating the day-to-day problems of the 1:1 scale. Issues to be covered include failed locomotives, defective rolling stock and trackwork. It is up to the despatcher to activate the system and to determine the extent of its use.

Operators also act as station agents for depots along their route. They are in charge of all vehicles occupying tracks within the yard limits. The agents report delayed or defective vehicles to the despatcher for attention.

SUMMARY

There are pluses and minuses in the proposal but it is a scheme that suits the author's physical and operational needs. It avoids unsightly boxes on the layout fascia. The system still relies on paper for truck movements but, by the use of A4 size, the larger font size is easier to read and the paper easier to handle. Remember that the author has no wrists and his hands are surgically attached to his forearms.

On balance, it would be hard to argue that it is not far more

prototypical than the well-known card system.

Fellow member, Graham Saint, muses that any form of model railway operations is a compromise to prototypical operations. In his usual analytical manner, he simply states, assuming readers are logical thinking people, that a sub-set of ideas involving any aspect of model railways must ipso facto be a compromise. He postulates that it is of no surprise to find no single universal system of model train operation that takes into account all the variations of the physical form of different layouts. There can be no criticism of any operating system because the new proposal started with an acknowledgement of the imperfection of all operational systems. It's a case of using the system that works best for each layout.

INDUSTRY FREIGHT CAR ORDER FORM					
CUSTOMER NAME:					
DAY OF THE WEEK	TRUCK TYPE	NO. OF TRUCKS	PLACEMENT LOCATION (IN SIDING)	FREE DESPATCH TIME (in days)	NOTES
MONDAY					
TUESDAY					
WEDNESDAY					
THURSDAY					
FRIDAY					
SATURDAY					
SUNDAY					

Figure 1 (actual size reduced)

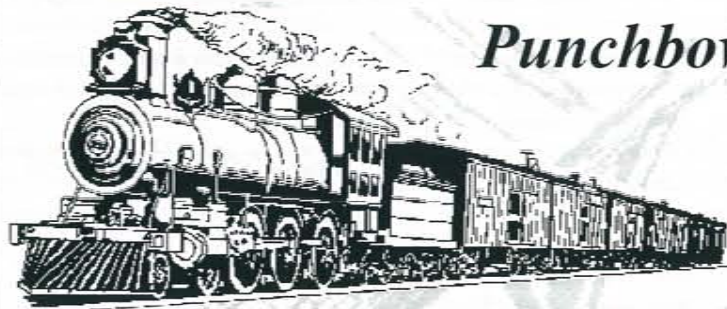
INDUSTRY FREIGHT CAR DESPATCH FORM					
CUSTOMER NAME:					
DAY OF THE WEEK	TRUCK TYPE	NO. OF TRUCKS	PLACEMENT LOCATION (IN SIDING)	DESTINATION	NOTES
MONDAY					
TUESDAY					
WEDNESDAY					
THURSDAY					
FRIDAY					
SATURDAY					
SUNDAY					

Figure 2 (actual size reduced)

TRAIN COMPOSITION FORM			
ROUTE DETAILS			
TRAIN NO.	DESPATCH DATE	ORIGIN	DESTINATION
TOTAL TRAIN WEIGHT			
TRUCK DESCRIPTION (ROAD, COLOUR, TYPE)		TRUCK DESCRIPTION (ROAD, COLOUR, TYPE)	
LOAD DESCRIPTION		LOAD DESCRIPTION	
TRUCK WEIGHT (LOAD AND DESCRIPTION)		TRUCK WEIGHT (LOAD AND DESCRIPTION)	
DESTINATION		DESTINATION	
INTERCHANGE LOCATION		INTERCHANGE LOCATION	
TRUCK DESCRIPTION (ROAD, COLOUR, TYPE)		TRUCK DESCRIPTION (ROAD, COLOUR, TYPE)	
LOAD DESCRIPTION		LOAD DESCRIPTION	
TRUCK WEIGHT (LOAD AND DESCRIPTION)		TRUCK WEIGHT (LOAD AND DESCRIPTION)	
DESTINATION		DESTINATION	
INTERCHANGE LOCATION		INTERCHANGE LOCATION	

Figure 3 (actual size reduced)





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Dear Editor,
I thought others might be interested in this anecdote. I have two air compressors - a full size unit and a bench-style oil-less. The oil-less pump is much quieter, a fact that is appreciated by the neighbours when I'm spraying my finished model late at night. However, the diaphragm in them only lasts so many hours. When my Holding compressor tore its diaphragm, I had a good look at its construction and figured that it had a lot more life in it so long as I could obtain or make a replacement diaphragm. A replacement was the easiest solution (it turned out to be less than \$10 and the pumps are now towards the \$200 mark) but the only hobby shops that I knew carried them did not carry the spare part.

Undaunted I tried the Internet and came up with Stanbridge's Hobbies in Perth. A few days later the part arrived in the mail and the compressor is working like new. While Australian hobby shops do not have the strong web presence of many of the US outlets, don't be deterred - you can still get lucky. Also, I've since bought more diaphragms. While the oil-less compressors are supposed to be good for X number of hours, apparently you can reach X quite easily!

Steven Burrows,
Lawson NSW

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EMAIL COMMUNICATION

Allan Garbutt	president@nmra.org.au	David Latham	videos@nmra.org.au
John Saxon	vicepresident@nmra.org.au	David Jupp	editor@nmra.org.au
David Jupp	secretary@nmra.org.au		books@nmra.org.au
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Sowerby Smith	publicofficer@nmra.org.au	Michael Nott	comms@nmra.org.au
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