



THE NORTH STAR CHRONICLES – a newsletter for the model railway fraternity

Volume 1 no 11, November 2013

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Editorial

To DCC or not DCC that is the question!

Well well well! I obviously touched a nerve with last month's feature but it is good for the hobby that others better informed than me are prepared to present their views. Here in the order they were received:

First from John Burkhardt who is well versed in the intricacies of DCC as he not only sells the product but fixed several of my Digitrax throttles which had gone on strike. John copied me in on a message he sent to a local Free-mo group:

"Don't know whether you're on the distribution list for the attached newsletter penned by David Cairns in Durban, but I think that you guys who have successfully introduced DCC into a Free-Mo set-up – the only one in SA! You would possibly be better equipped to comment on the merits of DCC as I yet only took part in a single operating session, though I could already experience the benefits being able to operate trains like the prototype does bring with it.

Also your statements of fact would carry more weight in negating what I consider the unfounded negative "observations" made by the author quoted extensively by David. Unfortunately there are too many of this kind of uttering's offered as facts in the various bulletin boards which usually have their origin tin the lack of willingness of the (mainly US) modeller to move with the times and learn something new and do things for themselves.

Straight away I would question the author's reference to certain peripherals where simply I cannot see the relevance to Free-Mo modelling, and the supporting picture simply tells me that someone is a rather untidy worker irrespective of what system/principle he/she is working with. That is where I think a club environment like Free-Mo is at an advantage over the single layout owner, as there surely will form a natural division of expertise – not everyone is into scenery or conversely into electrics!"

Next from Jimmy Mattushek

"On the DCC Subject. I built a setup, approx. 3m x 6m, about two years ago. I wired it up for DC control. Last year I decided to go the DCC route. The first thing that happened is that I was able to get rid of about 60% of the wires under my layout, only having the 2 bus wires running. I found that it was a lot simpler. Where I had a wye, Digitrax have an automatic device that sorts out the cross wiring and the shorts that could cause a short.

Now, I can run a number of trains, with sound, on my module without worrying about switches etc.

I use a Digitrax system and once I got to learn all the items and features on the throttle control gets better. The other advantage is that I can walk around my set and plug in and work from that position, instead of trying to run back and forwards to the main board.

My next trick is to connect up all the points to the controller. That is another story.

The disadvantage of this setup is that the capital outlay is expensive. Each of my DC locos had to be converted to DCC and by the time all the controllers and the DCC chips and sound chips were installed, my bank balance was severely eaten into".

Jimmy's points are well made – particularly in relation to cost. Don't think anyone can gainsay that DCC is a more expensive approach to loco/layout control.

And now from Francois Kritzing:

"I think the basic question, has DCC delivered on its promise to BETTER run our trains, is ambiguous... the answer, in my view, is yes and no.

YES, it has made it BETTER. We now have relatively simple access to multiple locos on our layout, we can run trains in any direction, without concern to toggle switches, and we have separate access to up to 22 functions, varying from lights, sound and motion effects. Is it better than the old 'faster, slower, forwards or back' control, yes, exponentially better!

BUT, we can also say NO, it has not... more and better control, does not necessarily make for SIMPLER control. We have a steep learning curve to master the new control system. We have some new concepts

to master, in order to completely and accurately program our prized new digital (with all the bells and whistles) locomotive... that is unfortunately the price we have to pay...

What I totally do NOT agree with, is that it has placed the onus on the user to possess a master's degree in astrophysics to use the system. I assume in the reference to the "proprietary throttles with 1985 era Texas-instrument-scientific-calculator interfaces" we are talking of the seriously aging Digitrax system's interface. (almost certainly – ed) This is so, and, there are others which suffer a similar lacking user interface. But that is NOT the norm. There are actually other manufacturers that DO appreciate the simplicity of a clean, simple throttle. I do not want to get into the 'brand bashing' war which one is so easily entrapped in, but would like to make some statements in defence of DCC, but more specifically SIMPLE DCC!

Simple DCC is possible. We need to look past the 'sales gimmick' abilities of a system. We need to stop looking at what it CAN do, but rather look at whether it can do WHAT I WANT IT TO DO, or (in some cases) not... let's get real, who actually use 22 functions on a single locomotive? Why do you NEED to have a complex (but formal) loco consist ability, when simply changing the decoder address of 2 locos to be the same, does the same thing! These types of things are nice on paper, but in practice, over complicates the system. No different to saying my SUV has 22 storage compartments. Lovely, except that I have to lift the seat out of the way to get to 7 of them... We can talk numbers and features until the sun rises, but in very, very few instances will a typical user convince me that he actually NEEDS all the features offered by most DCC systems today.

Having said that, I urge you to look at other brands. Unfortunately the South African market is very restricted, and so we do not have the 'off the shelf' availability that there is in Europe and the USA of these type of systems. But the internet is a tremendous resource, with so much information that nobody can claim that they could not find out more, or learn more, before committing their hard earned cash.

In defence of the 'simple dcc' systems I would like to propose some 'simple' alternatives...

Firstly (and very cost effective) is to use the 2nd generation Roco Digital system.

This system is as simple as anybody could ever require, yet, can be expanded to very complex levels. Yet, at its simplest, is a single throttle (with simple to use interface) a single command station, and 2 wires to your layout. Yes, it has restrictions, but very few people will need more... if you really need to grow your system, this system is compatible with the LENZ system, and can very easily be expanded

beyond the Roco system's ability by introducing some LENZ parts. This Roco system is also very easy to master, and an enthusiastic DIY'er with some limited electronic skills can expand on this system very, very cheaply!

Secondly you can look at Uhlenbrock's FRED. This is about as simple as you can hope for. If you have ever used an analog throttle, you will be able to master FRED... this is pricey, but being linked to the Uhlenbrock system, is able to grow into the most advanced system imaginable, yet, leave train control as simple as ever. Please see the 2 images I have attached, for the FRED and Roco controllers.

Roco Multimaus Wired Throttle



FRED



Interestingly, this throttle evolved from the FREMO group in Germany. The name FRED is an acronym for "Fremos Einfacher Drehregler" (German for "Fremos simple rotary speed regulator"). It started life as a DIY throttle built by members of FREMO, and with the assistance of Uhlenbrock, it became a very successful commercial product. This is a simple throttle for the Loconet system but with much better build quality than the American produced systems. (Loconet is used by Digitrax)

We do not NEED to go with all the bells and whistles some DCC systems offer, as it does unnecessarily make the system more complicated. Why can we not use a combined analog/DCC system to control our layout, and make the best parts of each system work for us? We can for example, use a basic DCC system to control our locomotives, using their sound and DCC capabilities to our benefit, yet, leave the control of the layout, points, lighting, etc to the good old tried and trusted Capacitor Discharge units and separate power supplies. Not only does this reduce the LOAD on our digital systems, but it also isolates problems with the light and point control from our DCC. Fault finding becomes easier, and the DCC system suddenly does not have to be so BIG! As you said in closing, horses for courses.

We will never get away from the situation where there will be the tinkers amongst us. There will also always be those that take to the newer and more complicated systems, easier than others, but we should not be discouraged from switching to DCC, because the gospel we hear is from the advanced users point of view, and us mere mortals feel overwhelmed”.

In conclusion, I will give you my background. I have been involved with 2 different modular clubs. The first I joined in the transition time, when they converted from full analog to analog + digital, and finally to full digital. The second I joined shortly after their forming, and they chose to go digital right off the start. I think the latter IS the way to go, as you do not have to deal with the transition. Both clubs got to the same place, but timelines were vastly different. Both clubs used the same DCC system, Digitrax, since it is the best supported in South Africa, and is the most easily available.

I have hands on experience with Roco Digital, ESU, Digitrax and LENZ. My current setup comprises a mix of Roco and ESU”.

Well argued Francois – thank you.

Next from Trevor Pankhurst:

“The question is DCC better than DC is a long debated subject. Now first let me state I have no experience with the Free MO style of operating being one of I suspect the majority of modellers who build a home layout for their own use and satisfaction so I cannot quote on any of the frustrations of setting up a Free MO type layout so will concentrate on the aspects of DCC verses DC.

First let us imagine you are new to the world of model railways and have just started your first layout as many of us do on an 8’ by 4’ board. You have laid the oval track and installed a station with a platform siding so that one train can stand at the platform whilst another can continue around the track. At the other side you have a small goods yard with a loop and three sidings.

So now let us do the wiring all straight forward just connect the wires from the controller to the track and run your train. But wait your good lady also allowed you to buy two goods trains as well as your passenger set so we now have three trains on the layout at a time. With a DC controller provided you set the points right and only have one train on any section at a time all is well. With DCC after setting the address for each loco you have complete control of the selected loco and no matter how the points are set only the selected loco responds. This allows you to do shunting movements even if the main train loco is on the same track. That is the advantage of DCC over DC. When you talk about track wiring in DCC you only have to connect power to all the tracks. There are no blocks and switches needed to isolate sections of track so yes the wiring of the track is a lot simpler. In DCC you control the train and not the track and that is the difference.

The wiring for all other components, points, sensors, automation and so forth depend on the complexity of the layout and has nothing to do with DCC or DC running of trains and this makes the bulk of the wiring under the layout.

The picture posted gets the contempt it deserves. If you wire like that in DC or DCC expect problems end of story.

The writer makes a valid point about the complexity of some of the DCC systems but this relates to the higher end of the market and yes you have to read the manual to get the best out of the system. But my 4 year old grandson has no trouble controlling trains with a digital handheld controller (Tongue in cheek)

Chris Palomarez makes a valid point that the manufactures need to do more in some instances. One would be to use a common Bus so that all controllers would work on any layout but I do not see this ever coming about as each wants control of the market and for us to use their products. But more can be done on the decoder side to assist with consists and other things.

In the world we live in today electronics play a major part in our lives from Cell phones to computers. Therefore the amount we embrace this is up to the individual but DCC allows for anybody who wishes to use this type of technology to embrace and use as much or as little as they wish and for this reason I say that DCC has filled its mandate. That there is room for improvement as there always is. That this discussion will carry on for ever I am sure because in our hobby we are all different and all have different ideas and different needs and this makes it the best hobby in the world”.

I'm sure we can all agree with the sentiments in the last sentence!

And finally from Mike Richardson – the wheel turns full circle – because of Mike’s involvement with a local Free-mo group, (featured in the April North Star Chronicles).

“I read with interest your editorial on DCC and some of the negative comments coming through. I hope that our experience with the Gauteng Free-Mo Group (GFG) using DCC will expel some of these negative sentiments and not discourage your readers from following the DCC route.

From the start GFG decided to use DIGITRAX DCC as our control system to allow for the necessary freedom of operating multiple trains required in a fully-fledged Free-Mo operation, and based on the availability of local support, decided on DIGITRAX as the make. We initially had some aches and pains with the LocoNet set-up, but we persevered and overcame the difficulties, and now have a smooth and trouble-free operation, with all the advantages and freedom of realistic operation offered by DCC control systems.

I strongly disagree with the comments that DCC is “picky to work” and difficult for the average modeller to understand. I think the author is rooted in the 1980’s and completely fails to understand the advantages of DCC. The picture of the DMR wiring set up is a disgrace on any layout and would give one a headache at the first problem. GFG has a special module constructed with shelves below to hold all the power and control equipment and neatly pre-wired and very quick to set-up.

It is not necessary to understand any electronics to install DCC, only simple wiring as for any other type of operating system. All of us elderly people have difficulties with modern electronic equipment and understanding instructions, but we all have cell-phones, computers, printer, digital cameras, CD players, recorders etc. and somehow manage. I find that DCC instructions are generally easier to understand than some of the Japanese, Korean or Chinese translations on other electrical equipment. In addition, DCC systems and Free-MO have strong Internet support where the answers to most problems can be found. On three previous home layouts constructed since the mid-1980s I have used the twin-cab DC system with tethered control units and double-throw double-pole centre-off (DTDP) switches to control the power routing to each block. This required a panel at each yard with masses of wiring. With DCC an entire layout can be wired as one block and so avoid a huge amount of wiring. The “claim of reduced wiring is a bit of a myth” is nonsense, as I can testify to having build both DC and DCC layouts. There is no doubt in my mind that DCC wiring is much simpler than DC. What was state-of-the-art in the early 1980’s used by DMR has changed out of all recognition in the subsequent thirty years, which does not appear to have been appreciated by the author.

DIGITRAX have manufactured a group of throttles specifically for the uninitiated that are very simple to use. Also what the author fails to understand that with DCC the driver and crew of the train follow their train prototypically without any power routing.

Gauteng Free-Mo Group has been in existence for a bit over two years and we have just had our fifth meet. We believe we are the only group modelling this concept in South Africa and would be pleased to hear from any other interested modellers. We are following the American Free-Mo concept and are using their 500mm valley profile for our end plates. We have in excess of 75 modules made by our 14 members and had 56 at our most recent set-up in 17 X 12 m school hall. You can see plans and pictures of our four previous set-ups on our website:

gfgsa.wordpress.com (paste this URL into your web-browser).

GFG models western US railroads (UP, ATSF, BN etc) in the period from the steam-diesel transition through to the end of the 1970s i.e. up to and including second-generation diesel locomotives. We are utilising the highest possible standards for track geometry and rolling stock ensure trouble-free operation. To date all operation has been with unclassified freight trains using car-cards with waybills for assigning movements, but in future we will also introduce higher classes of trains operating in accordance with a timetable. Under our current operational regime a ten-car freight train can take up to two hours to traverse the 40m from the staging yard to its terminal point switching four or five yards on the way, and crossing with two or three trains moving in the opposite direction. This all adds up to a lot of fun!

I don't have any regrets about changing my home layout from DC to DCC some six years ago. At the change I was looking forward to having sound but what really surprised me was the super control that comes with DCC and especially the ability to change the variables to get the best and most realist operational characteristics of just about any locomotive. Matching locos to run in consist can be difficult but is overcome with a bit of patience. I am certainly not an electronics or computer fundi but I have never I been intimidated by DCC and would never consider reverting to DC. The sound is a superb feature and the performance outstrips any DC controller”.

So there you have it – a robust defence of the charges against DCC and my thanks to all who took the trouble to respond. Verdict not guilty or at worst, the third possible outcome in Scottish law – not proven!

Editor's privilege, but I believe it comes down to cost versus technology.

Stars of Sandstone 2014

If you are not on the mailing list, check out Sandstone Heritage Trust:

<http://www.sandstone-estates.com/index.php/home>