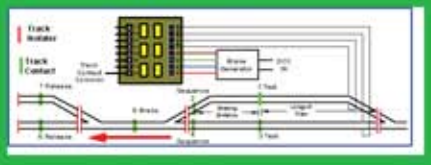
Garden Trains
From A to Z

D is for DCC
Digital Command Control



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Garden Trains - A to Z

What you will find in this document.

Discussion groups are a great way to share information. One thing that is unique to LSOL.com is our Tuesday Topic. Each week, for almost six years, we have discussed a specific group topic. It could be about bridges, or maybe you like steam vs. diesel engines. Many times it is about how people solved a problem, or what they think about a current issue or product. My favorite was several years ago. "If your railroad was a candy bar, what would it be." (Good and Plenty, Milk Dud, etc.) We have fun at LSOL.com as well as help each other with serious issues on our railroads.

Now with almost 300 different weekly discussions online we wanted to make it easier for you to use this vast knowledge base of topics. We are taking the time to edit the best answers on a specific Tuesday topic into PDF documents. We have also added photos as available so you can see just what was being talked about from each of the users.

This paper is different than one written by just one author on a topic. You are getting dozens and dozens of years of combined experience from some of the smartest people running Large Scale Trains today. Save this document and start building your own personal reference library on your computer today.

What is LSOL.com? (Large Scale Online)

Large Scale Online has been providing information for Large Scale Garden Train enthusiasts for almost 15 years. We are the oldest, largest, and most professional web site on the Internet that is exclusive to Large Scale Garden Trains.

LSOL.com provides information in many different ways. We have online articles, videos for you to watch and photos for you to see how it is done. We also have organized and secure online discussion groups. We are the only site that requires people to use their real name. No hiding behind your keyboard making anonymous posts. Join Us.

DCC

So what is DCC?

DCC is one of the big buzz words around Large Scale. Well it is not really a buzz word it is a buzz acronym. DCC stands for Distributed Checksum Clearinghouses, no wait, Duchess Community College, no wait, Digital Command Control. So what is DCC? The best place to start is in the LSOL.com Library.

David Maynard – "knowledge is power"

First thing I would suggest is read up on DCC, knowledge is power. Then if possible visit a layout (of any scale) that is running DCC and see what it really can do. There are so many options in DCC from automatic station stops, remote switching, even some remote uncoupling (intentional uncoupling) and remote control of a locomotives sounds lights and smoke, that you almost have to see it in action to understand what can be done with it. You can also set up 2 different locomotives to run at the same speed so locomotives that could never double-head on track power can on DCC.

And when you find someone who is using DCC ask questions, find out what tricks and lessons they have learned. Most of all if someone says whatever you want to do with DCC can't be done, make sure others agree because maybe it can.

Karen Darling – "I could easily have gone with just straight DC….."

I went with DCC on my layout from the get-go. For me, it was either DCC or battery. I had never had a layout and the thoughts of block wiring and all that can go with DC was a bit daunting. I didn't want to take the engine apart and wire for battery. I run Aristo engines and the plug-in socket with the Digitrax decoder and now the QSI DCC/Sound card is easy. Hardest part is often removing the shell. I ran two wires to my layout and was up and running in short order. Looking back, with the two independent loops I had at the time, I could easily have gone with just straight DC power. I think for a lot of garden layouts, DCC may be more than you need. But it's a great control system and I've had fun with it.

Bob Ewart – "…current locomotives have been retrofitted for DCC."

When I started in the early 80's with a loop around the Christmas tree, DCC wasn't an option.
When I decided to move the layout to an outdoor garden a year or so ago, I got very interested in DCC and computer control. My ultimate plan is to control the whole layout by computer with a display showing the track layout and the location of the trains in real time. I would also like to have a camera in at least one of the locomotives in order to show the engineer's eye view on the computer display.

I haven't worked on the computer control yet, but will probably use JMRI to do it. All of my current locomotives have been retrofitted for DCC and I won't get any more that don't have it built in.

Barry Reade – "…DCC is kind of exploding on the "G" scale scene"

When I came back to "G" scale last year I decided to go with DCC. My friend also has DCC at his layout so when we get together and run consists and move trains and cars and ring the bells and blow the horns when we want to. I am not into batteries so this was the best choice for me.

Like KD said about the simplified wiring. I am running an NCE Pro wireless 10 amp system and have two wireless cabs. Since my buddy has the same system I can take one of my cabs over to his layout with my trains and everything works the same just a different layout. But like others have said different strokes for different folks. It was difficult for me to get the concept down and just a year ago there wasn't that many folks in "G" that were knowledgeable in DCC.

If I hadn't been on vacation up in New England and gone to Tony's Trains over in Burlington and they answered all my questions I would be running DC. Today DCC is kind of exploding on the "G" scale scene. I have club members all the time asking me about DCC.

HERBERT F. SMITH – "I would like to convert to DCC."

I would like to convert to DCC. There are two large train vendors and repair shops in my immediate area, neither one seemed anxious to convert my existing engines to DCC. I spoke to one vendor and repairer not in my area, He said he would love to have his staff experiment and learn on my engines. As of several months ago I decided I am no longer purchasing any engines that do not have DCC plugs already installed. Now, if we can convince LSOL to have a special sale on DCC equipment, I can complete my plan to go broke.

Stephen Auslender – "I can learn …. while I am building the layout."

DCC or one of the others. So, what else new? G gauge has always been plagued with a plethora of variations from which to choose. We have different scales using that same track; the couplers are at all different levels; the flange differences are a problem; the different brands of tracks need shims to get them to match. Even the NMRA gave up on trying to set standards. Let's face it, we in this scale are a bunch of independent mavericks and thar ain't nobody a gonna tell us what to do.

Personally, I am still setting up the modules and track and I will not worry about which system to select until I get there. Right now I figure on setting up my rather large transformer/rectifier and run the whole thing through track electricity the old fashioned way. Also I'll be able to turn off the juice for running battery operated and for guests who bring their own, radio control trains. But I'll worry about my own remote control system later. I have enough on my plate right now. However, I do appreciate your series of articles on DCC. I can learn all about what is available while I am building the layout.

KC Marshall – "Currently, I am all TE onboard control"

I am not there yet, but what I like about the concept of DCC is everything is already there.
Accessories, sound, smoke, lights, electronic couplers which are a lot of add-ons for the standard GST. I am getting tired of purchasing a locomotive, and then spending twice its cost on accessories that need to be installed to get to the point of a DCC system, and then hope the system works. Right now there is not much offered in DCC, but it is getting there.

I am currently thinking of going to O scale outside, they have the track, locos, control systems an experience in DCC, so it seems there might be much more help and information in that scale with DCC.

Currently I am all TE onboard control and onboard batteries and it is fine, but I sure like the bells and whistles that DCC has to offer. Greg Elmassian was my first inspiration for DCC, and I am teetering on it because of his layout.

Walter C. Bringsauf – "DCC offers a lot of features….."

I bought my NCE DCC 10 Amp system a year ago and have converted a few of my engines. Conversion can be a problem because of the requirement to isolate the motor, but it is doable. DCC offers a lot of features that really enhance running. I am working on function control of uncoupling on engines. Tests have shown that it should work. We will see. A great feature is the ability to run DCC and DC with just a toggle switch per block. The best of all possible worlds.

Clifton Munz Phelps – "I have DCC, I had it in HO"

I have DCC; I had it in HO, and simply bought a DCC Booster from MRC. I can now run 8AMPS on my rails. I have yet to get out in the garden and would consider myself young in the G scale seen. I have a couple engines and none of them had DCC to start with.
I think, much like anything in life, it's all in what you would like out of it. I like to have an engine stopped and have bright lights and smoke coming from my caboose.

However, if you have a ton of work and engines on your railroad and are happy with the way it is. Don't think of DCC as something coming down the line to make you upgrade. It's just another option you have. DCC is good for me.

Tim Anderson – "There is much more to come."

I am running DCC on my HO and G railroads, using the same controller. I believe that there is a move afoot to run true RC-DCC. In another words you would have three options, Battery, DC Track Power, and DCC Track Power. If you are Running DCC you may want to look at JMRI. Also, I am running air to my G turnout control and there is a way to interface DCC to the air controller. I hope to start converting next year. If you have long runs of wire to the track there are some things that need to be done. Make sure that you read all the manuals from the vendors and check the vendor's website. NOTE: Some systems are not compatible i.e. NCE and Digitrax. However, decoders will work on either system. DCC is still technically growing. There is much more to come.

MEMBERS ONLINE STORIES ON TRACK ALIGNMENT AND GAUGE

Here is a small sample of the articles that are online for members of LSOL.com

An Introduction to DCC - Part 1

Methods of powering trains in the Garden Railroad now include many options

An Introduction to DCC - Part 2

Computers are invading every aspect of our lives and now "Digital Command Control" - DCC may be pushing its way into our gardens and this immediately raises some questions

An Introduction to DCC - Part 3

Over the years a multitude of companies and individuals have attempted to develop improvements in the way we control our model railroads.

An Introduction to DCC - Part 4

Installing DCC in our garden can be as simple as connecting the base DCC system power leads to the rails and fitting an engine with a "mobile" decoder.

An Introduction to DCC - Part 5

Once DCC is installed we can control virtually an unlimited number of trains with our Hand Throttle