DCC CORNER

DCC BASICS - PART I

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"DCC BASICS - PART I (Basic Terminology)"

What do you think of when you hear the 3 letters DCC? Most think of a lot of work or too much technical jargin. Some think it will take too much money or effort to get started in it or to convert your existing layout and locomotives over to DCC. Expense wise, yes it does cost a little more than most may want to spend. But, with a little time and effort you too could have a DCC controlled layout and have your locomotives running the way you want.

In this article, I will go over some of the basic terminology of DCC. Please note that there is a lot more than what I will give you here, but what you will read here, will get you on a good start.

Most Common Terms Used

DCC or Digital Command Control - This technology has made our hobby even better by allowing the operator to control the train and not the track. With DCC, constant power is supplied to the track while signals are sent from the *Command Station* to the locomotive's decoder to tell it what to do. This allows a person to run as many trains as the C*ommand Station* will allow on one power section and be able to control them all differently. Other features of DCC are constant lighting, & Sound. With the constant lighting, you can also do special lighting effects such as mars light, strobes, & flashing ditch lights. With the sound, you gain a lot more sound functions with DCC than you do with standard DC.

Command Station - The Command Station is the part of the DCC system that sends and receives the signals to and from the decoders. It is the brain of any DCC system. You tell the locomotive what to do with your *Throttle* and then the *Command Station* in turn sends the right info to the locomotive that you are controlling. Most *Command Stations* are *Power Boosters* as well. They need something to give the tracks power to run the locomotives and accessories that you want to control.

Power Booster - As described above, a *Power Booster* is a source of power to the tracks. Most DCC Manufacturers offer add on *Power Boosters* for more power if you are running more locomotives or even locomotives with sound. Using a *Power Booster* is another way to section of your layout so if you have a short circuit, the rest of the layout will not stop. (This will be discussed later).

Decoder - A small circuit board that goes into the locomotive to control the motor, lights, and more. This is what receives and sends the signals to the *Command Station*. The *Decoder* can be programmed to the locomotive number or any number you would like so that the locomotive can have it's own identity. They come in different wiring arrangements. Although most locomotives have an NMRA 8 pin plug for easy installation, some you still have to do old fashion soldering to install. This for most is the hardest part of DCC. Once you figure out the wiring aspect, then the most difficult part is to find space for the decoder.

Throttle - A unit connected to the *Command Station* to control the locomotives. It can be connected tethered and wirelessly. If using wireless operation, it can be done by Infrared or Radio communications. Most people prefer the radio as it gives you more freedom and not locked down to one connection panel or having to plug and un-plug every time you want to move. The *Throttle* controls the motor of the locomotive, lights, and if available, sounds of the locomotive.

CV's or Control Variables - These are the little computer spots in the *Decoders* that keep the information like the Decoder address, how fast you want the locomotive to start and stop, lighting effects, and more. These are the center behind the whole DCC system. They are little packets of information sent back and forth between the locomotives and *Command Station*.

Bus Wire - This is a common set of wires that run around your layout from a *Command Station* or *Booster*. These are recommended if you have a decent size layout. They help insure your power gets to the track. Recommended wire gauges are 14awg to 12 awg stranded wire.

Feeder Wire - These are small wires that are connected to the track and connect to the *Bus Wire* to feed power to the track. These are necessary to make any layout work.

Well there you have it, some of the basic terminology behind DCC. I will dive more into each one as time goes on. If you have any questions please email me and I will be glad to give you my information or thoughts.