Introduction to DCC Part 1A Review

Presented by Paul Wussow

Controlling our trains

using

user friendly technology

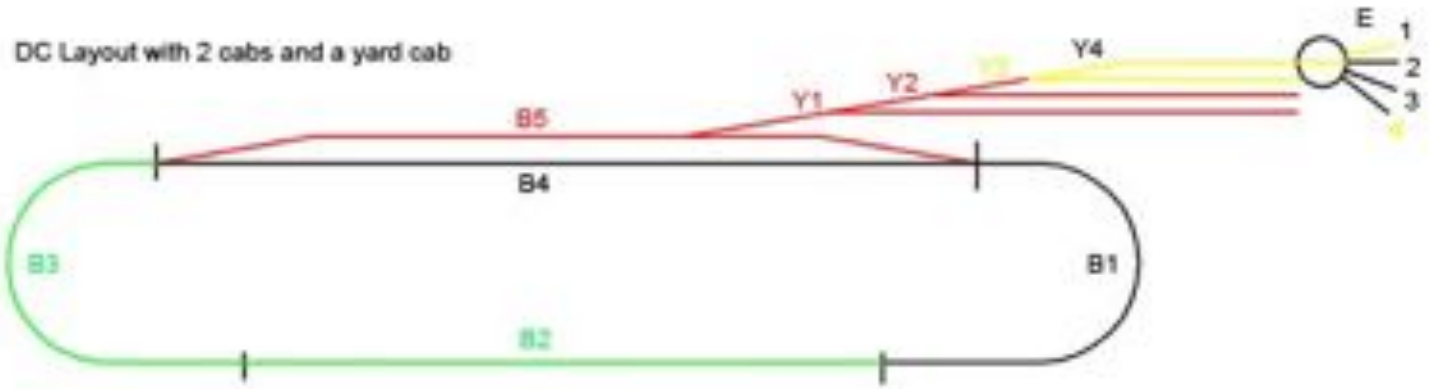
Background

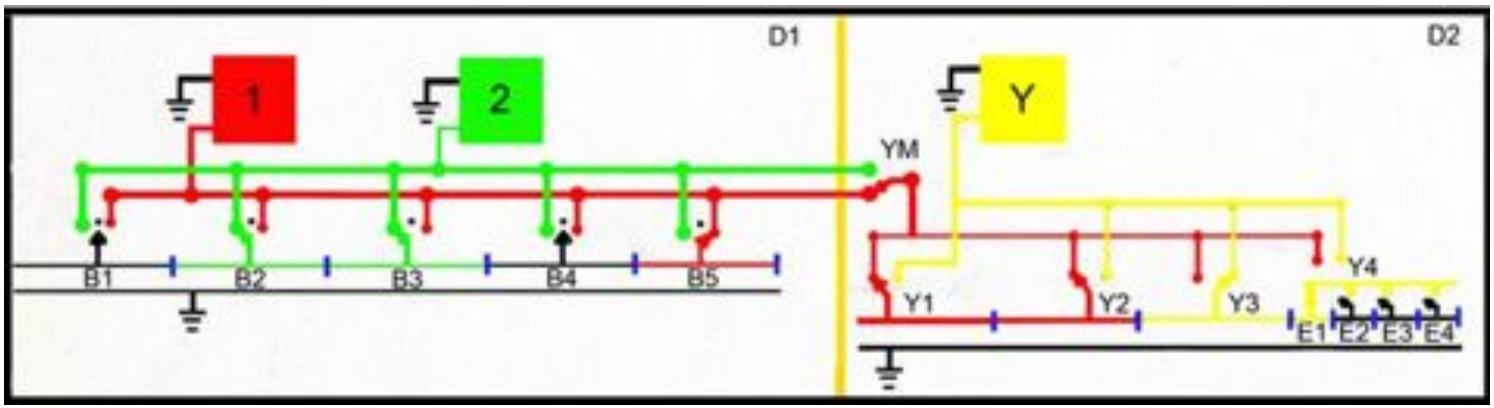
- To understand connecting a layout to DCC we need to make sure we have a solid grounding in the use of blocks to control our layouts.
- The participations in this clinic assumes understanding of block control.
- We will review the basics of block control to bring everyone up to date.

What we have learned from R. G. Blocks, Wiring for Blocks clinics

- The throttles do not control the train it controlled the track.
- Whatever is on that track will operate according to the output of the DC throttle that is connected to that section of track.
- DCC allows the operator to control the train, not the just the track.

DC layout section





Block Control

- The power is supplied by 3 Throttle packs or cabs (1, 2, Y) that are connected to single pole double throw (SPDT) switches allowing selection of the cab controlling the block. I used DPDT Center off on my layout to be able to have extra contacts and to cut power to any block. This layout has common north rail and all power packs are grounded to the common rail feed.
- The yard operations have their own cab and the yardmaster may select from the main line cabs with an SPDT switch to allow the operation in the yard. Each track in the yard is connected to either the Yard cab or the selected main line cab using SPDT switches.
- The engine terminal is part of the yard and is controlled by a SPDT to select the cab operating and simple Single Pole Single Throw (SPST) switches for storing unused motive power.
- In the above drawings we see cab 1 is connected to the passing siding and 2 yard leads while cab 2 is operating on the main in blocks B2 and B3. The Yard cab is being used to move motive power from E1 on to Y4. B1 and B4 are not assigned and E2, 3, 4 are shut off.

So why DCC?

A Quote from Tony's Train Exchange site

"Digital Command Control (DCC) makes **reliable** and **realistic** train operation, and **simplified layout wiring** a reality. With DCC you control **multiple trains independently** on the same section of track without blocking. In the real world, engineers control the speed and direction of real trains. Engines operate under their own power **independent of the track**. Each engine has its own motion characteristics such as how fast it speeds up (**acceleration**) and how long it takes to slow down (**momentum**). A locomotive's performance is influenced by whether it is operating alone or as part of a multiple unit lash-up. The weight of the train also affects its performance. DCC gives you reliable control over all these variables."

You are at the throttle, controlling speed and direction of one or more locomotives, each with its own performance characteristics. As a good engineer, you must obey the signals and watch for other trains because, there are **no electrical blocking restrictions** with DCC to prevent those pesky **"cornfield meets."**

End of
Introduction to DCC Part 1A
Review of Block control

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