IRREGULAR FEATURE

# Power to the People

As I have been playing with the soldering iron again it is time to explain the recent wiring and control changes that I have done on the main layout; this involved adding DCC capability to both the logging area and Wallaceton and provide a third controller to Topfield and some fancy control switching. The other important thing was to correct the butchered backyard wiring that had been done on the intermediate track joining these areas to the mainline. The perpetrator of that had managed to enable exactly what they were trying to prevent, joining the DC and DCC together on the same track. They had also made it nearly impossible to enter or leave the logging area or Wallaceton via the siding from/to the main lines without performing a dance with the controllers and stopping other operations.

First cab off the rank was to remove all the bad wiring and misplaced isolation cuts and then reinstall everything correctly as I had wired it when doing the siding and points originally; this immediately got rid of most of the problems of bad control and mixing of systems. Next was to add the third controller and associated relay wiring so that a single pole on/off/on switch would select the required left/centre/right controller for each section and illuminate the appropriate LED on the panel for confirmation of the selection and ensure that only one controller could be set to a particular track at any one time. Part of this was to also add DCC capability to that control point.
As I was nearing completion of this operation a member had asked if they could run on the layout and I told him he could in a few minutes, once I had put the wires on to the new relays. I finished my wiring and proceeded to test with my multimeter. To my horror there was some weird voltage on the track and checking further the output transistor on the DC controller was quite warm. After some in depth testing and disconnecting of wires I had diagnosed that both the wiring and controller were not at fault and the voltage remained even with all wires disconnected from the track.
Time to look elsewhere, it was at this time that I spied the member's loco sitting on the end of the block and closer inspection revealed that it was actually spanning the two blocks. One was set to DCC and the other, which I was working on, was set to DC. Moving the loco cured the problem and the area was declared ready for use. I should point out here that the loco had sat in that position for at least half an hour and after moving it there was no damage to the DCC, the DC, the loco or the decoder, all worked perfectly and still do today. It just goes to show that if you wire things properly they can survive a lot of mistreatment and this proof flies in the face of all the doomsayers out there that claim DC and DCC cannot be run on the same layout, but then, we have been doing it for ages, so already knew that it was ok with proper wiring procedures. This is the main reason that the bad wiring had not caused major problems and shutdowns; my previous good wiring was protecting the layout, controllers and your locos.

Having that all working nicely I turned my attention to Wallaceton first by adding DCC and then wiring in a protection section so that locos would not accidently jump the isolators and enter Topfield without the operator being aware of their location. This consisted of a short isolated section that requires the operator to push and hold a switch to gain control of that section.

I also converted the whole town section to a floating block so that it can be a slave of the Topfield controller, this is so that a train can be driven all the way from either mainline into the town or out from the town onto the main using only one controller. Control over Wallaceton is achieved by pressing the red button on the right on the track plan of the Topfield panel; this activates a relay to switch track feeds and also the isolation section to the Topfield panel. To cancel, just push the black button at either the Topfield or Wallaceton panels or change the points at the end of the siding as to access the main line. The same slave system is also installed on the logging track and operates exactly the same so there is no need to worry about trying to stop the train at exactly the right spot to take control in the next block. All of this happens seamlessly and there is no need to worry about what the slave section is set to as it will be whatever Topfield is set to when you grab it.

A late addition to the plan was implemented following a request from one of the younger members that had been "playing" with the new extra controls as they became available. The request was to make the control of Wallaceton extend into the siding so that it was not necessary to access the Topfield control just to be able to utilise the sidings in Wallaceton. With a relay and a couple of wires, Wallaceton can now control the siding in Topfield so it is possible to run a train all the way from/to the logging area or the main lines to/from Wallaceton using only one controller. To do this requires that the point on the Topfield siding is set to Wallaceton, which it needs to be to access the track, and then push the red button on the Wallaceton panel. To cancel, push the black button on either Topfield or Wallaceton panels. The points are locked when in this configuration to protect your train from derailments or side intrusion by other operators. All of these slave systems are wired so that on power up of the layout they are set to normal operation so there is not a problem of runaway trains.

With the new controls added to the Wallaceton panel it was getting cluttered so I have built a new one and fitted it to a slide like our other panels. Another modification to the controls here is to improve the turntable; to this end Aaron is producing a setup much like the one on the other turntable so that the tracks can be selected via DCC. They will, of course still be controllable via the panel using the points probe just touch the screw on the track where you want the operator's hut to be, the electronics will do all the speed, direction and alignment for you and then a LED will show that all is done and ready for use.

Next on the list was to move the control panel for the logging area and expand the size for operator convenience. This now matches our other panels with a point probe and lights for the point positions. I also added DCC capability and the lights and cancel button for switching back to local control.
Having the electronics installed and working I turned to the track, this has been a sore point since the day it was installed, and after a couple of rebuilds by the original crew, still did not work. After studying the area, I concluded the best thing to do was to scratch build the whole section so having calculated the needed radii I built two new points and associated track on a plywood base at home. The old track was removed and the new installed as a unit. Part of this included servos to drive the new points, these are controlled via some of Aaron's wonderful electronics with a lovely slow motion and of course are accessible via the DCC system and the panel, Aaron is writing an explanation of these so I won't elaborate here.

Please take the time to test these changes and report <u>any</u> problems no matter how small. There is a small proviso; the logging area at the time of writing has no fall protection for your equipment so until I get some scenery installed use with care.

Catch you down the track....Tony Mikolaj.