### Signaling the CNW Western Division by Jim Osborn

### **Notes and references**

#### A Few Lessons Learned

- Use 3 or 4 leaded LEDS for targets. 2 wire bi-color LEDS have a color imbalance and poor yellow.
- Use the Circuitron remote Tortoise mount for animation.
- Build the semaphore & actuator assembly off layout.
- The transformer coil track detectors work less expensive. Use RR Cir-Kits not NCE or others.
- Carefully plan the sensed blocks before wiring track.
- Do not mix DCC & signaling on the same control buss.
- If you only want train position signals see an MR article titled, "Simple Circuits for ABS". Mar.
  & Apr. 2001
- There are animation only signal drivers available for really simple signals. ref. Logic Rail Technology or Circuitron
- If you need flashing lights, use a flashing lite driver not JMRI

# **System Hardware**

RR-CirKits\*\*
 www.rr-cirkits.com

Digitrax digitrax.com/products/detection-signaling

Tomar Signals tomarindustries.com/signals.htm

Oregon Signals www.oregonrail.com

• Southern Digital www.sodigi.com/ho\_signals.html

NJ International www.njinternational.com

• JCL Enterprises www.jlcenterprises.net (Bruce Chubb)

Logic Rail Technology\*\* www.logicrailtech.com
 Circuitron www.circuitron.com

 Misc. Hardware, micro switches, optical detectors, LEDs, Cable, etc. Visit All Electronics, Digi Key, Jemco or Mouser

<sup>\*\*</sup> NMRA partnership discount available

# System Architecture – Evolving

- Hardware is being consolidated This yields Lower Cost & Less wiring.
- NMRA Layout Command Control is arriving:
  - Eliminates naming devices
  - o <a href="http://openlcb.org/">http://openlcb.org/</a>
  - o Hardware is starting to show-up
  - o RR CirKits has a Tower Controller & Signal Driver boards
  - JMRI can be used to configure the system
  - o Deepwoods Software is also developing config software

#### References

LCC Wiki www.dccwiki.com/Layout\_Command\_Control

NMRA LCC www.nmra.org/sites/default/files/standards/lcc\_faq\_handout.pdf

www.nmra.org/introduction-layout-command-control-lcc

North American Prototype Signaling

www.railroadsignals.us

JMRI http://jmri.org/

RR-CirKits references

http://www.rr-cirkits.com/Clinics/Clinics.html

http://www.rr-cirkits.com/Notebook/index.html

Numerous reference articles on homemade target signals in Model Railroader, Railroad Model Craftsman, Web Blogs, etc.