

# Our New LCC Control Panel

It's not scary. Really!

# Why?

- Just a quick review
  - We had a wonderful LCC-like system, built for us by Don Voss and Bob Beise
  - Unfortunately, it had... issues
    - Software not maintainable- no new features or bug fixes
    - Software couldn't be successfully deployed or configured (and we tried!)
    - No more hardware
    - No forward path

# What?

- Hardware provided (at “club prices”) by [RR-CirKits.com](http://RR-CirKits.com)
  - Tower-LCC – a true LCC “Node”
  - PowerPoint
  - CAN/USB interface
- Note that the vast majority of our equipment is unchanged:
  - Control panel buttons and LEDs
  - Turnout Tortoise driver boards
  - All under-layout wiring

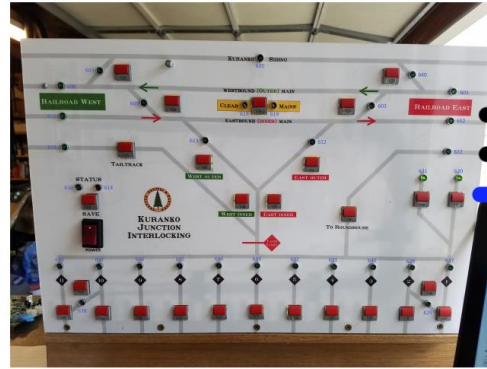
# What was done

- Rip & Replace of the computer boards and wire-wrap boards
  - Pull power supply out of control panel, and replace with a socket for a wall wart (provided with the PowerPoint)
  - Because of current issues with LEDs, had to re-wire the common 5V source for LEDs inside the control panel, into four groups
- 
- That's it!

# Setup

- Control Box on top of the yard throat, just like before
- Three cables out of it:
  - Power. I'll let you figure that one out. 😊
  - USB. Don't need it during operations. Facing over the Wye, there is a convenient hook under the right-hand side of the yard throat module.
  - Ethernet cable. Goes underneath the yard throat module, and plugs into EITHER plug on the Tower-LCC node.
- Only one other thing to do:
  - Go to the "DCC Wiring" setup box, and get another Ethernet cable.
  - This plugs into the OTHER plug of the Tower-LCC under the yard throat module, and goes to the only OPEN plug of the Tower-LCC under the Wye module.

# What's it look like?



USB- hang underneath

Power- Plug In

Tower-LCC  
(Under Yard Throat)

Ethernet Cable  
(From DCC Setup Box)

Tower-LCC  
(Under Wye)

# Quirks I

- Startup

- All Yard tracks' LEDs are on
- Somewhat-random Wye/Mainline LEDs are on
- This is an issue with Tower-LCC's firmware; supposedly, they were going to fix in latest update. They didn't. I'm talking with them about it.
- Quick fix: after turning on, select ANY yard track, and select the "Clear Main"

# Quirks II

- Every once in a while, some buttons will stop responding.
  - Accompanied by, some LEDs in the same general area go dim
- Turn off & on control panel using the rocker switch
- Associated with current draw of LEDs- long-term fix will be to add some more wiring to separate power to LEDs from control of LEDs



# Quirks III

- You can press-and-hold the buttons all day long, but no LEDs or turnouts will be set
- Selection is made by **RELEASING** the appropriate button
- Why? Has to do with simplifying configuration (AND with Quirk I)... pressing button resets various things (like, clearing ALL the LEDs in the Yard), then releasing selects the appropriate result (like, a single track in the yard)

# Configuring using PanelPro I

- First, identify if a pin will have Input, Output, or both functions
- We mainly use one OR the other, not both

The screenshot shows the 'CHANNELS' configuration window in PanelPro I. It features a grid of channel buttons, each labeled with a channel number and its associated function. Below the grid is an 'I/O' section with three sub-sections: 'Line description', 'Output Function', and 'Input Function'. Each sub-section contains a text input field, a 'Refresh' button, and a 'Write' button.

**CHANNELS**

Each channel controls one input/output line.

Channel 11 (628)	Channel 12 (629)	Channel 13 (630)	Channel 14 (631)	Channel 15 (632)	Channel 16 (103)
Channel 5 (LED 618 (Tail Track))	Channel 6 (637)	Channel 7 (Line 7)	Channel 8 (627)	Channel 9 (621)	Channel 10 (5B_Pin 10)
Channel 1 (Pin 1)	Channel 2 (LED 613 (West Leg Wye))	Channel 3 (LED 614 (Red Status))	Channel 4 (LED 616 (Green Status))		

**I/O**

Line description

Pin 1

Output Function

No Function

Input Function

Active Lo

# Configuring using PanelPro II

- Producers (create events based on something happening)

The screenshot displays the configuration interface for PanelPro II, specifically the 'Indications' section. It features a 'Producer commands' area with six event buttons (Event 1 to Event 6). Below this, the 'Upon this action' section shows a dropdown menu set to 'Input On', with 'Refresh' and 'Write' buttons. The 'EventID' section contains a text input field with the value '02.01.57.00.00.47.00.06' and 'Refresh' and 'Write' buttons.

Indications

Producer commands.

Event 1 Event 2 Event 3 Event 4 Event 5 Event 6

Upon this action

Input On Refresh Write

EventID

this event will be sent.

02.01.57.00.00.47.00.06 Refresh Write

# Configuring using PanelPro III

- Consumers (listen for, and react to, events)

Commands

Consumer commands.

Event 1 Event 2 Event 3 Event 4 Event 5 Event 6

EventID

When this event occurs,

02.01.57.00.00.47.00.00 Refresh Write

the line state will be changed to.

None Refresh Write

# Configuring using PanelPro IV

- LOGIC!
- Lots more abilities because of this, but won't cover them here!

LOGIC

Logic event processing

Logic 24	Logic 25	Logic 26	Logic 27	Logic 28	Logic 29	Logic 30	Logic 31	Logic 32			
Logic 12	Logic 13	Logic 14	Logic 15	Logic 16	Logic 17	Logic 18	Logic 19	Logic 20	Logic 21	Logic 22	Logic 23
Logic 1 (KurankoSidingThrough)	Logic 2	Logic 3	Logic 4	Logic 5	Logic 6	Logic 7	Logic 8	Logic 9	Logic 10	Logic 11	

Logic description

KurankoSidingThrough

Refresh Write