Add Signals to your Layout with JMRI/PanelPro

Dick Bronson - *RR-CirKits, Inc.*

Further Clinics in this series:

- Create a Detailed CTC Machine Model with JMRI/PanelPro

  10:00 PM, Monday, July 6th

- Introduction to Layout Control with JMRI/PanelPro

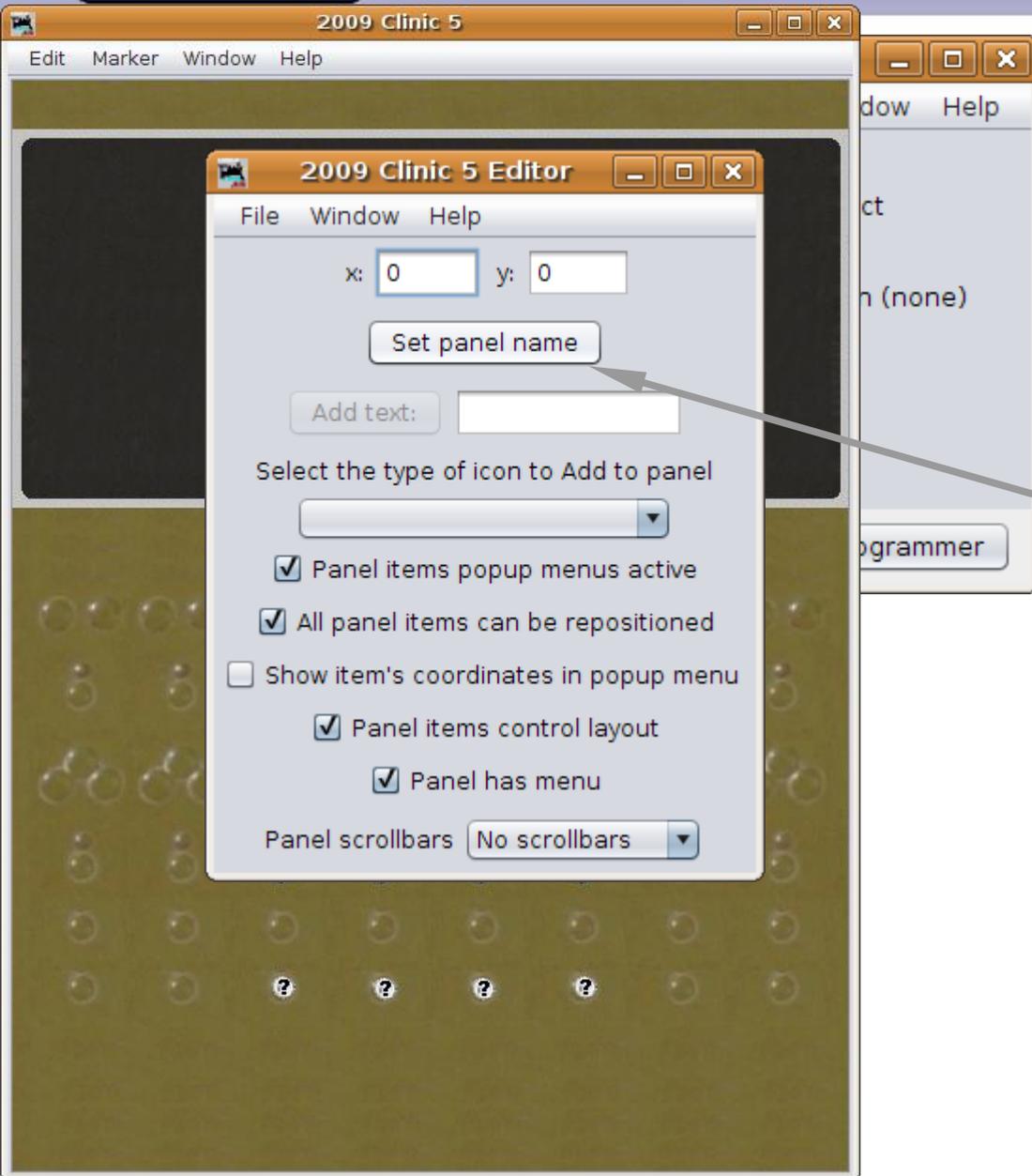 ▪This Clinic is a Repeat 4:00 PM, Friday, July 10th

- **SSL Advanced**
  - This is an add on to the basic SSL clinic to add in some Logix and manual block occupancy simulation to link the test layout with some manual input switches for those doing simulation only.
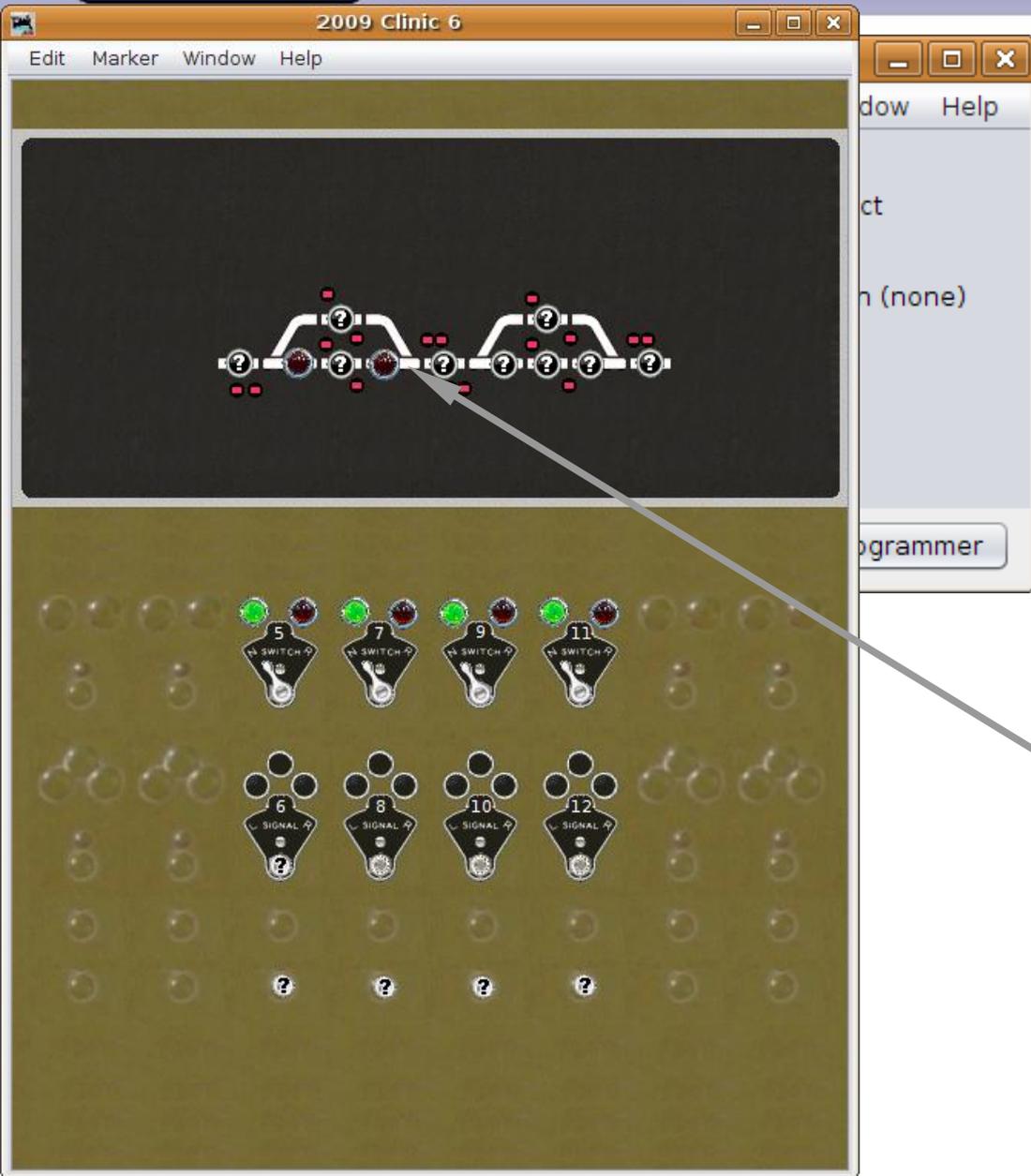
- SSL Advanced
  - Open the panel from our last clinic section. (2009Clinic5.xml)
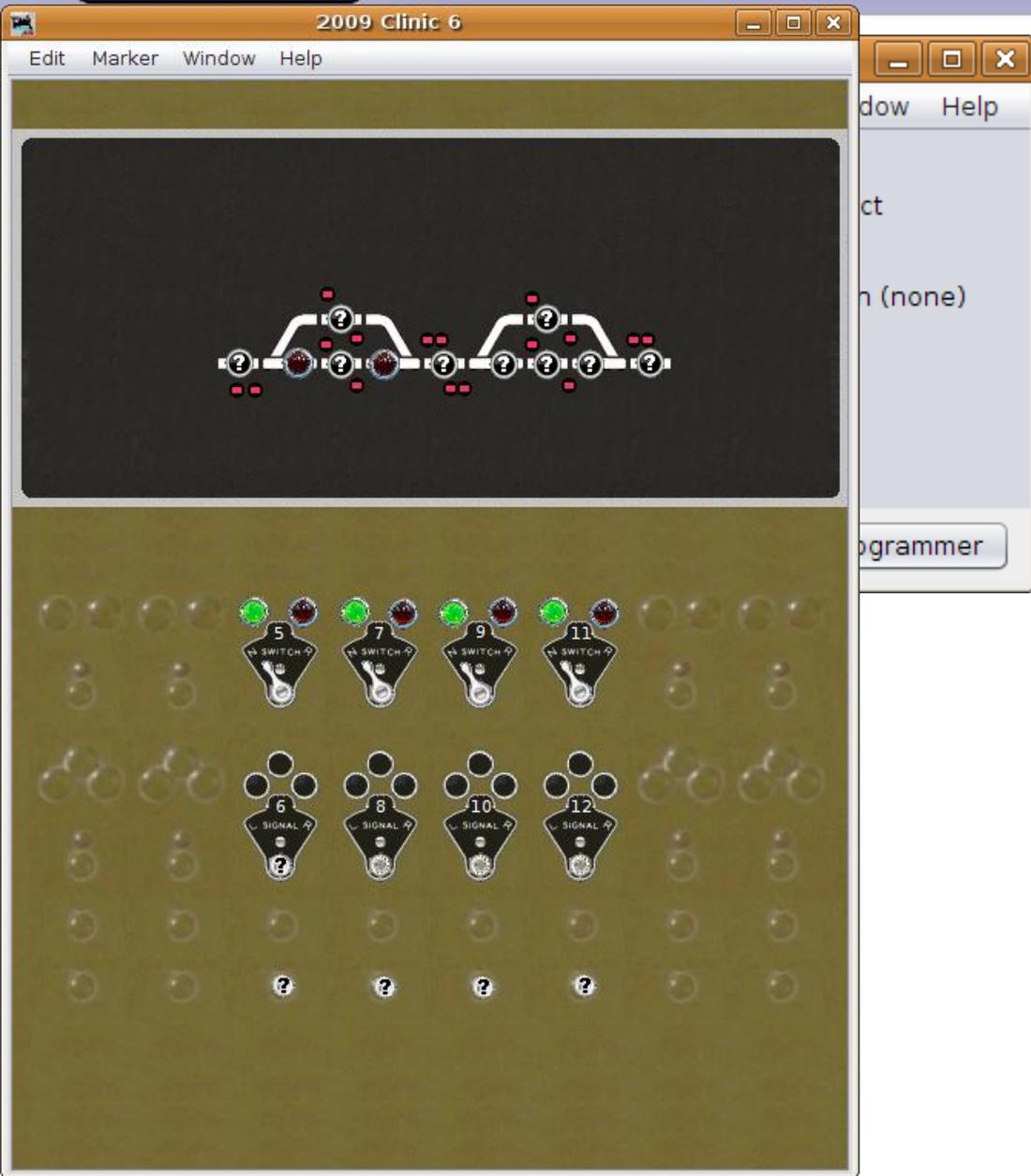
- SSL Advanced
  - Open the panel from our last clinic section. (2009Clinic5.xml)
  - Set the Panel name to '2009 Clinic 6' and then save the panel as 2009Clinic6.xml

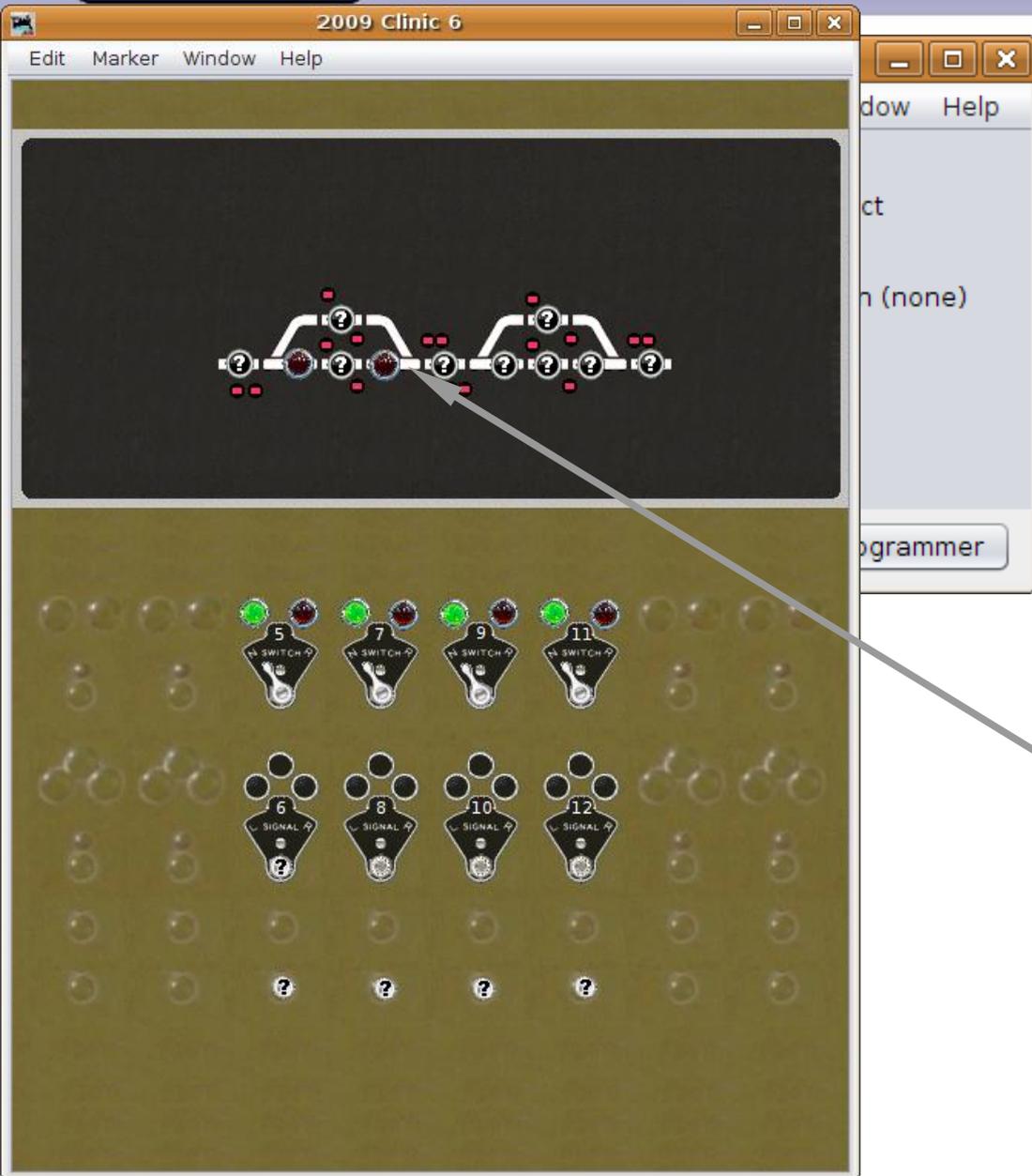# SSL (Simple Signal Logic)

- **SSL Advanced**
  - Open the panel from our last clinic section. (2009Clinic5.xml)
  - Set the Panel name to '2009 Clinic 6' and then save the panel as 2009Clinic6.xml
  - When the panel opens the only sensors that are active are the OS units on LS2 and LS6.

- **SSL Advanced**
  - This is because we set up the others to be internal sensors (IS) but never linked them to the actual sensors.

SSL (Simple Signal Logic)

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SSL (Simple Signal Logic)

- SSL Advanced

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  - First lets change the hardwired sensors to internal ones. Right click on the icon and choose 'Edit'.

  - Change to the IS5:WAK sensor. (**5** s**W**itch **A** indi**K**tor)

- **SSL Advanced**
  - Also change LS6 to IS7:WAK, LS9 to IS9:WAK, and LS13 to IS11:WAK.

    Note: if the sensors are not yet in the tables use 'Add Sensor' to create them.
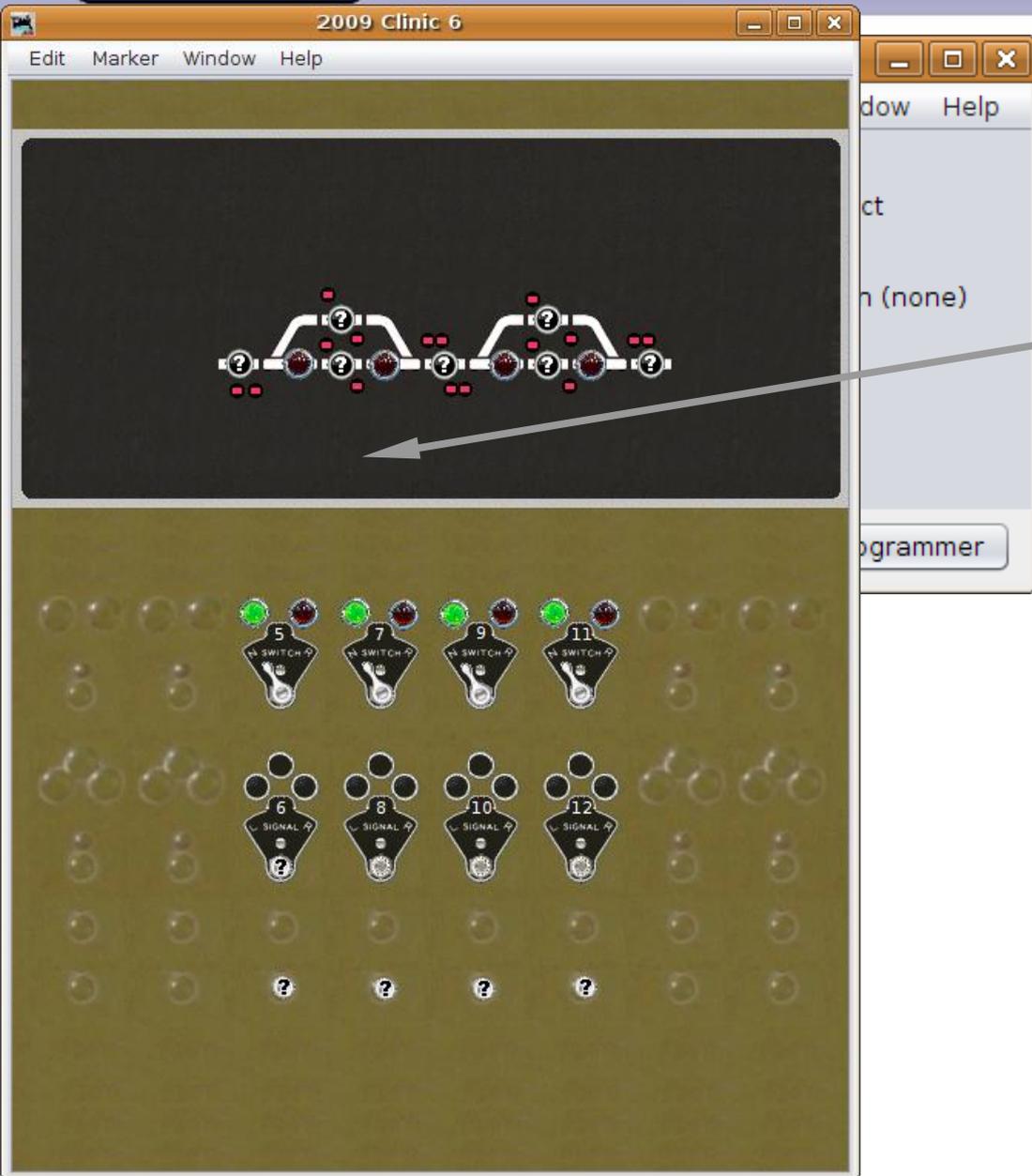
SSL (Simple Signal Logic)
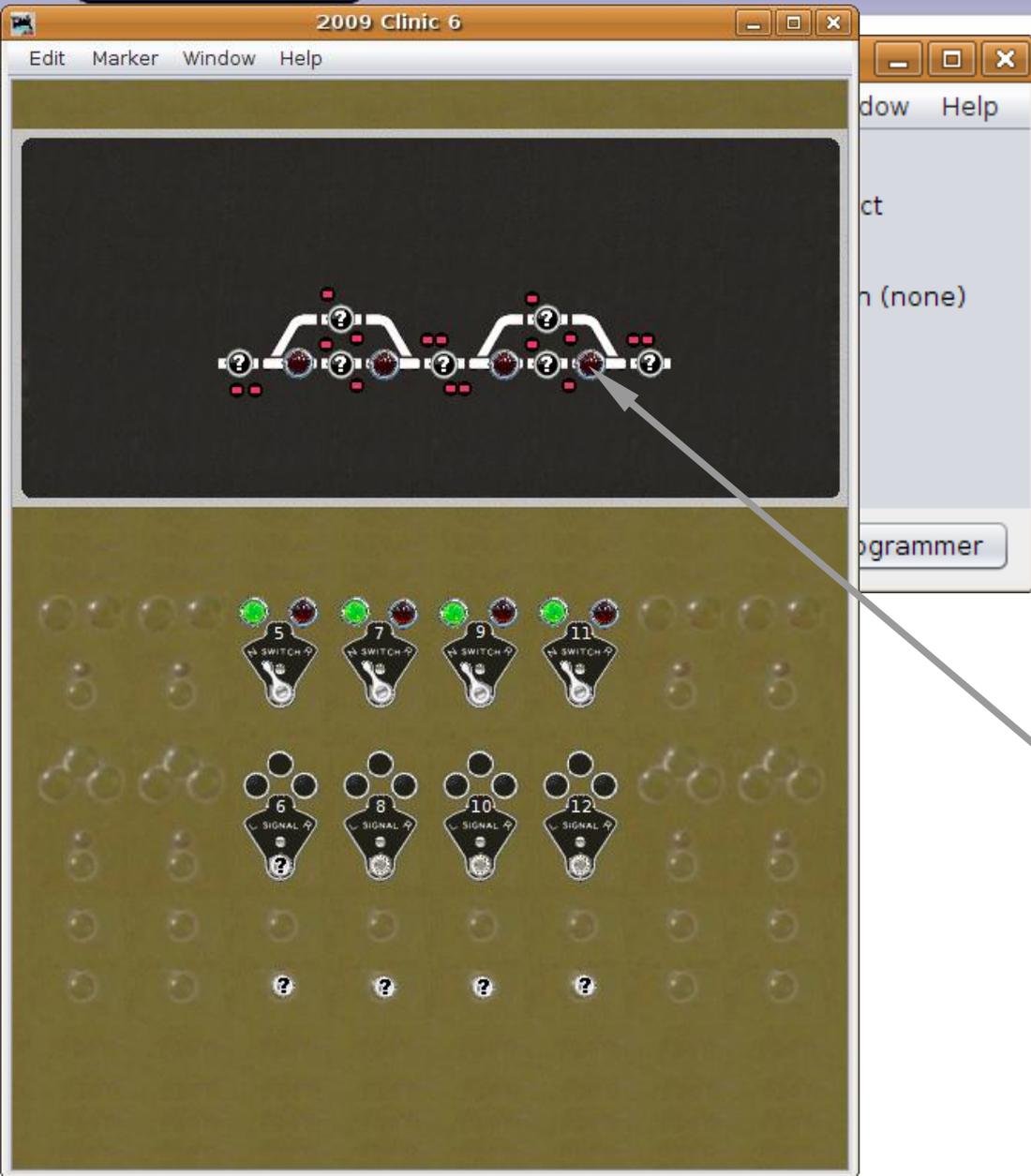
- **SSL Advanced**
  - Also change LS6 to IS7:WAK, LS9 to IS9:WAK, and LS13 to IS11:WAK.

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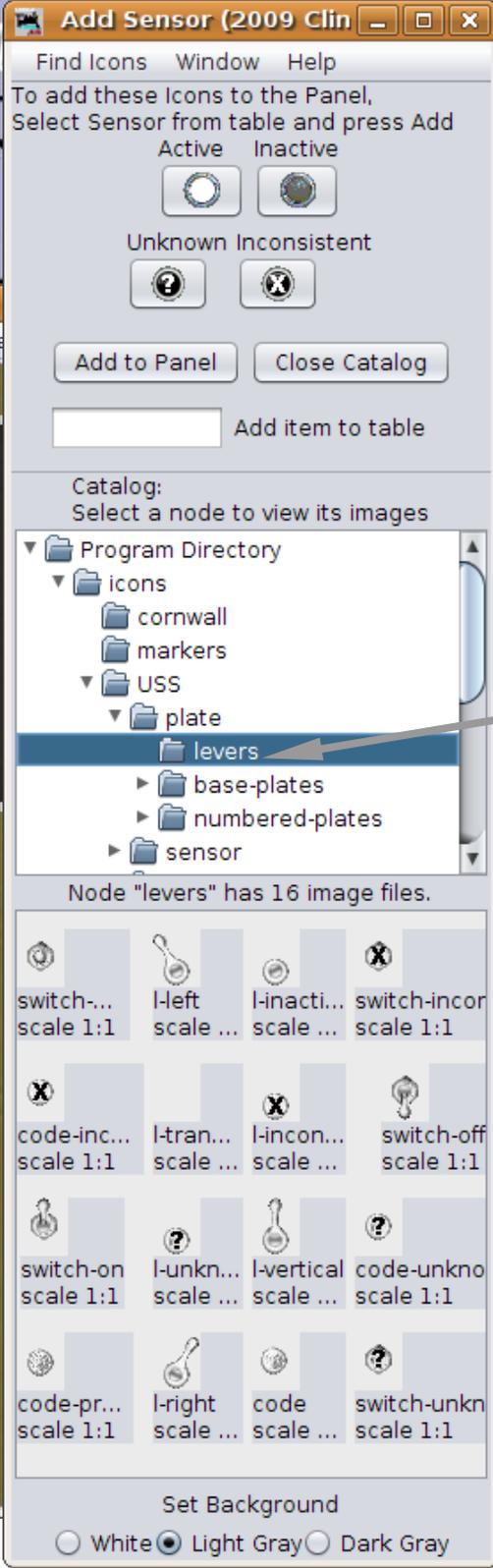 - We now have AREMA® style names for all of our occupancy sensors.
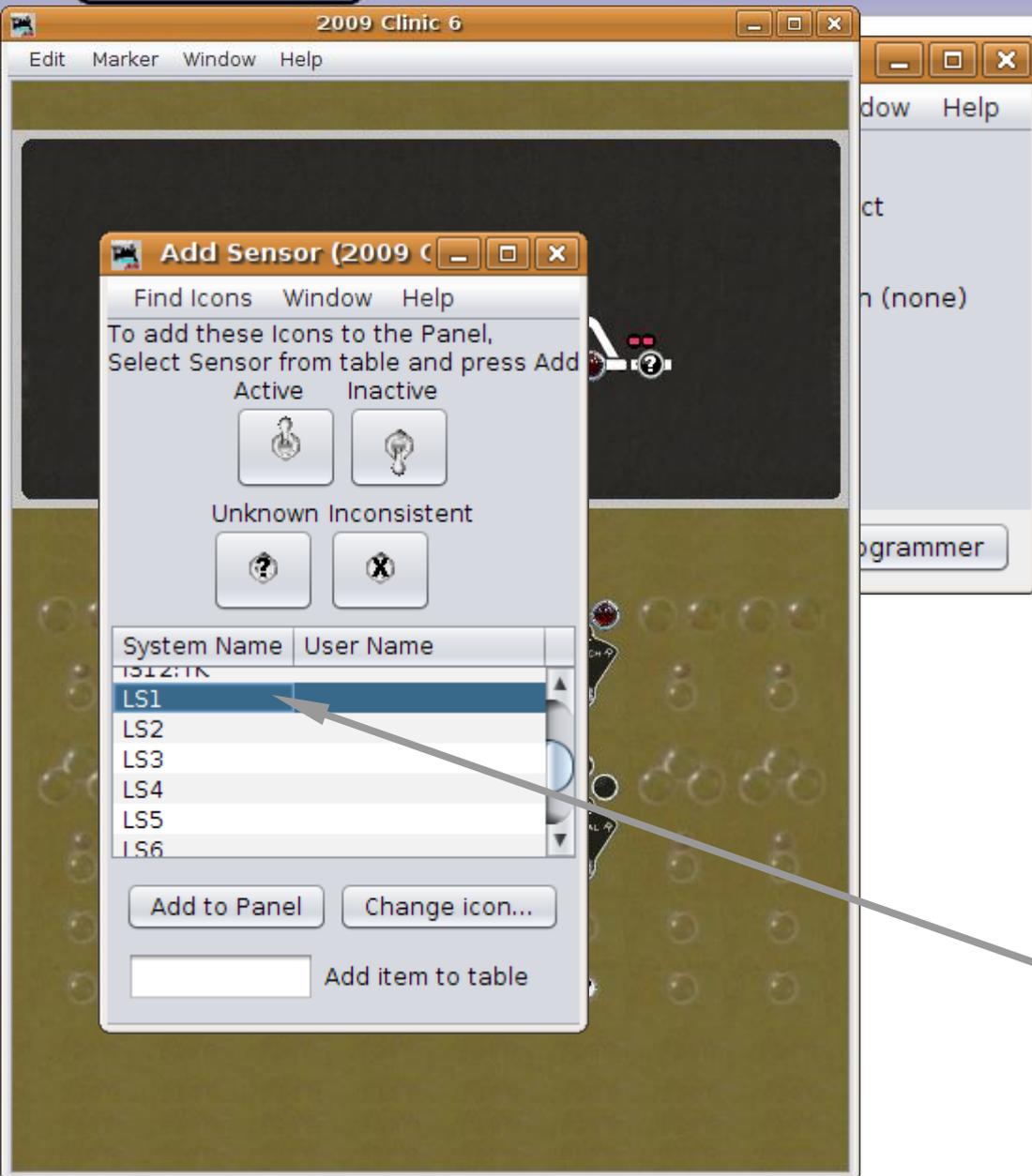
SSL (Simple Signal Logic)

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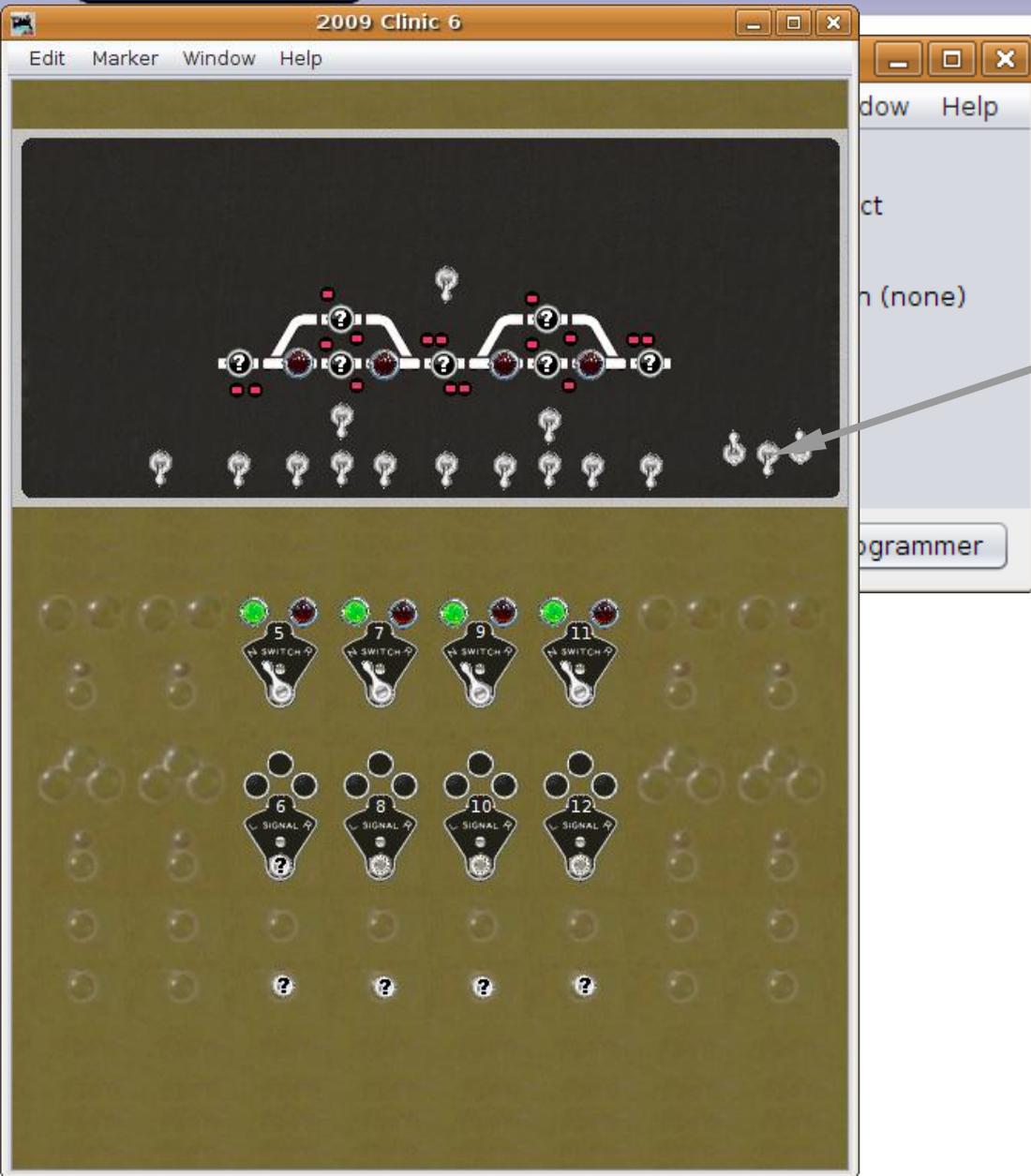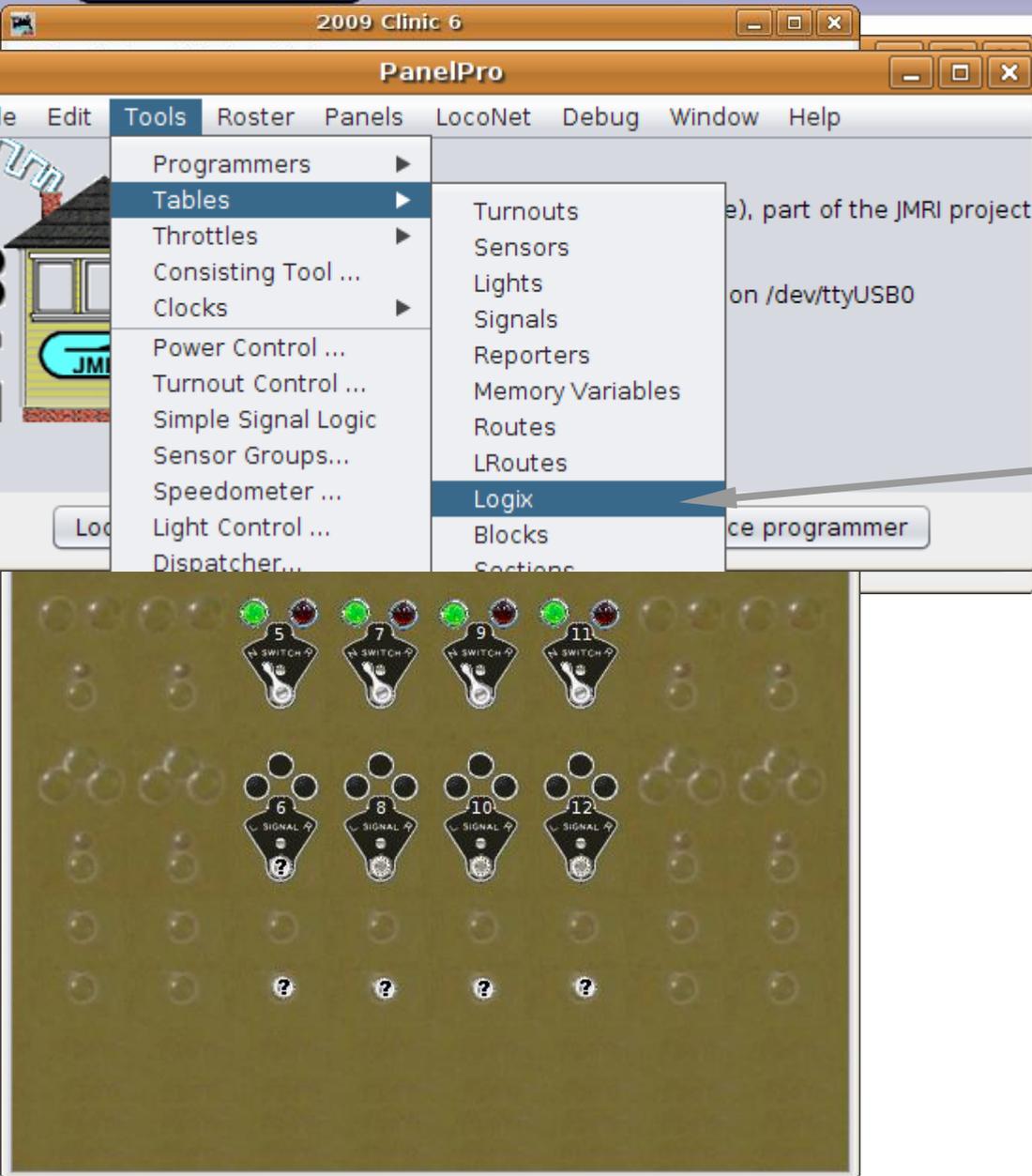 - 'Add Sensor' and change the images to switches
  - Select LS1, etc. and 'Add to Panel' switches for each block sensor.
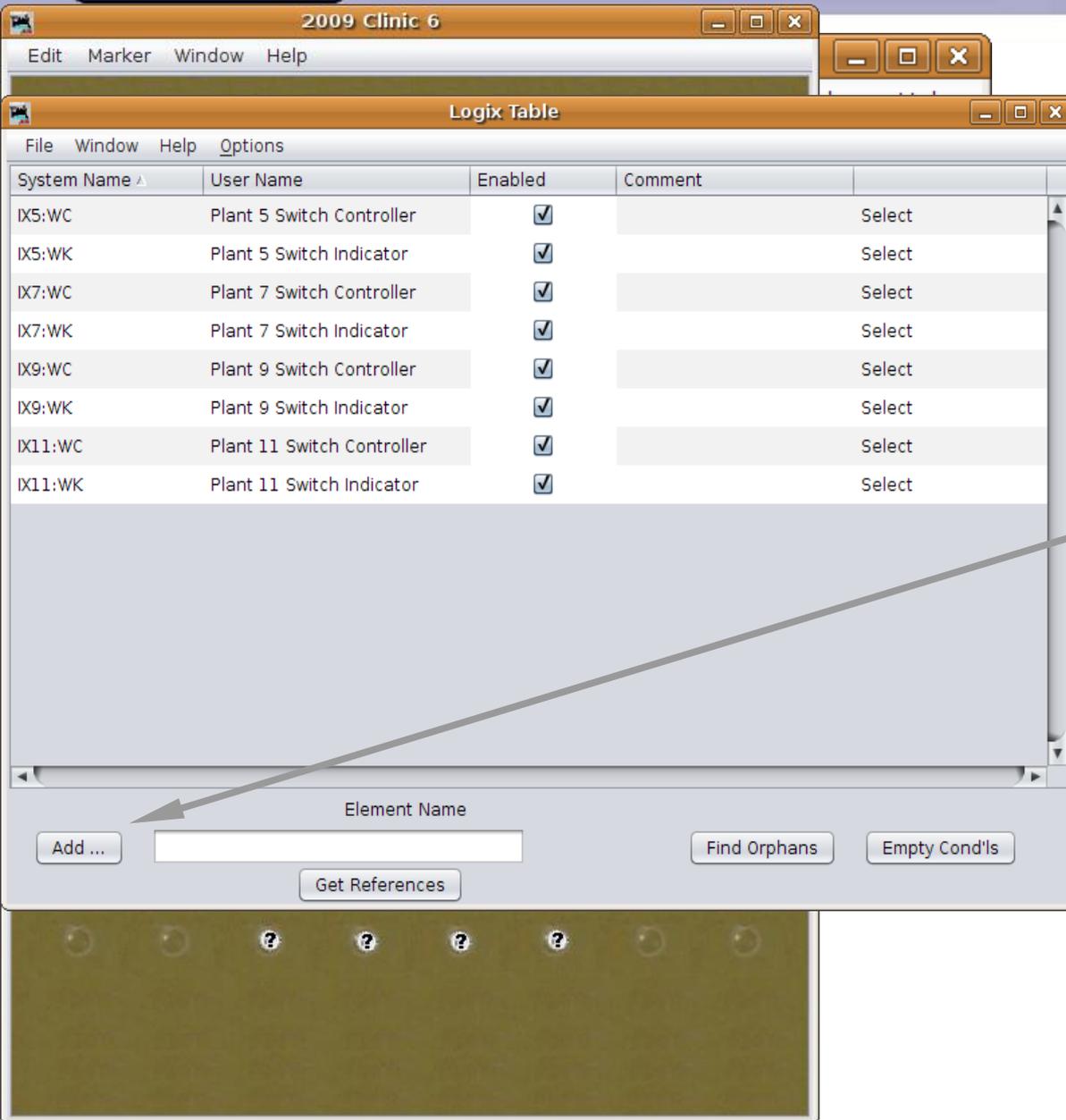
SSL (Simple Signal Logic)

- SSL Advanced
  - I have a few extras scattered around.

SSL (Simple Signal Logic)

PanelPro

le | Edit | Tools | Roster | Panels | LocoNet | Debug | Window | Help

Tools menu
Programmers ▶
Tables ▶
Throttles ▶
Consisting Tool ...
Clocks ▶
Power Control ...
Turnout Control ...
Simple Signal Logic
Sensor Groups...
Speedometer ...
Light Control ...
Dispatcher...

Tables submenu
Turnouts
Sensors
Lights
Signals
Reporters
Memory Variables
Routes
LRoutes
Logix
Blocks
Sections

e), part of the JMRI project

on /dev/ttyUSB0

- **SSL Advanced**
  - I have a few extras scattered around.
  - Open Logix.

SSL (Simple Signal Logic)

2009 Clinic 6

Edit   Marker   Window   Help

Logix Table

File   Window   Help   Options

System Name △	User Name	Enabled	Comment	
IX5:WC	Plant 5 Switch Controller	☑		Select
IX5:WK	Plant 5 Switch Indicator	☑		Select
IX7:WC	Plant 7 Switch Controller	☑		Select
IX7:WK	Plant 7 Switch Indicator	☑		Select
IX9:WC	Plant 9 Switch Controller	☑		Select
IX9:WK	Plant 9 Switch Indicator	☑		Select
IX11:WC	Plant 11 Switch Controller	☑		Select
IX11:WK	Plant 11 Switch Indicator	☑		Select

Element Name

Add ...   Find Orphans   Empty Cond'ls

Get References

SSL Advanced

- I have a few extras scattered around.
- Open Logix.
- Add IX5:TK (**5 T**rack Indi**K**tor)

SSL (Simple Signal Logic)

SSL Advanced

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- Add IX5:TK (**5 T**rack Indi**K**tor)

- Create Logix

SSL (Simple Signal Logic)

Edit Conditional

Window   Help

Conditional System Name IX5:TKC1

Conditional User Name LS2

Logical Expression:

Antecedent Variables (the 'if' part)

Row	Oper	Neg	State Variable Description	State	Trigg...		
R1			Sensor, LS2, for Sensor Active	False	☑	Edit	Delete

Add State Variable   Check State Variables

Logic Operator

AND ▼

Actions

Consequent Actions (the 'then' part)

Action Description			
On Change, Play Sound File from file, /usr/local/JMRI/resources/sounds/Code-receive....		Edit	Delete
On Change To True, Delayed Set Sensor, IS5:WAK to Active, after 5 seconds.		Edit	Delete
On Change To False, Delayed Set Sensor, IS5:WAK to Inactive, after 5 seconds.		Edit	Delete

Add Action   Reorder

Update Conditional   Cancel   Delete Conditional

SSL Advanced

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- Open Logix.

- Add IX5:TK (**5 T**rack Indi**K**tor)

- Create Logix

- When the sensor changes play a sound then set the indicator to match.

SSL (Simple Signal Logic)

SSL Advanced

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- Open Logix.

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- When the sensor changes play a sound then set the indicator to match.

- Copy and edit for all the OS's

SSL (Simple Signal Logic)

SSL Advanced

- Add IX4:TK (**4 T**rack Indi**K**tor)

2009 Clinic 6

Edit   Marker   Window   Help

Logix Table

File   Window   Help   Options

System Name △	User Name	Enabled	Comment	
IX5:TK	Plant 5 OS Indicator	☑		Select
IX5:WC	Plant 5 Switch Controller	☑		Select
IX5:WK	Plant 5 Switch Indicator	☑		Select
IX7:TK	Plant 7 OS Indicator	☑		Select
IX7:WC	Plant 7 Switch Controller	☑		Select
IX7:WK	Plant 7 Switch Indicator	☑		Select
IX9:TK	Plant 9 OS Indicator	☑		Select
IX9:WC	Plant 9 Switch Controller	☑		Select
IX9:WK	Plant 9 Switch Indicator	☑		Select
IX11:TK	Plant 11 OS Indicator	☑		Select
IX11:WC	Plant 11 Switch Controller	☑		Select
IX11:WK	Plant 11 Switch Indicator	☑		Select

Element Name

Add ...   [   ]   Find Orphans   Empty Cond'ls

Get References

?   ?   ?   ?

SSL (Simple Signal Logic)

SSL Advanced

- Add IX4:TK (**4 T**rack Indi**K**tor)

- This Logix is similar to those we have done already, with one BIG difference. The new Logix can do more than just AND comparisons like before. Here we first introduce the OR function. We have two occupancy sensors, either of which lights the single indicator lamp.

SSL Advanced

- If either sensor LS1 **OR** sensor LS4 is occupied, then the conditional is 'true'. Only if both sensors are inactive is the conditional 'false'

SSL (Simple Signal Logic)

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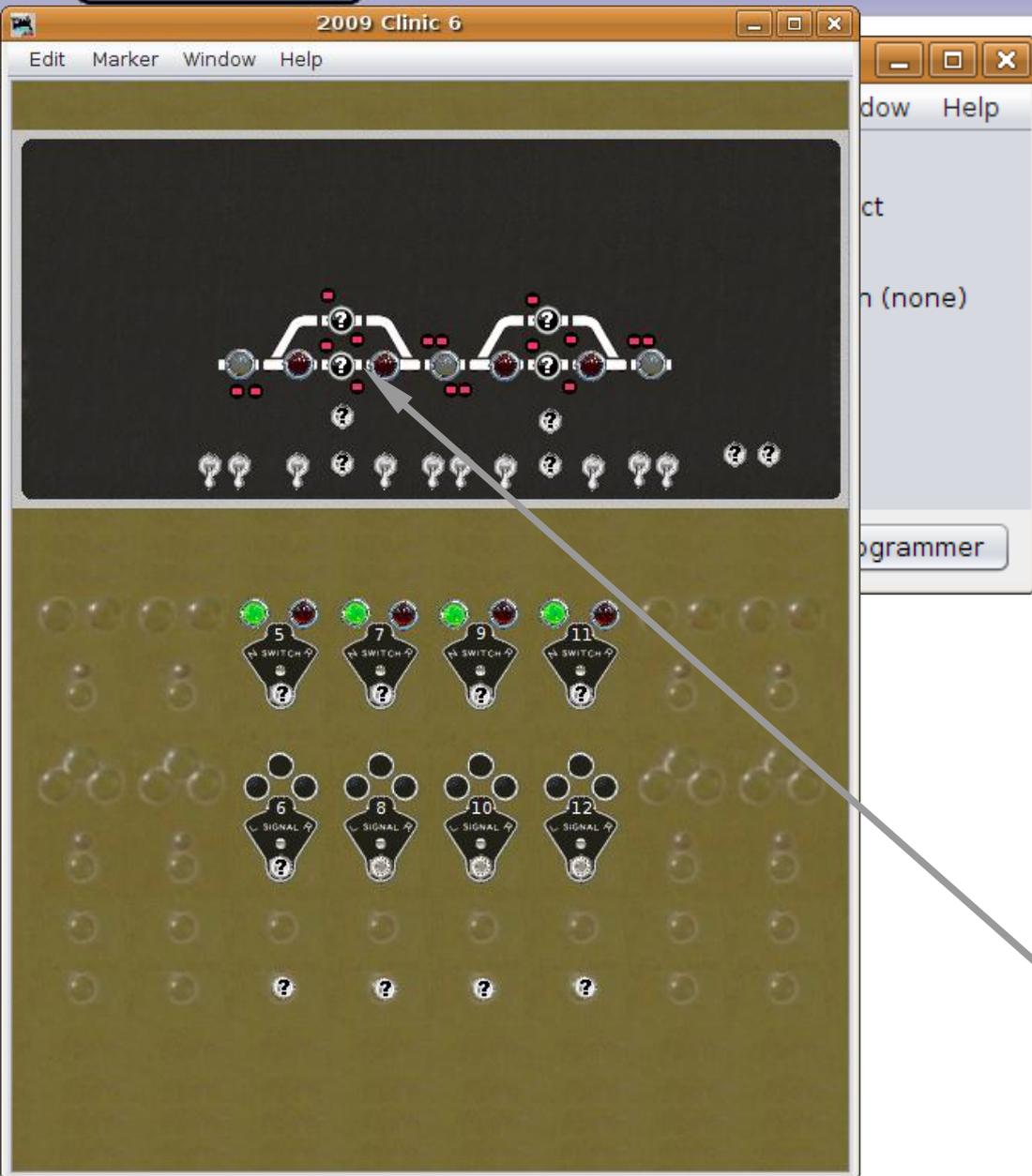- Copy IX4:TK as IX8:TK and IX12:TK, and edit to match the correct sensors.

SSL (Simple Signal Logic)

SSL Advanced

- If either sensor LS1 **OR** sensor LS4 is occupied, then the conditional is 'true'. Only if both sensors are inactive is the conditional 'false'

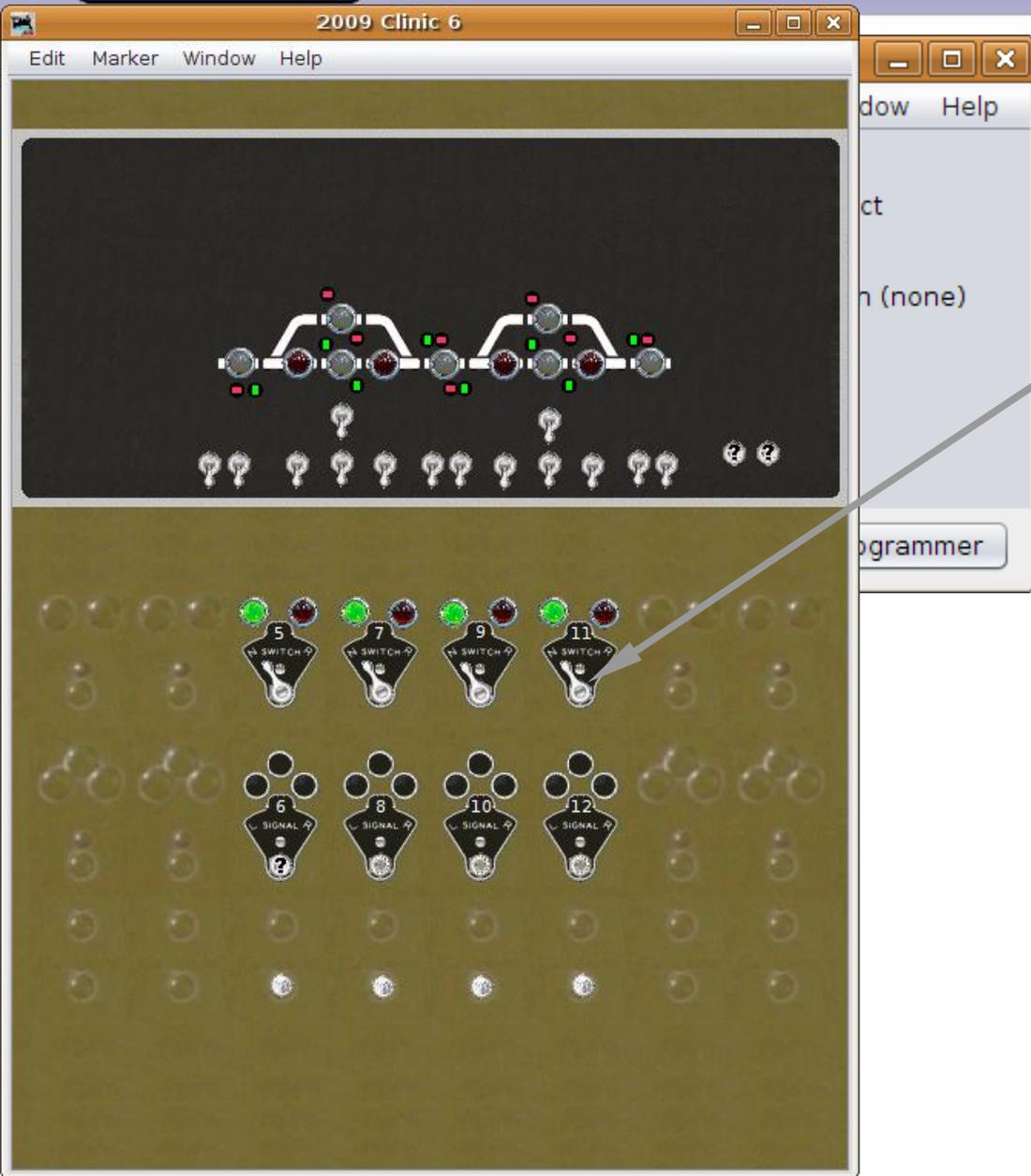- Copy IX4:TK as IX8:TK and IX12:TK, and edit to match the correct sensors.

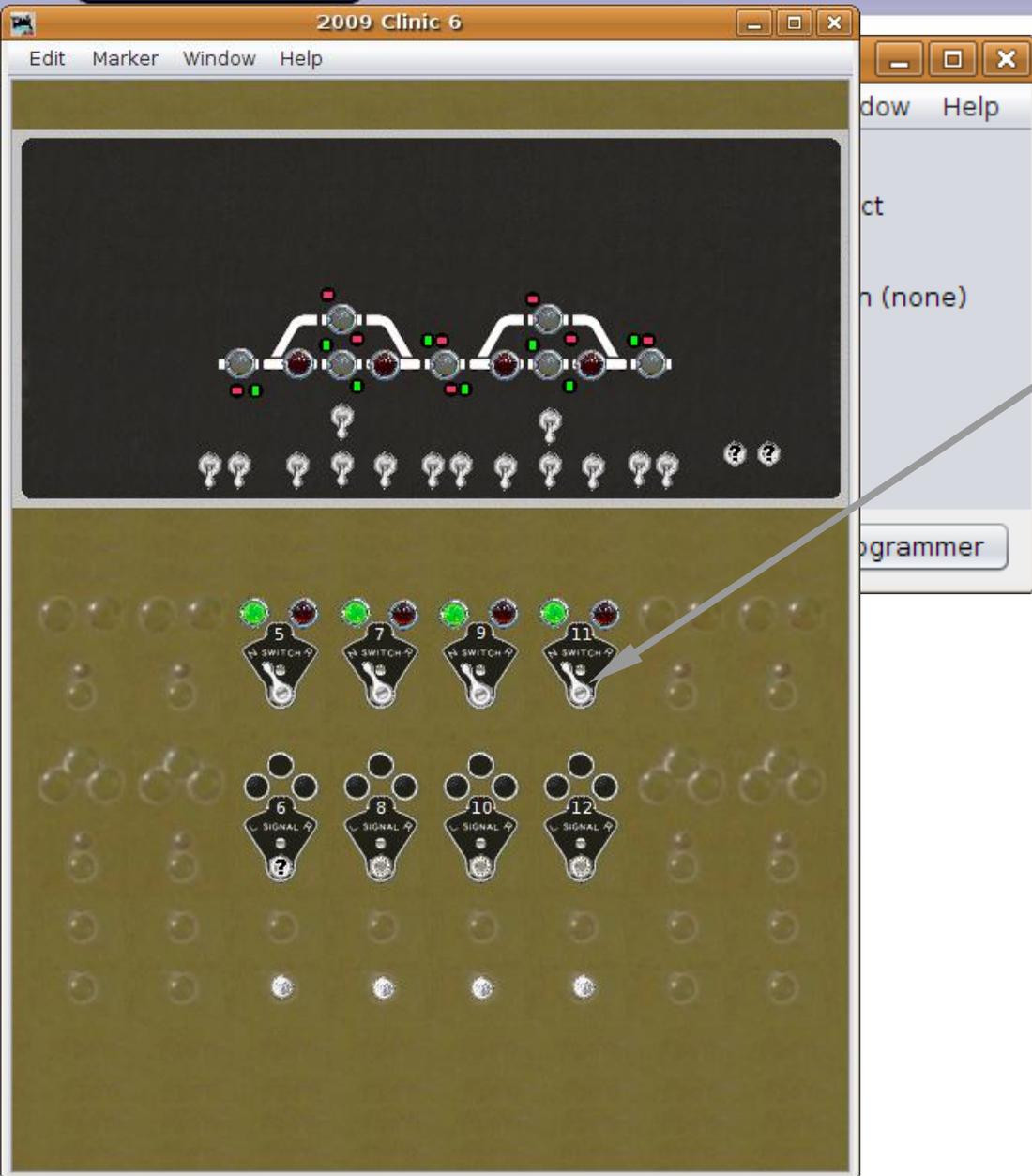- That leaves just the 4 passing track sensors. They are like the OS.

SSL (Simple Signal Logic)

SSL Advanced

- We now have a fully interlocked panel to control our turnouts with panel levers with ABS signals.

SSL (Simple Signal Logic)

SSL Advanced

- We now have a fully interlocked panel to control our turnouts with panel levers with ABS signals.

- Save our work as 2009Clinic6.xml

- What we have covered so far:

  - Placing signals on a panel.

  - Simple Signal Logic.

  - Simple turnout interlocking with Logix

- Where we are going next:

  - CTC Panel Logix