JMRI For Everyone!

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Here's what to expect

- Introduction to JMRI
- Using Decoder Pro to program your decoders
- Demo
  - SPROG-II, Decoder Pro, WiThrottle, and the Bachrus Speedometer

What is JMRI?

- Java Model Railroad Interface
- Software technology designed for model railroads
- Open Source Software (i.e it's free!)
- http://www.jmri.org
- Works on Windows, Linux, and Mac!!!
- Supported by model railroaders who happen to be programmers
- You too can contribute to its growth and success

What is JMRI?

- Decoder Pro for decoder programming
- Panel Pro for designing and operating dispatch panels
- Logix programming language for layout automation
- And there's even more

History

- 2001-2002 Mark Gurries gathered Bob Jackobson, Dave Falkenburg, and John Jabour to share ideas and projects they had been working on
- October 28, 2002 - JMRI 1.1 released, DecoderPro was the result of their teamwork
- 2003-2004 - Nick Kulp & Bob Jacobson started Panel Editor
- 2006 - 2007 - Dave Duchamp & Dick Bronson started Layout Editor, Pete Cressman came on board in 2009
- 2007 - RobotThrottle, Ken Cameron
- 2008 - AutoDispatcher, Giorgio Terdina
- 2009 - Operations, Dan Boudreau, Roster items

Special thanks to Ken Cameron for providing this information from his Amherst Railroad Hobby Show clinic slides

JMRI Organization

- Bob Jacobson - Overseer & Mentor
- Developer Group
  - 5-10 actively working on code at any time
  - 20-30 regular contributors and supporters
- User Group
  - Started around October 2002, 189 email addresses
  - July 2004, 1304 email addresses
  - Jan 2007, 2752 email addresses
  - August 2010, 5005 email addresses

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DecoderPro

- Do you like to read things like this?
- Do you like binary math?
- Do you like fiddling with the buttons on your throttle?

CV 29
Configuration Register 1

Description
CV 29 contains miscellaneous decoder configuration bits:

Bit 7 … Bit 0

0	0	EAM	STE	ACK	APS	F0	DIR

Bit 0: DIR, Direction Bit
0 = normal operation
1 = direction bit in Speed/Direction instruction is inverted before processing.

Bit 1: F0 Location
0 = F0 state is controlled by bit 4 of Speed/Direction Instruction (14 Speed Step Mode)
1 = F0 state is controlled by bit 4 of Function Group 1 Instruction (28 and 128 Speed Step Modes)

Bit 2: APS, Alternate Power Source enable
0 = NMRA Digital Only
1 = Alternate Power Source enabled as set by CV 12

Bit 3: ACK, Advanced Acknowledge Mode enable (not used)
0 = Advanced Acknowledge mode disabled.
1 = Advanced Acknowledge mode enabled.

Bit 4: STE, Speed Table Enable
0 = Speed Table set by CV 2, 4 and 6.
1 = Use custom speed table selected by CV 25.

Bit 5: EAM, Extended Address Mode enable
0 = Decoder responds to Primary Address in CV 1
1 = Decoder responds to Extended Address in CV 17-18

Bit 6: Reserved for future use.

Bit 7: Multifunction Decoder - Always reads as 0.

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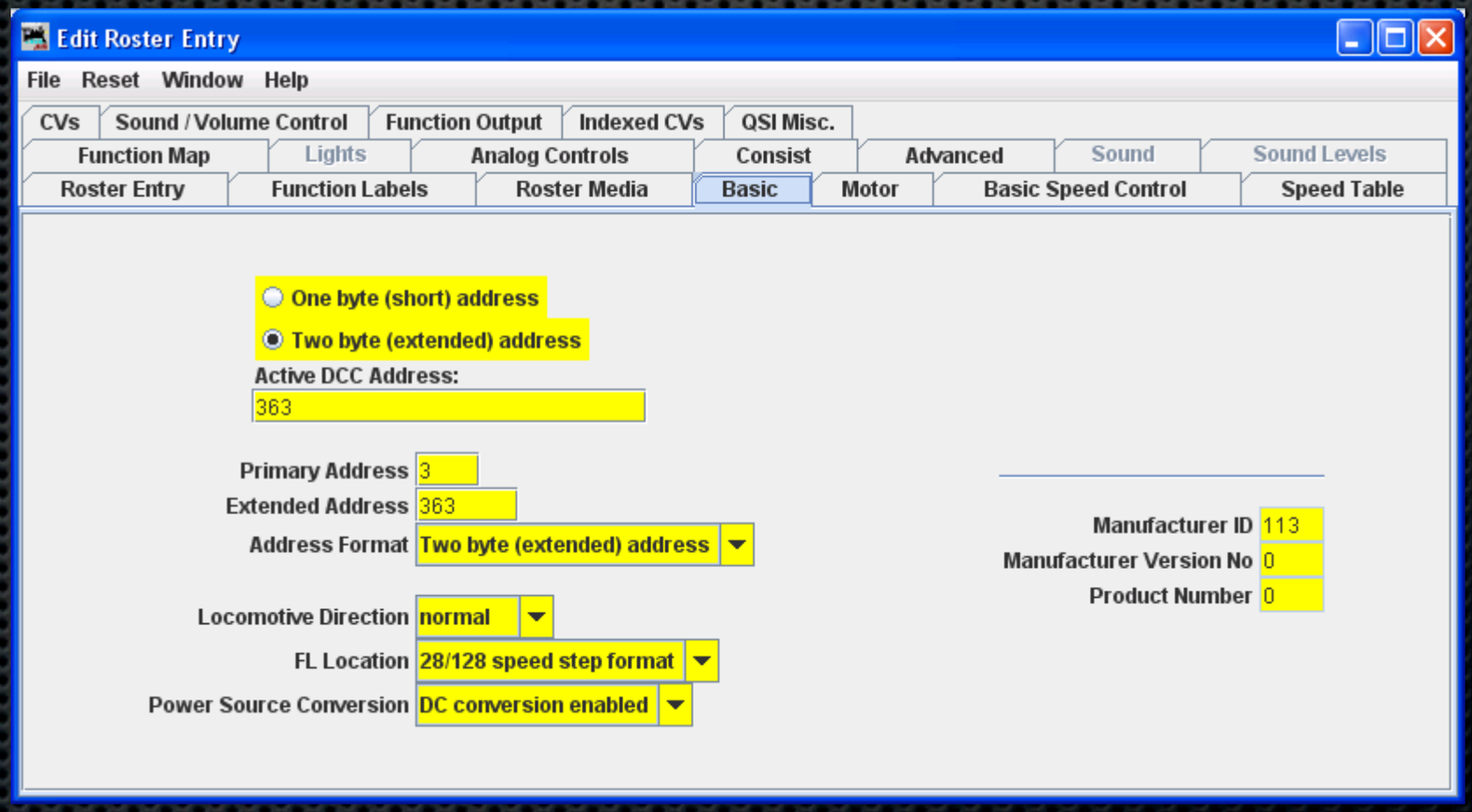
DecoderPro

- Or is this easier to figure out?



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DecoderPro

- Eliminate conversion issues. No binary math!
- No lost decoder manuals--DecodePro knows about YOUR decoder!
- Simplify the presentation of the settings.
- A roster to save what you have setup!
  - And you can restore your decoder settings should something happen to the decoder.

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DecoderPro

- Programming Track Support
  - Identify the decoder automatically
  - Select by viewing the manufacturers list
  - Using the roster
  - But where do the decoder definitions come from?
    - They come from users!
    - JMRI is an open source community

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DecoderPro

- Ops-Mode Programming
  - Great for adjusting speeds, lights, sounds
  - Use the roster to keep track of what you set last time
  - Single CV option ‘when you just want to do it’

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DecoderPro

- Getting Started
  - Download and install from the JMRI web site
    - http://www.jmri.org
- You need a connection between your computer and your test track
  - Command station & serial or USB adapter
  - The SPROG-II is a dedicated device for this purpose

DecoderPro - Roster

- Save decoder settings
- Notes and photos about each locomotive
- Create custom function keys with labels

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Operations

- Started as a catalog for rolling stock
- Grew into a traffic management tool
- Switch list generator
- Scheduler makes your industries really work
- Future work:
  - Train dynamic effects (weight, horsepower)
  - Automated Trains

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PanelPro

- PanelPro is for everything on a layout that's not a loco
- Two main parts:
  - Panel Editor
  - Layout Editor
- Controls turnouts and signals
- Displays sensors and status
- How many of your control panels have extra holes?

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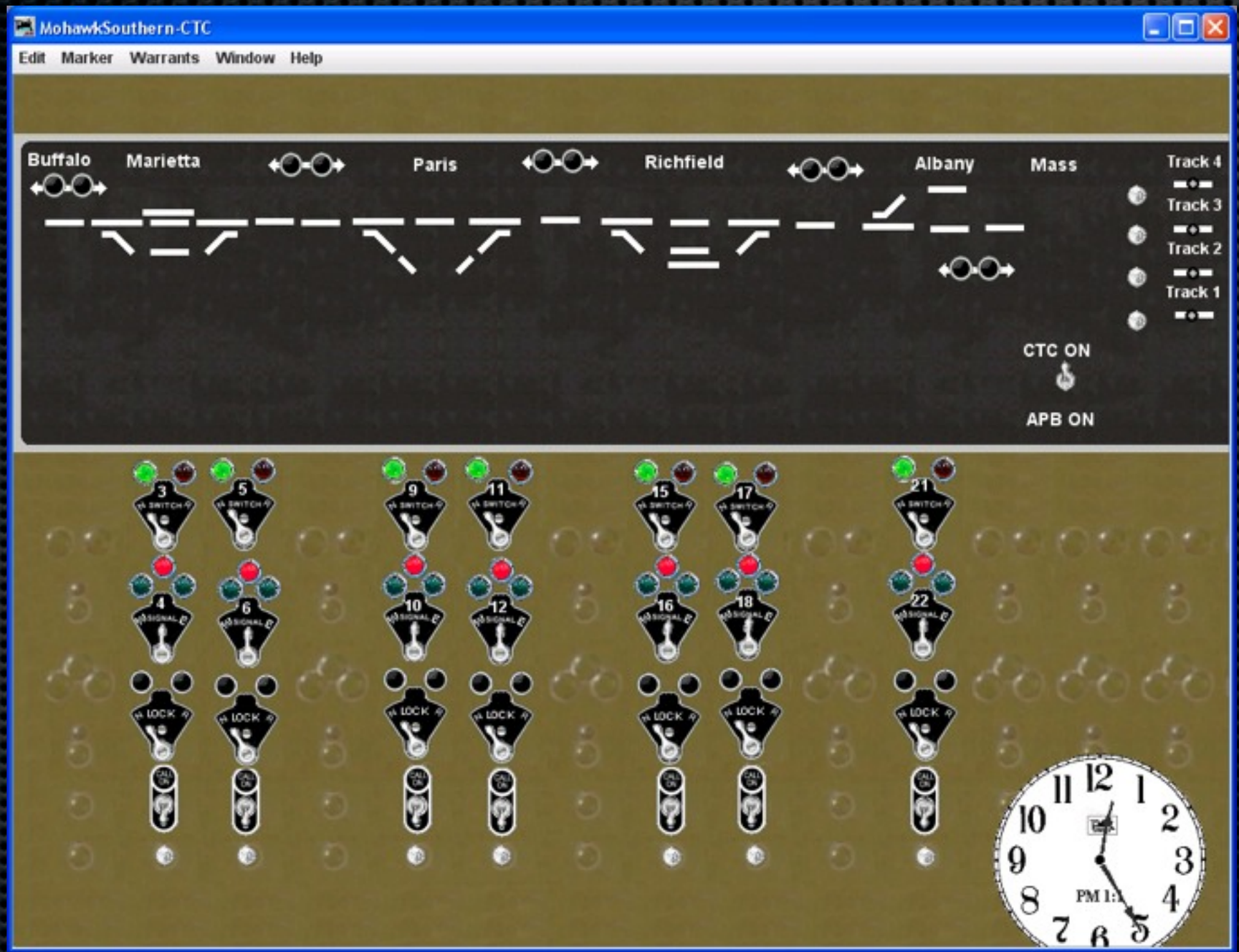
Panel Editor - CTC Example



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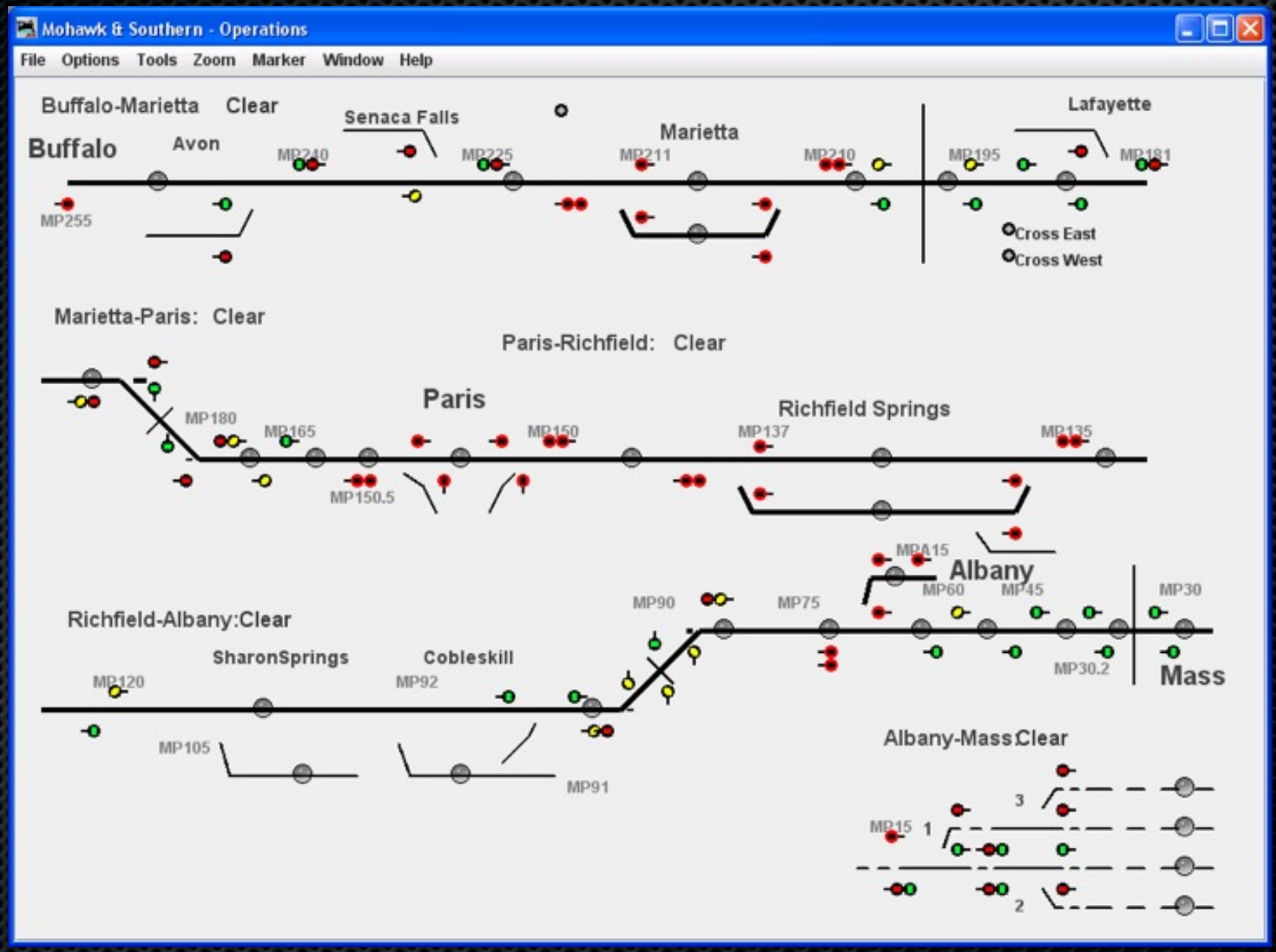
Layout Editor - Example



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PanelPro

- Features
  - Web mode to display panels on other monitors
  - Build multiple panels if needed
  - Dispatcher or physical view
- Shortcomings
  - You can’t touch two things at once
  - Some graphics have small ‘sweet spots’
  - Special track work might be hard to show

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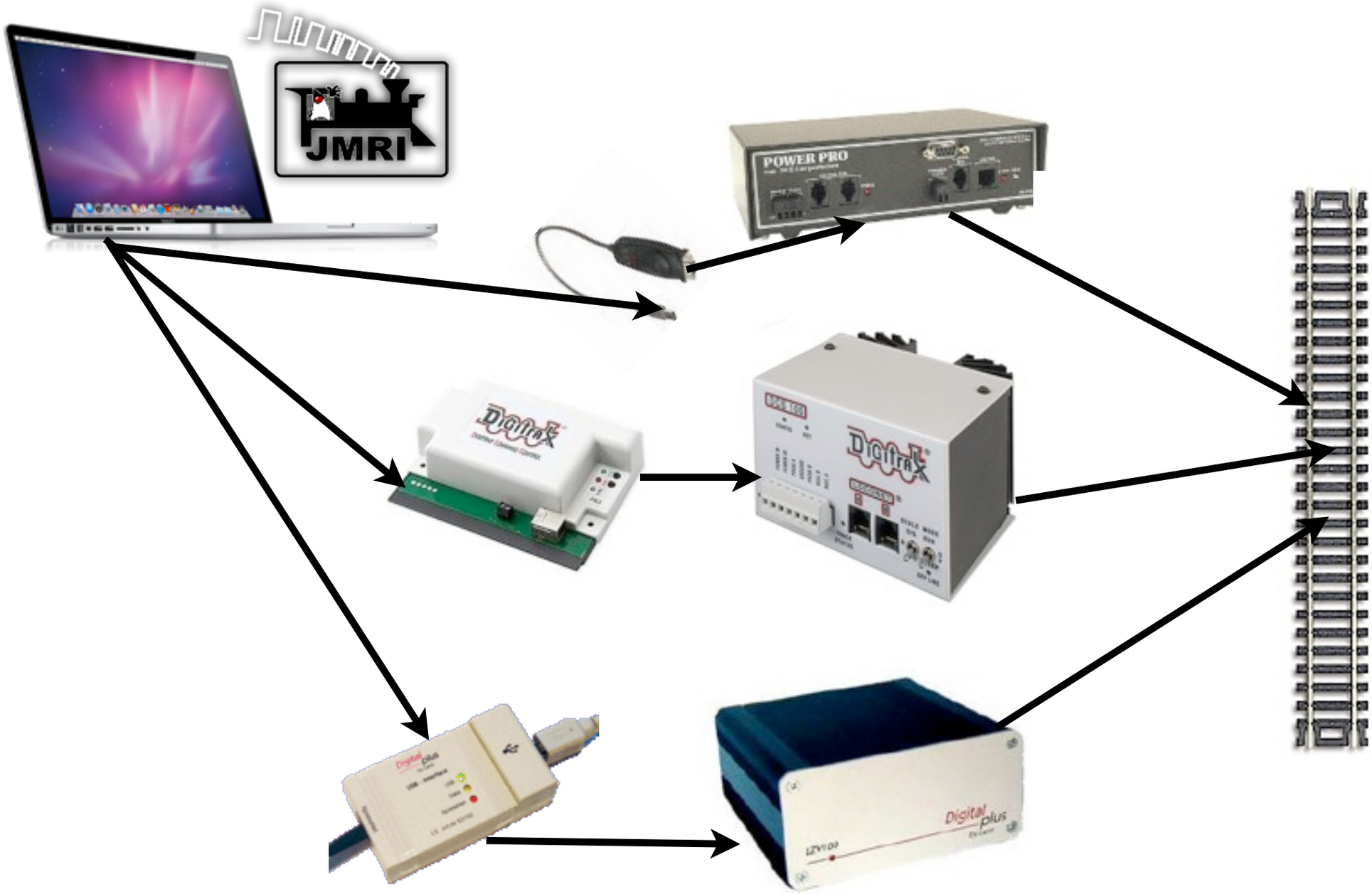
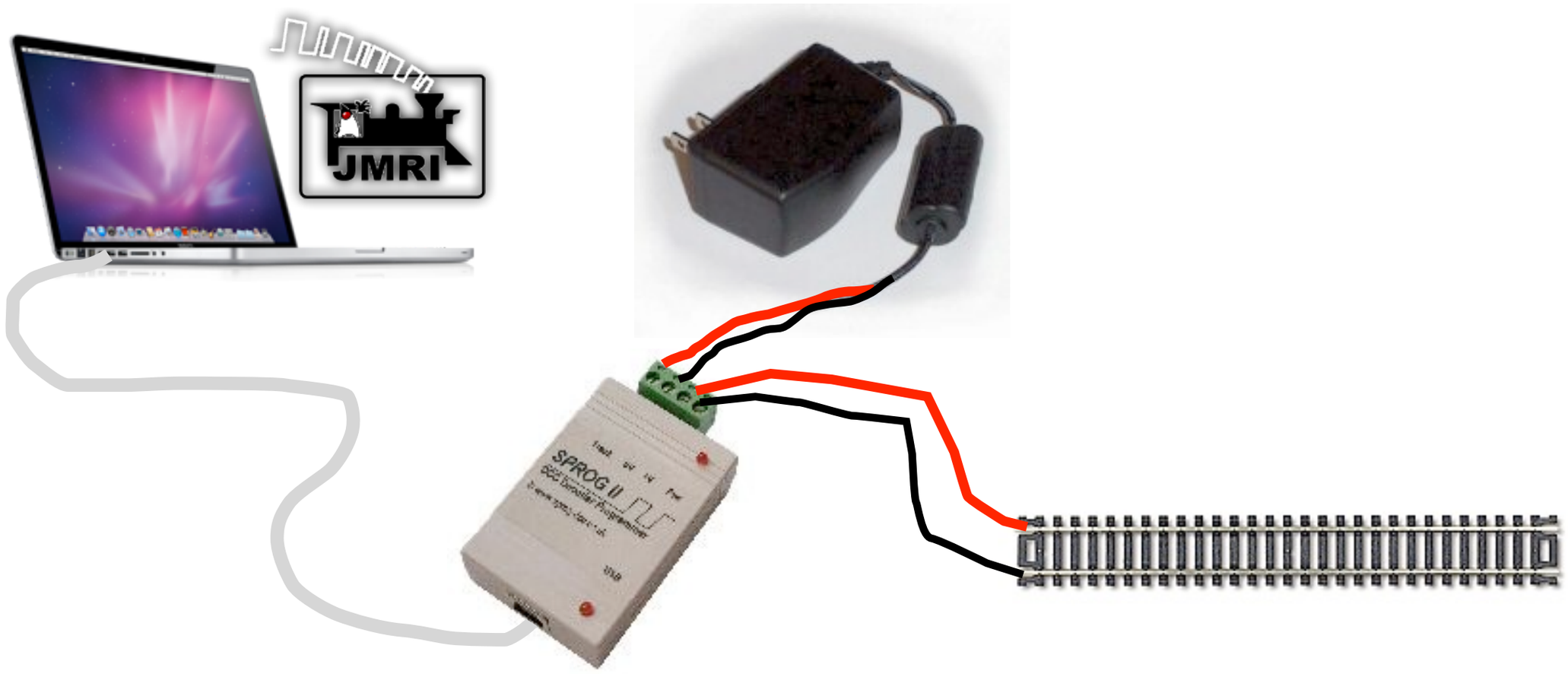
Command Station Setup



Test Track Setup



Other Connections

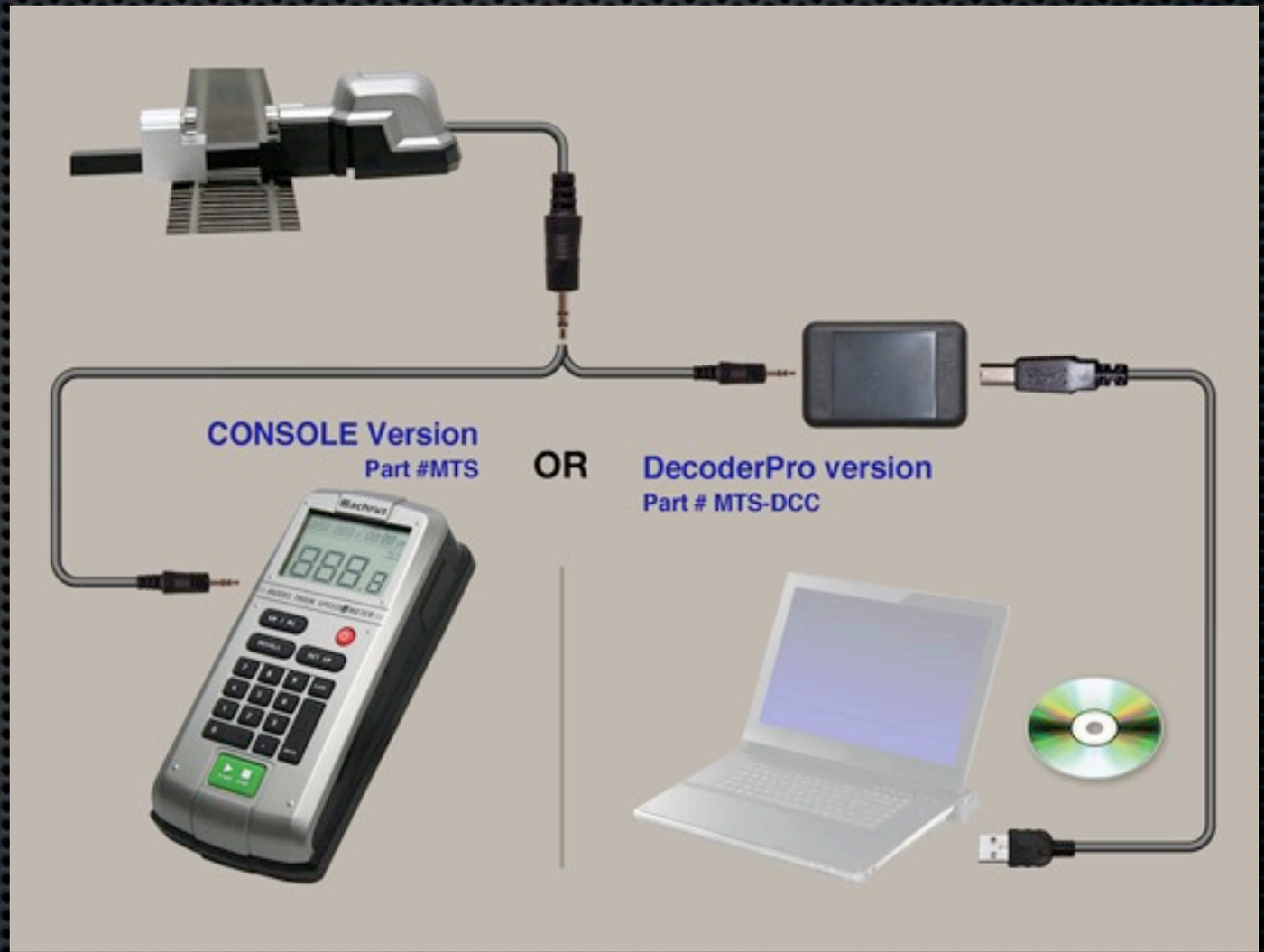
- Now that you have a computer hooked up...
- Use your smart phone or iPod as a throttle
  - Just need a WiFi connection and WiThrottle
- And you can read your locomotive's speed on a test track using the Bachrus MTS-DCC speedometer

WiThrottle

- Run WiThrottle Server in DecoderPro
- Unlimited Throttles!
- http://www.withrottle.com
- Free version available
- WiThrottle supports iPod Touch, iPhone
- Use Engine Driver for the Android
  - http://enginedriver.rrclubs.org
- Configurable screens for road or yard operations and controlling two locomotives

Bachrus Speedometer

- Used for measuring and matching locomotive scale speed
- Sets on a test track
- Rollers make the train run smoothly



Demos

- DecoderPro
  - Laptop programming of a decoder using the SPROG-II
- WiThrottle
  - Running a locomotive on the test track
- Bachrus MTS-DCC
  - Measuring scale speed on the test track