



# JMRI 101 Part 4: WiFi Throttles

Mark Underwood 4-March-2018

# How It Works – LNWI or Prodigy WiFi



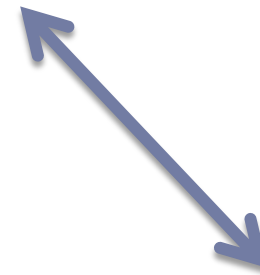
Smart Phone



WiThrottle Interface  
(LNWI, etc.)



Layout



DCC Command Station

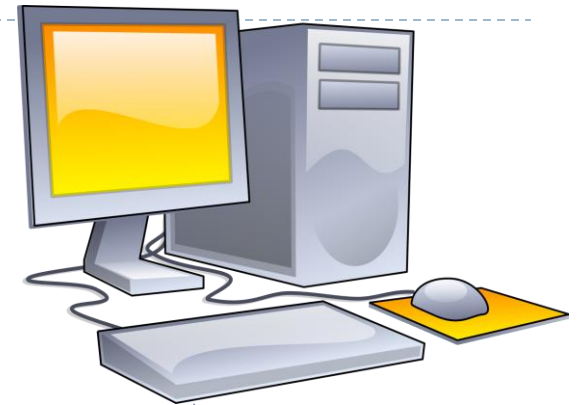
# How It Works – JMRI



Smart Phone



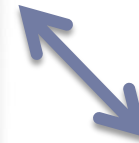
Home WiFi Router



PC with JMRI



DCC Command Station



Layout



Layout Interface (PR3)



# How It Works – Lenz / ESU / Märklin



Smart Phone



Home WiFi Router



LI-USB-Ethernet



Layout



DCC Command Station



# Why support Smart Phone Throttles?

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- ▶ **Much lower cost than proprietary throttles**
  - ▶ You probably already own one
  - ▶ Android phones for as little as \$30-40
  - ▶ Older phones can be repurposed
- ▶ **Universal compatibility**
  - ▶ Either phone type works with any DCC system.
  - ▶ Much easier for guests to BYOT
- ▶ **Graphical, customizable interfaces**
  - ▶ Configurable throttle arrangements
  - ▶ Function, turnout, and route labels
  - ▶ Access to JMRI Web Pages



# Issues and Limitations

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- ▶ **JMRI requires a PC and WiFi router**
  - ▶ You may or may not already have these
  - ▶ Possible network security issues if using home WiFi network
- ▶ **Vendor Interfaces are limited in capability**
  - ▶ LNWI supports only 4 throttles per unit (8 units per layout)
  - ▶ Prodigy WiFi supports only 8 throttles per unit
  - ▶ Limited configurability of these interfaces (network name, security etc.)
  - ▶ Connecting phone to LNWI disconnects it from the internet
- ▶ **Touch-screen interface**
  - ▶ Some prefer real knobs, buttons, and switches



# WiFi Layout Interfaces

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- ▶ **JMRI WiThrottle Server**
  - ▶ Requires a PC, WiFi, and a layout interface (Digitrax PR3, etc.)
  - ▶ Arbitrary number of phones can connect
  - ▶ Easy control of turnout labels, etc.
  - ▶ Works with nearly all DCC systems
- ▶ **Digitrax LNWI**
  - ▶ Up to four phones per LNWI, up to 8 LNWI per layout
  - ▶ Auto/self configuration – plug and play
  - ▶ Creates its own WiFi (no home network required)
- ▶ **MRC Prodigy WiFi**
  - ▶ Up to 8 phones
  - ▶ Creates its own WiFi
  - ▶ Plug and play
- ▶ **Lenz / ESU / Märklin with Ethernet port**
  - ▶ Can use TouchCab app on iPhone
  - ▶ No PC required



# Available Throttle App Options

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- ▶ **WiThrottle Lite (iOS) (free) – basic functions**
  - ▶ Speed/direction, F0-F28, wireless acquire/dispatch, auto-idle, flashlight
- ▶ **WiThrottle (iOS) (\$10)**
  - ▶ Multiple control arrangements, including dual throttles and consisting
  - ▶ Route/Turnout control, Roster lists, function labels, track power, fast clock, JMRI Web Server access
- ▶ **Engine Driver (Android) (free)**
  - ▶ Similar features to WiThrottle
  - ▶ Up to 3 locos or consists simultaneously
  - ▶ ESU MobileControl II throttle adds a big knob!
- ▶ **DigiTrains (Android) (free)**
  - ▶ Nice color (photo) interface
  - ▶ Includes graphic/visual layout control elements





# Other Options

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- ▶ **Ring Engineering RailPro**
  - ▶ Proprietary Non-DCC wireless train control system
  - ▶ No direct phone interface (could use JMRI)
  - ▶ Locomotive modules for HO and larger scales
- ▶ **Bachmann E-Z App**
  - ▶ Available for iOS or Android
  - ▶ Uses Bluetooth to directly control trains
  - ▶ Only works with Bachmann E-Z App Locomotives



# WiFi Throttle Components

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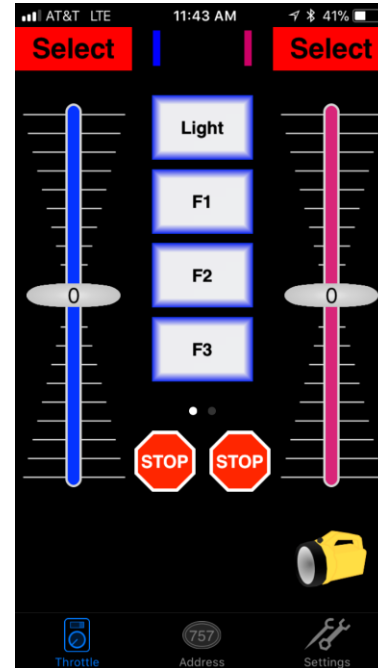
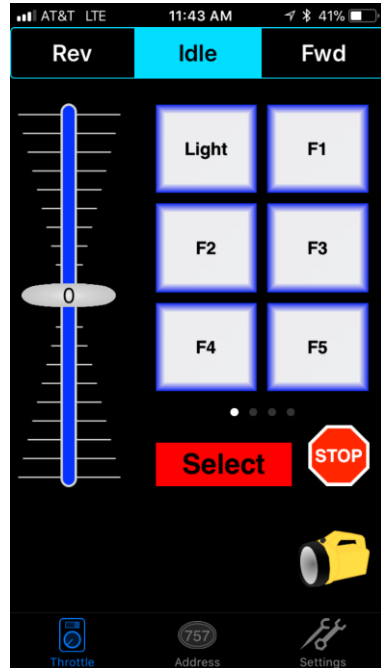
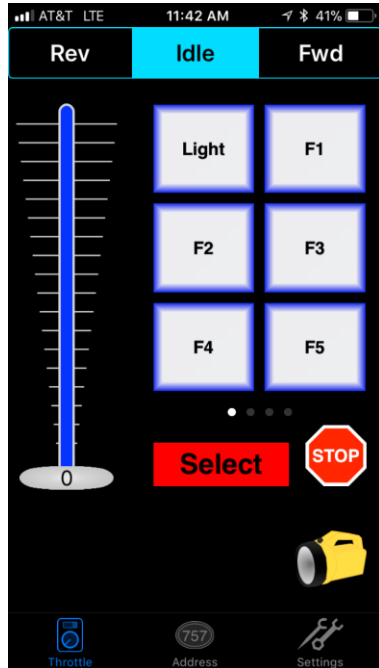
- ▶ iOS Apps → Apple App Store (Free - \$10)
  - ▶ WiThrottle
  - ▶ WiThrottle Lite
- ▶ Android Apps → Google Play Store (Free)
  - ▶ Engine Driver
  - ▶ DigiTrains
  - ▶ TouchCab
- ▶ JMRI → <http://www.jmri.org> (Free)
- ▶ Digitrax LNWI → Digitrax dealers (~\$60)
- ▶ MRC Prodigy WiFi → MRC dealers (~\$80)

Questions? Contact Mark Underwood ([msunderwd@gmail.com](mailto:msunderwd@gmail.com))

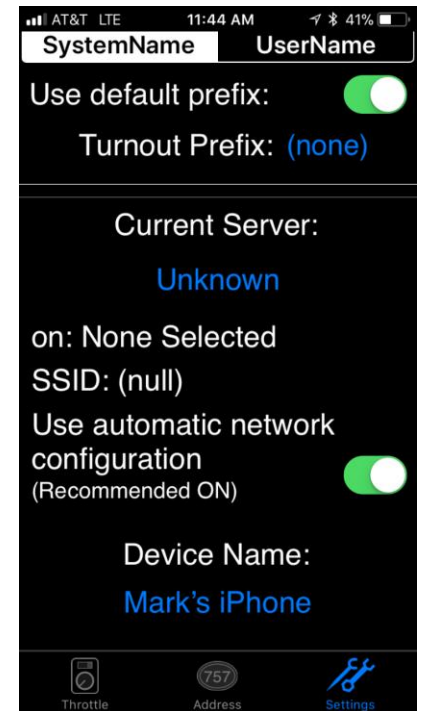
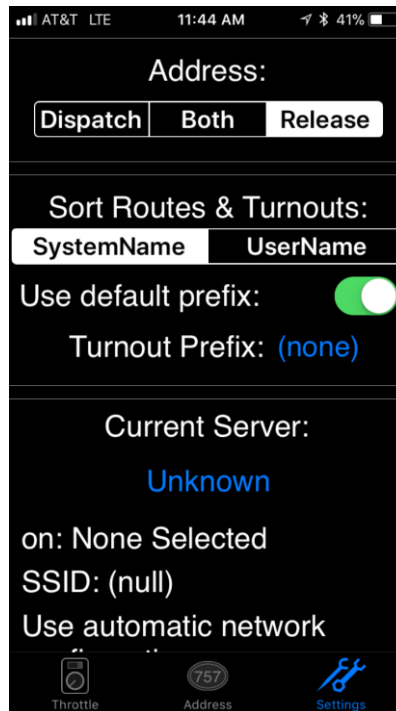
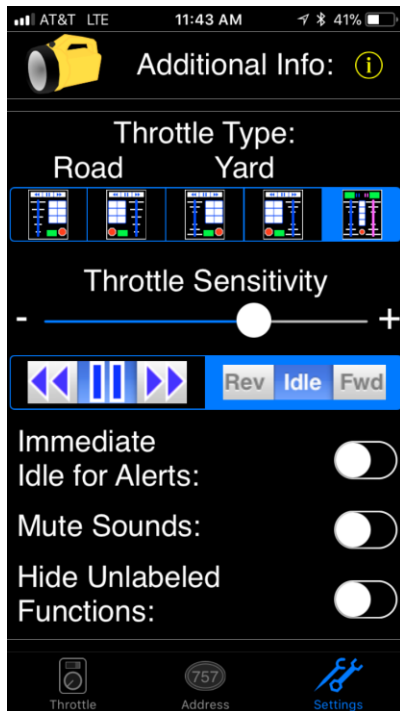
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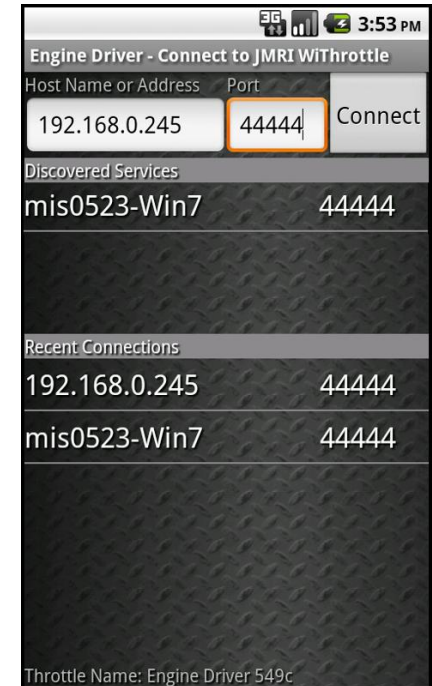
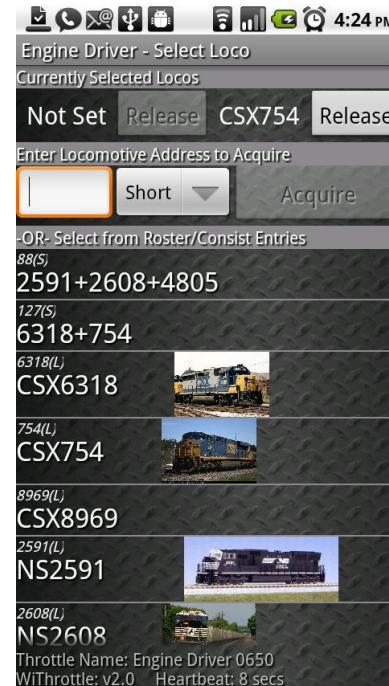
# WiThrottle Throttle Screens



# WiThrottle Configuration Screens



# Engine Driver Screens



# ESU Mobile Control II

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- ▶ Engine Driver touch screen
- ▶ Big knob and buttons
- ▶ Best of both worlds!
- ▶ Supports Android Apps
- ▶ ~ \$239
  - ▶ vs Digitrax DT500 \$199



Thank you for your attention!

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