Theory of Operation – Wi-Fi Smartphone throttles – Raspberry Pi

The club is using a Raspberry Pi 3B as a controller for Wi-Fi Smartphone throttles.

The Raspberry Pi connects to a LocoBuffer-USB via a USB printer cable and then connects to the DCS100 Command Station via a Loconet cable. The Raspberry Pi connects via RJ45 Ethernet to the Wi-Fi/Router and the Smartphones connect to the Router via standard Wi-Fi. Outside Internet is not needed.

The Raspberry Pi is running the JMRI throttle server image downloaded to an 8GB SD Card. The Ethernet connection is automatic and the Raspberry Pi/JMRI image automatically finds the LocoBuffer-USB device. JMRI website: www.jmri.org/install/Raspbian.shtml

Engine Driver from the Android Play Store is free. Just select the Raspberry Pi's IP address with port 12090 and you are ready to run a train. Apple has a app too.

It seems that the Raspberry Pi can support a high number of Wi-Fi throttles. Many members have switched.

At this point everyone has moved on to the Raspberry Pi 4. Total cost is about $180 for the Raspberry Pi 4, 8GB SD Card, (Case, heatsinks and fan) and LocoBuffer-USB. Often clubs already have the LocoBuffer-USB. Highly suggest the Case, Fan and heatsinks as the Raspberry Pi seems to run hot. This option is different for the various versions of the Raspberry Pi.