

- Control DCC Accessories (Points) using WiThrottle, Engine Driver or the WFD-30E Web Pages. Define up to 200 with names and DCC Addresses.
- Set up a set of routes, up to 50, to control your points in groups of up to 10 in each route.
- Program NCE Consists easily from the WFD-30E Web Pages.
- Program CVs from the WFD-30E Web Pages.
- Download and save your Loco Roster, Points and Routes on your computer or handheld device. Restore to your WFD-30E when required.
- Access the WFD-30 Manual at <http://www.wifitrax.com/manuals/WFD-30-31/WFD-30-31-Manual.pdf>

Other Information

Other resources:

<http://www.wifitrax.com/appNotes/howToArticles.html>

This product is not a toy. Keep away from children. It is not suitable for use by persons under 14 years of age.

Warning: This product contains chemicals known to the state of California to cause cancer, birth defects or other reproductive harm.

WifiTrax products are made in Australia using globally-sourced components and services. Check our website for warranty information.

WifiTrax

www.wifitrax.com



WFD-30E Getting Started Guide

This document is online at <http://www.wifitrax.com/appNotes/quickStart/WFD-30E-Quick-Start.pdf>. Please consult the full WFD-30 manual for much more detail at <http://www.wifitrax.com/manuals/WFD-30-31/WFD-30-31-Manual.pdf>. This document applies to WFD-30 firmware version 2.0.1 and above.

Package Contents: WFD-30E Module, this document

WFD-30E NCE Cab Bus Wi-Fi Interface

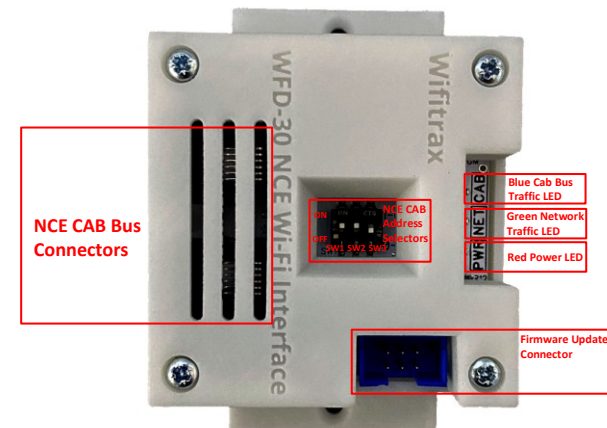


Figure 1. WFD-30E Connections

SW1	SW2	SW3	NCE CAB Bus Address
0	0	0	3
1	0	0	4
0	1	0	5
1	1	0	10 (default)
0	0	1	20
1	0	1	40 *
0	1	1	50 *
1	1	1	10 (Causes Factory Reset!)

Table 1 CAB Bus Address Selection Options (* Address 50 & 60 may be set to any CAB address using Web Pages)

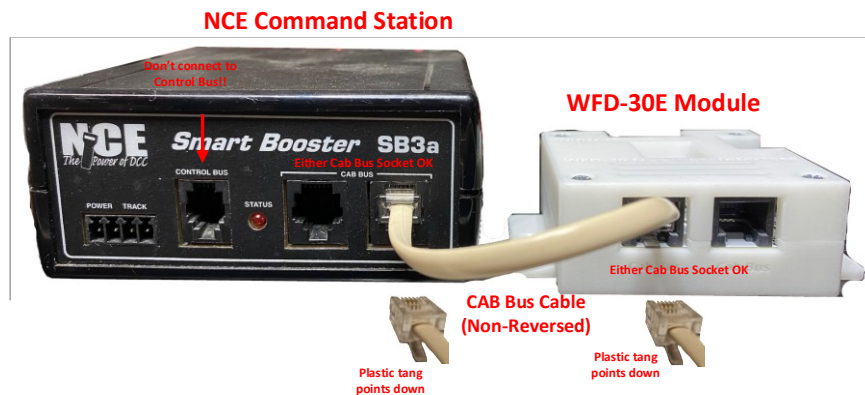


Figure 2. Connections to NCE Command Station

What does WFD-30E NEC Cab Bus Wi-Fi Interface do?

The WFD-30E allows you to drive your DCC trains from a hand-held untethered controller by providing a Wi-Fi connection to NCE command stations and boosters. It connects to one of the Cab Bus sockets on your NCE Command Station and provides Wi-Fi control of your DCC locos.

- You can drive trains using a smart phone or tablet as a hand-held throttle provided it has Wi-Fi capability. You can install one of the apps in Table 2, e.g., Android Engine Driver or IOS WiThrottle, or you can use the in-built WFD-30E Web Throttle.
- You can use a hand-held throttle designed to control trains that uses the WiThrottle protocol, such as TCS UWT-100.
- You can use a Windows or Apple computer, such as a laptop or desktop, with a recommended app from Table 2 installed.
- WDM-30 provides a Wi-Fi network. Four throttles at a time can join but you can increase this limit using a “Home Net” as described in the manual.

The WFD-30E has 3 LEDs: Red - indicates Power-on; Blue - on indicates NCE Cab Bus working, flashes when traffic occurs; Green - flashes when Wi-Fi activity occurs, on continuous when in home-net mode.

If you have been using an app on your phone to drive trains, via a

Avoiding Hang-ups: It's best to release the loco before powering down your WFD-30E and NCE system. When you power up again, WiThrottle should reconnect, but you may be asked, on a pop-up, to select the wfrx_WFD30_1_XXXXXXX_7 network again. If WiThrottle does not reconnect, you may have to restart it by going back to the Home screen and tapping its icon.

You can kill an app completely in Apple IOS by swiping up from the bottom of the home screen to show the switcher screen, then swiping its icon off the screen. Then you can restart it from the home screen.

Please consult the WiThrottle manual for more information and tips:

<https://www.withrottle.com/html/manual.html>

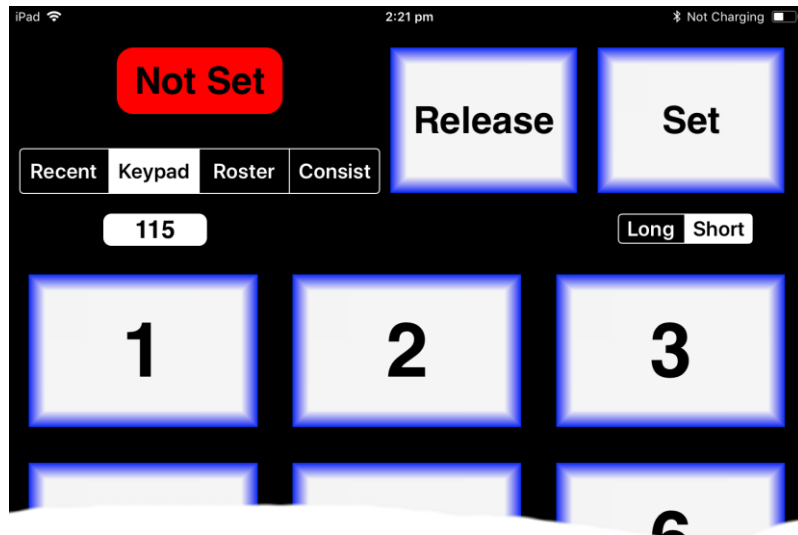
Please note that WiThrottle, has many features that may vary according to the version that you install. WifiTrax has no control over the features of WiThrottle, but has tested carefully its operation with our product. If you have trouble working with WiThrottle and our module, please email us your problem rather than using the WiThrottle support. WiThrottle support people do not know details of WifiTrax products, so please do not expect it. Support email: wifitrax@steveshrimpton.com or check our website

Getting more out of your WFD-30E and NCE Equipment

Once you are happy with simple operation using either iPhone or Android, you really must consult the full manual for information about the great features available. For example, you can:

- Use the Home Net option. That way you are not limited to four cabs and you can leave you phone or tablet connected to your home network. When you power up your NCE system, your phone or tablet will connect much more quickly.
- Use the WFD-30E web pages to set up your locomotive roster so that you can easily select from it on your iPhone or Android. You'll also be able to set each function button to show the correct text for each locomotive and decoder.

- (7) The green NET LED should begin flashing. Now tap the Address tab at the bottom to show the Address screen. Tap Keypad at the top-left, type the DCC address of the locomotive that you wish to drive and tap the Set button
- (8) Tap the Throttle tab at the bottom-left of the screen and you can begin driving. Each time you change the speed or operate a function key, the blue CAB LED should flash.



More Tips for WiThrottle

Making Wi-Fi Connection Easier: Go back to your Apple Settings and tap the wftrx_WFD30_1_XXXXXXX_7 Wi-Fi network. Make sure the Auto Join option is turned on. On your other Wi-Fi connections make sure the Auto Join option is turned off. That way your Apple device will always connect to the module if it's powered on.

Auto Connecting in WiThrottle: Tap the "Settings" tab at the bottom right, then "Server Configuration" on the left, then turn on "Use automatic network configuration". That way WiThrottle will connect to your WFD-30E's WiThrottle Server whenever it is available.

computer running JMRI, you can now bypass JMRI and connect your phone directly to the WFD-30E.

You don't need to install JMRI to use the WFD-30E

You can upgrade the firmware in the WFD-30E using the Firmware Upgrade Connector in Figure 1 with an FWA-20 module from WifiTrax.

Installation Instructions

Version requirements: For NCE Power Cab you can have version 1.28 to 1.65B, though earlier versions will have limitations. For Power Pro you need 2007C. You can buy upgrade chips from your NCE dealer or the NCE website.

CAB Bus Address: All CABs connected on the NCE Cab Bus must have a unique address. Use Table 1 to set the Address Switches to select an unused CAB address. The factory default is CAB Address 10. Please only use the Factory Reset option to cause a complete reset on cycling power then return the switches to another setting.

Mounting: The WFD-30E module is intended to receive power from the NCE CAB bus. No further power is required. Either mount the WFD-30E module on or under your baseboard or at any other suitable position, near to your NCE Command Station, where no tools or other metal items will contact it.

Connections: Figure 1 shows the WFD-30E module with its connectors labelled. There are two NCE CAB Bus connections on the left of the module. Either of these can be connected to one of the CAB Bus connections on your NCE Command Station as in Figure 2. You should always use NON-REVERSED cables with RJ-12 6P4C Modular Plugs on each end – the coiled cables from NCE are ideal. **Warning: Some phone cables are reversed. The WDM-30 will not work with these but it will not be damaged.**

The unused CAB Bus socket on the WDM-30 can be used to connect any other NCE Cab. See the section “More About Cables” in the manual if making your own cable. **If you are using a Power Cab, do not connect the flat cable to the spare connector on the WFD-30E. Only connect the flat cable as instructed by NCE.**

Running your First Locomotive

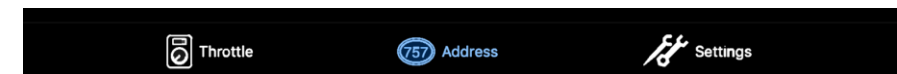
With the WFD-30E you can use several kinds of walk-around throttles or computers to control DCC locomotives and accessories. These are summarized in Table 2. Essentially, you can install an app on your tablet or smartphone, you can use the TCS UWT-100 or you can use the in-built web-drive throttle with just the WFD-30E. At some point, you will need to access the WFD-30E in-built web pages to set up advanced features.

Without installed Throttle App				
Method	Software	Get From:	Operating System	WFD-30E Web Pages
UWT-100	None required.	Train Control Systems (TCS).	Not Applicable.	Not Available. Use browser on another device.
Wifitrax Web Throttle	Safari, Chrome, Edge.	Included in WFD-30E.	Apple IOS, Android, Windows 10	Same browser as for Web Throttle.
Using an installed Throttle App				
App Name	Author	Get from:	Operating System	WFD-30E Web Pages
WiThrottle (Full)	Beth Hoffman	Apple Store	Apple IOS	Via web page.
WiThrottle (Free)	Beth Hoffman	Apple Store	Apple IOS	Use Safari.
Engine Driver	Steve Todd	Google Play Store	Android	Via web page in app.
Train Throttle	Drew Hoffman	Microsoft Store	Windows 10	No, Use Browser.

Table 2 Recommended Apps and other throttles that work with the WFD-30E

Getting Started with WiThrottle on Apple IOS

- (1) Before opening the app, make sure your WFD-30E is properly connected, power to your NCE Command Station is on and there is a locomotive on the track with a known DCC address.
- (2) Connect to the WFD-30E Wi-Fi network as described earlier in the section: Connecting from Apple IOS
- (3) Open the WiThrottle app. This app has some tabs at the bottom to select screens:



- (4) You should see the connection screen headed by “wfrx_WFD30_1_XXXXXXX_7”. If not, tap the Settings tab at the bottom right, then Server Configuration at the middle left, then Current Server at the top right.
- (5) The WFD-30E is a WiThrottle Server. It should appear in the AVAILABLE WITHROTTLE SERVERS section, identified by its serial number SNXXXXXXX. If it is visible, tap it and continue at (6).

The title shows your connected to your module's Wi-Fi network

The module's WiThrottle server has been found. Tap to connect.

Manual Connect only if needed.



- (6) If for some reason it does not appear, Set Server Manually. Tap “Search for Wi-Fi Modules”. The IP Address and port are pre-entered as 192.168.7.1 and 12090, so just tap “Connect”.

(10) When you want to drive a different loco, tap the button at the top, 115(L) in this example, then on the Select/Release screen, tap Release before selecting a new loco using a different DCC Address. You can use the “Recent” checkbox option to avoid typing the DCC address over and over.

More Tips for Engine Driver

Making Wi-Fi Connection Easier: Go back to your Android Setting and tap the wftrx_WFD30_1_XXXXXXX_7 Wi-Fi network. Make sure the Auto Connect option is turned on. On your other Wi-Fi connections make sure the Auto Connect option is turned off. That way your Android device will always connect to the module if its powered on.

Auto Connecting in Engine Driver: Tap the “three dots” in the top right and select Preferences from the menu. Find “Connect Preferences” and “Auto Connect to First Throttle Server”. Tap the check box to turn it on. That way Engine Driver will connect to your WFD-30E’s WiThrottle Server whenever it is available.

Avoiding Hang-ups: It’s best to release your loco before powering down your WFD-30E and NCE system. When you power up again, Engine Driver should reconnect, but if not, you may have to restart Engine Driver.

Please consult the Engine Driver “About” menu for more information about the app. It is possible to control more than one locomotive at a time and select different display appearances and preferences. Consult the website for more information:

<https://enginedriver.mstevetodd.com/>

Please note that Engine Driver, has many features that may vary according to the version that you install. WifiTrax has no control over the features of Engine Driver, but has tested carefully its operation with our product. If you have trouble working with Engine Driver and our module, please email us your problem rather than using the Engine Driver support. The author of Engine Driver is not likely to know details about WifiTrax products, so please do not expect it. Support email: wifitrax@steveshrimpton.com or check our website

Perhaps it’s easiest to start by using the Wifitrax Web Throttle but you may get a better experience using one of the apps. We recommend you try several methods. First you must connect your phone, tablet or computer to the WFD-30E Wi-Fi Network.

Connecting to the WFD-30E Wi-Fi Network

Make sure power to your NCE Command Station and booster is on, the WFD-30E is connected and there is a locomotive on the track with a DCC address that you know.

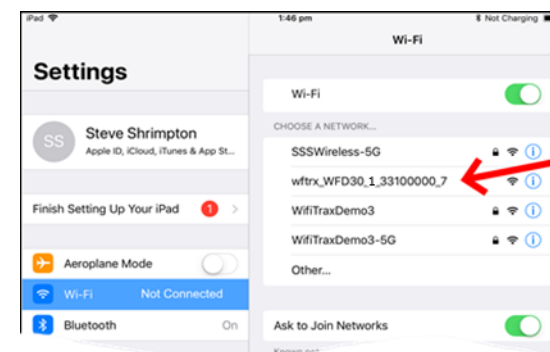
Connect your Phone, Tablet or Computer to the WFD-30E Wi-Fi Network. The WFD-30E provides its own Wi-Fi network with the name (SSID) of wftrx_WFD30_1_XXXXXXX_7 where the X’s are your module’s serial number. **You must connect to this network to work use WFD-30E.**

Connecting from Apple IOS

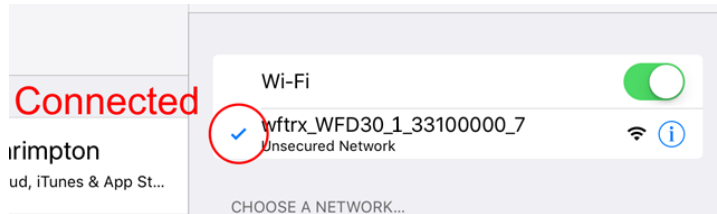
(1) Tap the Settings icon on your iPhone or iPad, etc.



(2) Tap Wi-Fi on the left-hand menu. Under CHOOSE A NETWORK on the right, the list should include one like wftrx_WFD30_1_XXXXXXX_7, where XXXXXXXX is the serial number of your unit that appears on its label. Tap that Wi-Fi Network. **You must always connect to this Network otherwise your device will not see the WFD-30E.**



- (3) No password is required and after a few moments you should see that it has connected.

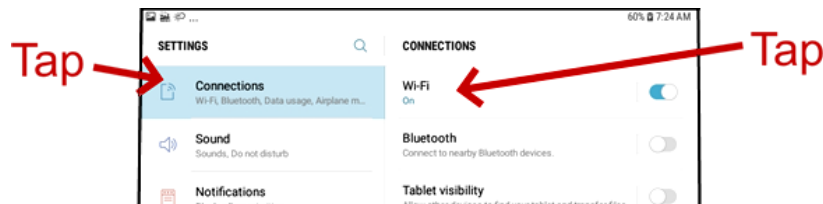


Connecting from Android

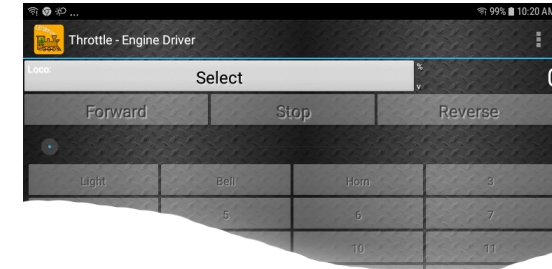
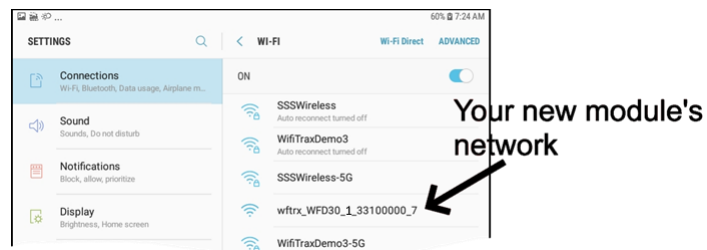
- (1) Press the Home button and tap the settings icon on your Android phone or tablet:



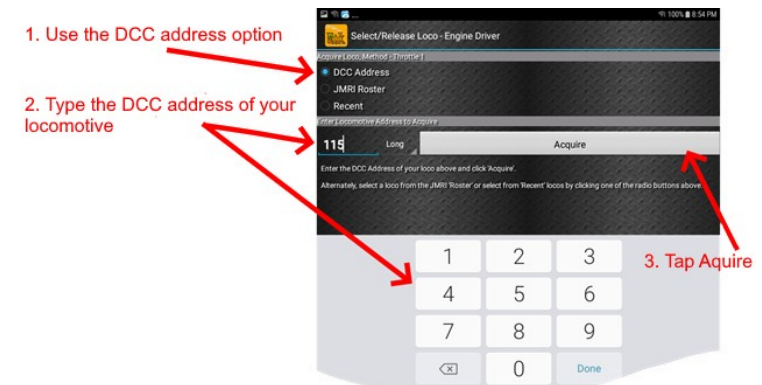
- (2) Find the Wi-Fi option. On Android 7, you tap Connections on the left, then Wi-Fi on the right.



- (3) You see a list of available Wi-Fi Connections on the right. Look for one like wfrx_WFD30_1_XXXXXXX_7, where XXXXXXXX is the serial number of your unit that appears on its label. Tap on that – no password is required – and wait for it to connect.



- (8) On the Select/Release Loco screen, check the “DCC Address” option and type the address of your locomotive either short or long. Tap Acquire.

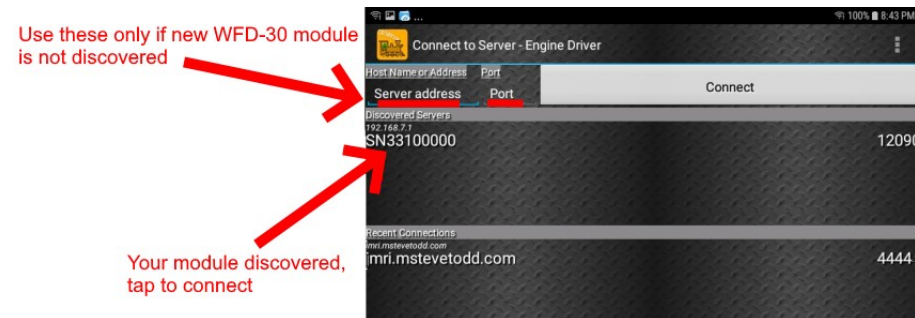


- (9) The Throttle screen appears again with your DCC address as the selected loco. Try the function buttons and throttle slider to make sure your loco responds. Each time you change the speed or operate a function key, the blue CAB LED should flash.



Getting Started with Engine Driver on Android

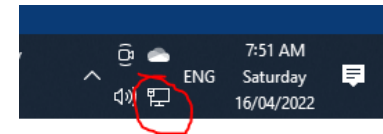
- (1) Install the Engine Driver app but don't start it yet.
- (2) Make sure you WFD-30E is connected, your command station is powered and there is a loco on the track with a known DCC address
- (3) Connect to the WFD-30E network with your device as described earlier in the section: Connecting from Android.
- (4) Open the Engine Driver app on your Android phone or tablet, go through its setup accepting all the defaults and allowing the privileges it requests.
- (5) After setup, you should see the "Connect to Server" page with your WFD-30E listed as a "Discovered Server". The WFD-30E acts as a WiThrottle server, similar to JMRI. Tap on it to connect.
- (6) If for some reason it is not discovered, you must type the IP Address of the WFD-30E unit, always 192.168.7.1 in the "Server Address" box at the top-left and the port value of 12090 in the port textbox, then tap the "Connect" button.



- (7) The green LED should start flashing and the Throttle screen should appear – ready to select a loco and drive. Tap the Select button.

Connecting from Windows 10

- (1) Click on the Networks icon in the System Tray on the bottom right of your screen.

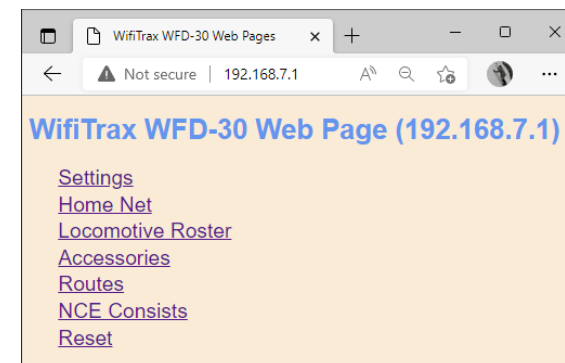


- (2) You see a list of available Wi-Fi Connections. Look for one like wftrx_WFD30_1_XXXXXXX_7, where XXXXXXXX is your serial number. Tap on that and click Connect. No password is required.

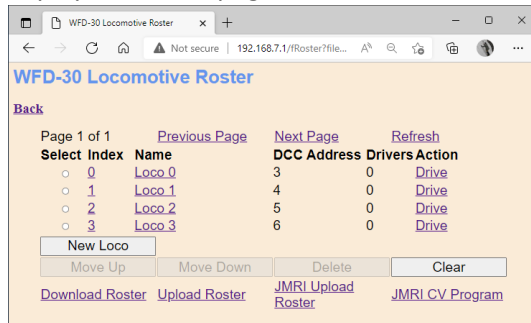


Getting Started with Wifitrax Web Throttle

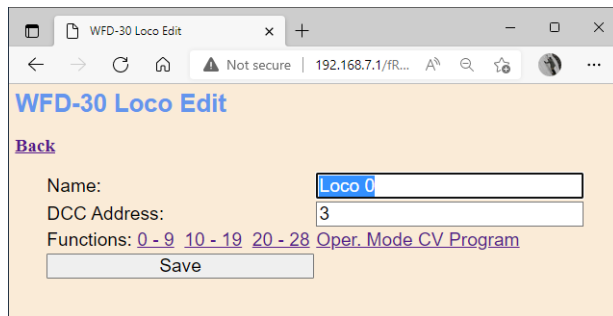
- (1) Once you have connected your device to the WFD-30E Wi-Fi Network, open a browser, e.g., Safari on Apple IOS, Chrome on Android or Edge on Windows.
- (2) Type 192.168.7.1 into the bar at the top in which you would normally type the URL of the site you want to visit, then hit Go or Enter.



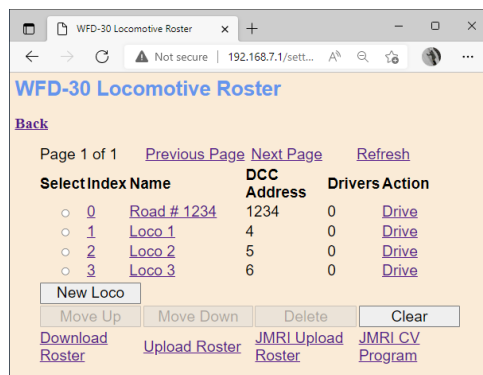
- (3) You will see the WFD-30E main menu as above. Tap Locomotive Roster to display the roster page below.



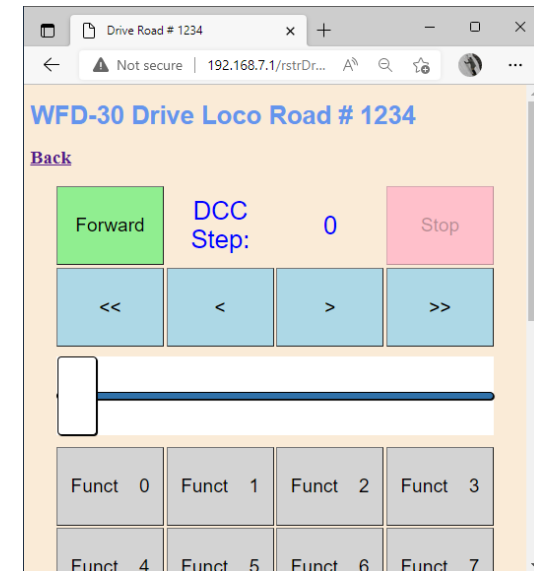
- (4) Before you can drive your loco, you need to configure your first roster entry, so tap on Loco 0 to display the details page for the first loco in the roster.



- (5) Type a name for your first loco such as Road # 1234 then type the DCC Address of your loco. Tap Save. Now you see your roster configured with one loco as below.



- (6) Tap Drive to the right of the first loco to get the Wifitrax Web Throttle page.



The buttons labelled > and >> increase the speed by one and ten steps respectively. The buttons < and << reduce by one or ten steps. Tap the button labelled Forward to change direction, only when stationary. You can also use the slider. Tap the function buttons to turn on lights etc. according to your decoder.

Read the manual to find out how to label the function buttons for each locomotive in your roster and how to add more locos up to one hundred.