

# **Loco Remote Wi-Fi and controller operation v1.5.0**

[www.locoremote.co.uk](http://www.locoremote.co.uk)

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### **Please note:**

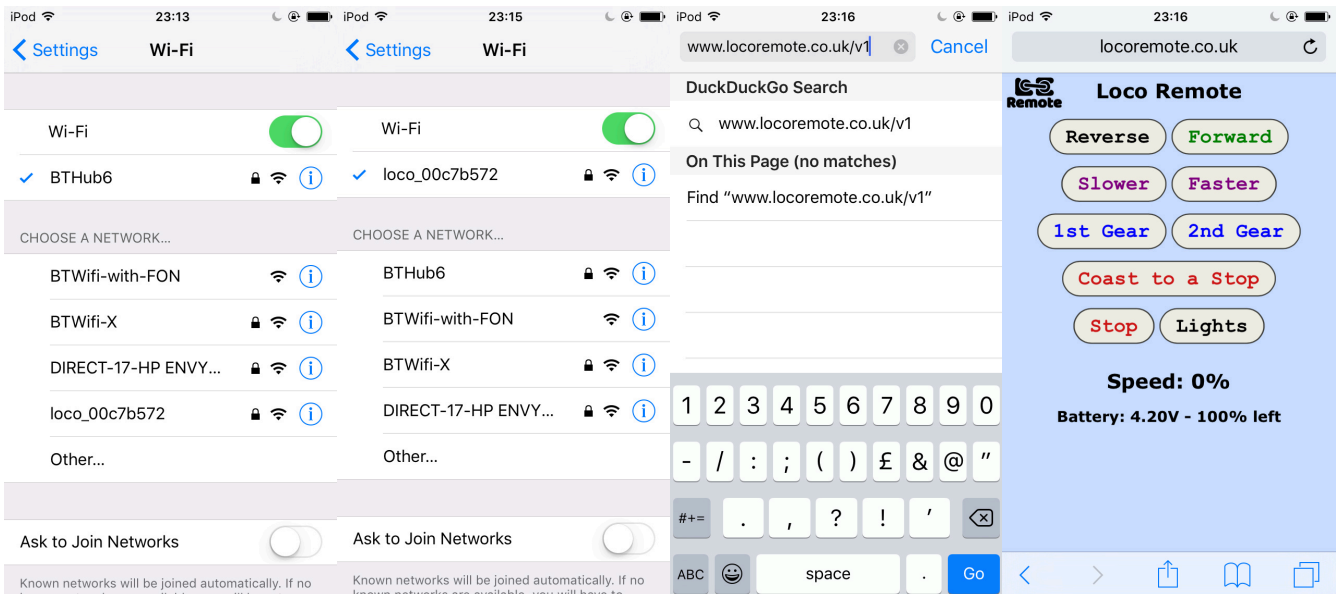
Following changes to how some browsers handle web sites resulting in inconsistent behaviour, the previous way of accessing the controller web page by typing the web address [www.locoremote.co.uk/v1](http://www.locoremote.co.uk/v1) has been changed to typing the IP address 192.168.4.1 in the web browser. The screenshots in this guide have not yet been updated, so you will see [www.locoremote.co.uk/v1](http://www.locoremote.co.uk/v1) in all of these rather than 192.168.4.1

# Wi-Fi Setup – Apple iPhone

Please follow these steps to connect to an Apple iPhone. There are various checkpoints. If you can't connect let us know how far along the steps you get successfully.

1. Power on the Loco Remote - you should see a single short blue flash on the top board - do you see this?
2. Tap settings app on the Apple phone.
3. Tap Wi-Fi.
4. You should see a Wi-Fi access point called loco\_xxxxxxx where the x are numbers or letters, as well as your home Wi-Fi router and maybe some others - do you see this?
5. Tap on loco\_xxxxxxx
6. It should ask you to enter a password. The password is locoremove - all one word lower case
7. Tap on Join. You will see a whirling circle that should turn into a blue tick by the name. It may also say "No Internet Connection" or "Weak Security". Ignore this as you are not connecting to the Internet so it is not relevant. Do you see this? **Until you get a blue tick you are NOT connected to the Loco Remote.**
8. Leave the Wi-Fi settings.
9. Open your phone web browser.
10. Type 192.168.4.1 in the web address box at the top of the screen (not in a Google or other search box in the middle of the screen).
11. Press enter and the control page should come up. You may need to refresh it by hitting the circular arrow in the top right of the screen - do you see this?
12. After connecting to the Loco Remote access point, you may get a pop up window stating, "The Wi-Fi network loco\_xxxxxxx does not appear to be connected to the Internet. Do you want to temporarily use mobile data?" Click on Keep Trying Wi-Fi and the pop up will close and you can return to using your web browser as a controller. If you click on Use Mobile Data, then your phone will try to access the Internet over the 3G/4G/5G network and you will lose the controller window.
13. For future easy access you can add a link to your home screen by tapping the box with the up arrow at the bottom of the browser and then Add to Home screen.

The screenshots in this guide have not yet been updated, so you will see [www.locoremove.co.uk/v1](http://www.locoremove.co.uk/v1) in all of these rather than 192.168.4.1



## Wi-Fi Setup – Android phone

Please follow these steps to connect to an Android phone. There are various checkpoints. If you can't connect let us know how far along the steps you get successfully.

1. Power on the Loco Remote - you should see a single short blue flash on the top board - do you see this?
2. Tap settings app on the Android phone.
3. Tap Network & Internet.
4. Tap Wi-Fi.
5. You should see a Wi-Fi access point called loco\_xxxxxxx where the x are numbers or letters, as well as your home Wi-Fi router and maybe some others - do you see this?
6. Tap on loco\_xxxxxxx
7. It should ask you to enter a password - you can tap on the "Show password" box to see what you are entering - the password is locoremove - all one word lower case.
8. Tap on CONNECT. You should see that it says "Connected, no Internet" by the loco\_xxxxxxx - do you see this?  
**Until you see this you are NOT connected to the Loco Remote.**
9. You may get a pop up box that says "loco\_xxxxxxx This network has no internet access. Stay connected? Make sure you tap the box saying "Don't ask again for this network" so you get a tick, and then tap on YES. If you do not do this then your phone will try to access the Internet over the 3G/4G/5G network and you will lose the controller window.
10. Leave the Wi-Fi settings.
11. Open your phone web browser. With Samsung phones download and use Chrome, not the Samsung browser.
12. Type 192.168.4.1 in the web address box at the top of the screen (not in a Google search box in the middle of the screen).
13. Press enter and the control page should come up. You may need to refresh it by swiping your finger down the screen and releasing it once.
14. For future easy access you can add a link to your home screen by tapping the 3 dots at the top of the browser and then Add to Home screen.

## Loco and Wi-Fi Name and Password Change

The default controller name is Loco Remote. There is absolutely no need to change this, the Wi-Fi name or password if you don't want to, in which case skip to the next section below. Note in the screenshots below the Shutdown on low battery button appears for the Mini B only, and Sound button L for modules with a sound option only.

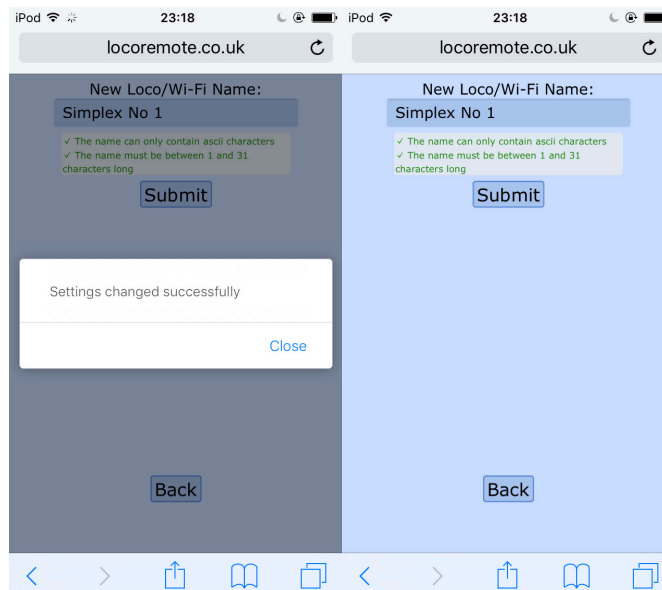
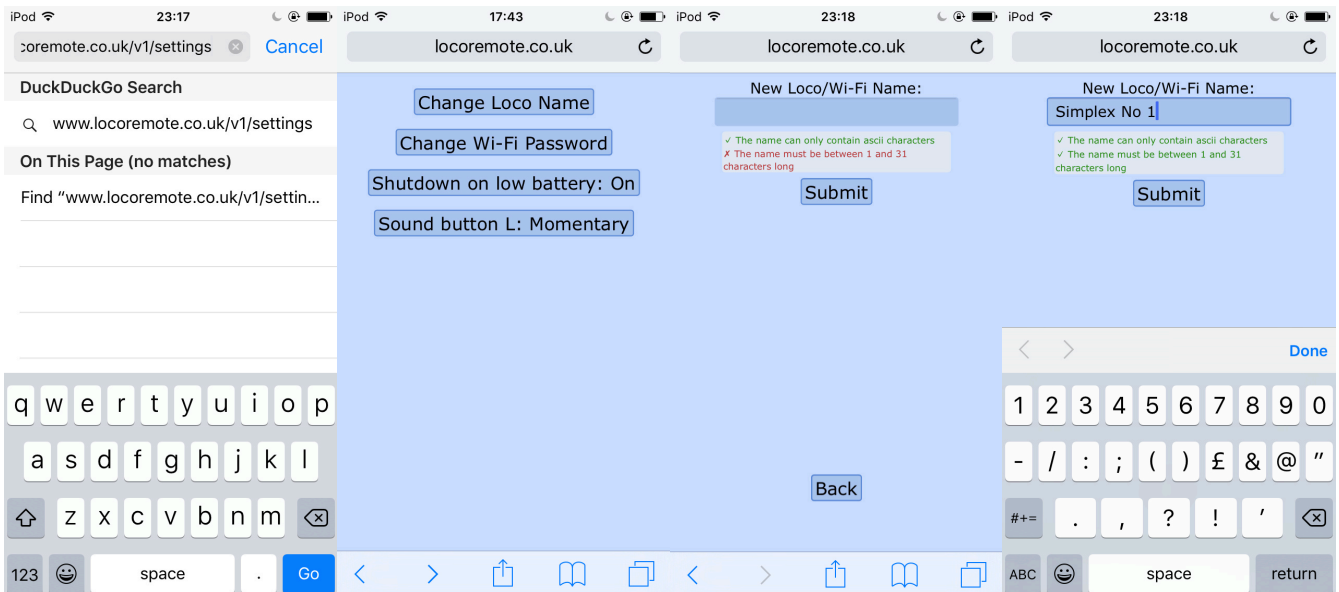
You can change the name and password as many times as you like, whenever you like.

If you want to make changes, type **192.168.4.1/v1/settings** in your web browser while connected to the Loco Remote. Press **Change Loco Name** to change this. Enter the name you want which will also become the Wi-Fi access point name.

- The name can only have ascii characters - letters, numbers, spaces etc. It is case sensitive - a is not the same as A
- The name must be between 1 and 31 characters long - the name will be displayed as a single line on your device, so if you make it too long the font will get quite small

The message in the box below will go from red to green if your entry meets the requirements. It will stay red and not allow you to proceed until you do. Once you are happy with the name press **Submit**. You will get a confirmation message and the new name will be shown. If you don't want to change the password, you should now turn the power off to the Loco Remote then back on again. Your chosen name will now be shown in your device's Wi-Fi setup settings for you to connect to. The password will be the same - the default is locoreMOTE.

The screenshots in this guide have not yet been updated, so you will see [www.locoreMOTE.co.uk/v1](http://www.locoreMOTE.co.uk/v1) in all of these rather than 192.168.4.1

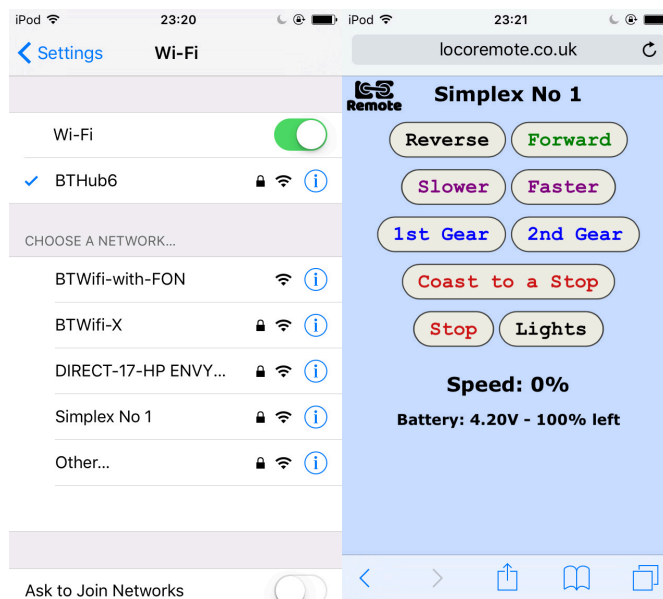
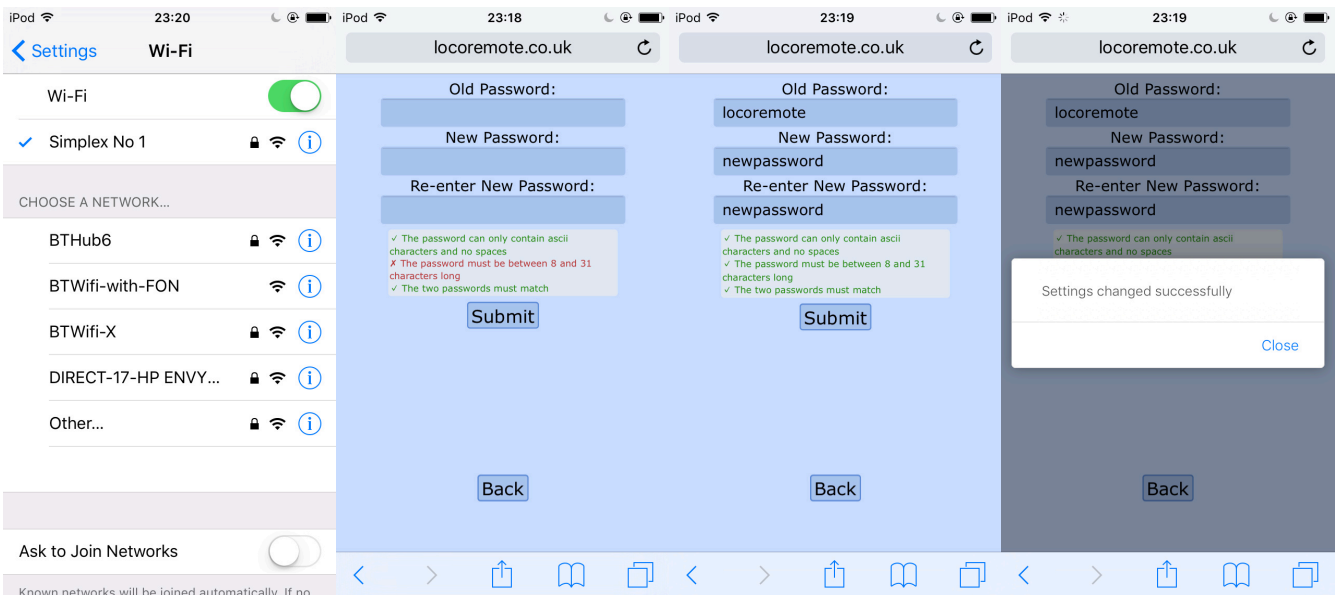


If you want to change your Wi-Fi password then press **Back** to return to the settings page. Alternatively type **192.168.4.1/v1/settings** in your web browser as before. Press **Change Wi-Fi Password** to change this. Enter your current password - the default is locoremove. Choose a new password and enter this twice to confirm it. The password is not hidden and clearly displayed when you enter it. **Make sure you can remember your new password. If you forget it and can't access your Loco Remote, the only way to fix this is to return it for a full reset!**

- The password can only contain ascii characters and NO spaces. It is case sensitive - a is not the same as A
- The password must be between 8 and 31 characters long
- The new password and re-entered new password must match

The message in the box below will go from red to green if your entry meets the requirements. It will stay red and not allow you to proceed until you do. Once you are happy with the password press **Submit**. You will get a confirmation message and the new password will be shown. Now turn the power off to the Loco Remote then back on again. Your chosen name will now be shown in your device's Wi-Fi setup settings for you to connect to. The password will be whatever you changed it to.

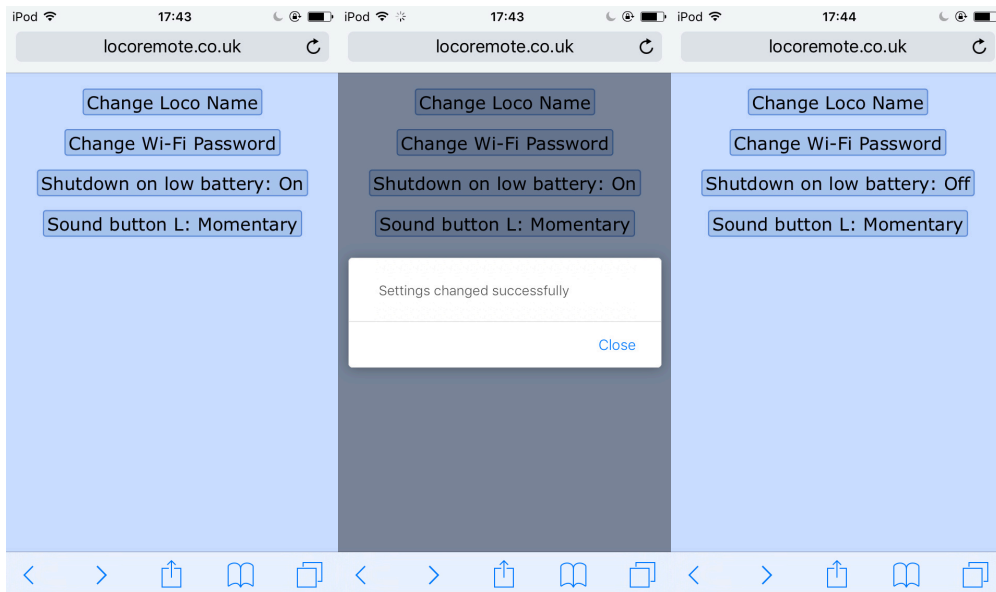
On some devices after a password change you may need to "Forget This Network" in your Wi-Fi settings and then reconnect using the new password. Your device should remember name and passwords, so the next time you connect you should not need to enter the password. After logging into the Wi-Fi access point bring up any web browser and set the page to **192.168.4.1** to bring up the controller interface as before.



## Shutdown on low battery (Mini B only)

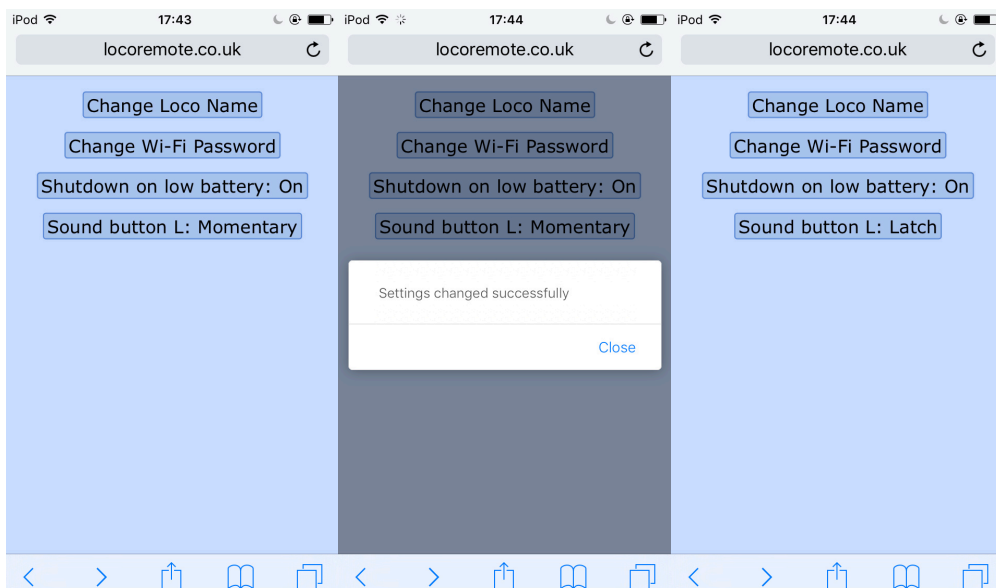
**The default setting assumes you are using a 3.7V (1s) Lipo battery.** A fully charged Lipo is around 4.2V representing 100% capacity left. Discharging a Lipo battery below 3.0V causes it to lose the ability to recharge fully and so when the battery reaches 3.3V level the Mini B and Loco Remote will show 0% left. The Lipo saver function will remove power to the motor and lights and display a message to switch off and recharge the battery automatically. 3.3V allows a little margin above the 3.0V recommended minimum discharge voltage for a 3.7V (1s) Lipo.

If you want to use different batteries, then type **192.168.4.1/v1/settings** in your web browser while connected to the Loco Remote and press **Shutdown on low battery** to switch this from On to Off. The Loco Remote will no longer display % left since it does not know your batteries' exact discharge characteristics and will keep working until the voltage is too low to power the module. You can change the Shutdown on low battery setting any time you like and do not need to cycle the power when you do. This option is not available for the Maxi and Mega. Note in the screenshots below the Sound Button L appears for modules with a sound option only.



## Setting Sound L to momentary or latched (Versions with sound only)

When you touch **Sound 1, 2, 3** the Loco Remote provides a momentary half second low signal for operating horns, whistles and brake sounds. **Sound L** does the same by default. This is suitable for the optional **internal sound card** and external sound cards such as **MyLocoSound** that require such a trigger. The **Mtroniks** engine stop/start requires a latching input. Touch **Sound button L: Momentary** in the settings page to change this to **Latch**. Note in the screenshots below the Shutdown on low battery button appears for the Mini B only.



## Controller Operation

The **Reverse/Forward** buttons control direction of the loco and lights, with the current direction in green text. You can only change direction if the speed is 0. The controller provides manual speed change in 20 smooth steps of 5% increments using the **Slower/Faster** buttons. **1st Gear** will smoothly take the loco from its current speed to a speed of 60%, and **2nd Gear** to a speed of 100%, which is the maximum. **Coast to a Stop** slows the loco smoothly down to a halt while **Stop** halts the loco immediately.

With a real time operating system, pressing a button at any time has an immediate effect. For example pressing **Stop** will halt the loco at once even if it is ramping up speed after pressing **2nd Gear**. Similarly if the loco is ramping speed up or down, pressing **Slower/Faster** will immediately set the speed to whatever level it is currently at.

Loco Remote uses sophisticated algorithms to optimise performance, battery and motor life. Pressing **2nd Gear** will take the loco from 0 to full speed in 10 seconds in 0.5% increments. **Coast to a Stop** takes the same time from full speed to 0. Going to or from an intermediate speed takes a proportional length of time. To protect the motor and battery from voltage and current spikes, the Loco Remote does not simply disconnect power in an emergency **Stop**. Instead it does a smooth and very rapid controlled deceleration in less than a second.

**Lights** toggles the LED lights on and off for Loco Remote modules with this option. When on, the background colour of the button changes from white to light grey. This button does not appear for modules without lights.

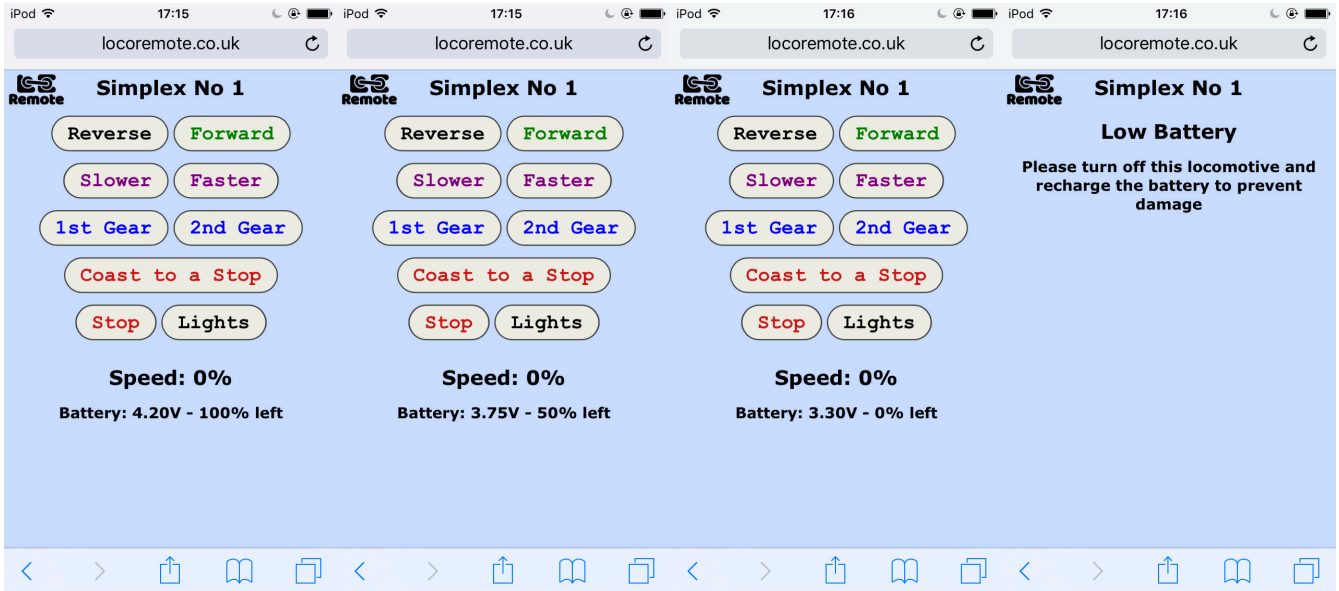
**Sound 1, 2, 3** provide a momentary half second low signal for operating horns, whistles and brake sounds. **Sound L** (for latch) either does the same by default, or toggles between high and low each time it is pressed depending on how it is configured in **192.168.4.1/v1/settings**. The button background goes grey when low. This can be used to turn the engine sound on and off. These buttons do not appear for modules without sound.



The loco's speed from 0 to 100% is displayed together with the battery voltage. Every Loco Remote is individually calibrated during manufacture. All batteries drop some voltage under load, so you will find that the voltage reading drops when running at higher speed or with a heavy train and then recovers when stopped. The smaller the battery, the more pronounced this will be and is perfectly normal. The Mini B also displays the remaining battery capacity when using a 3.7V (1s) Lipo battery when the default Shutdown on low power mode is on. A fully charged Lipo is around 4.2V representing 100% capacity left dropping to 0% at 3.3V. When the battery reaches this level the Mini B Loco Remote will remove power to the motor and lights and display a message to switch off and recharge the battery automatically.

You may find that the controller then comes back on displaying a low voltage. If the battery is close to empty then it may drop below 3.3V and the battery then recovers a little above this when the motor is stopped. This is a "get you home" feature. When the controller display comes back on you can drive your loco safely back, which can be useful if it stopped somewhere inaccessible. Turn off the loco as soon as you get it back, even if the battery is showing a few %, as the battery is almost exhausted and needs recharging.

The Maxi and Mega do not have this automatic power removal feature since they can operate with a wide variety of different battery types all of which have different capacities and discharge characteristics. Neither does the Mini B when the Shutdown on low power mode is turned off. They do however still display the accurate battery voltage, which you can use as a guide. Ensure you are aware of the minimum voltage for your battery type before it needs to be recharged.



## Multiple Loco Remotes and devices operation

You can **log onto the same Loco Remote from multiple devices** through the Wi-Fi settings if you wish. The displays of all are updated in real time showing speed and battery level. Any phone can issue a command. This can be helpful if you have an inexperienced person controlling it from one phone and you can press **Stop** from your phone to immediately halt the loco and prevent an accident if necessary. Think of this as similar to the dual controls in a driving instructor's car.

There is **no limit to the number of locos fitted with Loco Remote running at the same time you can control from a single device**. If you want you can have 1, 10 or even 100! Turn all the Loco Remotes on. Check you can connect to each from your Wi-Fi settings. Connect to one and set it running from your web browser at **192.168.4.1**. It will carry on at whatever speed you have set. Go back to Wi-Fi settings and select another Loco Remote. Return to your web browser, refresh it and you have immediate control with the speed and battery level of that loco updated in real time. Repeat as often as you like.

## Further help

We are here to help and ensure you really enjoy your Loco Remote. If you have any questions, problems or suggestions for improvements do please contact us either via the web site or by email at [locoreMOTE@gmail.com](mailto:locoreMOTE@gmail.com) and we will be sure to get back to you promptly.



## Appendix: Solving possible Android and iOS Wi-Fi connectivity issues

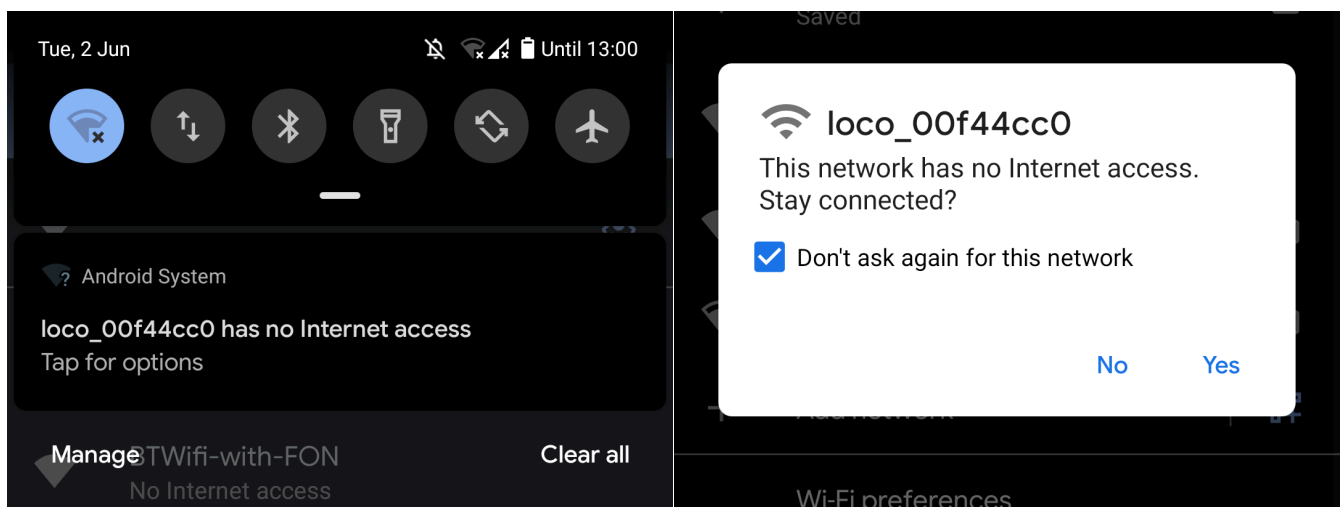
The Loco Remote module can't access the Internet. It's deliberate and keeps you secure. This can confuse some phones that assume that if you are connected to a Wi-Fi access point then you must want to access the Internet. Interestingly Android and Apple iOS phones try to get round this in completely different ways! The screenshots are of phones running Android 10 and iOS 13.

**Android** phones may pop up a window with a message "loco\_00f44cc0 has no Internet access. Tap for options".

Tap on it and you will get a message stating, "This network has no Internet access. Stay connected?". Put a tick in the "Don't ask again for this network" and then click on **Yes**

The pop up will close and you can then access the web browser and set the page to [www.locoremote.co.uk/v1](http://www.locoremote.co.uk/v1) to bring up the controller interface.

If you do not put a tick in the "Don't ask for this network again" box and click on Yes, then your Android phone may disconnect from the Loco Remote and connect back on to your home Wi-Fi network access point, since it assumes you want the internet.



**Apple iOS** has a different approach. After connecting to the Loco Remote access point, you may get a pop up window stating, "The Wi-Fi network loco\_00f44cc0 does not appear to be connected to the Internet. Do you want to temporarily use mobile data?"

Click on **Keep Trying Wi-Fi** and the pop up will close and you can return to using your web browser as a controller. If you click on Use Mobile Data, then your phone will try to access the Internet over the 3G/4G network and you will lose the controller window. If this happens you will know as you will get a message back from the [locoremote.co.uk](http://locoremote.co.uk) web site telling you!

