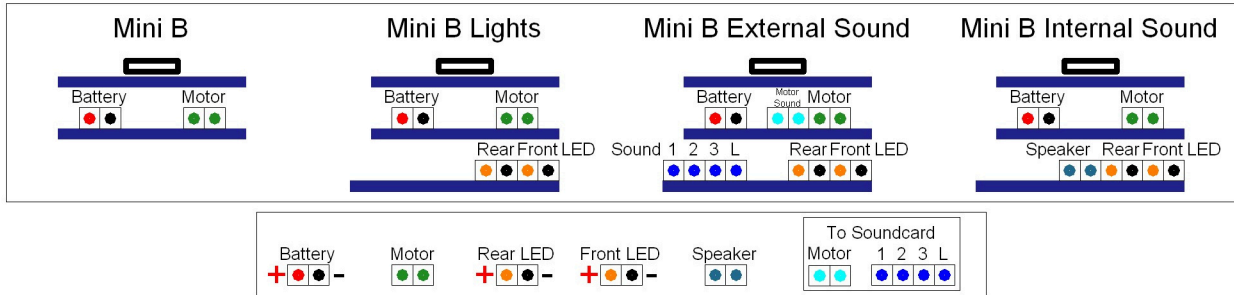




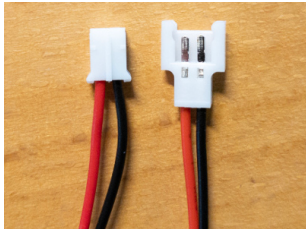
Loco Remote Mini B setup - www.locoremote.co.uk

The Mini B is suitable for 3V to 6V motors only. Any type of battery can power it with a suitable voltage including NiMH, NiCd, Alkaline, Li-ion and Lipo. The absolute maximum battery voltage for the Mini B is 6V.

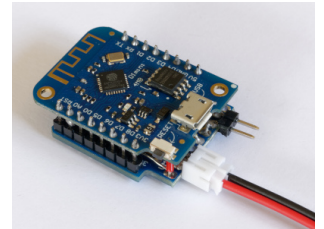
The diagram below shows all the models in the series. To identify how to connect to your loco, hold the Mini B with all of the connectors pointing towards you with the metal USB connector on the top. The word USB is written on the board just to its right. The USB connector is used to program the module during manufacture. Please do not connect anything to it or try to power your module this way. It won't work!



Connecting the battery



Two battery connection cables are included. One will plug into the white rectangular battery connector on the module. Make sure the **positive (red) lead** is on the left and the **negative (black) lead** on the right. Connecting the other way round will destroy both the battery and Loco Remote module. If you are using a 3.7V (1s) Lipo of the type I recommend (a 600mAh or 1200mAh Lipo with a mini charger – search for "Syma X5C battery" on eBay), the other supplied cable will connect to your battery. The cables can either be joined directly together, in which case the Lipo battery must be disconnected when not in use, or a

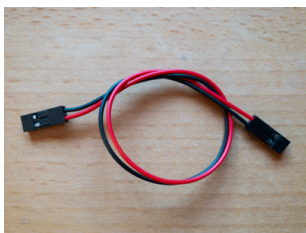


power on/off switch can be inserted between them. If you choose to use Lipos, any 3.7V (1s) Lipo will work with the Mini B. If you choose one with a different connector style from the one I supply then you will need to source a mating cable that can be connected to the cable provided that plugs into the module. DO NOT USE other types of Lipo such as 7.4V (2s) or 11.1V (3s), as they will destroy it!



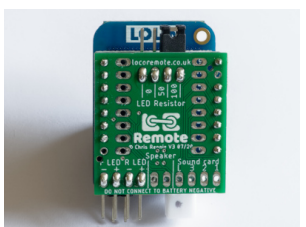
The standard way to charge the Lipo battery is to remove it from the loco and use the mini charger supplied with the batteries. The LED is on while the battery is charging and goes off when completed. Having a spare charged battery also means the loco can quickly be up and running again after the initial battery runs down. **Lipo batteries must be treated with care.** If the battery terminals are shorted or connectors damaged then the battery will be destroyed and could catch fire! If the battery shows any sign of getting hot or physically swelling in size then it must be immediately disconnected, put in an open safe place, preferably in a Lipo safe bag and then disposed of appropriately. When trying a brand new Lipo battery for the first time connect it to the Loco Remote outside your loco and allow it to discharge until the Loco Remote turns off the power to ensure the battery has no manufacturing defects. It is strongly advised that you remove the Lipo battery from your loco when not in use and store it in a Lipo safe bag - search eBay for these. If you are using either 3 or 4 x 1.2V NiMH (AA or AAA size) or 3.7V 18650 Li-ion batteries instead then you will need to get a suitable cable to connect these. You should also change the Shutdown on low battery setting from On to Off in **192.168.4.1/v1/settings** with these battery types when you first connect to the Wi-Fi interface of the Loco Remote (see below).

Connecting the motor



A DuPont header connection cable is included. This plugs into the motor connector. Remove the header from the other end if necessary and solder the cable to your motor lugs. If the loco goes the "wrong" way in forwards/reverse you can swap the polarity of the cable.

Connecting the LED lights



Two similar cables are included for versions with the LED lights control to connect to the LEDs. The Loco Remote is not able to supply enough current for other types of lights such as filament bulbs. The board can supply up to 150mA at 3.3V, which is enough for up to 8 LEDs on at once. Pulling out and then plugging in the jumper at the back of the board can change the current limiting resistor. Set it at 100 ohms for just red LEDs or 50 ohms for just clear white. For a combination or to vary the brightness set it at 0 ohms and use external resistors in series with your LEDs. See the separate downloadable lights guide for more examples.

Connecting an external sound card

You can connect the motor outputs of the Mini B to sound cards including the **Mtroniks digiSound 5m series** and **MyLocoSound** in their automatic modes to get full variable speed engine noise. The sound cards should get their power from a separate battery as the 3V to 6V battery for the Mini B will probably not be enough. Connect the negatives on both batteries. The **External Sound Triggers** versions provide a dedicated connector for the motor input to the sound card as well as 4 triggers. Sound 1, 2, 3 and L (as supplied) provide a momentary half-second low signal for operating horns, whistles and brake sounds. The Mtroniks only has one input for this (Aux 2), while the MyLocoSound has several (F1, F2, F3, F4).

Sound L can be changed in the **192.168.4.1/v1/settings** from momentary to latch which toggles between high and low each time it is pressed. The button background goes grey when low. This setting can be used to turn the engine sound on and off for the **Mtroniks** sound card Aux 1. Keep the default momentary setting for Sound L for **MyLocoSound** F6 input to turn the engine on and off. Connect directly from the Loco Remote sound triggers to the Mtroniks Aux inputs. For the MyLocoSound please put a 4k7 ohm resistor in series with each of the Fx inputs. Please see the instructions supplied with your sound card for details of how to set it in its various modes. With the MyLocoSound set the Motion Sensitivity to 4 or 5 to ensure a smooth increase and decrease in the engine speed sound. Once connected, to start the sound it may be necessary to press the Faster button once in either automatic or manual sound card mode.

Using the internal sound card

If you have the version with the **Internal Sound Card**, connect a small 8 ohm speaker directly to the 2 pins marked on the bottom of the board. To maximise the bass try to mount the speaker in an enclosure in the loco. A cut down toilet roll tube works well! Tap the 4 sound buttons on the display to operate each sound.

Placement of Loco Remote in the loco

Velcro pads are also included that you may find useful for securing the module in your loco. Attach the hooked part to the loco and the soft part to the module. Please make sure no part of the Loco Remote module is at any risk of directly touching anything metallic such as the motor or loco body, inserting something insulating if necessary. **Please do not fully cover the module leaving some of it exposed to the air**, as it can get quite warm in use when running at higher speed. Ideally place it on its side with the boards vertical to help heat dissipation with plenty of space around it. It should never get too hot to touch.

Wi-Fi Setup – Android

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.

Wi-Fi Setup – Apple iPhone

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. (On newer iPhones it will also say "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.

For further information please open the **Loco Remote Wi-Fi and controller operation guide** which can be found on the Guide & Shop page at <https://locoremove.co.uk> . If you are having difficulty connecting using the steps above please contact us and tell us your phone and battery type and what step number you get to successfully. We are here to help and ensure you really enjoy your Loco Remote. If you have any questions, problems or suggestions for improvements please contact us either via the web site or by email at locoremove@gmail.com and we will be sure to get back to you promptly.