

Fitting Loco Remote Wi-Fi control to Phil Sharples kits

www.locoremote.co.uk

Loco Remote is the smooth and easy way to add sophisticated **remote control for any 3V to 12V battery loco**. **Any Wi-Fi enabled device can be used as a controller**, including Apple iPhones, iPods, iPads, Android phones (e.g. Samsung, Huawei, Google) and Android tablets (e.g. Amazon Fire, Samsung Galaxy Tab). The Loco Remote module creates its own unique, password protected Wi-Fi access point. This is **completely independent of other W-Fi networks** and so can be used anywhere. It generates a robust, **real time 2 way interactive user interface on the device** with absolutely no need to download any special apps. As well as very fine speed control with smooth acceleration and deceleration, Loco Remote can optionally provide **directionally switched LED lighting**.

Wi-Fi control offers significant advantages over other types of garden railway remote control such as Bluetooth and 2.4GHz radio control. These include **long range** (typically up to 100 feet), **very stable connection** between loco and controller, **control as many locos as you like** from one phone, **control one loco from multiple phones**, **loco keeps the current speed** if the controller is disconnected to run another loco, **app free compatibility with all smartphones** and other devices, **real time loco speed and battery level display**, **set your own loco name** and Wi-Fi password, no need for dedicated transmitters and small, low cost rugged modules.

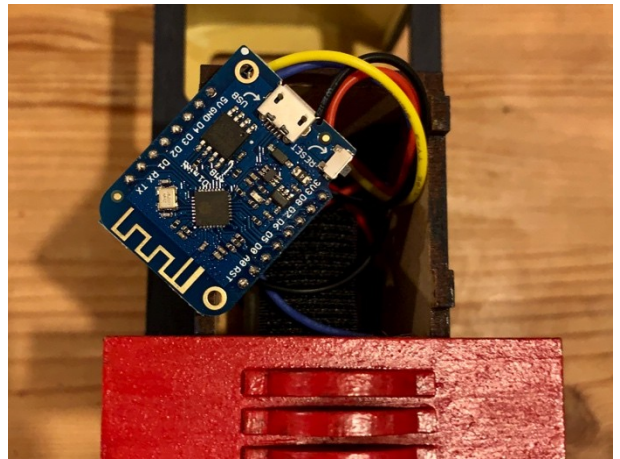
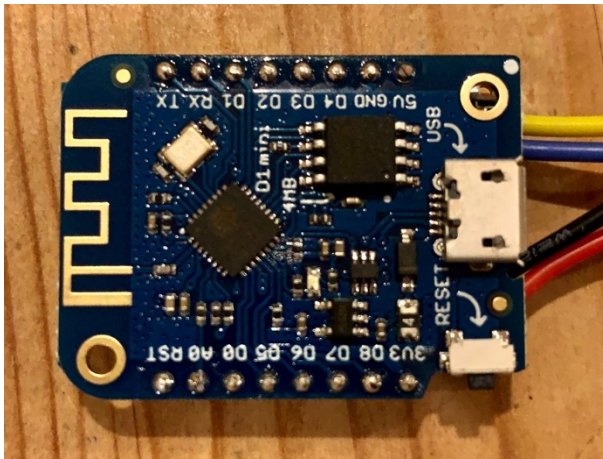
Loco Remote has been designed by Chris Rennie, an experienced electronics engineer and garden railway enthusiast. The Loco Remote Mini B has been tested in cooperation with Phil Sharples for all his kits and works perfectly with them. Take a look at the www.locoremote.co.uk website for further information, videos and details on how to buy a Loco Remote.

This table shows suggested batteries for each kit, usually a 600mAh or 1200mAh Lipo, though 3 x AA/AAA NiMH are possible if there is room. If you wish to use a Lipo, search eBay for Syma X5C battery to find something suitable. Instructions for fitting units into the Hudson, Simplex and Estate Loco are on the next pages. A video for the Estate loco is at <https://youtu.be/pSYKPLazCU>

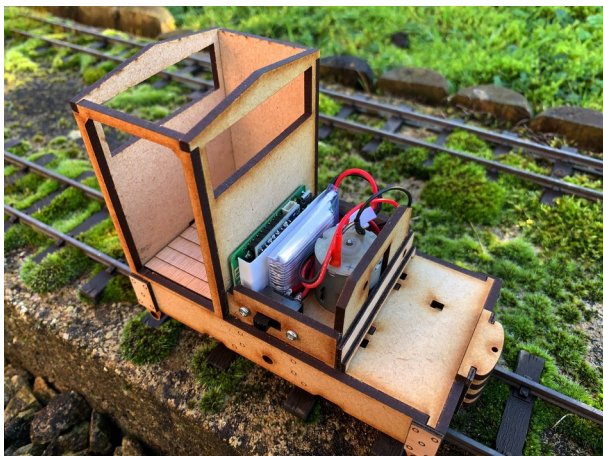
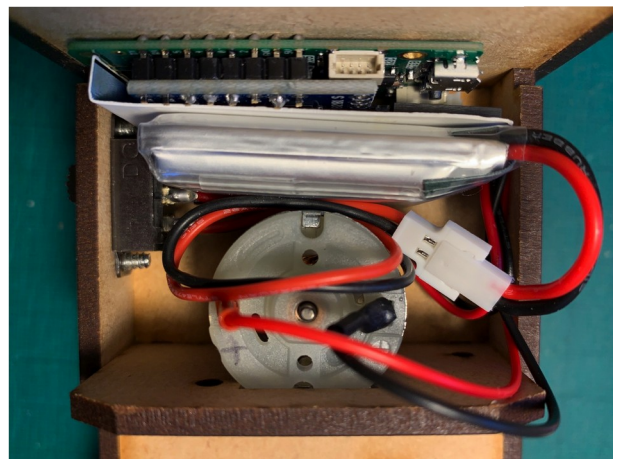
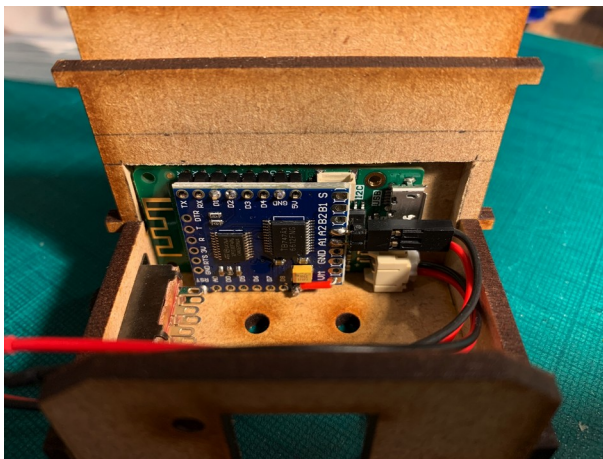
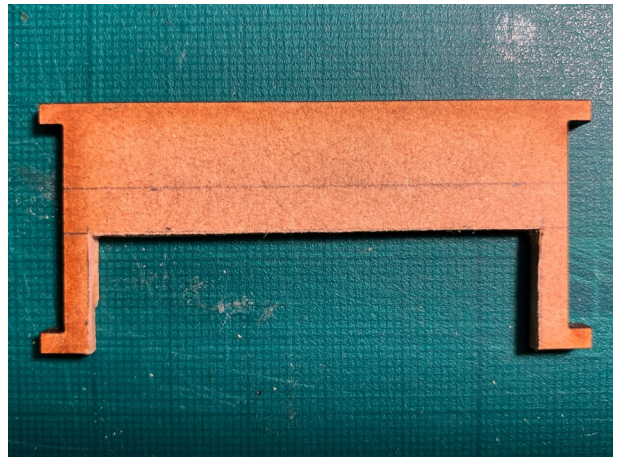
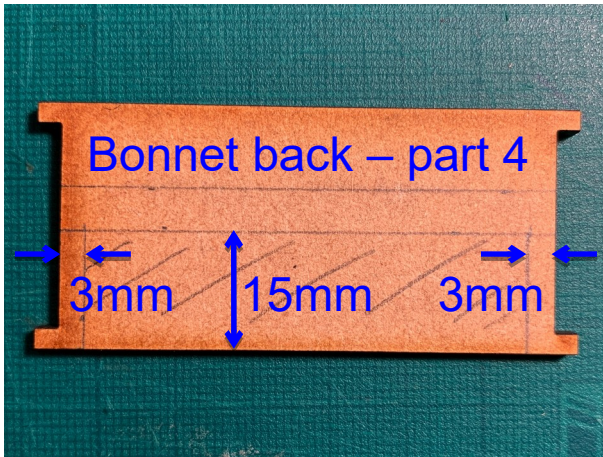
Video instructions for the Lister RT are at <https://youtu.be/XguVPCu869Q>

Model	Mini B	Comments
Boxcab	Y	600mAh or 1200mAh 3.7V Lipo or 3 NiMH AA(A)
Estate loco	Y	Ask us for special kit with Mini B, 3D parts, 4WD
Greenbat	Y	600mAh 3.7V Lipo
Hudson	Y	Ask for special Mini B version with cables
Hudson Chassis	Y	600mAh or 1200mAh 3.7V Lipo or 3 NiMH AA(A)
Lister RT	Y	300mAh or 600mAh lipo - minor chassis surgery
Motor / Small Motorised Chassis	Y	600mAh or 1200mAh 3.7V Lipo or 3 NiMH AA(A)
O&K MD2	Y	600mAh 3.7V Lipo
Railcar	Y	600mAh or 1200mAh 3.7V Lipo or 3 NiMH AA(A)
Sharp Stuart	Y	600mAh 3.7V Lipo
Simplex	Y	600mAh 3.7V Lipo
Simplex Caravan	Y	600mAh 3.7V Lipo
Small Petrol	Y	Just fits with 300mAh Lipo

- 1) These photos are of a previous version of the Hudson but fitting for the current version is identical. When building the kit, make sure that either the top or front (or both) of the bonnet is left permanently unglued and removable for access.
- 2) When you buy the Mini B, ask for the version with wires soldered directly to the board so it will fit in the Hudson.
- 3) Solder the blue and yellow wires from the Mini B to the motor. If you find the loco goes in the "wrong" direction, just reverse the blue and yellow wires at the motor.
- 4) Stick the small piece of hooked Velcro on the motor to keep it insulated from the Loco Remote. You won't need the other piece of Velcro on the Loco Remote.
- 5) Wire up the battery on/off switch with the red (positive) and black (negative) wires from the Mini B fed from the bonnet onto the cab. The Loco Remote Mini B fits perfectly just in the front of the bonnet on its end.
- 6) A Lipo 1200mAh battery (hopefully!) fits perfectly in the cab in place of the AAA holder and gives 4-5 hours run time. A smaller 600mAh is also fine. Connect this to the on/off switch with the cable provided. You might want to make a small removable panel to cover this so it does not show when running the loco.



- 1) Locate the bonnet back, part 4, and mark out an area to be removed as shown. You can cut the MDF with a sharp Stanley knife and metal ruler. Be careful not to damage the thin 3mm legs on either side.
- 2) The Loco Remote Mini B will now fit perfectly against the front of the cab and a 600mAh Lipo battery in front of this with room for the motor. Note these photos show the older Loco Remote Slim – the smaller Mini B has replaced this and fits identically.
- 3) In the third photo the motor is not shown for clarity. Make sure you fit the motor before gluing the bonnet bottom supports, parts J and I, otherwise you won't be able to fit it in!
- 4) Wire up the Loco Remote to the on/off switch and motor. Space is little tight around the switch so you will need to cut off a pair of the switch tabs at the side by the battery. We recommend covering the switch tabs with insulating tape after wiring up.
- 5) Assemble the bonnet per the instructions. Once glued this will have good integrity and the cut part will have no detrimental effect on its strength. Remember not to glue the bonnet permanently in place. It needs to be removable so you can get to the battery.
- 6) Assemble the rest of the Simplex as per instructions.
- 7) Place the Loco Remote against the cab front and a slim piece of card between it and the battery for insulation.
- 8) A 600mAh Lipo battery gives a couple of hours run time.



- 1) Assembly order DIFFERS from the PS instruction sheet. You may want to paint some parts before assembly.
- 2) Push the chassis sides (PS parts B) into the floor (PS part A) but DO NOT glue them or add wheels and axles yet. Push the motor through the hole in the floor so it rests on the chassis sides.
- 3) Put a piece of heat shrink tubing over each red and black wire. Solder the red and black Mini B wires to the 2 centre tabs of the PS switch. Cut a couple of cm off the lipo battery wires and then solder these to 2 outer tabs. The red wires should be on the same side of the switch and the black wires on the other. Apply heat to the tubing so that all 4 switch tabs are covered. The other 2 outer tabs are not used.
- 4) Make up the cab front (PS parts D, E, F, G, J) and fix the switch in place. Glue the cab front to the floor (PS part A) making sure the red and black wires to the Mini B pass through the hole and over the motor. Do NOT glue anything else in place.
- 5) Make up the bonnet (PS parts M, N, O plasticard) as per instructions but do NOT glue this to the floor! Discard the alloy mesh as this is not used since it would short out the Mini B.
- 6) Glue the Mini B holder on the floor against the motor and slot the Mini B in as shown. Check that the bonnet slides smoothly over this..
- 7) Solder the yellow wire to the motor tab with a + beside it and the blue wire to the other motor tab. Attach a lipo battery, power up the Mini B and check everything works as expected. The Mini B setup guide is on a separate sheet.
- 8) Remove the chassis sides from the floor, fit the PS gear wheel to the centre of one axle, slide the O ring over both pulleys, fit the axles in the chassis sides and then add the wheels with 28mm back to back. Slot the chassis sides back in the floor. Power up the Mini B and check everything runs smoothly. If the loco goes the "wrong" way forward/reverse then unsolder the yellow and blue wires on the motor tabs, swap them round and resolder them. You can now glue the chassis sides if you want, but as they are a snug fit I have not on mine.
- 9) Make up the rest of the kit. The battery cover slides into the cab and can be removed to access the battery for charging.

