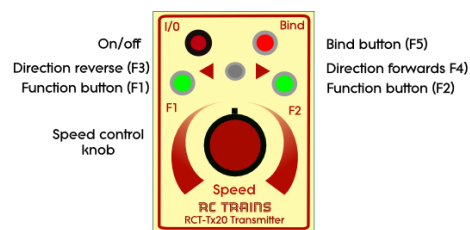# RC Trains RCT-Tx20 Transmitter

RC TRAINS

Thank you for buying a **RC Trains RCT-Tx20** transmitter. This guide aims to get you started. There is more detailed information on the **RC Trains** website.

Getting started

Inserting the battery

You will need a 9v PP3 battery. Turn over the transmitter and release the cover of the battery compartment. Connect the battery to the battery clip and replace the cover.

A tour of the transmitter

On/off switch - *Illuminated push-push switch*. The LED shines steadily during normal operation; it flashes once a second during the binding process and it flashes erratically when the battery is depleted.

Bind button - *Push button*. After a receiver has been put into '*bind mode*' (see receiver instructions), the Bind button is held down while the transmitter is switched on. The button is then released and the LED on the on/off switch will flash regularly in unison with the receiver LED. When the LED remains on steadily, the bind process is complete. During normal operation of the transmitter, the bind button can be used to control accessories through Channel 5

Direction switch - *Two-way switch (centre off)*. The direction switch will change the direction of locos when used with receivers which are programmed to be '*low-off*'. When used with '*centre-off*' receivers, the speed knob controls both speed and direction and so the direction switch can be used to control accessories on Channel 3 (*high* in forwards direction (F3) and *low* in reverse direction (F4)).

Speed control knob - *Rotary potentiometer with 300° of rotation and central 'click'*. With '*centre off*' receivers, the knob controls speed and direction, with '*low off*' receivers, the knob controls speed only - the direction switch being used to control direction. *RCT-Rx65b* receivers can be programmed for '*low off*' or '*centre off*' using **paperclip settings** (see the RCT website *Support* section or the *RCT-Rx65b* guidance leaflet).

Function 1 (F1) button

This push-button can be used to trigger events on the receiver which respond to Channel 2. Pressing the button sends Channel 2 'low'. Depending on how the receiver has been programmed and which output pads are being used, the receiver can trigger effects on a soundcard or turn on accessories such as LED lights. It can also be used to operate a servo (eg for uncoupling).

Function 2 (F2) button

This push-button can be used to trigger events on the receiver which respond to Channel 4. Pressing the button sends Channel 4 'low'. Depending on how the receiver has been programmed and which output pads are being used, the receiver can trigger effects on a soundcard or turn on accessories such as LED lights. It can also be used to operate a servo (eg for uncoupling).

Programming RCT receivers with the RCT-Tx22

The RCT-Tx20 can be used to re-program *RCT* and *Deltang* receivers. However, there is a risk of unintended outcomes and so take care. If a receiver is put into programming mode by mistake, turn off the receiver and the transmitter. *Paperclip settings* can be used to return a receiver to its default (factory) settings (see the documentation which came with your receiver).

To put the RCT-Tx20 into programming mode:

1. Centre the *Direction* switch.
2. Put the *Speed Control* knob in the central '*off*' position.
3. Hold down both the F1 and the F2 function buttons
4. Turn on the *RCT-Tx20*

To reprogram the receiver

1. Turn on a receiver which has previously been bound to the *RCT-Tx20*. The receiver LED should flash rapidly within a few seconds.
2. Release the F1 and F2 buttons on the Tx20
3. Use the chart on the *Deltang* website to determine the code which needs to be entered (for more information see my Blog post on programming receivers - http://riksrailway.blogspot.com/2015/11/programing-deltang-receivers.html)
4. Move the *Direction* switch to the left and centre again to ADVANCE the number of flashes on the Receiver LED to match those at particular levels on the chart
5. Move the *Direction* switch to the right and centre again to ACCEPT the flashes for that particular level in the chart

NOTE: This may sound baffling at first, but reading through my Blog posting and watching the associated video should make it a lot clearer. Once you have understood the basic principles, this guide should hopefully be the only reminder you will need.

To disable programming capability:

Turn off the Tx20.

Calibration

The *RCT-Tx20* is calibrated before despatch, but very occasionally it might need recalibration. For example, the *Speed Control* knob clicks at its central position and when it is used with 'centre off' receivers the '*click*' on the Tx needs to match the '*off*' position in receivers.

To recalibrate your RCT-Tx20

1. Centre the *Speed Control Knob* (to its click position)
2. Turn on your *RCT-Tx20* and the LED will come on steadily.
3. Within 60 seconds, press and hold the *Bind button*
4. Keep the *Bind button* held down for about 20 seconds until the LED goes off. The *Speed Control* knob should now be calibrated.
5. Release the *Bind button*

For more information, refer to the RC Trains and / or the Deltang websites. If you run into any difficulties then please email me on rik@rctrains.co.uk