

## Tx10 User Information

**Tx10** is a simple hand-held wireless transmitter intended to control one model railway locomotive engine. It has a large knob for forward/reverse throttle control and a push button for receiver binding. Tx10 is ideal as a basic, entry-level transmitter for modellers who don't need a more complex controller. The bind push button can also be used to operate a whistle or horn if you have a sound card.

Tx10 cannot be used for receiver programming.



## Technology

- Tx10 uses the 2.4GHz band which requires no frequency channel control and is very resilient against interference. All radio frequency components are contained on the internal **Tx2** module. There are no user adjustable parts on this module and it should not be modified.
- Tx10 is compatible with all DSM2 receivers; this includes all Micron and Deltang model rail receivers.
- Any number of receivers can be bound to your Tx10 but only one should normally be switched on at a time to operate them independently.
- Range is suitable for indoors and small outdoor sites; the outdoor free-air range to a receiver is at least 50m. Range indoors is affected by building construction materials, furniture, people and receiver installation.
- The throttle control knob and bind push button action are transmitted as separate R/C 'channels' which must match the receiver configuration:

Throttle: channel 1

Bind button: channel 5

## Battery

Tx10 uses a PP3 9V battery, preferably Alkaline or NiMH / Lithium rechargeable. The maximum working voltage of the internal electronics module is 10V and there is a protection diode wired in series with the battery lead. This allows the battery voltage to be up to 10.7V. If the battery voltage is above this value, the internal regulator will shut down and the transmitter will not operate.



To replace the battery:

- Make sure that the power switch is off (up) before adding or removing a battery.
- Remove the lid at the bottom rear of the case by sliding it downwards. When Tx10 is new this will require a bit of effort to slide it past the retaning 'click'. The image at the right shows the case rear with the battery lid removed.
- Remove the battery from the compartment and pull the battery clip off the terminals. Replace the clip on the new battery which will only fit one way round. TAKE CARE, if force is needed, the connector is probably the wrong way round.
- Replace the battery cover by sliding it up from the bottom making sure that the retaining tab goes under the case rear. The battery is held in place with a piece of foam attached to the cover and you will feel some resistance as the cover is pushed down onto the battery.

## On/Off Switch

Tx10 has a 2-way latching toggle switch for power and an adjacent LED indicator. The LED lights continuously when the transmitter is on and flashes when Tx10 is in bind mode (see below). It is best to switch the transmitter on before the receiver. If a receiver is switched on with Tx10 off, it is likely to enter bind mode with rapid flashing of the LED on the receiver board. If you did not intend to bind, switch the receiver off, then switch Tx10 on followed by the receiver.

## Speed/Throttle Knob

Off/Stop is in the centre of rotation when the white dot is pointing toward the top of the transmitter. You will feel a 'click' as the knob is centred. Rotating the knob to the right (clockwise) should move your loco forwards. If it goes in reverse, you need to swap the two wires connected to the motor in your loco.

## Bind Button

**Note:** holding the bind button for longer than 20 seconds will result in strange things happening (see [Calibration](#)).

If a receiver has not previously been bound, it has to be 'paired' with the transmitter. Binding is only required once per receiver.

1. Put your receiver into bind mode (refer to your receiver's user manual for how to do this).
2. Press and hold the bind push-button on the transmitter.
3. Switch the transmitter on by pushing the power switch down and then release the bind button.
4. Binding is complete when the receiver LED stops flashing.

## Calibration

All ready-to-use transmitters are calibrated as the final manufacturing step. This sets the throttle control centre position and normally only needs to be done once. If you suspect that the throttle control is not operating correctly or you have replaced any of the internal components (e.g. throttle potentiometer), your transmitter will need calibration.

If the bind button has been inadvertently held down for longer than 20 seconds, the previously stored calibration data will have been overwritten and you could find that the throttle control behaves strangely.

To perform calibration:

- Centre the throttle knob
- Switch the Tx on
- Within 60 seconds, press and hold the bind button
- After 20 seconds, the Tx LED will:
  - go out for 2 seconds
  - come on for 3 seconds
- Release the bind button, the Tx LED will stay on

The throttle control centre position is now calibrated.