

# Remote Control Systems

2.4 Ghz RADIO CONTROL

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## TX-8

### Digital Proportional R/C

Thank you for purchasing this Microprocessor based Electronic Speed Control (ESC) R/C system.

THE TX-8 IS FOR USE WITH RCS OMEGA-3 ESC's THAT USE OPERATING PROGRAM Av1 or # Rx65b & ALPHA-3v2 ESC's & AV1 # RBP-RCS SET UP FOR **LOW OFF** CONTROL.

THE TX-8 HANDPIECE HAS A CENTRE OFF DÉTENTE SPEED CONTROLLER KNOB. THAT MAKES THE TX-8 SUITABLE FOR USE WITH MOST CENTRE OFF ESC's INCLUDING # Rx65b & # ALPHA-3v2 SET TO **CENTRE OFF** CONTROL.

AN INERTIA CONTROL KNOB IS MOUNTED IN THE TOP END OF THE CASE FOR USE WITH ALL RCS ESC's

### INSTRUCTION MANUAL

THESE INSTRUCTIONS REFER SPECIFICALLY TO THE TX-8 HANDPIECE.

They should be read in conjunction with the RCS ESC you are using.



CENTRE OFF LARGE KNOB WITH DÉTENTE FOR 150° CONTROL. EITHER SIDE OF NEUTRAL.



SWITCH FOR DIRECTION SETTING. 300° KNOB FOR LOW OFF CONTROL OF SPEED.



INSERT THE 9 VOLT BATTERY..

### THE TX-8 IS GUARANTEED FOR ONE YEAR.

You will supply a locomotive or trail car, the 14 – 20 volt traction batteries (depending on ESC), a fuse, ON-OFF switch and wires where necessary, to connect the ESC to the battery and motor(s).

Where soldering is necessary, we recommend a low wattage soldering iron and resin core solder.

**TO AVOID CONFUSION WITH OTHER OPERATORS, WE SUGGEST YOU MARK THE TX TO SHOW WHICH LOCO IT IS OPERATING.**

## CAUTION

DO NOT ATTEMPT TO ALTER THE TUNING OF THE RADIO EQUIPMENT.  
DO NOT USE RADIO CONTROL EQUIPMENT IN THUNDERSTORMS.

CHILDREN UNDER 12: ADULT SUPERVISION RECOMMENDED DURING USE.

RCS TX & RX PRODUCTS MUST NOT BE USED FOR CONTROLLING RIDE ON LOCOMOTIVES CAPABLE OF CARRYING MEMBERS OF THE GENERAL PUBLIC.

## PREPARING THE #TX-8

THESE INSTRUCTIONS REFER TO THE **RCS TX-8** 2.4 GHz 5 CHANNEL R/C.  
LAYOUT OF THE TX-8 TRANSMITTER.

The Direction switch is in the upper middle of the hand piece. The speed control knob sits just below the direction switch. Top left is the ON –OFF switch. Top right is the Bind/Ch # 5 pushbutton. At the top end of the case is the Inertia knob. There are 4 sound system function triggers. They are marked F1, F2, F3 and F4. These correspond to outputs 1, 2, 3 & 4 on the # LT-SW4v2 & RCS ESC's.

**Prior to using this system there are two procedures that must be carried out by the operator, unless the TX and RX have already been bound and the system calibrated;**

### “BINDING”.

The 1st procedure is to “BIND” the receiver (RX) to the Transmitter (TX). This applies to all brands and types of ESC's. “BINDING” is accomplished by following a few simple steps below.

The operating program will ignore the RX Fail Safe commands.

The operator must have the spring loaded direction switch in neutral & the throttle knob to zero. i.e. Fully CCW.

### HOW TO “BIND”.

**1.1 DSM2-EM(AB) RX's.** Turn on the loco power RX and wait 20 seconds for the RX to enter bind mode. RX LED will then flash rapidly OR;

**1.1 Other brands of DSM2 RX's.** Follow their instructions. You can also use the # BINDER switch assembly if you do not wish to get inside the loco. Turn the loco power ON. The RX LED will start blinking very rapidly to indicate it is ready to be bound.

Please note the LED's on the **ESC** pcb & the front and rear lights (if fitted) will stay OFF until “BINDING” is completed.

The loco with an OMEGA-3v6/7 ESC will always give a very slight jerk at switch ON. This is normal.



ON - OFF SWITCH



BINDING BUTTONS



SPEED UP.

**1.3** For the DSM2-EM(AB) Press and hold the right hand pushbutton on the handpiece marked with a hexagonal symbol.

**1.4** Then press the ON – OFF button to ON. Button will illuminate. Hold both buttons until the RX starts blinking slowly. Then let both buttons go. ON – OFF switch will blink slowly a couple of times then go solid ON.

**1.5** The LED on the RX (not the ESC) will blink slowly and then;

**1.6** When “BINDING” is complete the RX LED will change to solid ON. If the RCS system has been calibrated the **ESC** LED & both loco lights will immediately blink three times & then go to solid ON.

**N.B. The “BINDING” plug MUST be removed BEFORE the SYSTEM is turned OFF. (No binding plug with DSM2-EM(AB)).**

**1.7** The “BINDING” plug is removed & stored safely. The RCS OMEGA-3v6 ESC is now ready for speed calibration, which is not necessary if already done, and not necessary with an ALPHA-3 or ALPHA-3v2 ESC.

Calibration instructions are provided with the OMEGA-3v6 ESC.

For non Auto Binding RX's, RCS offers an optional extra # **BINDER** cable and switch. When fitted this will enable any loco to be bound to any TX without requiring access to the insides of the loco. This will enable any loco to be swapped between any other DSM2 TX's. You will be able to “hand off” speed matched locos for MU'ing into a consist.

**Not needed with the ALPHA-3 ESC.**

## USING THE TX-8 WITH A LOW OFF ESC..

The TX-8 is suitable for use with RCS **LOW OFF** ESC's such as the # Rx65b, # ALPHA-3v2, plus # OMEGA-3v6s using RCS-v1 program , and the # RBP-RCS heavy duty ESC that uses the Av1 operating program.

This TX-8 hand piece is essentially a 5 channel stick R/C in a smaller case.

Before you switch the system on, make sure the large throttle knob is fully CCW (OFF). The direction switch will be automatically centered.

### USING RCS ESC's WITH RCS-v1 & Av1 PROGRAMS.

System must be calibrated before use as per the ESC instructions.

The large knob controls channel # 1 the throttle. Make sure the knob is fully CCW before switching on. Otherwise the RCS # OMEGA-3 ESC cannot switch ON. This is the same as the Channel # 1 stick being fully down.

Unless binding, switch ON the TX-8 first & then the ESC.

1. The direction switch is the same as the Ch # 3 elevator stick.

From neutral, push the switch forwards once to set the ESC into forwards direction.

Like an elevator stick it will spring back to the off position when released.

2. From the OFF position twist the large knob to the right (clockwise, CW) to ramp the speed up.

To change from forwards to reverse firstly twist the large knob fully to the left (CCW) to the stop.

Once the loco is completely stopped pull the switch back and release it to get the ESC back to neutral.

Then pull the switch back again to set the direction to reverse.

Then twist the large knob to the right (clockwise, CW) to ramp the speed up in reverse.

**N.B The TX-8 cannot be used with any ESC's using the RCS BV1 PROGRAM.**



To set forward. With the ESC in neutral, push the direction switch forwards & then release it.



Twist the big knob clockwise (CW) to increase the loco speed.



To reverse the loco, return the big knob fully to the left (CCW) and pull the switch back twice and release



Twist the big knob clockwise (CW) to increase the loco speed.

### DIRECTIONAL LIGHTS & SOUND SYSTEM TRIGGERS.

**#Rx65b ESC's** have directional lights and one sound trigger using the Ch # 5 bind button = terminal # 5 on ESC.

**#ALPHA-3v2 ESC's** have directional lights & one sound trigger using the Ch # 5 bind button = terminal # 5 on ESC.

The TX-8 F1, F2, F3 & F4 buttons can control 4 x extra sound system triggers. These are available with the optional extra # LT-SW4v2 for the **#ALPHA-3v2** only.

**#OMEGA-3v6 ESC's** have directional lights (F & R) & 4 sound triggers (1, 2, 3, & 4) using the F1, F2, F3 & F4 buttons on the TX-21.

The bind button also controls Ch # 5. You can add a servo for mechanical operation. EG a Kadee servo uncoupler.

Or add another sound trigger using # 2-M-F.

## USING THE TX-8 WITH A CENTRE OFF ESC.

The TX-8 is ideal for use with RCS **CENTRE OFF** ESC's such as the # Rx65b & # ALPHA-3v2  
Before you switch the system on, make sure the large throttle knob is in neutral.  
The direction switch will not be used.

 <p># TX-8 Centre OFF</p> <p>A hand holds the TX-8 transmitter with the large throttle knob in the neutral position. The knob is centered between the 'F1' and 'F3' function buttons. The transmitter is labeled '2.4 GHz DSM2 R/C' and 'Rovate Control Systems'.</p> <p>© RCS 2015</p>	 <p># TX-8 CO Forwards</p> <p>A hand holds the TX-8 transmitter with the large throttle knob twisted clockwise from neutral. The knob is now positioned towards the 'F3' function button. The transmitter is labeled '2.4 GHz DSM2 R/C' and 'Rovate Control Systems'.</p> <p>© RCS 2015</p>	 <p># TX-8 CO Reverse</p> <p>A hand holds the TX-8 transmitter with the large throttle knob twisted counter-clockwise from neutral. The knob is now positioned towards the 'F1' function button. The transmitter is labeled '2.4 GHz DSM2 R/C' and 'Rovate Control Systems'.</p> <p>© RCS 2015</p>
<p>CENTRE OFF NEUTRAL</p>	<p>To drive forwards. With the ESC in neutral, twist the knob to the right.</p>	<p>To drive in reverse. With the ESC in neutral, twist the knob to the left:</p>

### CENTRE OFF CONTROL.

#### **FORWARDS - SPEEDING UP.**

To select forwards direction twist the knob from neutral slowly clockwise (CW) to the right. The Front LED will come on just as the loco speeds up following the knob setting.

**SLOWING DOWN.** Turn the knob back to the left (CCW) to set desired speed.

**STOPPING.** . Completely stop the loco by bringing the knob back to neutral.

#### **REVERSE - SPEEDING UP.**

To select reverse direction twist the knob slowly to the left (CCW). The Rear LED will come on just as the loco speeds up following the knob setting.

**SLOWING DOWN.** Turn the small knob back to the right (CW) to set desired speed.

**STOPPING.** . Completely stop the loco by bringing the small knob back to neutral.

**SHUTTING DOWN.** When you have finished operating, turn off the loco(s) before the TX. If you leave the loco(s) turned on the headlight will start blinking to indicate the loco is not receiving a TX signal.