2-CHANNEL 2.4GHZ GFSK DIGITAL PROPORTIONAL RADIO SYSTEM

PULSE ex2 sport

INSTRUCTION MANUAL

ETRONIX MODEL ELECTRONICS

www.etronix-rc.com

Etronix Pulse EX2 Sport

2 Channel 2.4GHz Steer Wheel Transmitter

1) INTRODUCTION.

Thank you for choosing this Etronix 2.4GHz radio system, it has been designed for land use but could also suit any 2 channel boat. If you are using this type of product for the very first time, please make sure you read all the information provided before installing in your vehicle. Please take special care of any warning notices to ensure safe operation.

2) SERVICE.

If you experience any difficulties please refer back to the manual, and if problems persist contact your retailer or distributor for further assistance.

3) SAFETY.

If you do not read, fully understand, then follow the advice and instructions in this manual properly, you risk damaging your radio or your model irreparably, even injury, or causing harm to another person or their property.

4) USER GUIDES.

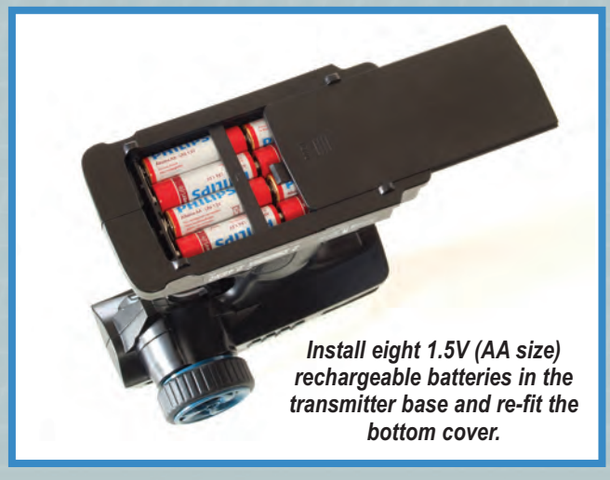
Do Not drive at night, in bad weather, thunder and lightning, during rain, or on wet roads.
Do Not drive in the street between parked cars, near people or children, or dog walkers.
Always check the proper operation of your model. If it does not respond properly or reacts unpredictably please check the installation and condition of your equipment.
Ensure the throttle trigger is at the neutral position before powering up, to avoid your model running away before you get proper control.
Never turn off the transmitter before the receiver, although fitted with a failsafe device, it is good practice to keep the model under control at all times.
Remember :- Transmitter on first. Receiver off first!

5) BATTERY CARE.

If your transmitter or receiver is being power by rechargeable Nickel Cadmium or Nickel Hydride batteries, be sure to always check they are fully charged and in good condition before use. Loss of control could soon result if part charged, discharged or damaged batteries are installed. When charging NiCd or NiMH batteries always use a dedicated charger, never try to recharge dry cells. If at any time during use or charging your transmitter or receiver batteries show signs of severely over heating, swelling or leaking, disconnect immediately, dispose of properly and replace!

6) TRANSMITTER CHARGING.

Connect a dedicated transmitter charger to the power supply.
Connect the charger to the charging socket on the rear of the handset.
When charging is complete, disconnect.
If using dry (alkaline) cells do not attempt to connect a charger to the transmitter!



Install eight 1.5V (AA size) rechargeable batteries in the transmitter base and re-fit the bottom cover.

7) TRANSMITTER SPECIFICATION.

Channels :	2
Frequency:	2.4GHz
RF Power :	<20 dbm
Modulation:	GFSK
Code Type:	Digital
Sensitivity:	1024
Power:	12V DC (8 x 1.5V AA)
Low Voltage Warning:	<9V DC
Charger Port:	5mm Centre Positive (Charger Not Included)
DSC Port:	3.5mm (for Optional USB Game Interface – NOT USED/SUPPORTED)
Antenna Length:	120mm
Weight:	328g
Size:	159 x 99 x 315mm
Colour:	Black
Certification:	CE, FCC.

8) KEY TO TRANSMITTER FEATURES.

A – Folding/Rotating 2.4GHz Aerial
B – Steering Wheel
C – Throttle Trigger
D – Control Panel Cover
E – Battery Box
F – DSC (Simulator) Port (NOT USED/SUPPORTED)
G – Charger Port

H – Steering Reverse Switch
I – Throttle Reverse Switch
J – Power (RED) LED
K – Bind/Battery Condition (Green) LED
L – 'Bind' Button
M – Steering Trim Dial
N – Throttle Trim Dial
O – Steering Dual Rate Dial (D/R)
P - Power On/Off Switch

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9) TRANSMITTER FUNCTIONS.

A vertical aerial achieves maximum range, so the short 2.4GHz aerial (A) can be folded and rotated to achieve the most vertical position once you are holding the handset comfortably. Then it allows you to fold the aerial away for safe storage.

The aerial folds down for storage
The aerial base also rotates 180 degrees so once you have a comfortable grip on the transmitter the aerial can be moved to the most vertical position to maximise range.

The Steering Wheel (B) operates Channel 1 and when turned anti clockwise the model should steer to the left and vies versa. If not, simply the flick the Steering Reverse Switch (H) to the “Rev” position.
The Throttle Trigger (C) operates Channel 2 and when pulled towards the handset the model should move forwards, when pushed away it should brake (and then reverse if available), otherwise simply flick the Throttle Reverse switch (I) to the “Rev” position.

Beneath the folding Control Panel Cover (D) you will find an array of useful adjustments, plus the Power Switch (P).

When at the mid position the model should remain stationary, if it creeps slightly adjust the throttle neutral dial accordingly.

When pulled back to the handset the model should move forwards, if not flick the Throttle switch to the ‘Rev’ position.

When pushed away the model should brake (and then move in reverse if applicable) if not simply flick the throttle switch to the ‘Rev’ position.

When the Power Switch (P) is moved left to the 'On' position, the RED LED (J) lights up, as does the Green LED (K), this shows a good battery condition.

If the transmitter batteries are weak and the voltage drops below 9V DC, the green LED flashes to alert you to the possibility that range will be limited and control might be lost, so new batteries (or a recharge) are advisable.
If the model does not track straight, adjust the Steering Trim Dial (M).
If the model creeps forwards or doesn't sit at Neutral, adjust the Throttle Trim Dial (N).
The Steering Dual Rate Dial (O) controls the total amount of steering available. If the servo is straining against the steering end stops, turn it down (clockwise) until it only just achieves maximum steering lock. If the vehicle exhibits excess steering, or when at high speed you feel it over reacts to the slightest adjustments, turn the Steering Dual Rate Dial down yet further until the model becomes more controllable, but not so far that you struggle to negotiate the tightest corner on the course. If the servo is connected to the receiver correctly but the model does not steer at all, double check the Steering Dual Rate Dial is not at Zero, before checking for any more serious faults!

10) RECEIVER SPECIFICATION.

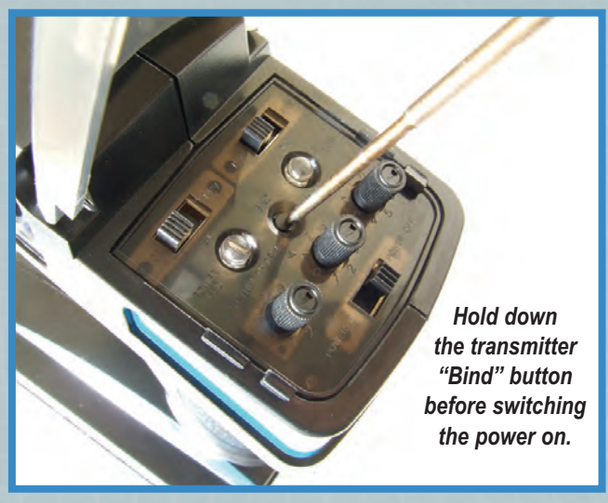
Channels:	***3***
Failsafe:	***Throttle Set Point Adjustable.***
Frequency:	***2.4GHz***
Modulation:	***GFSK***
Sensitivity:	***1024***
RF receiver sensitivity:	***-100dbm***
Power:	***4.5 to 6V DC***
Weight:	***5g***
Antenna Length:	***176mm***
Size:	***37.6 x 22.3 x 13mm***
Colour:	***Black***
Certification:	***CE, FCC.***

11) RECEIVER INSTALLATION.

The receiver should be securely mounted flat and level in your model, within the receiver box if available to protect it from moisture and dust. When routing the aerial keep it as far away from any electronic devices and metal work as reasonably possible, with at least the last half of the aerial wire in a vertical aerial tube to maximise control and range.
For Nitro or Petrol powered models connect the receiver battery (noting correct polarity) into the socket marked "VCC" or via a suitable power switch.
Electric vehicles equipped with an ESC should power the radio (via the BEC) when plugged into channel 2, and receiver power is usually controlled by the ESC switch.
The third channel is not used on this transmitter, so the third (bind) socket can be used to power a cooling fan or Personal Transponder (PT).

12) MATCHING THE RECEIVER TO THE TRANSMITTER. (BINDING)

To make sure only one transmitter can control the receiver they need to be matched, and to do so you need to "Bind" them together so they only recognise each others signature code. There is a 'Bind' plug included with the receiver, and this is inserted in the third channel (Bind socket) before power is supplied to the receiver for the first time. The red LED on the receiver will begin to blink to indicate the bind process has begun. Now hold down the transmitter bind button (L) before it is switched on. The transmitter's green LED (K) begins to blink and the receivers red LED stops flashing and turns solid red to indicate the bind process has been achieved. Before you can operate the model, both the receiver and transmitter should be switched off and the bind plug removed from the receiver for safe keeping. Now switch on the transmitter before the receiver and the model should respond normally. If the receivers red LED does



Hold down the transmitter "Bind" button before switching the power on.

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With the power on you can release the bind button once the green LED begins to flash to indicate the "Bind" process has initiated.

not go solid when it is powered up and the transmitter is on, then 'Binding' has failed, so begin the matching process again.
Remember if this is the first time you have set up the radio in your model, the steering and throttle will need correctly adjusted neutral positions before you will have proper control, and the throttle failsafe position should also be set before your first run.

13) RECEIVER FAILSAFE OPERATION.

This Etronix receiver incorporates a digital protection system known as a failsafe. If the model goes beyond the usable range, or the signal is interrupted, the failsafe will automatically set the throttle (channel 2) to a preset position so long as power is still supplied to it.
Set up the failsafe before first use, by turning on the transmitter, then supplying power to the receiver. A pointer is supplied (on the bind Plug) which can be used to hold down the failsafe button on the receiver for three seconds until the red LED flashes several times to indicate successful setting of the failsafe position. Now, wherever the throttle channel was positioned, will be the throttle servo failsafe set point.
To test the failsafe, hold the model clear of the ground and apply a little throttle before turning the transmitter off. Within a second, the throttle servo (or speed controller) should have repositioned to the failsafe position, which is typically throttle neutral position so the vehicle just rolls safely to a halt if the signal is lost.
Note:- if the receiver is re-matched to the transmitter for any reason (See 'Binding' as above) the failsafe position is lost so it will need to be reset again.

Thank you for choosing Etronix, used properly and observing the information in this manual we believe the Pulse EX2 Sport will achieve a strong connection with your model, utilising all the benefits of crystal free 2.4GHz technology for exceptional control and interference free operation.

Unless a battery powered model using an ESC with BEC, a receiver pack should be plugged into the VCC socket via a suitable power switch, making sure to check for correct polarity.

To 'Bind' the receiver to the transmitter the supplied Bind Plug should be installed channel 3/bind socket before power is applied. The red LED should begin to flash to indicate the 'Bind' process has begun, and go solid red once 'Bind' is complete. Now remove the 'Bind' plug and restart the power up procedure.

Once the 'Bind' process is complete, the throttle failsafe position can be set by pressing the button using the pointer provided.

NOTES:

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