

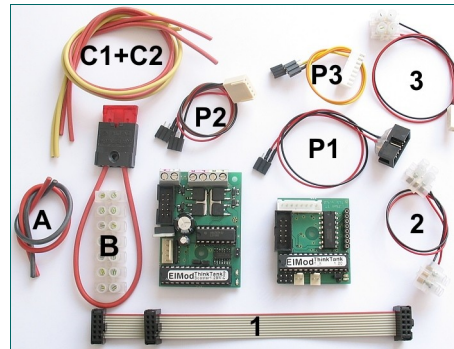


# ThinkTank BigBooster/TLS Prop Instructions for assembly and handling

Please read this document carefully!

## Scope of delivery

- ThinkTank Booster PCB
- ThinkTank TLS PCB
- Power cable A
- Power fuse B
- Motor cables C1+C2
- EMNet cable 1
- Turret motor cable extension 2
- Optional light cable 3
- BEC cable P1
- Booster proportional cable P2
- TLS proportional Cable P3 (2 wires for standard TLS, 4 wires for TLS C4)



This manual is also included with the ThinkTank Prop cable set. In this case the delivery only contains the cables P1, P2 and P3

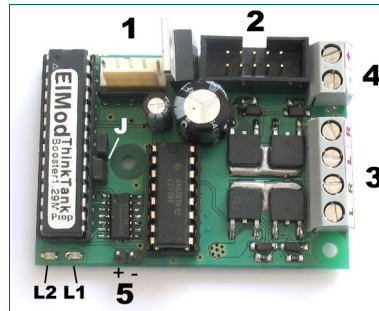
## Functionalities

- Full proportional drive control with mass inert simulation and control of turret and light functions.
- Connection of the ThinkTank Booster and ThinkTank TLS with a standard radio receiver (e. g. Futaba, Robbe, Graupner/JR, Multiplex).

## Overview of connectors

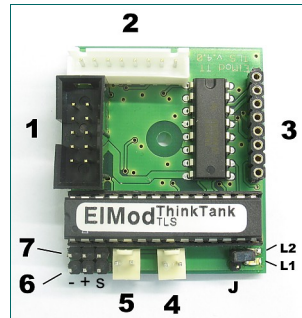
### ThinkTank Booster

- 1 receiver input (channels 1 and 2, cable P2)
- 2 EMNet-Connection for other ThinkTank modules (cable 1)
- 3 motor connector (cable C1 and C2)
- 4 power supply connection (cable A)
- 5 connection for brake light (integrated resistor)
- J jumper for tank model configuration
- L1 power LED
- L2 command LED



### ThinkTank TLS

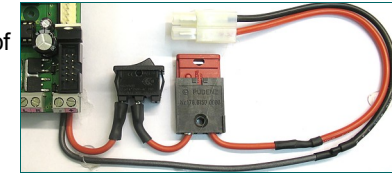
- 1 EMNet-Connection (cable 1)
- 2 receiver input (standard TLS: ch.3+4, TLS C4: ch.3 to 6, cable P3)
- 3 supply for turret unit
- 4 auxiliary light (ex. rear light) (cable 3)
- 5 optional muzzle flash
- 6 optional servo connection for horizontal main gun movement.
- 7 optional servo connection for vertical main gun movement.
- J jumper for optional gun recoil mechanics
- L1 power LED
- L2 command LED



## Assembly and connection

Faulty wiring may cause permanent damage to the electronics or even fire! If anything is unclear, please look at our FAQ or ask us in an email!

- Connect the power supply wires A with the insulating screw joints to the main power suppl of your tank (minus of the battery and plus from the main switch) or solder them and use the delivered shrink tubing.
- Install the power fuse B between the plus wire of the battery and the main switch.

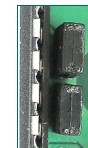
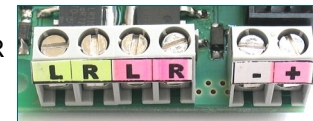


**Warning! Consider to use a appropriate main switch with can handle at least loads of 10 Amps! Fire hazard!**

- Connect the C1 and C2 cables to the motors (yellow and red to each motor).
- In case the tank drives in the wrong direction as expected, use the setup mode described below to correct the motor wiring.

## Installation of the ThinkTank Booster

- Connect the cable A to connector 4 (right connector)
- Plug the cable C1 and C2 to connector 3 (left connector). L and R corresponds to the motor of the right and the left chain (seen in drive direction).
- Connect the cable P2 to connector 1 (channel 1 and 2 of the receiver / right stick).
- Set the jumpers according to your tank model.



Pure Tank (no mass inert simulation. Not recommended.)



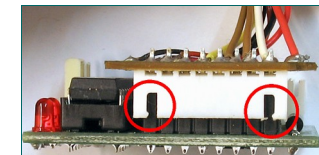
Heng Long Tiger or Panther



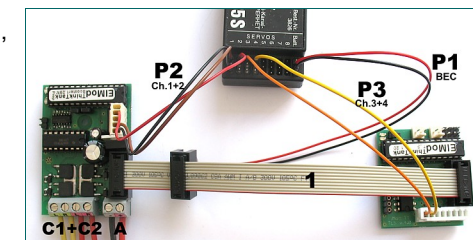
Heng Long Pershing or Walker Bulldog

## Installation of the ThinkTank TLS

- Remove the Jumper from TLS if you don't intend to use a third party recoil unit.
- Fix the 8-pin plug of the turret unit to connection 3 of the TLS. **Please make sure that the indentations point to the edge of the circuit board (see picture)!**
- In case the cables from the turret motor are too short, extend them with cable 2.

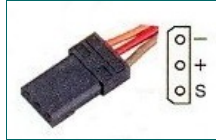


- Connect cable P2 to connector 2 (channel 3 and 4, respective 3 to 6 for TLS C4) of the receiver.
- The EMNet-cable (1) connects the ThinkTank Booster with the ThinkTank TLS.
- Connect the BEC cable P1 to the free plug on the EMNet-cable 1.



## Installation of the receiver

- Plug cable P1 to the power connector of the receiver.
- Connect the four cables of the cables P2 and P3 to the receiver in the following way:
  - black/brown: channel 1, acceleration (right stick, vertical)
  - red: channel 2, steering (right stick, horizontal)
  - yellow: channel 3, canon lift (left stick, vertical) / servo connection 7. With standard TLS also shot.
  - orange: channel 4, turret rotation (left stick, horizontal) / servo connection 6. ThinkTank TLS C4 only:
  - green: channel 5, main gun shot and MG (3-way (on-off-on) switch required)
  - blue: channel 6, special functions (3-way switch required, slider recommended)



The plugs are not polarity proof! Make sure that the black cable is connected to the ground (-) and the colored wires are connected to the signal pins (S) of the receiver.

## Initiation

- Make sure that all connections are well fixed and that no conductive parts can touch each other.
- Switch on the remote control and the tank exactly in this order.
- Both power LEDs should go on.
- Move the right lever of the remote control. The tank starts moving.

Depending on the receiver it may be necessary to adjust the channel order or their polarity. Check the manual of your radio for details.

## Setup-Modus

Use the setup mode in case the tank drives in another direction than expected.

- Switch the tank off and jack it up, so that the chains can move freely.
- Set all jumpers (PureTank Mode).
- Switch the power on.
- Wait 5 seconds and remove any jumper.
- The chains start to move ahead. The right chain moves faster than the left one.
- In other case, swap the motor wires on connector 3 until the movement accords exactly the pattern described above. Both wires of a motor must be connected only to terminals labeled 'R' or 'L'. Never connect one wire of a motor to 'R' and the other to 'L'!
- Set the removed jumper again, switch the radio on and check if the tank moves as expected. If not, reconfigure your radio (check the channel allocation and servo reversion!). Both, the motors and the radio have to be set up correctly!

## Operation state LEDs

Power-LED	on	Module is operational
	blinking	No valid signal from receiver*
Command-LED	on	Stick out of neutral position / valid command

\*A fast-blinking power LED means that there is no connection to the sender or that the transmission path between sender and receiver is disrupted. Please check the wiring and the operational state of the RC radio and receiver. If necessary check the operability of the RC equipment with a servo.

## Brakes

The ThinkTank Booster module disposes of three degrees of braking:

Motor brake	Chain brake	Emergency brake
Put the lever in neutral position.	move the stick half-way to opposite direction	move the stick completely to opposite direction
Rolling out	Full brake	Immediate halt

## Controlling the TLS (standard version only)

The control of the light group and the tower unit is carried out as follows:

→ Rotate turret right	↑ Shot (maximum deflection)
← Rotate turret left	↓ Machine gun (maximum deflection)
↑ Lift cannon (half deflection)	↖ Main light
↓ Lift cannon in opposite direction (half deflection)	↘ Auxiliary light (Connector 4 on TLS)
	↙ Engine on/off (function requires a ThinkTank Blaster module)

## Controlling the TLS (Prop C4 version only)

The control of the light group and the tower unit is carried out as follows:

Left stick	Channel 5	Channel 6
→ Rotate turret right	↑ Shot	↑ Engine on/off (with TT Blaster)
← Rotate turret left	↓ Machine gun	↓ Main light (full deflection)
↑ Lift cannon		↓ Aux light (half deflection)
↓ Lift cannon in opposite direction		

Please visit our website and take a look on the FAQ for in-depth informations

Nicht geeignet für Kinder unter 14 Jahren.

Not suitable for Children under 14 years.

Ne convient pas pour des enfants de moins de 14 ans.

Niet geschikt voor kinderen onder de 14 jaar.



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