

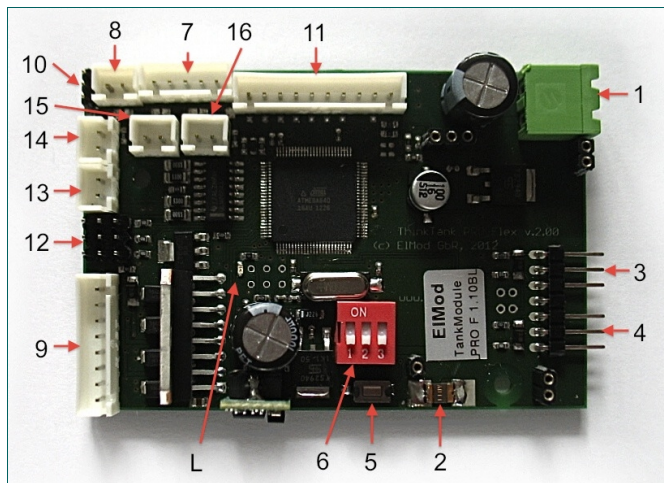
Please read this document carefully!

### Product content

- ThinkTank Tank Module PRO II Flex PCB
- ready to use power supply cable set
- motor connectors
- proportional receiver cable set
- two cables for additional light

### Overview

- 1 Power supply
- 2 Fuse for turret elements
- 3 Connector for left chain motor driver
- 4 Connector for right chain motor driver
- 5 Setup mode push button
- 6 DIP-switches for selecting the tank profile
- 7 Connector for HengLong® muzzle flash, AsiaTam® recoil unit and PC Configurator
- 8 Connector for HengLong® muzzle flash
- 9 Connector for turret elements
- 10 Connector for Tamiya® recoil unit
- 11 Connector for proportional receiver
- 12 Servo motors connectors.
- 13 Main gun muzzle flash LED (also muzzle flash for 1<sup>st</sup> barrel for AA tanks)
- 14 Brake light LED
- 15 Auxiliary light
- 16 Muzzle flash LED for 2<sup>nd</sup> MG (also muzzle flash for 2<sup>nd</sup> barrel for twin barreled AA tanks)
- L Status LED



### Assembly

**HINT: the function of all connectors is printed on the back side of the PCB!**

### Power supply

Solder the loose ends of the power supply cable to a battery connector that fits to your battery type. Use the included shrinking tube to insulate the soldered wires.

**Warning! The use of the switch and fuse is mandatory! Fire hazard when disregarded!**

### Chain motors

Connect the ESC of your choice to the connector 3 and 4. The minus pole shows to the lower edge of the board.

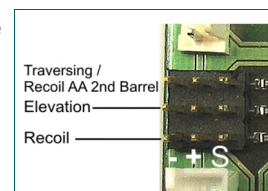
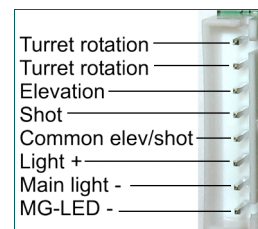
To check the correct wiring of the motors perform the following procedure:

- Jack the tank up, so that the chains can move freely.
- Attach a full charged battery to the power supply connector and switch the electronics on.
- Wait 3 - 4 seconds and press the push button (5).
- The chains start to move. They change the running direction every 4 seconds. Release the button when both chains move forwards and the light chain runs faster than the left one.
- Go ahead with the installation when the motors run in described manner.

### Turret elements

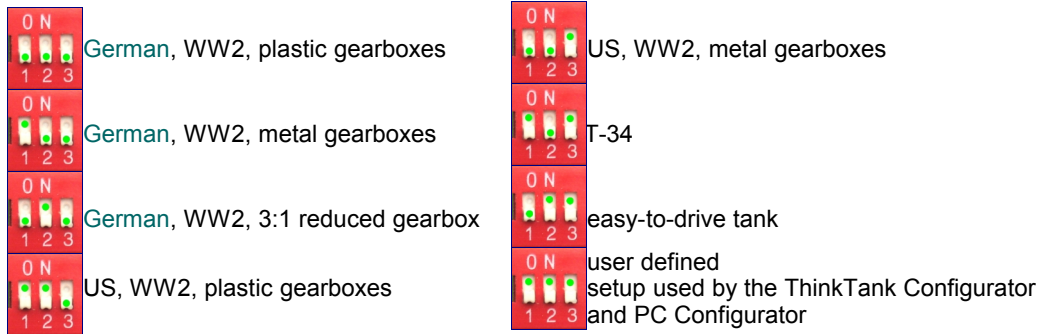
Connect the white 8-pin turret plug to the corresponding connector.

- If using the genuine HengLong® LED muzzle flash, attach it's cables (a 5-wire and a 2-wire cable) to the board.
- If using the genuine AsiaTam® turret mechanics and high voltage muzzle flash, proceed as described in the manual of the units.
- If using the genuine Tamiya® recoil unit, attach it to the corresponding connector on the board. The white cable faces the edge of the board.
- Servo motors are connected as shown on the picture.
- Additional light sources may be connected to the plugs 13 to 16. They provide about 50mA each and are designed to drive one to four LEDs.



## Choosing the tank profile

The driving and function setup is determined by the position of the DIP switches. The Tank Module ECO offers seven fixed and one user defined profile



## Status LED

The onboard LED shows the current status of the module

on	Tank Module is in operational state	*no connection to the sender or the transmission path between sender and receiver is disturbed. Please check the wiring and the proper function of the RC radio and receiver. If necessary check the operability of the RC equipment with a servo. **undervoltage on the CPU detected. Switch the power off for 10 seconds. If the error remains, assure that the PC Configurator USB dongle is disconnected and retry.
Short going out	Stick movement detected	
Fast blinking	No valid signal from receiver*	
Slow blinking	Faulty communication with another module	
Double blinking	Faulty CPU power supply**	

## RC receiver

This Tank Module may be connected with four to eight channel receiver. The currently active mode of operation is recognized automatically. Please consider that the radio must be setup correctly (all mixers must be deactivated, the servo deflection must be 100% and the trimming is centered)

If the channels five to eight are used, they must be equipped either as a slider, knob or 3-way-switch (up-off-down). Otherwise only four-channel operation is possible (although mostly all functions are also available with only four channels). The wires of unused channels may not be connected to the receiver.

The receiver cable has to be attached to the receiver connector on the Tank Module. The wire color pin assignment is as follows:

The Tank Module electronics provides the power supply for the receiver (BEC, stabilized 5V DC) via the red/black wires which are part of the proportional cable set.

Ch.	Control	4-channel mode	5-channel mode	6-channel mode
1	Right stick	Acceleration	Acceleration	Acceleration
2		Steering	Steering	Steering
3	Left stick	Turret, weapon and special functions	Turret and weapon control	Turret control
4				
5	Knob or slider	Not connected	Ignition and light	Ignition and light
6	Knob or slider	Not connected	Not connected	Weapon control

The channels 7 and 8 may be optionally used to control the user defined sounds of the sound module ThinkTank Blaster.

Ch.	Control	Function
7	3-way-switch	User defined sounds: Sample 1 and 2
8	3-way-switch	User defined sounds: Sample 3 and 4

Depending on the receiver it may be necessary to adjust the channel order or swap its movement direction. Check the manual of your rc gear for details.

## Turret, weapon and special functions using 4-channel mode

This mode is active if the blue wire of the receiver cable isn't attached to the receiver. The turret, weapon and special functions are controlled solely by the left stick of the radio.

Left stick (channels 3 and 4)	
<ul style="list-style-type: none"> <li>↑ Lift the main gun (half deflection)</li> <li>↓ Lower the main gun (half deflection)</li> <li>→ Rotate turret right</li> <li>← Rotate turret left</li> <li>↶ Ignition (requires ThinkTank Blaster)</li> </ul>	<ul style="list-style-type: none"> <li>↑ Shot (maximum deflection)</li> <li>↓ Machine gun (maximum deflection)</li> <li>↘ Auxiliary MG</li> <li>↙ Main light on/off</li> <li>↗ Aux light on off</li> </ul>

## Turret, weapon and special functions using 5-channel mode

This mode is active if the blue wire of the receiver cable is attached to the receiver. The turret and weapon functions are controlled by the left stick of the radio, ignition and light is mapped to the 3-way switch connected to channel 5 of the radio.

Left stick (channels 3 and 4)		Switch (channel 5)
↑ Lift the main gun (half deflection) ↓ Lower the main gun (half deflection) → Rotate turret right ← Rotate turret left	↑ Shot (max. deflection) ↓ Machine gun (max. defl.)	↑ Ignition (requires TTank Blaster) ↓ Main light on/off

## Turret, weapon and special functions using 6-channel mode

This mode is active if the blue and violet wires of the receiver cable are attached to the receiver. The function mapping is as follows:

Left stick (channels 3 and 4)	Knob or slider (channel 5)	Knob or slider (channel 6)
↑ Lift the main gun (half deflection) ↓ Lower the main gun (half deflection) → Rotate turret right ← Rotate turret left	↑ Ignition (requires TT Blaster) ↓ Aux light (half deflection) ↓ Main light (full deflection)	↑ Shot ↓ Aux. machine gun (half. defl.) ↓ Main machine gun (max. defl.)

## User defined sounds

If a ThinkTank Blaster is connected to this Tank Module, up to four user defined sounds may be activated optionally by the user. To use this feature, the gray and white wires of the receiver cable has to be attached to the 6<sup>th</sup> and 7<sup>th</sup> channel of the receiver. The samples are activated by switching the corresponding control in the radio to upper most (user sample 1 (ch.7) or 3 (ch8)) or lower most (user sample 2 (ch.7) or 4 (ch.8)) position. The playback may be aborted by moving the switch in the opposite direction.

## Under voltage protection

The Tank Module features an under voltage protection to protect the batteries from deep discharge. On delivery the threshold voltage is set to 6 volts for 7.2V NiMh/NiCd batteries. If the voltage drops below 6 volts, the tank stops and the main light starts to blink. In this case replace or recharge the battery.

## Fuse for turret elements

The element #2 on the PCB is a safety fuse for the turret motors. The fuse blows if the total current of the turret motors exceeds 2 amps which never happens under normal conditions. In this case no turret function is given (turret rotation, elevation, shot) and all lights are off. Check the wiring for shortcuts and the mechanics for blockages. Replace the damaged fuse with a new one. The fuses are available as spare parts in our shop.

## Configuration and update

An optionally available USB cable, the PC Configurator allows a very detailed configuration and setup of the Tank Module. To run the configuration download and install the PC Configurator Software from our web site, attach the USB cable and power up the Tank Module.

If a new firmware version for the Tank Module is released, it may also be uploaded with the PC Configurator. To activate the update process download and install the current version of the PC Configurator Software, attach the USB cable, press and hold the pushbutton on the Tank Module and switch on the power. The LED on the Tank Module blinks exactly 3 times. Follow the directions shown by the PC Configurator Software.

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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