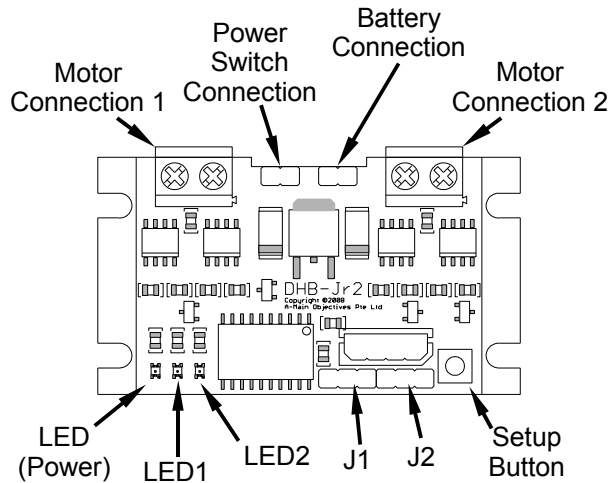


# DHB-Jr2 (Dual H-Bridge Junior 2) Manual

## Board Layout



## Features

- 2 × motor drive
  - Most suitable for tank-drive system.
  - Operating current:
    - 3A
    - 6A (DHB-Jr2-DS)
  - 4 to 8 cells (4.8V to 9.6V)
- 2 channels radio control servo signal interface
  - Throttle + steering. (DHB-Jr2, DHB-Jr2-DS)
  - Suitable for stick or pistol type transmitters.
  - Simple “neutral” position setting using setup button.
  - 5V 500mA output for receiver and external circuit<sup>1</sup>.
- Motor control
  - Proportional RC control up to 128 levels each in forward and reverse.
  - Quick motor direction change.
  - Brake in neutral position.

<sup>1</sup> For 4 cells NiMH battery operation, output may be slightly lower than supply voltage.

- Interface
  - 2 Channels RC servo signal.  
(Channels from 1 to 4 in any combinations may be used.)
  - Supports simultaneous signals generated by microprocessor circuits.
  - Unit goes into fail-safe mode upon any missing signals.
  - Diagnostic LED visual indicators.

## Setup: Connections

1. Connect J1 to receiver steering servo output.
2. Connect J2 to receiver throttle servo output.
3. Connect motors to left and right motors. Do not drive more than one motor from a single motor output, this may cause damage to the DHB-Jr2.
4. DHB-Jr2 comes with a jumper across the power switch connection, and it can be replaced by an on/off switch connected via a pair of wires terminated with appropriate 0.1" pitch header recepticals.
5. DHB-Jr2 comes supplied with RC-style JST red-coloured battery male connector. When using non-RC standard or self-made cable, please observe polarity. Connecting batteries with reverse polarity to DBH-Jr2 will damage it beyond repair.
6. Switch-on transmitter, then DHB-Jr2, and check that motors respond to transmitter controls.
7. Trim transmitter controls for neutral setting or use setup button to program neutral point.

## LED indicators

Under normal operation:

<b>LED (Power)</b>	<b>LED1</b>	<b>LED2</b>	<b>Condition</b>
○	○	○	Signals OK, both channels at neutral position.
○	○	●	Signals OK, channel 2 not in neutral position.
○	●	○	Signals OK, channel 1 not in neutral position.
○	●	●	Signals OK, channels 1 & 2 not in neutral position.
☀	●	●	Fail-safe mode, no signals.
☀	☀	●	Fail-safe mode, channel 2 signal absent.
☀	●	☀	Fail-safe mode, channel 1 signal absent.

- Legends:
- - Off or dimmed
  - - On
  - ☀ - Blinking

## Setup: Programming Neutral Position

If neutral position cannot be achieved using the trim setting on the transmitter, follow the steps below:

1. Power off controller board and transmitter.
2. Connect to receiver, e.g.,

<b>Receiver</b>	<b>DHB-Jr</b>
Channel 1 / Throttle	Channel 1
Channel 2 / Steering	Channel 2

3. Switch on transmitter, and set controls and trim to neutral position.
4. Press and hold setup button while applying power to DHB-Jr2.
5. LEDs will light up in the following sequence:

<b>LED (Power)</b>	<b>LED1</b>	<b>LED2</b>	<b>Status</b>
☀	☀	☀	Start setup.
☀	☀	●	Scanning channel 1.
☀	●	☀	Scanning channel 2.
☀	☀	☀	Setup done.

Button may be released when start setup sequence is observed.

6. Further fine tuning can be done on transmitter trim setting.

## Setup: Motor Direction

If vehicle is not moving in desired direction, follow the chart below to correct setting.

<b>Throttle</b>	<b>Steering</b>	<b>Vehicle Behaviour</b>	<b>Correction</b>
Forward	-	Reverse.	Change throttle 'servo reverse' direction on transmitter..
Forward	-	Turn clockwise	Exchange right motor connection wires.
Forward	-	Turn counter-clockwise	Exchange left motor connection wires.
Forward	Right	Move forward & left	Change steering 'servo reverse' direction on transmitter.
Forward	Left	Move forward & right	Change steering 'servo reverse' direction on transmitter.

If neutral position cannot be achieved using the trim setting on the transmitter after changing any channel 'servo reverse', follow the steps in **Setup: Programming Neutral Position**.

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