

Thank you for purchasing our products. Please confirm how to use the MD-1 by this manual before usage.

For your safety Please note the handling and use of this product.

Warning The contents of this display show a possibility of death or where a serious injury may occur or a highly substantial damaging accident may occur.

*This product is manufactured for surface use radio controls. *Discontinue use for all other purposes. Discontinue use in the event of a thunder storm. *There is danger of a lightning bolt striking the antenna of the transmitter. *Discontinue use when consuming alcohol or medication that may hinder concentration or judgement. *Unexpected accidents are caused with a judgement mistake. *When rain and puddles are present, please discontinue use. *There are times when water enters into the equipment and control will be lost. *Only use the batteries specified in the instruction manual of the transmitter. *To turn the system on, start by turning on the transmitter then the receiver. To turn off the system, turn off the receiver first, then the transmitter in this sequence. *Please be sure to use only our products for the transmitter and servos. *Concerning the damage and the like, which is generated when combining products that are not our company's genuine products we do not owe responsibility. *Altering the transmission module is inhibited by law and is subjected to penal code violations. Resolution/remodelling of all products may result in the cause of a short and other accidents. In addition, if this product is altered we will refuse repair service. *Please do not use this product inside an airplane, hospital, near any automatic control equipment, medical electrical machinery and apparatus such as fire alarms. In addition with respect to the law, if this product effects other radio equipment and electronic equipment, use must be discontinued at once.

Attention This displays shows the possibility or a substantially damaging accident which can cause Attention injury.

*Please avoid storage in a place of high temperatures and high humidity because it may cause the breakdown, damage and deformation of the product. *Please note when using with an engine model, place where exhaust and the waste oil will not come into contact with the product. *In case of submerging in oil or water, please send it out for repair. *This product's performance is designed for use in the shown specified usage which is based on this instruction manual and the instruction manual of the transmitter which is used. When the instructions are not understood, please contact our service department for advice. *After verifying the safety of use, think of all the accidents possible and please enjoy with responsibility

Our company cannot owe responsibility from the nature of the radio control models And the customer assumes all responsibilities that result from this product being used.

KONDO KAGAKU Co., Ltd. 4-17-7 Higashi-Nippori, Arakawa-ku, Tokyo Japan 116-0014

Service dept. Phone: 03-3807-7648
Mon to Fri (except National Holidays) 9:00 to 12:00 and 13:00 to 17:00

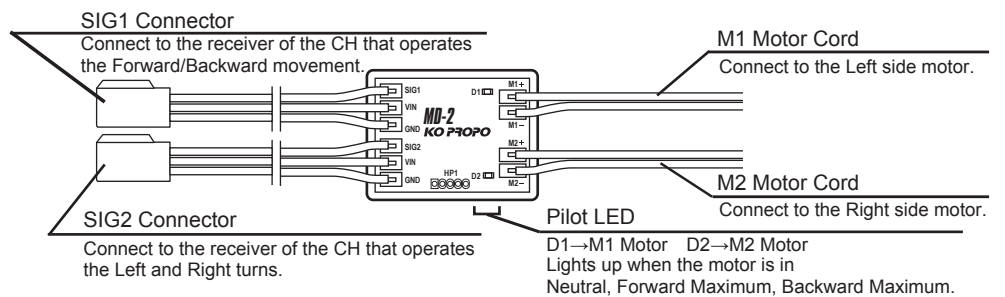
www.kopropro.co.jp

Specifications

- Control method: PWM control
- Proper power supply voltage:3.0 - 6.6V (dry battery 2-4cell/Life 1-2cell/ Ni-MH3-5cell/LIPO1cell)
- Compatible Motor: Brushed motor less than 280 type motor for small models (lock current less than 4A)
- Drive Frequency :about 4kHz
- Voltage output to receiver: none
- Dimensions:27.0×20.5×4.4(mm) *excluding cords and protrusions
- Weight: 3.0g(excluding cords)

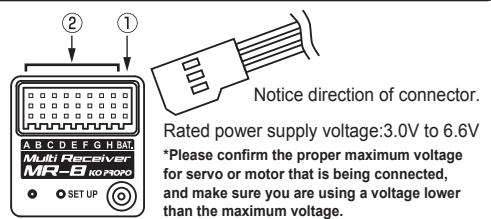
Warning Please notice the low voltage limit of Lithium batteries.
*Battery voltage will go down due to load when using multiple motors or servos. When using a lithium battery as a power source, please check the low limit voltage of the battery specification that can be used for the battery due to load from motors. We recommend checking these specifications and the number of motors used prior to use.

Name of parts



Usage

1. Connect power supply to BAT terminal.
2. Connecting MD-1 to CH-A - H that you would like to control. (In the example on the next page, we will use CH-A and CH-D)
3. Use after pairing with MC-8 (Transmitter). *Please refer to the manual of MC-8 about pairing method.



Features of MD-2

Feature 1. Mixing control of two motors, left and right, is possible.

The MD-2 is capable of running two motors in one unit. In addition, mixing is applied to the motors inside the MD-2, enabling forward/backward movement with up/down stick operation and left/right turning with left/right operation, just like an RC car. This allows the MD-2 to be operated intuitively just like an RC car, and also allows it to turn in the right and left directions.

[Commentary] Mixing is a function in which a microcontroller adds calculations and processing to control the motors based on the operations at hand. In this case, by rotating one of the motors in the opposite direction, the robot can move forward and backward and turn left and right with a single stick.

When the MD-2's SIG1 is connected to CH-A and SIG2 to CH-D, the CH-A stick ↑↓ (up/down) controls forward/backward movement, and the CH-D stick ↔ (left/right) controls left/right turning.

Stick Operation	Movement of the vehicle body	
	CH-A	CH-D
↑	—	↑
↙	↘	↙
↘	↙	↘
—	↙	↻
—	↘	↻
↓	—	↓

Feature 2. Can be corrected even when the motor does not run straight due to variations in the motor.

If the car bends to the left or right while driving forward or backward, it can be corrected by trimming the CH with the SIG2 connector connected.
Example for CH-D: To turn left, press the right side of TRIM-D, and to turn right, press the left side several times to adjust.

In MD-1: Independent control of left and right two
If the left and right wheels of the vehicle were each equipped with a motor, two MD-1s would have to be connected to each motor, and the two sticks would have to be moved up and down.

Stick Operation	Control
CH-A/B Stick ↑↓	(up/down: CH-A control) control the Left wheel/ caterpillar.
CH-C/D Stick ↑↓	(up/down: CH-C control) control the right wheel/ caterpillar.

In this case...

- Case 1: Left and right stick operation works in reverse.**
Use reverse on the MC-8 (or transmitter), or swap the left side motor with the right side motor.
- Case 2: Not running with forward/backward stick operation and turning in circles**
Check the polarity (+/-) of the motor. In a gear case with left/right target, one of the motors should be reversed. If correct, check case 3 below.
- Case 3: Operates on a different CH than the operating CH**
Verify that the SIG1 and SIG2 connector connections to the MR-8 (or receiver) are correct.