MAX POWER

THRUST IT TO THE **MAX**

REMOTE CONTROL

INSTALLATION OPERATION MAINTENANCE

USER MANUAL

CE

THIS MANUAL MUST BE KEPT ON BOARD AT ALL TIMES

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FCC Caution.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.

-Increase the separation between theequipment and receiver.

-Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

-Consult the dealer or an experienced radio/TV technician for help.

This device must not be co-located or operating in
conjunction with any other antenna or transmitter.
Operation is subject to the following two conditions:
(1) This device may not cause harmful interference, and
(2) This device must accept any interference received,
including interference that may cause undesired operation

§ 15.21 Information to user.

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

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It is strongly advised that only qualified marine electricians should install this equipment. For any boat requiring official classification, bodies of approval should also be consulted at the earliest opportunity. In any case, all other bodies, governmental or otherwise, should be contacted to ensure conformity with legal regulations relating to the boat in question.

IT IS ESSENTIAL TO READ THE FOLLOWING MANUAL CAREFULLY BEFORE INSTALLING THIS EQUIPMENT

1- DESCRIPTION

The Max Power radio remote control is designed to work with Max Power's entire range of tunnel and retractable thrusters. The remote control can also be used to operate any other onboard equipment for which it may be useful.

2- TECHNICAL SPECIFICATIONS

	TRANSMITTER MPOP5720/US	**RECEIVER MPOP5721/US**
Power supply	2 lithium batteries 3V (CR2430)	12 to 24V DC
Power consumption in standby	0A	22mA @ 12V DC
Power consumption when in use	50 mA @ 6V DC max	110 mA @ 12V DC max
Operating temperature	-15°C / +55°C	-15°C / +55°C
Dimensions (mm)	114 x 60 x 22	125 x 78 x 21
Weight (g)	80g	110g
Frequency (MHz)	868 (EU regulation) 915 (US regulation)	868 (EU regulation) 915 (US regulation)

This device complies with part 15 of the FCC rules. Operation is subject to the following two conditions (1) This device may not cause harmful interference and (2) this device must accept any interference received including interference that may cause undesired operation.

3- PRODUCT REFERENCES

The remote control is available as a kit including both the transmitter and the receiver. Additional receivers and spare transmitters are also available independently.
EU and US regulations require different frequencies. For this reason both the transmitter and the receiver are available in 2 different frequencies.

• Each transmitter includes its batteries (2 x CR2430)
• Each receiver includes its connectors

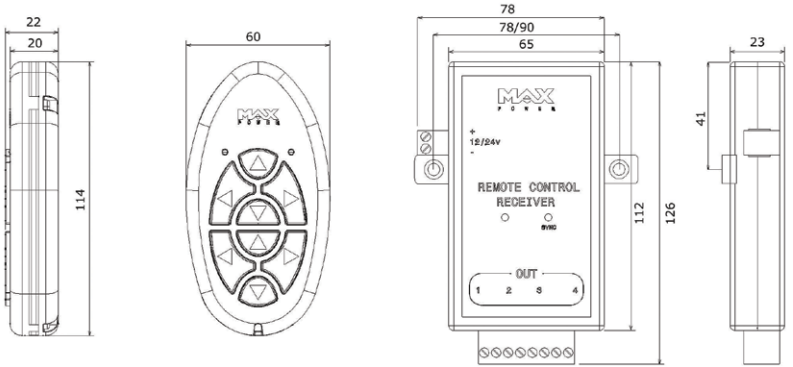
868 MHz (EU regulation) 915 MHz (US regulation)		312973 312974		312971 312972		312969 312970

4- PACKAGING CONTENTS

The Remote Control is delivered with:

312973 (EU) 312974 (US) KIT REMOTE CONTROL	**312971 (EU) 312972 (US)**	**312969 (EU) 312970 (US)**
✓ 1 transmitter ✓ 1 receiver ✓ 2 connectors ✓ 2 brackets + 2 screws ✓ 1 lanyard ✓ 1 user manual	✓ 1 receiver ✓ 2 connectors ✓ 2 brackets + 2 screws ✓ 1 user manual	✓ 1 transmitter ✓ 1 lanyard ✓ 1 user manual

5- GENERAL DIMENSIONS



All dimensions are in mm

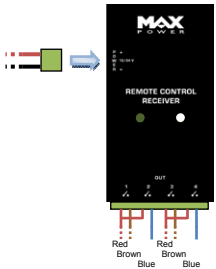
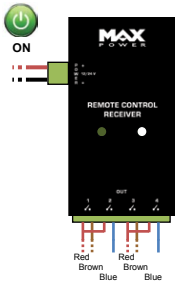
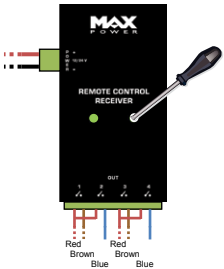
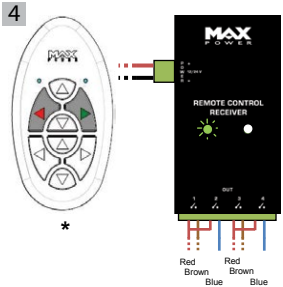
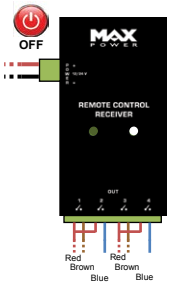
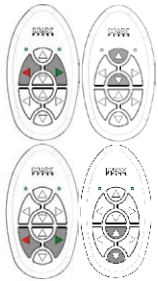
6- INSTALLATION AND CONNECTIONS

1. Turn OFF the power supply to the thruster or the equipment being connected
2. Fit the receiver in a dry and accessible area (preferably not in the bilge). If necessary, use the 2 brackets supplied by removing the 2 screws on the back of the receiver and replacing them with the 2 other screws supplied (M2.5 x 16). For a thruster, an ideal location is behind one of the thruster control panels.
3. Connect the receiver to the power supply (12 or 24V DC)
4. **CAUTION: ENSURE THE POLARITIES ARE RESPECTED. Reversing the polarity of the receiver <u>WILL</u> irreversibly damage the receiver's circuits.**
5. **Protect the positive supply cable of the receiver by means of a 1A fuse.**
6. **The receiver already has an integrated protection.**
7. Connect the 4 outputs of the receiver (1, 2, 3 & 4) to the equipment that is to be operated. In the case of a bow thruster or windlass, see the annexed diagrams for precise instructions.
8. **NB: The outputs (1, 2, 3 & 4) are isolated volt free contacts with a load switching capacity of up to 24V and 5A**
9. Follow the set up instructions (cf. chapter 7)

CAUTION:

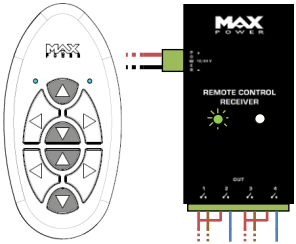
Fit the receiver as far as possible from large metallic objects, electric motors or high current cables.
Please connect the radio receiver's power supply to the yacht's main service battery bank.
The battery bank powering the receiver must be sufficiently charged (refer to the battery supplier's recommendations).

7- SET-UP

1 	2 	3 
Connect the receiver to the power supply 12/24V	Turn the power supply **ON** → **The LED flashes once**	Gently press the SYNC button (just once) using a small screwdriver → **The LED lights up**
4 	5 	6  * Authorised combinations
To activate 2 commands simultaneously press the 2 buttons* to be activated → **The LED will flash.** These commands are now activated and paired to outputs 1 & 2	Turn the receiver OFF (for 5 seconds)	To activate other commands return to **step 2.** **Outputs will be activated in their numerical order in pairs.**

Note: Each receiver can handle a maximum of 4 channels: 2 sets of 2 buttons corresponding to receiver outputs (1, 2, 3 and 4). Should the full 8 channels of the transmitter be required, a second receiver is needed: **312971 (EU) or 312972 (US).**

8- RESETTING



To reset a receiver, gently press the **SYNC** button using a small screwdriver
→ **The LED lights up.**
Press the 4 up-down buttons **simultaneously**
→ **The LED will flash**
The receiver's memory has been cleared.
Turn the receiver's power supply OFF, wait 5 seconds and then return to **step 2** (cf. Chapter 7 Set-up)

9- ADDING ADDITIONNAL TRANSMITTERS AND RECEIVERS

Transmitters
To add an extra transmitter, follow the instructions from **step 2** (cf. Chapter 7 Set-up) and configure the additional remote control.

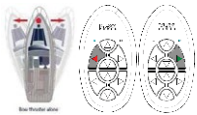
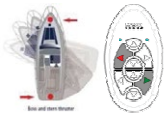
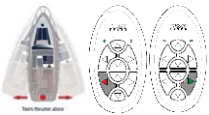
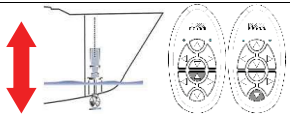
NB: In case of error or doubt concerning the configuration, clear the receiver's memory (cf. Chapter 8) and start from the beginning. This will require the reconfiguration of all remote controls.
Each complete maximised system (ie. 2 receivers and all 8 channels used on the transmitter) can only include 2 transmitters.

Receiver
Go to **step 2** (cf. Chapter 7 Set-up) and follow the instructions as normal.

10- EXAMPLES OF USE

Using the remote control with a Max Power thruster or a windlass

1. Turn the thruster / windlass ON (via its control panel).
2. Turn the receiver ON if the power supply is not the same as the thruster / windlass.
3. Use the remote control to operate the thruster / windlass (see below instructions).

	**BOW THRUSTER** PORT / STARBOARD		**BOW AND STERN THRUSTER** PORT / STARBOARD
	**STERN THRUSTER** PORT / STARBOARD		**WINDLASS** UP / DOWN
	BOW AND STERN THRUSTER STARBOARD / STARBOARD		**RETRACTABLE THRUSTER** UP / DOWN

11- REPLACING THE BATTERIES

⚠ CAUTION: ENSURE THAT THE EQUIPMENT'S POWER SUPPLY IS SWITCHED OFF BEFORE REPLACING THE BATTERIES IN ORDER TO AVOID ACCIDENTAL ACTIVATION OF THE EQUIPMENT.

⚠ CAUTION: RISK OF EXPLOSION IF BATTERY IS REPLACED BY AN INCORRECT TYPE. DISPOSE OF USED BATTERIES ACCORDING TO THE INSTRUCTIONS.

1. Remove the 4 screws from the back of the transmitter
2. Remove the back part of the transmitter
3. Remove the 2 batteries on the electronic control card
4. Replace the 2 batteries with 2 new **CR2430** batteries. **Ensure the polarities are respected**.
5. Replace the back part of the transmitter and **GENTLY TIGHTEN THE SCREWS** whilst ensuring that the rubber membrane is correctly positioned so that the product remains waterproof.

IT IS RECOMMENDED TO CHANGE THE BATTERIES AT THE START OF EACH SEASON

12- TROUBLE SHOOTING

Before contacting Max Power, please consult the following trouble shooting guide.

Problem	Check
The receiver's LED doesn't light up	Check the power supply to the receiver
The transmitter's LEDs do not light up	Check the transmitter's batteries and the polarity
The remote control doesn't work	Check the connections of the receiver's relay outputs
The remote control works intermittently	Check the voltage of the battery bank powering the radio receiver

13- WORLDWIDE DISTRIBUTION

To locate the nearest Max Power distributor, please consult the section "Worldwide Distribution" on our website: www.max-power.com

14- WARRANTY

Warranty coverage

The equipment is guaranteed to be free of manufacturing and operation defects under normal usage conditions for a period of **2 years** from the date of purchase by the end user (upon production of sales receipt or other proof of purchase). This warranty is transferable to subsequent owners of this equipment during the period of coverage.
If the remote control is used for any purpose other than leisure boat equipment, the warranty is limited to **6 months**.

ANY MODIFICATION OF THE PRODUCT
WILL RESULT IN THE ANNULMENT OF THE WARRANTY

Warranty Exclusions

- The manufacturer's warranty **does not cover**:
- Damage caused by modifications or an installation contrary to published specifications
- Damage due to repairs performed by an unauthorized service centre
- Damage due to lack of normal maintenance
- Damage due to water
- Cost of hauling the boat
- Parts replaced due to normal wear and tear
- Repairs performed without the knowledge of the manufacturer (please contact dealer to receive Repair Authorization Number)
- Cost of travel to and from the job site
- Repairs due to an incorrect installation
- Repairs carried out by the end user on the equipment
- Tampering of equipment by the end user
- Cost of economic loss, including injury to any person, damage to property, loss of income or profit, communication, lodging, inconvenience
- Consequential damage due to failure, including those arising from collision with other vessels or objects

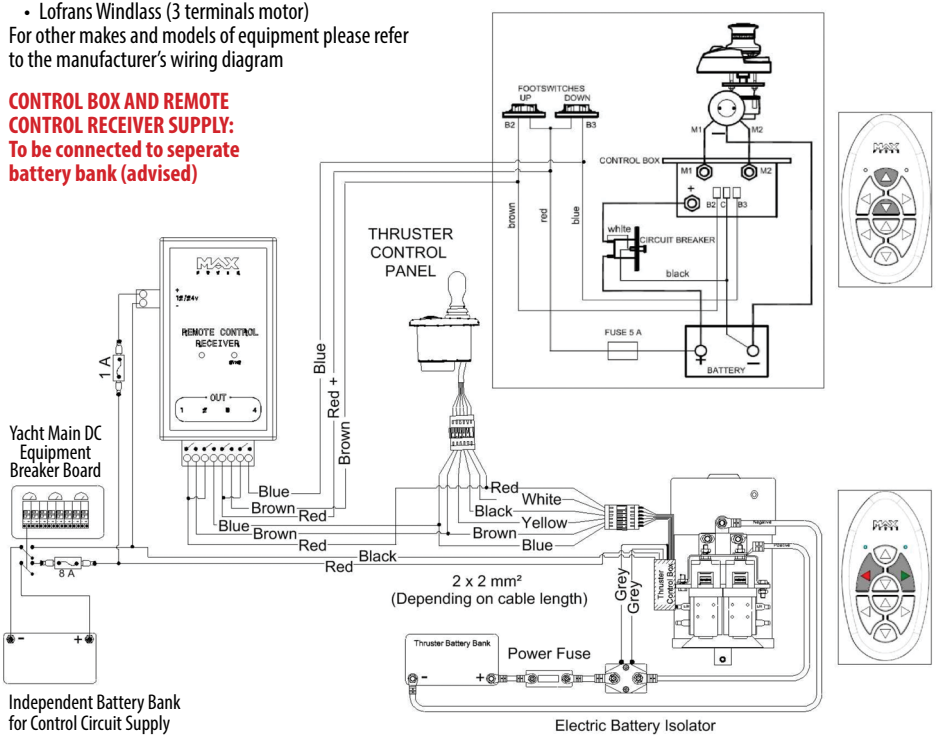
ELECTRICAL WIRING CONNECTION

Examples given for:

- Max Power Thruster CT60/CT80
- Lofrans Windlass (3 terminals motor)

For other makes and models of equipment please refer to the manufacturer's wiring diagram

CONTROL BOX AND REMOTE CONTROL RECEIVER SUPPLY: To be connected to seperate battery bank (advised)



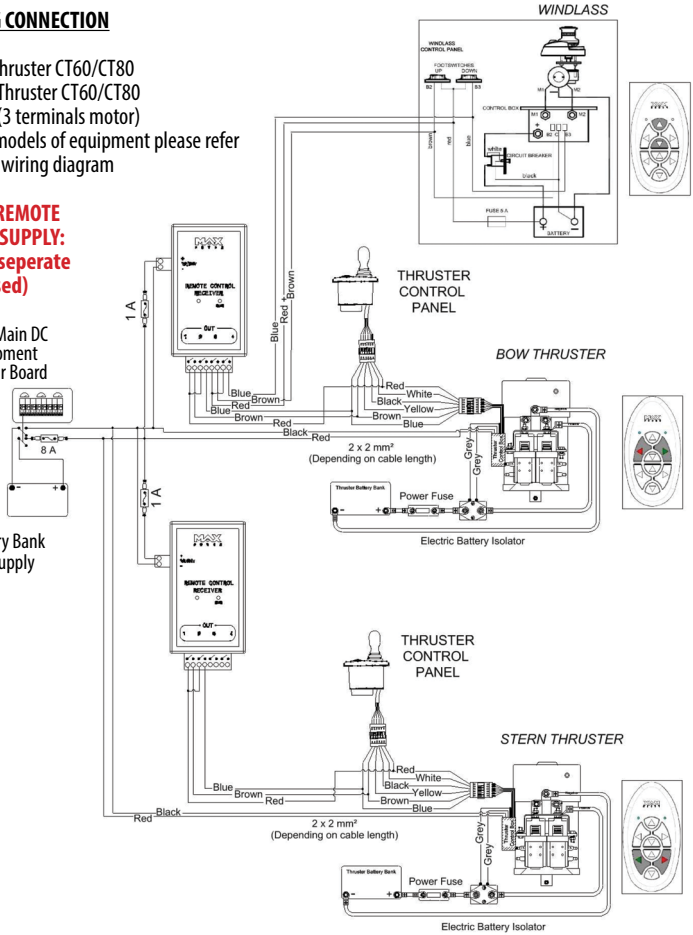
ELECTRICAL WIRING CONNECTION

Examples given for:

- Max Power Bow Thruster CT60/CT80
- Max Power Stern Thruster CT60/CT80
- Lofrans Windlass (3 terminals motor)

For other makes and models of equipment please refer to the manufacturer's wiring diagram

CONTROL BOX AND REMOTE CONTROL RECEIVER SUPPLY:
To be connected to seperate battery bank (advised)



ELECTRICAL WIRING CONNECTION

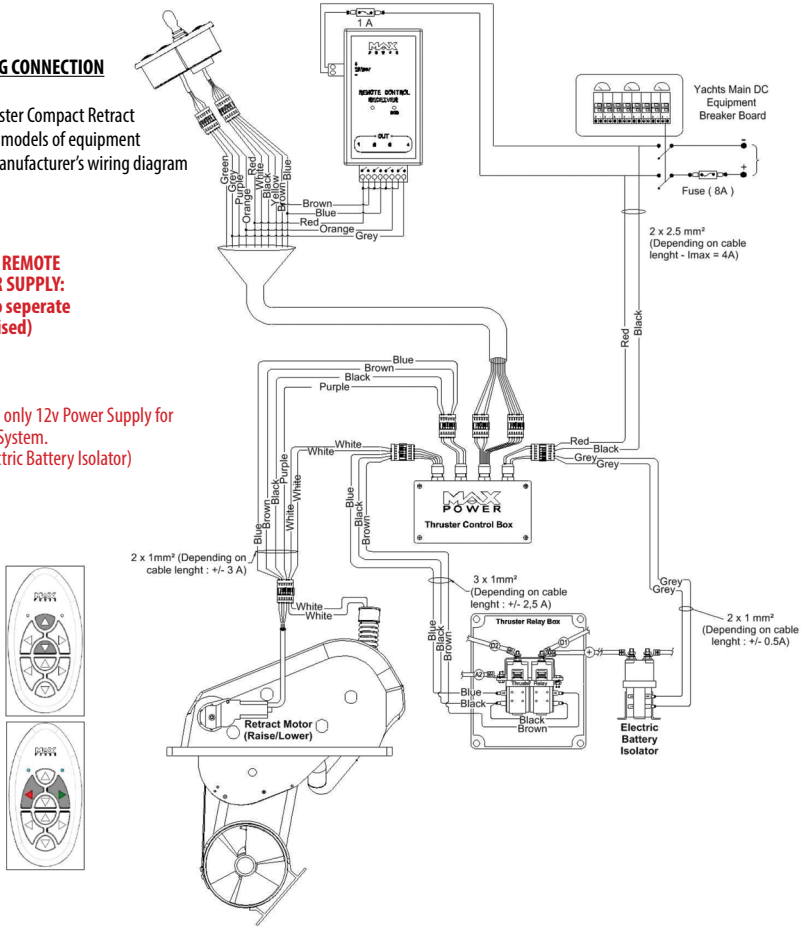
Examples given for:

- Max Power Thruster Compact Retract

For other makes and models of equipment please refer to the manufacturer's wiring diagram

CONTROL BOX AND REMOTE CONTROL RECEIVER SUPPLY:
To be connected to seperate battery bank (advised)

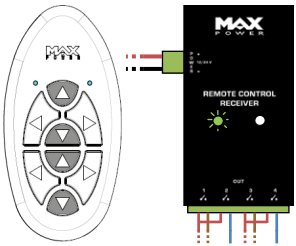
WARNING
It is important to use only 12v Power Supply for the Thruster Control System.
(Control Box and Electric Battery Isolator)



TWO THRUSTERS SET-UP PROCEDURE

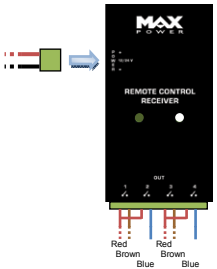
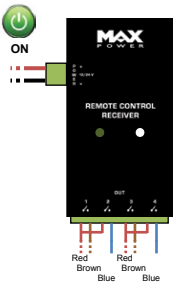
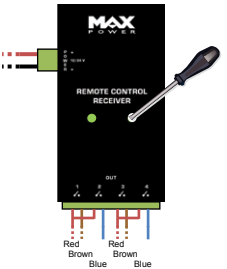
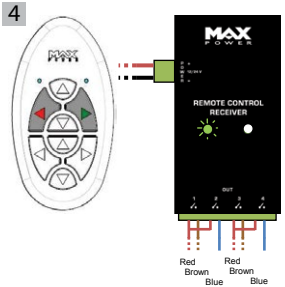
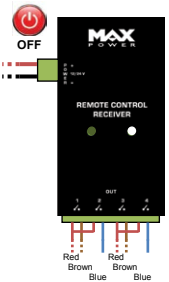
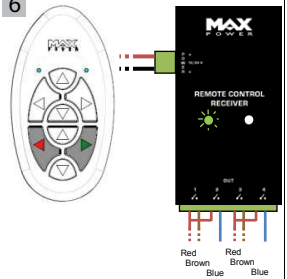
RESET RECEIVERS

RESETTING

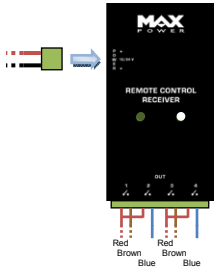
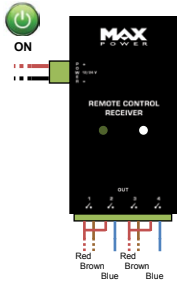
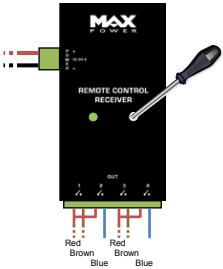
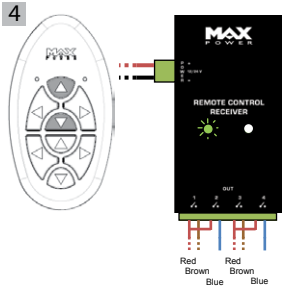
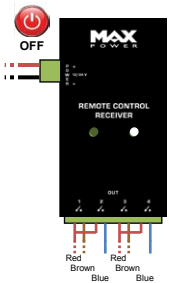
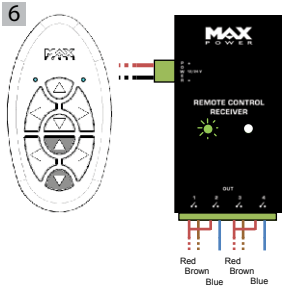


To reset a receiver, gently press the **SYNC** button using a small screwdriver
→ **The LED lights up.**
Press the 4 up-down buttons **simultaneously**
→ **The LED will flash**
The receiver's memory has been cleared.
Turn the receiver's power supply OFF, wait 5 seconds.

TWO THRUSTERS SET-UP (1st RECEIVER)

1 	2 	3 
Connect the receiver to the power supply 12/24V	Turn the power supply **ON** → **The LED flashes once**	Gently press the SYNC button (just once) using a small screwdriver → **The LED lights up**
4 	5 	6 
To activate 2 commands simultaneously press the 2 buttons* to be activated → **The LED will flash.** These commands are now activated and paired to outputs 1 & 2	Turn the receiver OFF (for 5 seconds)	To activate other commands return to **step 2.** **Outputs will be activated in their numerical order in pairs.**

TWO THRUSTERS SET-UP (2nd RECEIVER)

1 	2 	3 
Connect the receiver to the power supply 12/24V	Turn the power supply **ON** → **The LED flashes once**	Gently press the SYNC button (just once) using a small screwdriver → **The LED lights up**
4 	5 	6 
To activate 2 commands simultaneously press the 2 buttons* to be activated → **The LED will flash.** These commands are now activated and paired to outputs 1 & 2	Turn the receiver OFF (for 5 seconds)	To activate other commands return to **step 2.** **Outputs will be activated in their numerical order in pairs.**

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