

How to setup and use the Multi-Remote Switch (MRS)

The Multi-Remote Switch is essential for all R/C models, car/boat/heli or plane. The MRS system can control up to 7 remote switches from a single channel input, plus it's very easy to setup and operate. It is great for controlling LED lighting, rocket launches, bomb drops or other electric powered devices.

Initial Setup (Required) for the MRS.

NOTE: Do not hook up the external power (Figure 1 — G/H) or any of the switch outputs (Figure 1— F) when calibrating!

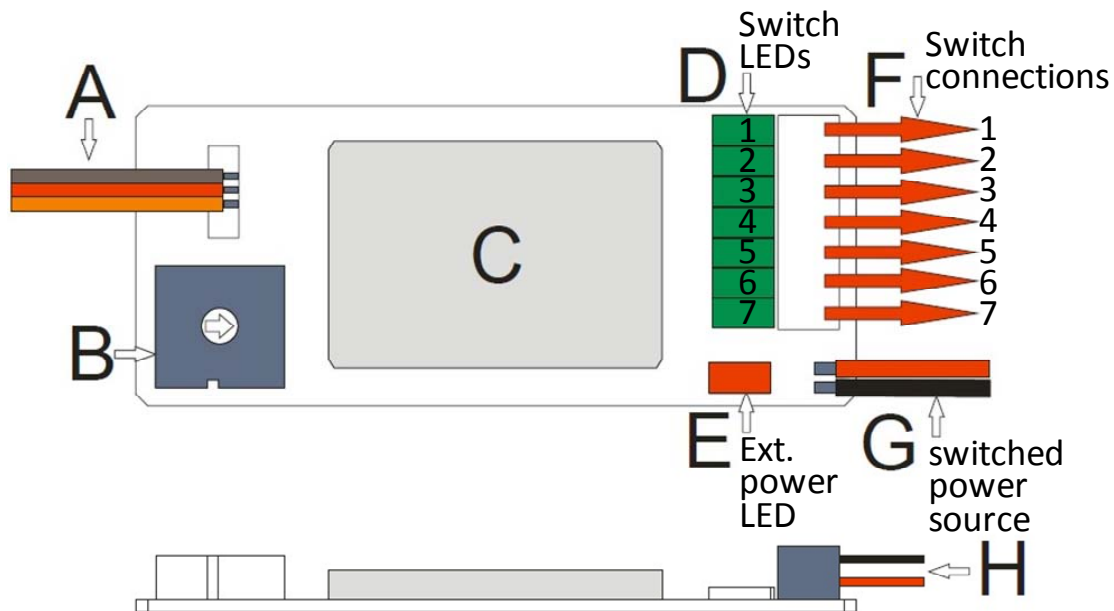


Figure 1 - MRS Physical layout

1. Connection

- Plug the MRS servo lead (Figure 1- A) into the receiver channel that will control the MRS.

2. Calibration

- Set the MRS dial switch (Figure 1 - B) to "0"
- Turn on the transmitter and receiver — all of the MRS LEDs (Figure 1- D) should be flashing.
- Cycle the controlling channel (flip the switch or move the stick full throw) several times to establish the end points of the controlling channel
- The LEDs will stop flashing (calibration is complete)
- Calibration only needs to be done again if using a different channel or receiver

3. Understanding the MRS

Refer to the operation MODE tables below to visualize how the switches sequence on and off during MRS operation.

- a. Turn on the transmitter and receiver.
- b. Set the dial switch on the MRS to the desired operating mode (1-9).
- c. All of the LEDs will flash twice and then the MRS will display the switching sequence for all 7 switches by turning on and off the 7 LED's in the combinations shown in the MODE tables.
 - i. **During this display sequence the MRS switches will not accept input or actuate any devices.**
- d. After the sequence finishes the switch will automatically go into the initial (0) sequence of the selected MODE (**all switches off**).
- e. Each stick cycle (ON/OFF/ON) of the controlling channel will advance the MRS to the next sequence in the corresponding MODE table.
 - i. The lit green LED lights (Figure 1— D) indicate which of the corresponding switches are on.
 - ii. Stick cycles (ON/OFF/ON) that take longer than .5 sec are read as a false signal and are ignored.
 - iii. Subsequent stick cycles (ON/OFF/ON) that occur too quickly (<1 sec) after a previous cycle are read as a false signal and are ignored.
 - iv. Incomplete stick cycle (ON/OFF or OFF/ON) are read as a false signal and are ignored.
 - v. The MRS will repeat the MODE table sequences when all of the sequences have been cycled through.
- f. The dial switch may be set to a new mode at any time

4. MODE Description:

- a. Modes 1-5 are designed for applications that require a momentary power pulse (e.g., rocket launchers, bomb drops).
 - i. In modes 1-5 the MRS only turns on each switch for 0.5 seconds and then turns it off.
 - ii. This protects the MRS from damage from a possible short and protects the battery from over discharging.
- b. Modes 6-9 are designed for persistent power-on applications (e.g., lighting, sequencing actions).
 - i. Each activated switch stays on until the MRS advances to the next sequence.
 - ii. The lit green LED lights (Figure 1— D) indicate that the corresponding switch is on.

5. MRS Operation:

- a. Connect the MRS servo lead to your receiver.
- b. Select the desired MODE on the MRS (Figure 1— B).
- c. Hook up the device(s) to be powered to the desired switch outputs (Figure 1— F).
- d. Power on the transmitter and receiver.
- e. Connect external power (battery) to the MRS (Figure 1- G).
 - i. Observe the polarity of each switch set, red is positive and black is negative.
 - ii. Be sure the controlled devices and the battery are connected correctly; especially when the controlled devices are polarity sensitive.
- f. The red power connected LED (Figure 1 — E) will indicate external power is on.
- g. Cycling the controlling channel (ON/OFF/ON within .5 sec.) will now advance the MODE sequence and turn ON/OFF the corresponding switches.

MODE TABLES:

Modes 1-5 are designed for applications that require a momentary power pulse (e.g., rocket launchers, bomb drops).

MODE 1								
Sequence	0	1	2	3	4	5	6	7
sw1	off	.5 sec	off	off	off	off	off	off
sw2	off	off	.5 sec	off	off	off	off	off
sw3	off	off	off	.5 sec	off	off	off	off
sw4	off	off	off	off	.5 sec	off	off	off
sw5	off	off	off	off	off	.5 sec	off	off
sw6	off	off	off	off	off	off	.5 sec	off
sw7	off	off	off	off	off	off	off	.5 sec

MODE 1 – Sequence 1



MODE 2								
Sequence	0	1	2	3	4	5	6	7
sw1	off	off	off	off	off	off	off	.5 sec
sw2	off	off	off	off	off	off	.5 sec	off
sw3	off	off	off	off	off	.5 sec	off	off
sw4	off	off	off	off	.5 sec	off	off	off
sw5	off	off	off	.5 sec	off	off	off	off
sw6	off	off	.5 sec	off	off	off	off	off
sw7	off	.5 sec	off	off	off	off	off	off

MODE 2 – Sequence 1



MODE 3								
Sequence	0	1	2	3	4	5	6	7
sw1	off	.5 sec	off	off	off	off	off	off
sw2	off	off	off	.5 sec	off	off	off	off
sw3	off	off	off	off	off	.5 sec	off	off
sw4	off	off	off	off	off	off	off	.5 sec
sw5	off	off	off	off	off	off	.5 sec	off
sw6	off	off	off	off	.5 sec	off	off	off
sw7	off	off	.5 sec	off	off	off	off	off

MODE 3 – Sequence 1



MODE 4								
Sequence	0	1	2	3	4	5	6	7
sw1	off	off	off	off	off	off	.5 sec	off
sw2	off	off	off	off	.5 sec	off	off	off
sw3	off	off	.5 sec	off	off	off	off	off
sw4	off	.5 sec	off	off	off	off	off	off
sw5	off	off	off	.5 sec	off	off	off	off
sw6	off	off	off	off	off	.5 sec	off	off
sw7	off	off	off	off	off	off	off	.5 sec

MODE 4 – Sequence 1



MODE 5					
Sequence	0	1	2	3	4
sw1	off	.5 sec	off	off	off
sw2	off	off	.5 sec	off	off
sw3	off	off	off	.5 sec	off
sw4	off	off	off	off	.5 sec
sw5	off	off	off	.5 sec	off
sw6	off	off	.5 sec	off	off
sw7	off	.5 sec	off	off	off

MODE 5 – Sequence 1



Modes 6-9 are designed for persistent power-on applications (e.g., lighting, sequencing actions).

MODE 6

Sequence	0	1	2	3	4	5	6	7	8	9	10	11	12	13
sw1	off	on	on	on	on	on	on	on	off	off	off	off	off	off
sw2	off	off	on	on	on	on	on	on	on	off	off	off	off	off
sw3	off	off	off	on	on	on	on	on	on	on	off	off	off	off
sw4	off	off	off	off	on	on	on	on	on	on	on	off	off	off
sw5	off	off	off	off	off	on	on	on	on	on	on	on	off	off
sw6	off	off	off	off	off	off	on	on	on	on	on	on	on	off
sw7	off	off	off	off	off	off	off	on	on	on	on	on	on	on

MODE 6 – Sequence 1



MODE 7														
Sequence	0	1	2	3	4	5	6	7	8	9	10	11	12	13
sw1	off	on	on	on	on	on	on	on	off	off	off	off	off	off
sw2	off	off	off	on	on	on	on	on	on	on	off	off	off	off
sw3	off	off	off	off	off	on	on	on	on	on	on	on	off	off
sw4	off	off	off	off	off	off	off	on	on	on	on	on	on	on
sw5	off	off	off	off	off	off	on	on	on	on	on	on	on	off
sw6	off	off	off	off	on	on	on	on	on	on	on	off	off	off
sw7	off	off	on	on	on	on	on	on	on	off	off	off	off	off

MODE 7 – Sequence 1



MODE 8														
Sequence	0	1	2	3	4	5	6	7	8	9	10	11	12	13
sw1	off	off	off	off	off	off	on	on	on	on	on	on	on	off
sw2	off	off	off	off	on	on	on	on	on	on	on	off	off	off
sw3	off	off	on	on	on	on	on	on	on	off	off	off	off	off
sw4	off	on	on	on	on	on	on	on	off	off	off	off	off	off
sw5	off	off	off	on	on	on	on	on	on	on	off	off	off	off
sw6	off	off	off	off	off	on	on	on	on	on	on	on	off	off
sw7	off	off	off	off	off	off	off	on	on	on	on	on	on	on

MODE 8 – Sequence 1



MODE 9								
Sequence	0	1	2	3	4	5	6	7
sw1	off	on	on	on	on	off	off	off
sw2	off	off	on	on	on	on	off	off
sw3	off	off	off	on	on	on	on	off
sw4	off	off	off	off	on	on	on	on
sw5	off	off	off	on	on	on	on	off
sw6	off	off	on	on	on	on	off	off
sw7	off	on	on	on	on	off	off	off

MODE 9 – Sequence 1

