

Solidremote 202U 2-Channel Stand Alone Receiver Instructions

Thank you for purchasing Solidremote 202U 2-channel stand alone receiver. Familiarise yourself with the following instructions prior to commencing set up. Store this information in a safe place for future reference.

Short Introduction

202U receiver has two relays on board which provide normally open & normally closed **voltage-free dry contact (doesn't output power)** for controlling virtually any electronic device. In default standard mode, both relays can be set to any of three modes – *pulse (momentary)*, *hold (toggle)* or *interlock latching* using DIP switches.

Setting Relay Operation in Standard Mode

Pulse / Momentary – Relay contact is active whilst transmitter button is pressed, min. active period is ~0.5s

Hold / Toggle – Relay changes state at each press of transmitter button. Hold, Release, Hold etc. (like an on/off switch)

Interlock Latching – Two relays interact with each other, Relay 1 on then Relay 2 off, Relay 2 on then Relay 1 off. (useful in small DC motor reverse polarity control)

DIP Switch 1	ON	ON	OFF	OFF
DIP Switch 2	ON	OFF	ON	OFF

↓ with **DIP Switch 3 OFF**

Relay 1	Pulse	Hold	Interlock	Pulse
Relay 2	Hold	Hold	Latching ①	Pulse

① To turn off both relays in this mode, press the **special function button** which is assigned to both relays 1&2 (programmed by press both PRG1 & PRG2 when storing transmitter code).

Storing Transmitter Code

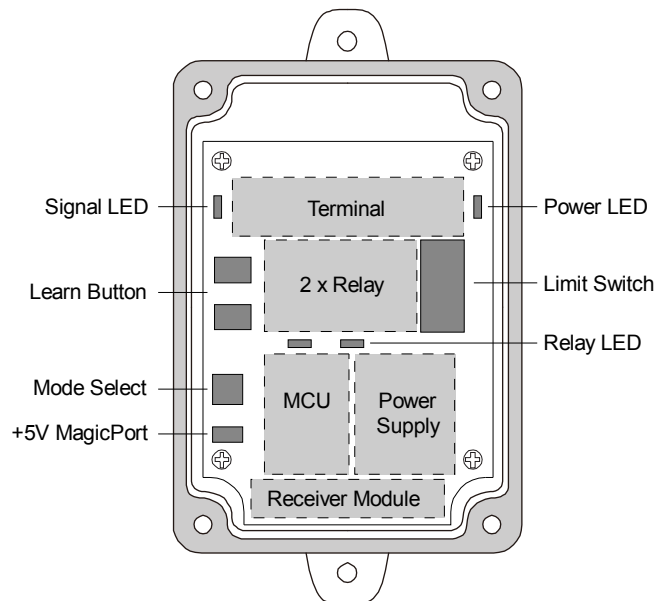
1. Press and hold **PRG1** (for Relay 1) or **PRG2** (for Relay 2) or **PRG1 and PRG2** (for both Relay 1 & 2) until **SIG LED** turned on.
2. Press the transmitter button you would like to control the channel once until **SIG LED** flashes, then release transmitter button.
3. The **SIG LED** will flash quickly three times, indicating that the code has been stored.
4. Release all **PRG** button on receiver.
5. Press the programmed transmitter button to test operation.

Remove Single Transmitter Code: Repeat steps 1-5 above. During removal process, **SIG LED** on step 3 will flash **slowly** three times (instead of quickly), indicating that the code has been removed.

Deleting All Stored Transmitter Codes

1. Turn power off to receiver.
2. Press and hold **both PRG1 and PRG2** button.
3. While holding **both PRG1 and PRG2** - turn power on again. After 5 seconds the **SIG LED** will illuminate to indicate receivers memory has been cleared.
4. Release **PRG1 and PRG2**. All the stored codes should now be deleted. Confirm this by pressing transmitters previously used to operate the device. There should be no response.

Receiver Function Diagram



Technical Specifications

Power Supply: 9V-24V AC or 9V-30V DC

Frequency: 433.92MHz OOK

Memory Capacity: 510 Transmitters (up to 14 buttons each)

Antenna Impedance: 50 Ohms (RG58)

✓ **Relay Contact Rating:**

Resistive Load (cosΦ=1): 10A @ 14V DC or 10A @ 120V AC

Inductive Load (cosΦ=0.4 L/R=7msec): 6A @ 14VDC

Temperature Rating: -4°F to 131°F (-20°C to 55°C)

Weight: 0.25 lbs. (0.11kg)

Physical Size: 4.33"L x 2.36"W x 1.37"H (11cmL x 6cmW x 3.5cmH)

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Basic Wiring Diagram

Wiring maybe complex depending on different applications, we just included two simple diagrams below to explain the basic idea.

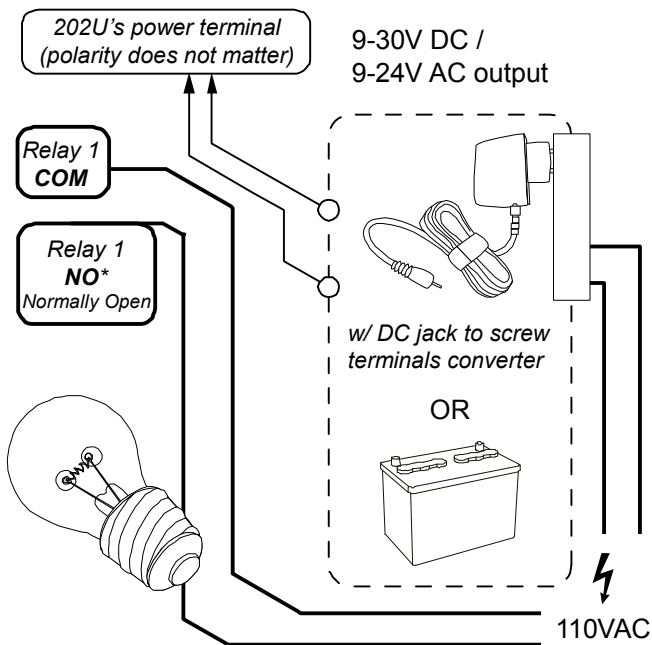
⚠ Basic electronics knowledge is **required**, customer needs to make sure all parts in diagram meets our specifications (for example, light bulb not exceeding 10A), or it may cause unexpected results or damage.

Following examples are using 202U's Relay 1 for wiring, you can use Relay 2 of course, the idea is the same.

Basic wiring using separate power supplies

The following is a simple wiring diagram for controlling light bulb on & off using our 202U receiver.

The light bulb is using 110Vac mains power, while our receiver is using 12Vdc regulated power through power adapter or battery.

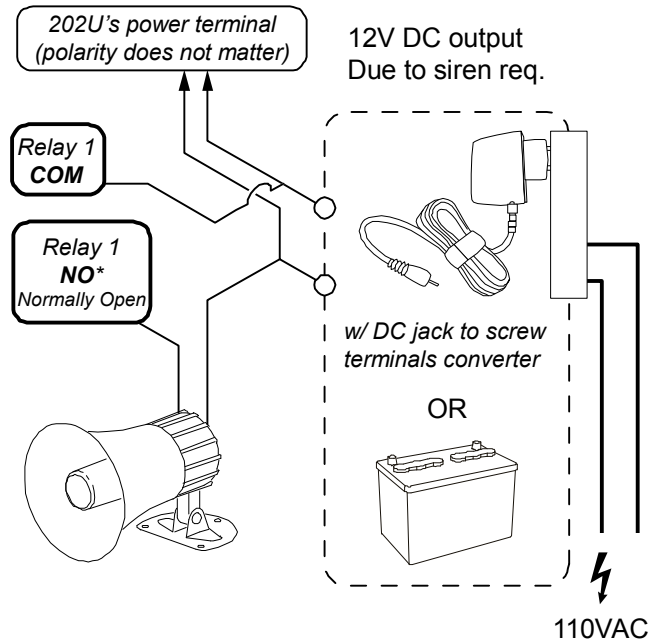


NO terminal means normally open (disconnected to COM), and it will close (connect to COM) when relay is activated (clicks).

When relay activates, NO is connected to COM internally through onboard relay, circuit closed -> then light bulb should be turned on.

Basic wiring using the same power supply

When the target device also uses low power such as 12Vdc (for example, the 12Vdc siren in diagram below), then our receiver can share the same power supply with target device.



⚠ Shared power source is not recommended for motor or other electronics which introduce noise into power line.

Although 202U doesn't care about polarity, your target device may care, so inspect wiring carefully before power up, to avoid damage.

Onboard Simple Limit Switches

LS on receiver board stands for limit switch, LS1 & LS2 controls relay 1 & 2 respectively, they share a common connection COM, so the 3 blue terminals from up to down can be read as LS1 COM LS2.

For example, when LS1 is connected to COM (by external limit switch or other sensor outside), then relay 1 will be forced off, even if remote control tells it to stay on.

⚠ Our limit switch is only for feedback control (to turn relay off), NOT for direct manual override control!

Discover new features in V5 online!

There are many new features in V5 version receiver, please check our full manual online.

It is available at solidremote.help website, the "SR-RCS-202U receiver manual" topic thread.

Thank you.

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The following section may seem complex (not easy to use), especially for first time users. It's because we try to put as many features as possible based on current hardware.

If you only use basic features (same as previous 202U versions), then just **SKIP** the following section, thanks.

Discover new features in V5 - [Settings](#)

To make full use of current hardware, and make our receiver as versatile as possible, we have introduced settings in V5 version.

- Settings change our receiver's behaviour in normal working.
- Settings can be changed by customer **ONLY during power on boot process** (thus only one chance per boot).
- Different settings is achieved by **different PRG button and DIP switches combination** during above process.
- Once new settings is saved, it will retain even after powered off, unless you changed it again.
- Remember: DIP switches **functions differently** in settings mode and normal working mode.

Settings – [How to change them?](#)

1. Turn power off to receiver.
2. Set the **DIP switches position** according to manual below.
3. Press and hold **either PRG1 or PRG2** button, **NEVER both**.
4. While holding **either PRG1 or PRG2** - turn power on again. After 5 seconds the **SIG LED** will illuminate to indicate receiver has accepted & saved new settings.
5. Release **PRG** buttons. Our receiver should now run under new settings.

✓ You can see the above step is very similar to *erase all transmitters step*, one difference is you press **EITHER** PRG1 or PRG2 button in Step 3, **NEVER BOTH**.

Settings – [What can I change? What is the difference between press PRG1 and PRG2?](#)

✓ PRG1 and PRG2 controls different settings group, you will find all the settings available below, let's start with PRG1 control group.

settings by using PRG1 Overview

PRG1 controls 3 independent settings, by set different DIP switches position during settings process, as shown in table below.

DIP Switch 1	ON	Pulse / momentary mode delay is 1 second
	OFF ①	Pulse / momentary mode delay is 0.5 second
DIP Switch 2	ON	Uninterruptible Timed Mode (UTM) ON in timed output mode
	OFF ①	UTM OFF in timed output mode
DIP Switch 3	ON	True latching working mode
	OFF ①	Default standard working mode

① OFF position is factory default.

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settings by using PRG1 *Details Explanation*

PRG1 & DIP Switch 1 *Controls pulse / momentary mode delay*

The delay period can be observed by press transmitter button to activate relay in pulse mode, then release transmitter button.

The *relay hold on* period between transmitter button release → relay release is the delay.

The default value is 0.5s for well balance between fast response and high stability.

When you set to 1s, the perceived relay stability during pulse mode will be better, while the response speed for relay release is slower.

PRG1 & DIP Switch 2 *Controls whether to turn on uninterruptible timed mode UTM*

When uninterruptible timed mode (UTM) is ON, receiver will refuse to take any command when at least one relay channel's timer is currently counting down (relay is still activating).

When UTM setting is OFF, you can restart timer or cancel timer (turn off both relays) at any time.

✓ Above setting affects **timed output mode ONLY** (when DIP 3 is ON position, in normal working)

PRG1 & DIP Switch 3 *Switch between standard and extended true latching working mode*

True latching mode enables you to control each relay latching on/off **independently** (as opposed to interlock latching mode).

When this setting is OFF, our receiver is in standard mode, and the working mode settings can be seen on Page 1 of this manual [Setting Relay Operation in Standard Mode](#)

When setting is ON, our receiver is in true latching mode, the working mode has been changed to below.

Setting Relay Operation in True Latching Mode

DIP Switch 1	ON	ON	OFF	OFF
DIP Switch 2	ON	OFF	ON	OFF



Relay 1	Reserved	Hold	True Latching ①	Pulse
Relay 2		True Latching ②	True Latching ②	True Latching ②

① To turn off relay 1 in this mode, press the **special function button** which is assigned to both relays 1&2 (programmed by press both PRG1 & PRG2 buttons during storing transmitter code).

② To turn off relay 2 in these modes, press the **special function button** which is NOT assigned to any relay (the specific button is not assigned to any relay, but at least one other button on the same transmitter should be assigned to any relay).

✓ This setting does **NOT** affect timed output mode.

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settings by using PRG2 PRG2 controls timer & timer only

PRG2 & DIP Switches 1.2.3 These settings enables you to select one specific timing you want in timed output mode

Our timed output mode supports count down timing in **1~60 seconds** as well as **1~60 minutes**. (NOT continuous, only preset timer values in the range is available). See the lookup table below for all available values and their settings.

D1 = DIP Switch 1
D2 = DIP Switch 2
D3 = DIP Switch 3

Legend & abbreviations

D1 ___ D2 ___	This setting is changed during boot period
D1 ___ D2 ___	DIP position is in normal working after boot
___	This is RELAY 1 timing value
___	This is RELAY 2 timing value

The timed output value → DIP switches position lookup table

		D1 OFF / D2 OFF		D1 ON / D2 OFF		D1 OFF / D2 ON		D1 ON / D2 ON	
D1 OFF / D2 OFF	→	1	3	5	7	9	11	13	15
D1 ON / D2 OFF		16	18	20	22	24	26	28	30
D1 OFF / D2 ON		31	33	35	37	39	41	43	45
D1 ON / D2 ON		46	48	50	52	54	56	58	60
Text ↓									
D3 ON	→	Above value are in minutes							
D3 OFF		Above value are in seconds							

For example,

If you need a timed output of 31 seconds (relay turn on for 31 seconds then auto turn off)

- set DIP 1 OFF, DIP 2 ON, DIP 3 OFF **during boot** (see Page 3 - Settings – How to change them?)
- set DIP 1 OFF, DIP 2 OFF, DIP 3 ON **after boot**, then activate **relay #1**

If you need a timed output of 52 minutes (relay turn on for 52 minutes then auto turn off)

- set DIP 1 ON, DIP 2 ON, DIP 3 ON **during boot** (see Page 3 - Settings – How to change them?)
- set DIP 1 ON, DIP 2 OFF, DIP 3 ON **after boot**, then activate **relay #2**

✓ Information: Timed output mode is entered by **DIP Switch 3 in ON position**, in normal working mode after boot.

Disclaimer: The timer accuracy depends on factors such as temperature etc, it should be in **-0.6% ~ +1.0% range** under **-4°F to 131°F temp. (+/-0.3% range under 77°F room temperature)** * Characterized value only, **NOT tested** in production.

It should be good enough for common purpose, but **NOT SUITABLE** for applications that requires very precise timing control.

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