IR Remote Control VR & Input Selector & LCD User Manual

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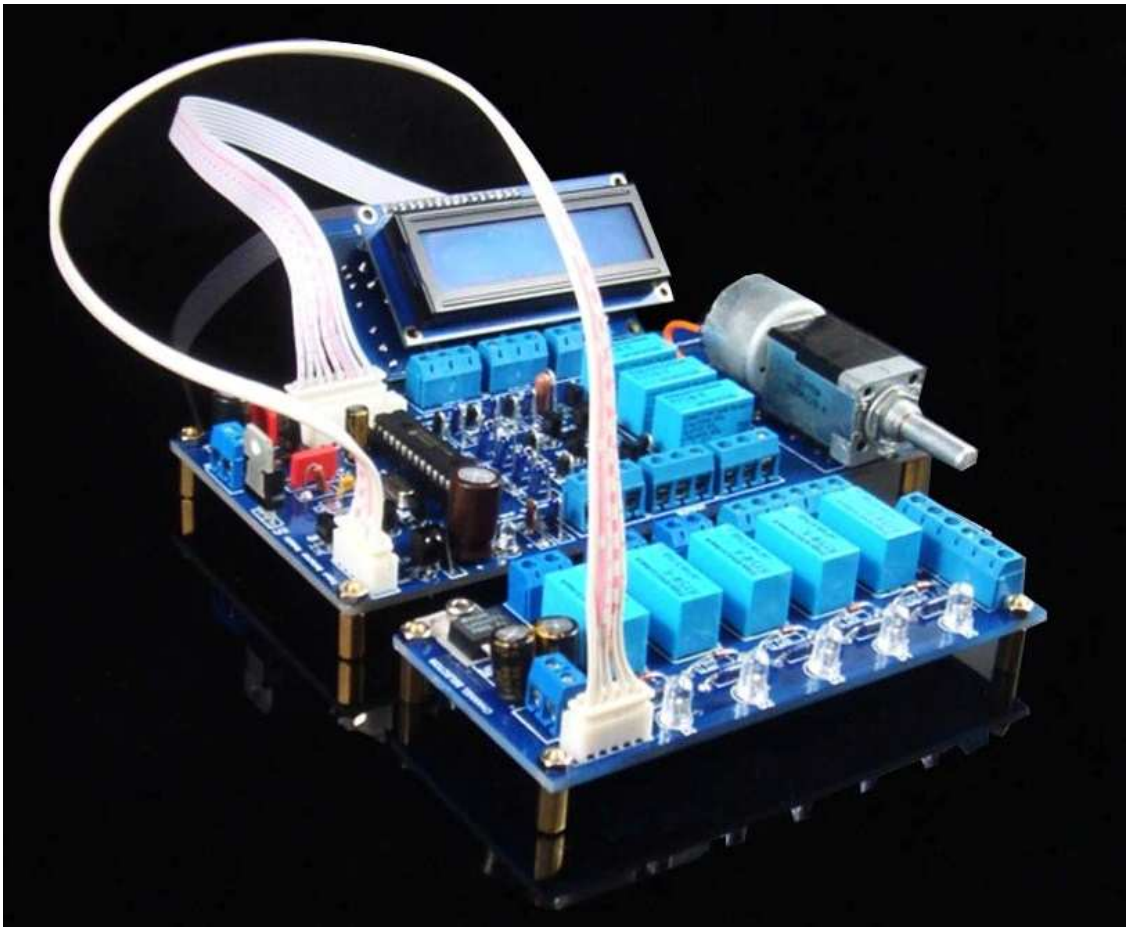


INTRODUCTION

The full kit of IR remote control for volume is consisted of three modules: IR remote control potentiometer for volume, input selector, and LCD display unit, which can be used for volume control, channel selection and status display respectively. All can be controlled by an IR remote control. The volume control supports up to 6 single-ended channels (3 stereo channels), whereas the input selector support 4 single-ended channels or 3 single-ended channels plus one balanced channel; and the LCD can display channel number, volume level, power on/off, mute. The modules work standalone with built-in regulator and control bus. The input selector is required to be used with the IR remote module for the IR remote function. The IR remote control can be replaced by any other remote control as long as it can support RC-5 IR protocol which is developed by Philips. The RC-5 code from Philips is possibly the most used protocol by hobbyists, probably because of the wide availability of cheap remote controls. The protocol is well defined for different device types ensuring compatibility with your whole entertainment system.

FEATURES

IR Remote Control VR Kit

- IR remote control (Supports RC-5 IR protocol and most remote control)
- Audio volume control supports up to 6 single-end signals or 3 balanced signals.
- Audio volume control supports up to 5 single-end signals or 2 balanced signals if using LCD module.
- Functions with mute and power on/off.
- Uses 6 channel motor VR.
- 8-bit control pins for channel selection, mute, power on/off and volume control for optional push button.
- Built-in regulation circuit.
- Power requirement: 8-15V DC
- PCB dimension: 150mm x 78mm, thickness 2.5mm, with 2oz copper.

Input Selector Kit

- Support up to four single-ended and one balanced input for both R and L channels.
- Blue LEDs for indicator.
- Built-in voltage regulator.
- Required DC supply voltage 8-15V, and which can be supplied by tube amp.
- PCB Dimension: 120mm(L) x 53mm(W)

LCD Module Kit

- Display channel 1-4 number, volume level in percentage and bar, power on/off and mute.
- Contrast and brightness control by resistor trimmers.
- Built-in voltage regulator.
- LCD Back-lighting
- Required DC supply voltage 8-15V.
- PCB Dimension: 48mm(L) x 8mm(W)

PROCEDURES

IR Remote Control VR Kit (IR Receive Unit)

1. Solder all the components according to the schematic, part list and photo. Notice the polarity of the electrolytic capacitors, the direction of the diodes, LED, and the NPN and PNP transistors. There are no directions of the metalized film capacitors.

2. The IR receiver (IR1) should be soldered in upward direction and be faced in opposite to the board, so as to increase the sensitivity of receiving (the sensing area) from remote control.

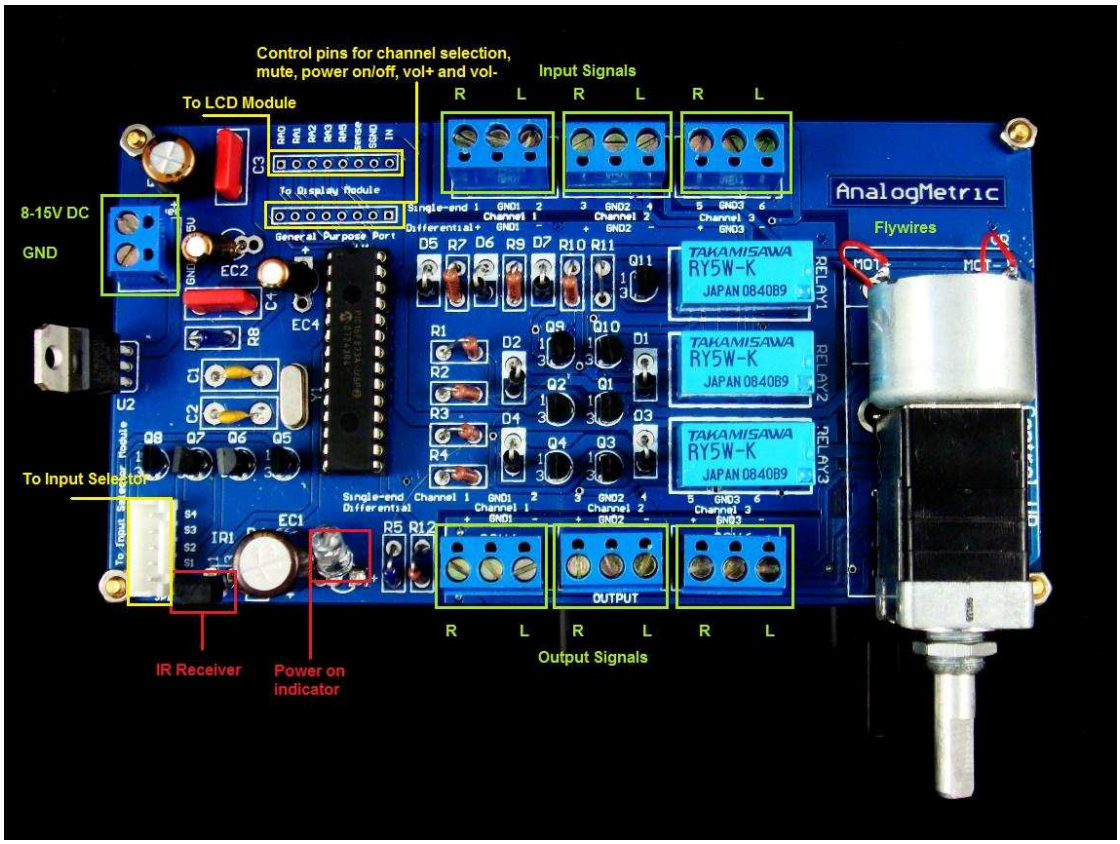
3. Connect the motorized potentiometer to the board by a flying wire as the photo.

4. After apply the power supply, measure the output voltage (PIN #3) of the regulator U2 which is +5V.

5. Check the IR receive module by pressing the "Power bottom" of IR Remote controller. If work, the LED (Power indicator) will led up after power on.

6. Press the Vol+, Vol-, channel #1, #2, #3, #4 and mute button to see the responses of the IR receive board. You can hear the click sound of the relay after pressing mute button.

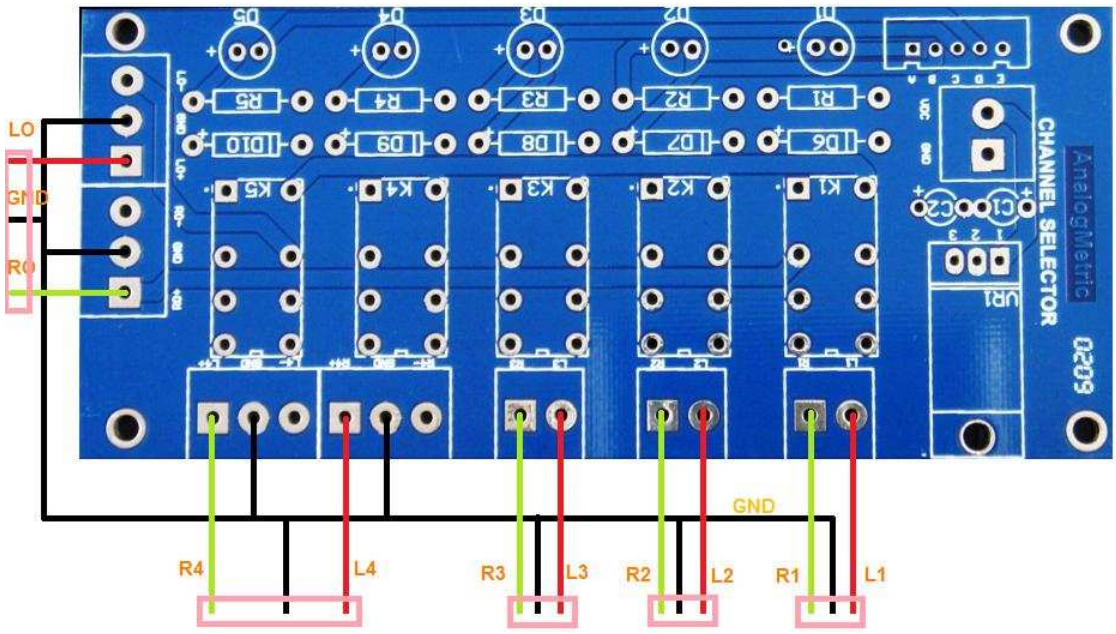
7. Pin assignment of the 8-bit general purpose port: pin #1-4: channel 1-4; pin #5: mute; pin #6 power on/off; pin #7: volume up; pin #8: volume down.



Input Selector Kit

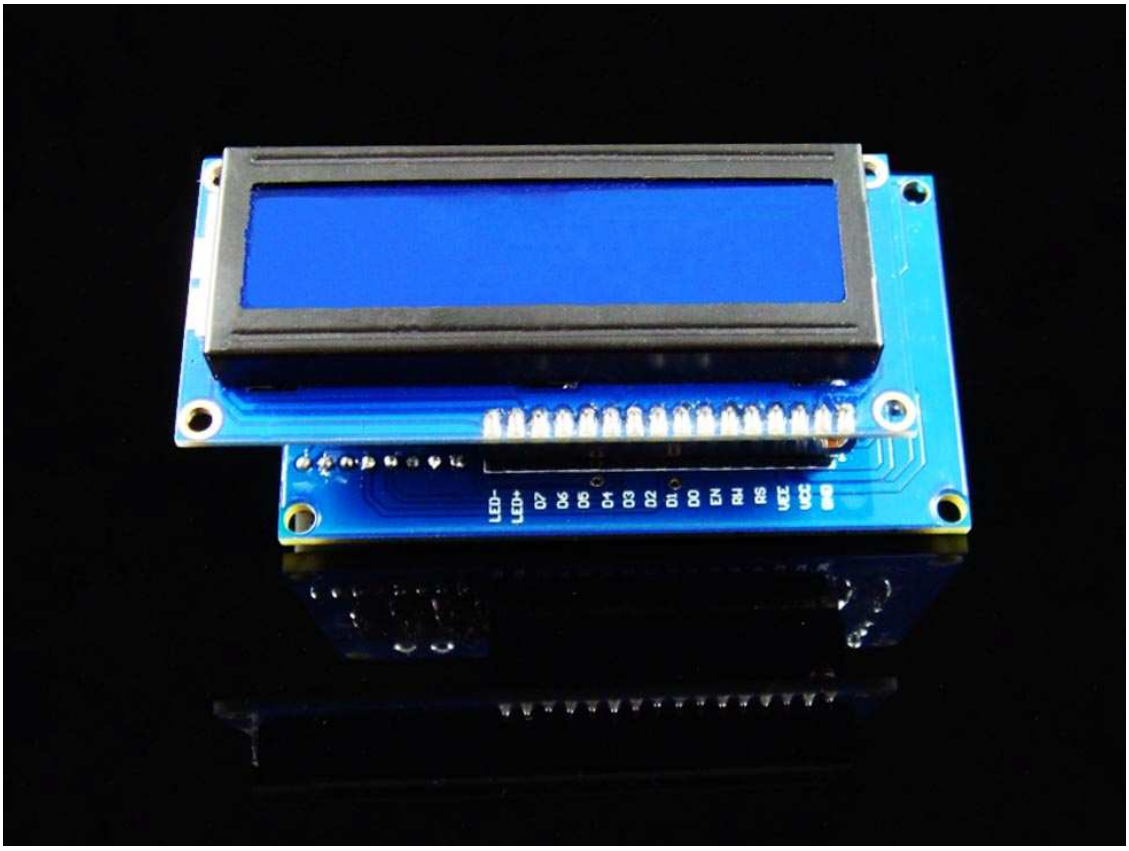
1. Connect the IR remote receive kit or a rotary selector to input selector via a 5-Pin ribbon cable to the white connector, which are labelled with 1, 2, 3, 4, and GND that are corresponding to channel 1, 2, 3, 4, and GND.

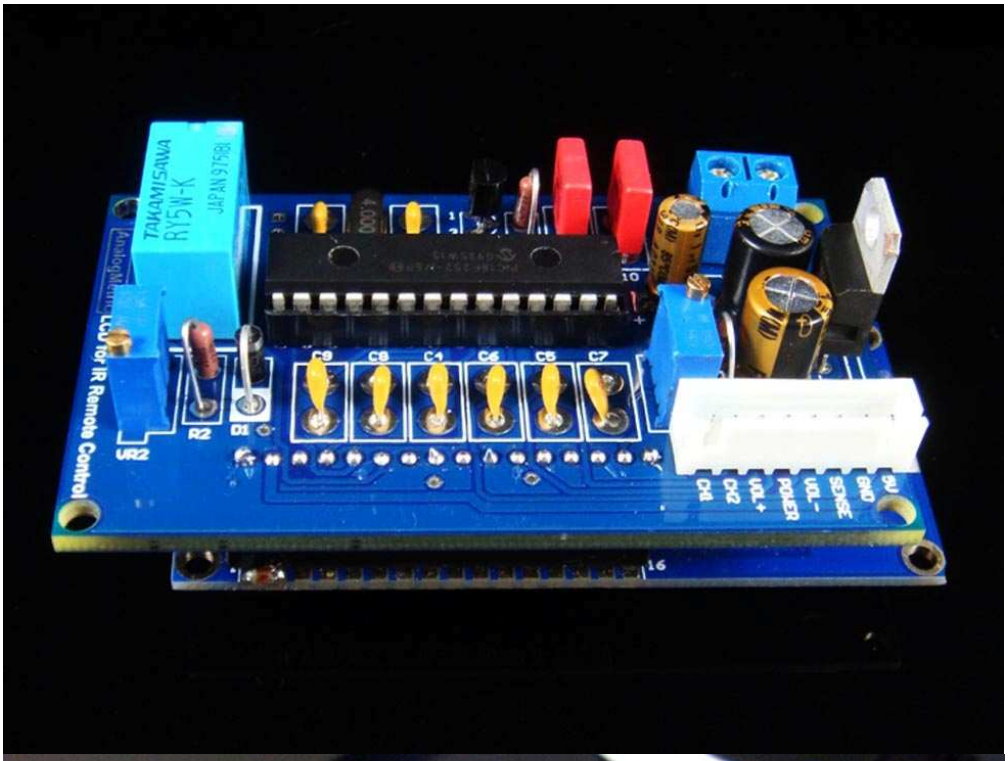
2. Apply 9-15V DC to the power supply connector, the LED will be led on when the rotary switch rotate or channel selection by IR remote control.

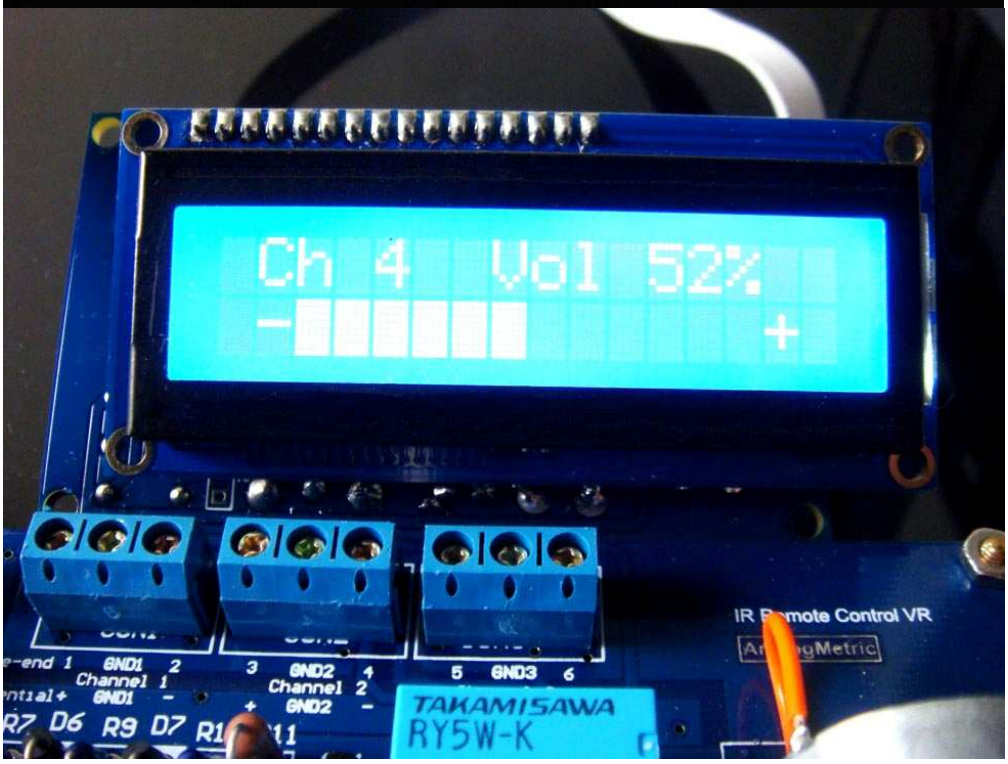


LCD Display Kit

1. To use the display module, the channel 6 must leave unconnected. Only channel 1-5 can be used. Connect the LCD module and IR receive module by a 8-Pin ribbon cable (the 8-Pin white connector near the edge of IR Remote core module).
2. Apply 8-15V DC to the power connector.
3. Adjust the LCD backlighting by VR1.
4. Adjust the contrast by VR2 until you can read the characters.

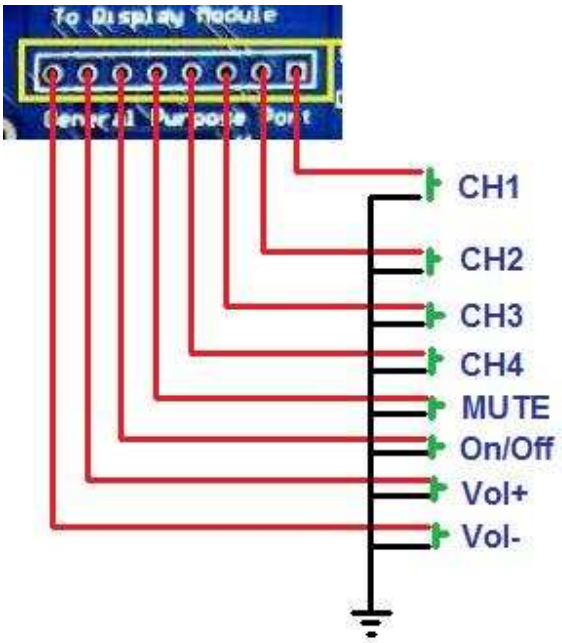



TAKAMISAWA
RY5W-K
JAPAN 9750
LCD for IR Remote Control
C9 C8 C4 C6 C5 C7
R2
CH1 CH2 VOL+ POWER VOL- SENSE GND 5V


Ch 4 Vol 52%
-
+
GND1 2
Channel 1
GND1
3 GND2 4
Channel 2
GND2
5 GND3 6
TAKAMISAWA
RY5W-K
R7 D6 R9 D7 R1

IR Remote Control

Push Button Connection (Option)



If you have any problem in assembly, please contact us by email to tech@analogmetric.com