

Caveatron SV Rev A - Wire Harness Assembly

Version: 2021-04-27

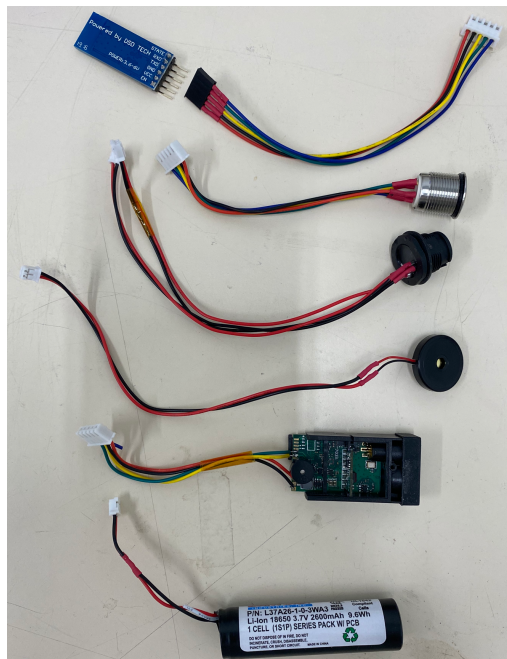
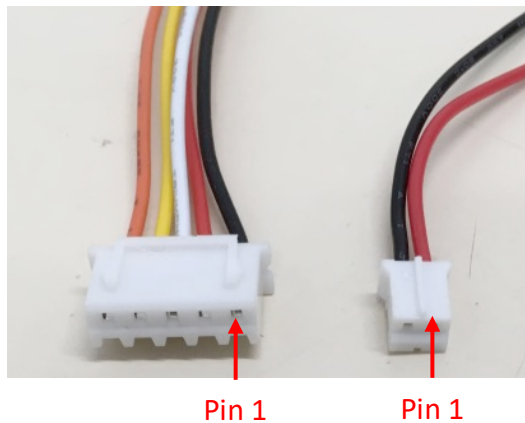
CAUTION: Do not pay attention to wire colors except where noted below. Pre-wired connectors are usually wired with arbitrary wire colors so will not be consistent. Be especially careful with two wire connectors to be sure you are not wiring it backwards (sometimes the black wire on these pre-wired connectors is in the positive position!)

Connectors, Pin Conventions, and General Notes

These connectors are used in the wire harnesses and the pin number convention is shown below:

- JST XH 2.54 5-pin connectors are used on the Laser Rangefinder (LRF), the Power Switch, and the Bluetooth module.
- JST XH 2.54 2-pin connectors are used for USB Power, USB Data, the Piezo Buzzer, and the Battery.

JST XH (2.54 mm)



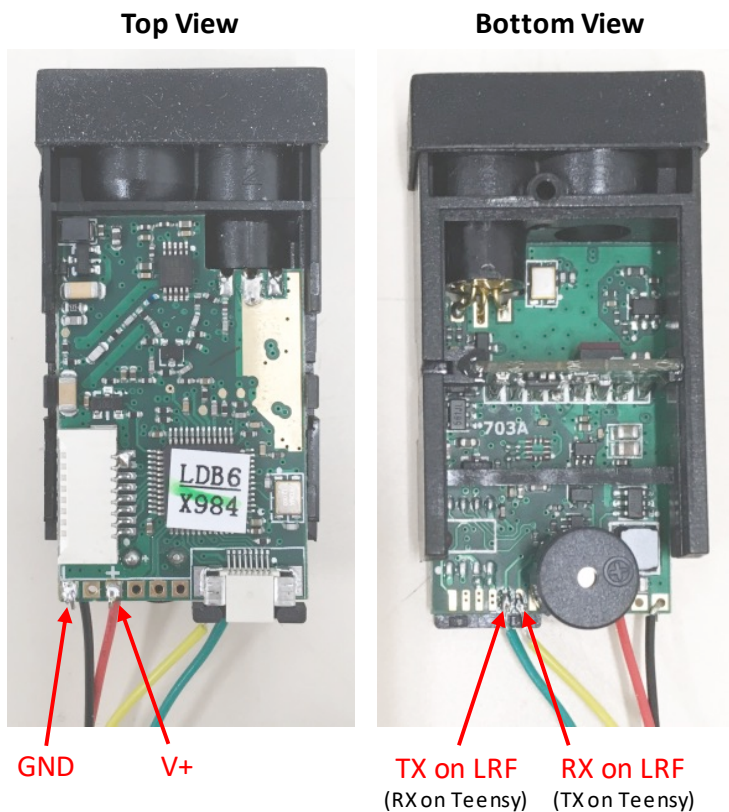
The photo at left shows examples of the wiring harnesses used in the Caveatron SV. It is highly recommended that heat shrink tubing be used on all solder interfaces and as strain relief on soldered pins. Kapton tape and/or small cable ties can be used for additional strain relief. Be extra careful when wiring the battery to avoid allowing the wires to touch.

Laser Rangefinder

Pin on PCB Connector	Description
1	+3.0 V
2	GND
3	RX on Teensy / TX on LRF
4	TX on Teensy / RX on LRF
5	-

Length of Wire Harness: 7.5" for V+/GND, 7.75" for RX/TX, 7" for Power On.

JRT 40m LRF Module (Small)

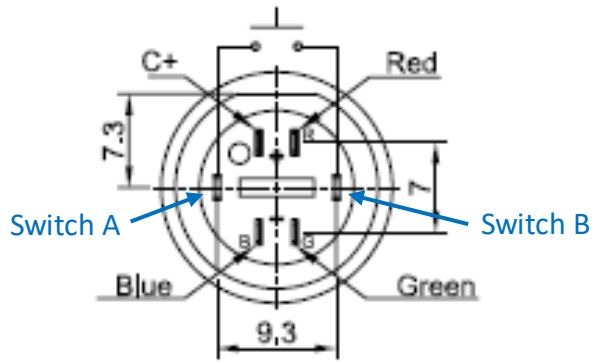


Power Switch

Pin on PCB Connector	Description
1	+5 V (C+)
2	Red LED Cathode
3	Green LED Cathode
4	Switch A
5	Switch B

(Switch A and B do not have a polarity and can be reversed)

Length of Wire Harness: 2.5"



Piezo Buzzer

Pin on PCB Connector	Description	Piezo Buzzer Wire Color
1	+V	Red
2	GND	Black

Length of Wire Harness: 6.5"

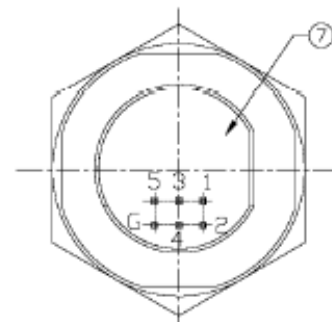
Battery

Pin on PCB Connector	Description	Battery Wire Color
1	+V	Red
2	GND	Black

Length of Wire Harness: 2.75"

USB Connector

Note that pin 5 and pin G need to be shorted together with a small piece of wire.



Pin on USB Connector	Description	Pin on 2-wire USB Power Connector	Pin on 2-wire USB Data Connector
1	+5 V (VCC)	1	
2	D-		2
3	D+		1
4	-		
5	GND	2	
G	GND	2	

Length of Wire Harness (including USB Micro): 4.25"

Bluetooth Module

Pin on PCB Connector	Description
1	Enable (on HC-05 only)*
2	+5V
3	GND
4	RX on Teensy / TX on Bluetooth
5	TX on Teensy / RX on Bluetooth

* Note: The enable pin is only used with the HC-05 bluetooth module. On the HM-10, this pin is not wired.