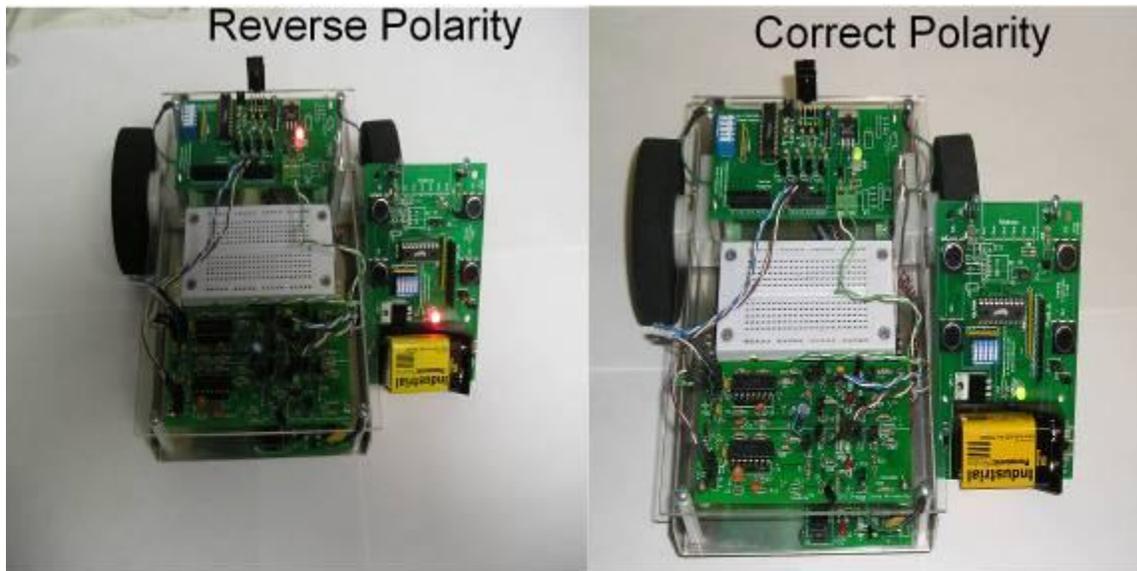


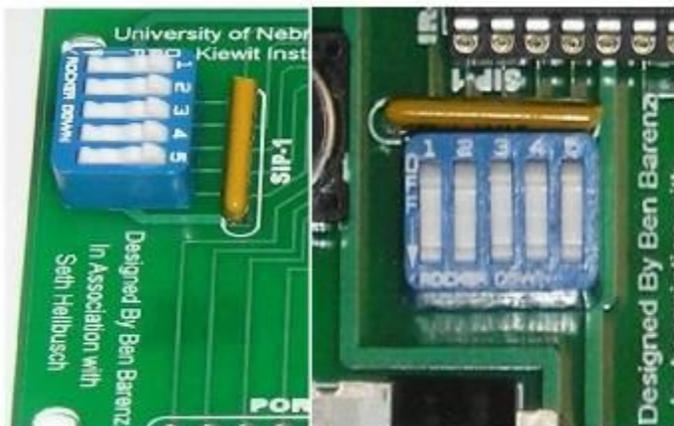
## Tek-bot Transmitter/Receiver Functional Overview

The transmitter/receiver pair will allow you to control your TekBot using wireless infrared (IR) communication.

Both transmitter and receiver have built protection against reverse polarity. If you put the battery in backwards or connect the receiver up backwards the LED indicator will turn RED. The reverse protection diode will prevent any damage to the unit. Simply reverse the connections and the LED indicator will turn green and the unit will operate properly.

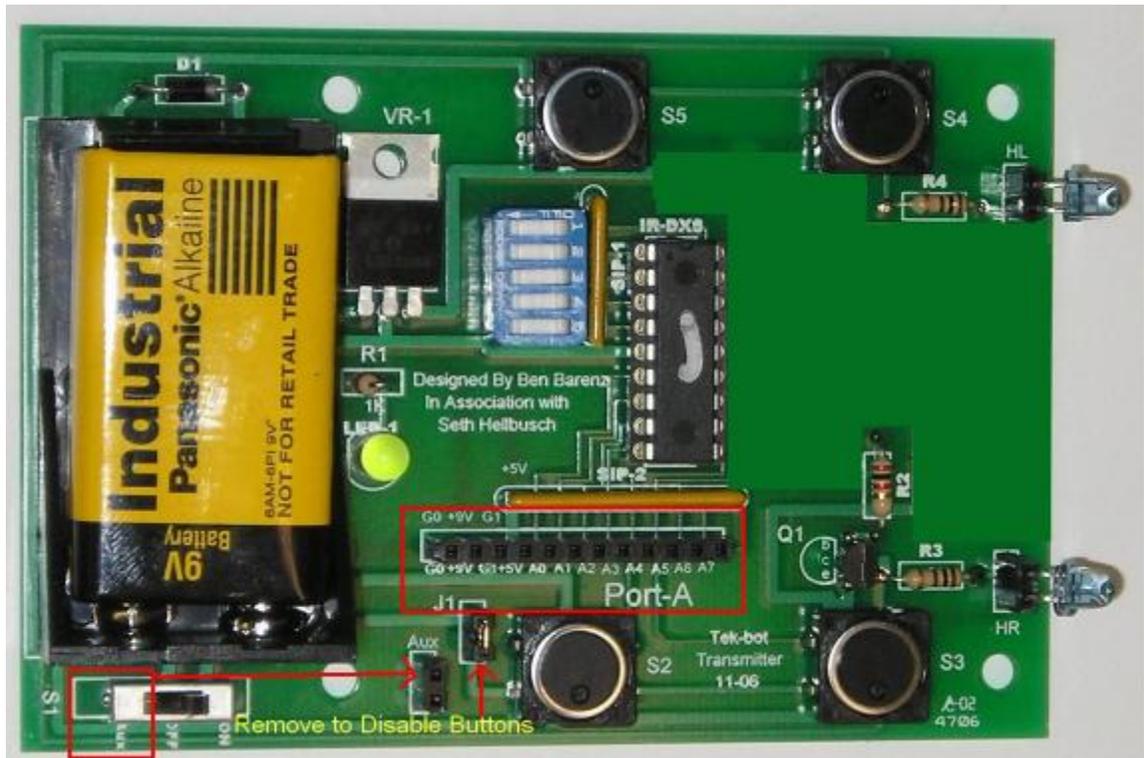


The DIP Switch sets the address to which the transmitter or receiver will respond. The 5 positions give  $2^5$ , or 32 different addresses. Make sure transmitter and receiver are set to the same address or your TekBot won't work. If there are multiple TekBots in the same room, make sure your addresses are different or they will interfere with each other.



## Transmitter Features:

The transmitter can send information corresponding to the signals connected to 8 of the inputs (A0-A7) of Port A. The button switches are connected to A7- A4 of Port A but they can be disabled by removing Jumper 1 (J1).



There are four power pins on Port A:

- G0 Direct Battery Ground
- +9V Switched battery positive ( connected after protection diode)
- G1 Switched circuit Ground
- +5V Switched, Regulated 5V (Vcc)

The power switch has positions: ON, OFF, AUX. ON turns the main power on, OFF turns it off and AUX connects battery ground to both pins on the Aux port.

## Receiver Features:

The receiver can place its received data on the 8 data pins (A0-A7) of Port A. The motor controls are connected to data pins A7-A4 and cannot be disabled. If you choose to not use the motor controls and would like to use data pins (A0-A7) for some other function, simply disconnect any connections placed on the DR (Direction Right),ER (Enable Right),DL (Direction Left),EL (Enable Left) pins. The signals on these ports are inverted and the current is amplified through the NPN transistors. If you wish to use these ports to drive current loads up to 1A you must understand the operation of the ports (Active low). DR is connected to port A4 and will also enable ER through D2. This gives the Tek-bot the signals it needs to go forward or reverse. ER is port A5 and will only enable ER. DL and EL have the same functionality as DR, ER and are blocked by D3. DL is port A6 and EL is port A7.

### Jumper:

The receiver board has jumper pins J2. When J2 is in place the decoder is in momentary mode, which means when you press a button the motor will only move until you release the button. In momentary mode all buttons can be press simultaneously. If J2 is removed, the decoder will be in Latch mode. This means when you press a button the output will stay active until it is pressed again. Only one button at a time can be pressed in Latch mode.

