
VEX Radio Interface



The Vex Radio system is just like a standard FM radio system with one difference. The radio does not include the decoder circuitry. It turns out that this makes it much easier to interface to microcontroller provided you have the processing power. In this article I am going to show you how to interface a Dios to a VEX radio.

The VEX Radio

First you need to get access to radio. You can do this in a couple of ways but what I found is the direct approach is the best.

Step 1

Remove the 4 screws from the bottom of the radio as shown in Figure 2.

Step 2

Connect a Red, Green and Black wire to the pins on the connector as shown.

Red = +5v
Black = Gnd
Green = Data



Figure 1

Step 3

To make connections easier you need to connect a resistor between the +5v and Data lead. This is not needed if you place the resistor at the micro processor side of the connection. If you place the resistor in the radio you wont have to worry about it later.

This resistor can be 10K - 33K.

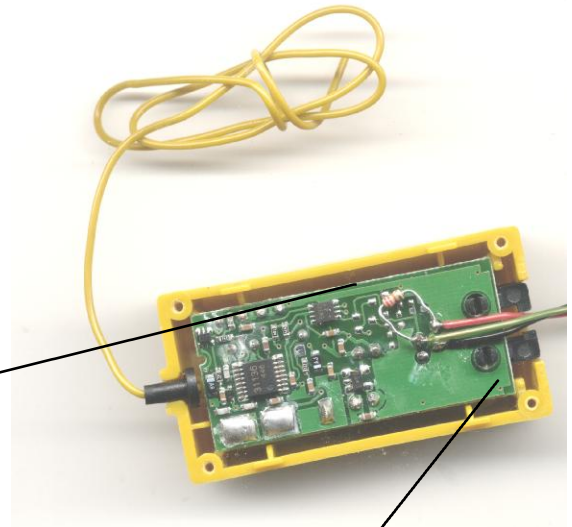


Figure 2

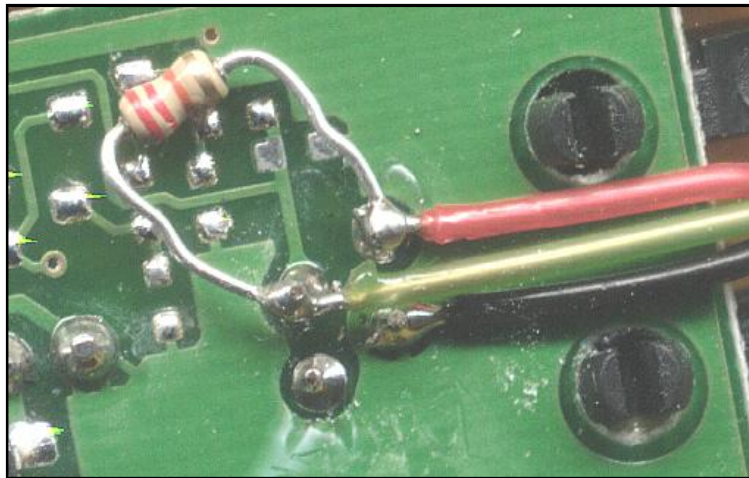




Figure 3

To connect the radio to your Dios simply connect the black wire to Vss on your Dios. Connect the red wire to the Vdd (5v) on the Dios. Connect the green wire to any available port on the Dios.

The Software

To talk to the radio could not be easier. I have included a new library called vexradio.lib in the Dios Compiler version 2.4.3 or later.

Program 1 is a quick example showing how to use the library. You simply call the readvex function and pass the port number you have connected radio to.

Each of the global variables VCH1-VCH6 will be populated with a value between 0-255 depending on the position and trim of the stick position. The buttons at the rear of the radios are VCH5 and VCH6.

```
DiosPro
'DiosPro Vex radio inteface.
' You must pull data lead high with resistor or pullups'
'
func main()
  dim st

loop:
  st=readvex(0)

  print st,"  ",VCH1," ",VCH2," ",VCH3," ",VCH4," ",VCH5," ",VCH6
  goto loop
endfunc

include \lib\vexradio.lib
```

Program 1