

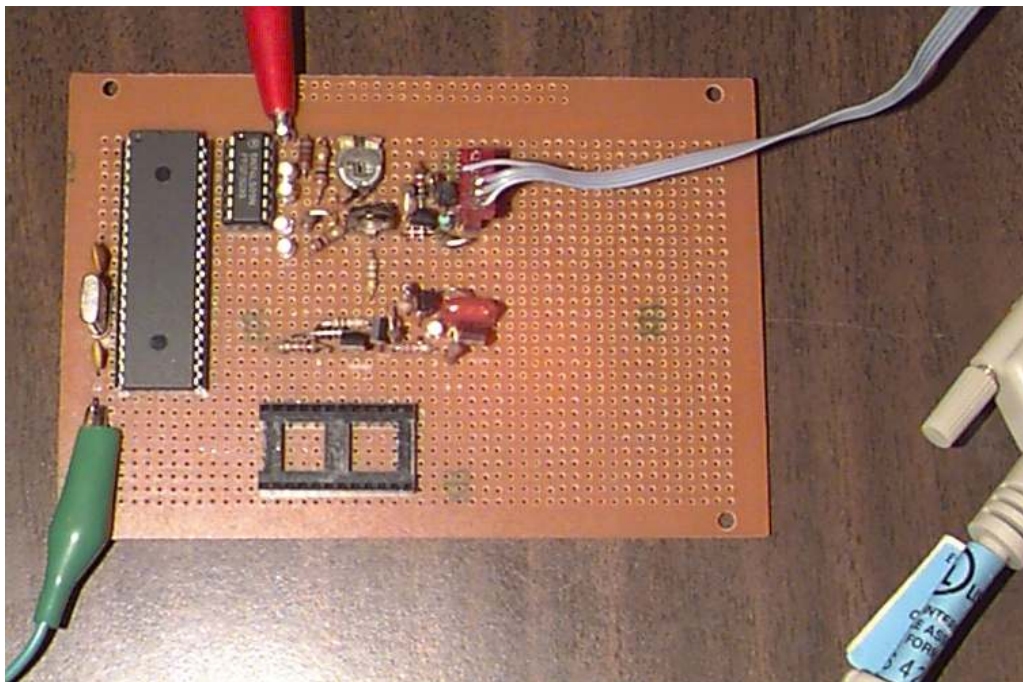
## ***FODtrack Satellite Tracking Interface***

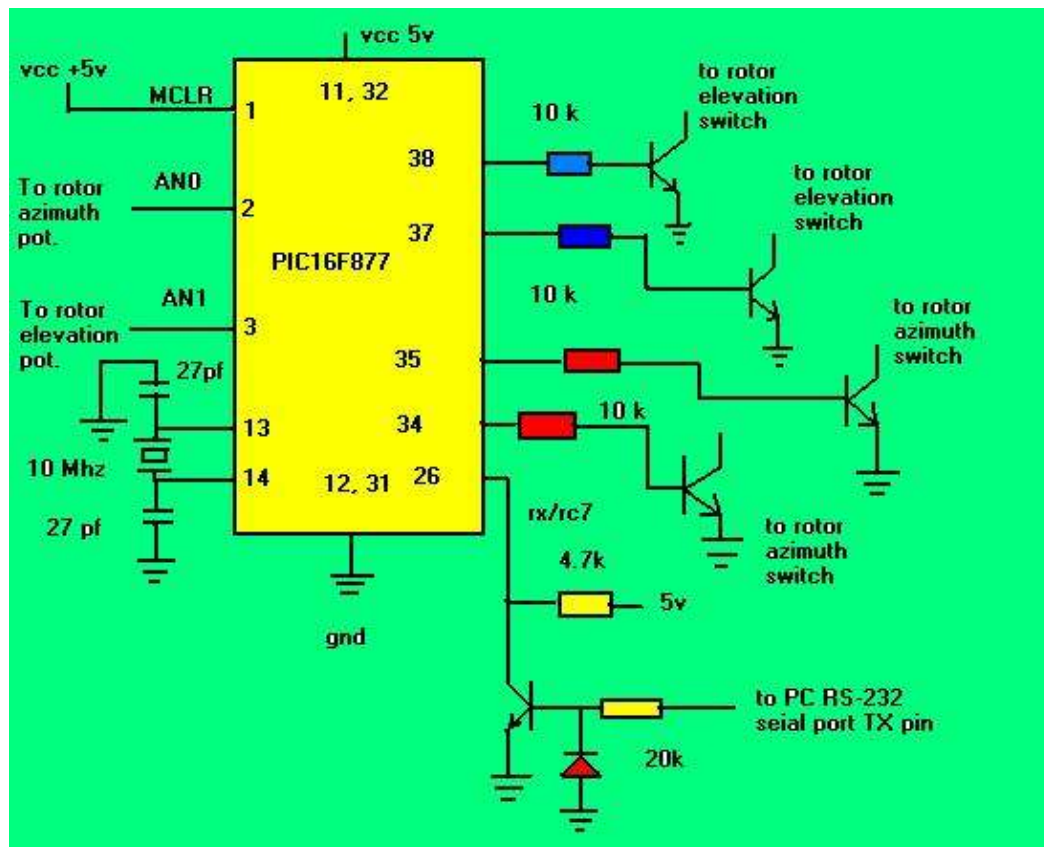
*Welcome to the dual-axis rotors control interface page. Here is a low cost automatic antenna rotor controller specifically developed for amateur radio satellite tracking operations. This rotor control interface is quite simple to construct. The circuit consists only one PIC 16F877 microcontroller IC and a few transistor drivers. Please take a moment and look around. You might find something useful !*

*Satellite tracking is done most commonly on a computer with a satellite tracking software. The FODtrack ( by XQ2FOD ) software, which I am experimenting with this control interface, is available for download at [www.amsat.org](http://www.amsat.org). It uses serial ( COM ) port ( baud 1200 ) on your PC to drive the external azimuth and elevation rotors to position the antenna via the interface described here. The data format of the GS-232 output command from the COM port is in the form of Wxxx yyy, where xxx is the azimuth and yyy is the elevation angle. GS-232 command received via the PIC16F877 uart serial port is converted and stored as 8-bits binary azimuth and elevation target position values into the microcontroller on-chip ram area. Analog input signals from the rotators position feedback pots ( 0 to 5 volts for azimuth from 0 to 360 degrees, 0 to 2.5 volts for elevation from 0 to 180 degrees ) are converted by the on-chip ADC into binary values which subsequently are compared with the target position values to produce outputs to control the up, down and left, right switches.*

*Assembler software to program the PIC16F877 is available for download at [www.microchip.com](http://www.microchip.com) and the P16PRO printer port PIC eprom programming software is available for download at [www.picallw.com](http://www.picallw.com).*

*PIC16F877 microcontroller uart serial port baud rate is 1200 and the crystal clock frequency is 10 MHz. The two-axis ( azimuth and elevation ) rotor drive output pins are RB1, RB2, RB4 and RB5. Rotors position analog input pins are AN0/RA0 and AN1/RA1.*





<http://www.geocities.com/yyz228/>