

Ryan Demonstrated the Basics of Torsion Mechanics



ELECTRONIC TWISTER PARTS LIST

Amt	Part Description	Allied Part #
1	LCD	670-1116
1	10 MHz Oscillator	895-0685
1	4 Mhz Crystal	895-0677
1	Red LED	670-1245
1	Green LED	670-1244
1	Yellow LED	670-1247
1	Blue LED	670-1071
1	100-ft Black Wire	708-9891
1	Speaker	623-2048
1	2N3904	568-8253
1	TP31C	263-0386
1	5V Regulator	163-0135
1	Breadboard	761-0160
1	12V Wall Transformer*	928-9725
1	DC Motor	793-0462
1	Diode	263-1538
1	Photo Interrupter	453-1361

Additional parts required: 25 Pin D-sub cable; assorted capacitors and resistors; PIC 16F84A microcontroller; PIC 16F877A microcontroller; 1 large, 1 small protoboard; Twister board; copper sheet; backing for game board; paint; fasteners, aluminum; sheet metal

For Ryan Shannon and friends' complete instructions on how to build your own electronic version of Twister and associated microcontroller code, go to <http://rbi.ims.ca/4392-537>.

Engineering student Ryan Shannon and friends created a high-tech, interactive version of Twister that tracks the positions of players on any of 24 possible locations. A dc motor spins the player position arrow, the location of which is tracked by two photo interrupters. A microcontroller correlates the signals with game position, sending a series of pulses to a sound chip that issues vocal instructions, also displayed on an LCD. To deter the potential for cheating, copper switches on the board track the position of all players.

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