

# Part list

Reference	Part	Marking/notes
R1 .....	47R resistor .....	yellow - purple - black - gold
R2-R3,R33 .....	10k resistor .....	brown - black - orange - gold
R4 .....	2k2 resistor .....	red - red - red - gold
R5-R6 .....	3k3 resistor .....	orange - orange - red - gold
R7-R8 .....	220R resistor .....	red - red - brown - gold
R9-R10,R28 ...	470R resistor .....	yellow - purple - brown - gold
R11 .....	4k7 resistor network .....	something including 472
R12-R15 .....	1M resistor .....	brown - black - black - yellow - brown
R16-R25 .....	100k resistor .....	brown - black - yellow - gold
R27 .....	10k resistor network .....	something including 103
R29-R31 .....	330R resistor .....	orange - orange - brown - gold
R32 .....	680R resistor .....	blue - grey - brown - gold
D2 .....	1N4148 diode .....	1N4148
D3-D6 .....	UF4003 diode .....	UF4002, UF4003 etc.
C1-C2 .....	27p SMD capacitor .....	no marking
C5-C6,C9-C10	100nF ceramic capacitor ...	100n or 104
C11-C14 .....	22nF ceramic capacitor .....	22n or 223
L1 .....	Ferrite bead	
U2 .....	89C4051 $\mu$ -controller .....	AT89C2051 or AT89C4051
U4 .....	74HC595 shift register .....	74HC595N, MM74HC595 etc.
U5 .....	ULN2803A relay driver	
U6 .....	74HC148 encoder .....	74HC148N, MM74HC148 etc.
Y1 .....	11.0592MHz crystal .....	11.0592

<b>Reference</b>	<b>Part</b>	<b>Marking/notes</b>
JP2 .....	Motor connector .....	2-pin header
JP3 .....	Address header .....	6-pin header
JP8 .....	Power relay connector .....	2-pin header
JP9 .....	Button connector .....	9-pin header
JP10 .....	Relay connector .....	2-pin header
JP11 .....	LED connector .....	8-pin header
C3-C4 .....	47 $\mu$ F 16-35V electrolytic ...	47 $\mu$ F-25V, 47 $\mu$ F-35V etc.
C7 .....	330 $\mu$ F 25-33V electrolytic .	may be a 470 $\mu$ F cap.
U1 .....	IR detector	
K1-K7 .....	DPDT DIL relay	
Q1-Q2,Q8 .....	BC547 transistor .....	BC547, C547B etc.
Q3-Q7 .....	PN2222A transistor .....	PN2222A, MPS2222A etc.
SW1-SW8 .....	Pushbutton	
JP1 .....	Power connector .....	2-pole screw terminal
D1 .....	W005 Bridge rectifier .....	W04G, W005M etc.
U3 .....	LM7805 regulator .....	L78M05CV, 7805CT etc.
JP4-JP7 .....	Quad phono connector	
D11-D18 .....	2mm LED	
P1 .....	Alps RK27 motorpot	