

Part list

Reference	Part	Marking/notes
R1-R2,R36,R45	10k resistor	brown - black - orange - gold
R3-R4,R22-R24	2k2 resistor	red - red - red - gold
R5-R6	3k3 resistor	orange - orange - red - gold
R7-R8	220R resistor	red - red - brown - gold
R9-R10, R41-R44,R46	470R resistor	yellow - purple - brown - gold
R11,R16	100R resistor	brown - black - black - black - brown
R13,R18, R33-R34	1M resistor	brown - black - black - yellow - brown
R14,R19	1k resistor	brown - black - black - brown - brown
R15,R20	3k resistor	orange - black - black - brown - brown
R21	47R resistor	yellow - purple - black - gold
R25	4k7 resistor network	something including 472
R26	4k7 resistor	yellow - purple - red - gold
R27-R32	100k resistor	brown - black - yellow - gold
R35	10k resistor network	something including 103
R37,R38	105R resistor	brown - black - green - black - brown
R39,R40	931R resistor	white - orange - brown - black - brown
R47	680R resistor	blue - grey - brown - gold
C3-C4	100nF SMD capacitor	no marking
C23-C24	22p SMD capacitor	no marking
D1-D2,D7-D9	1N4148 diode	1N4148
D3-D6	UF4003 diode	UF4002, UF4003 etc.
D10-D11	Not used	
D12-D15	1N4002 diode	1N4002, 1N4007 etc.
C13	100nF ceramic capacitor	100n or 104
L2	1A slow blow fuse with socket	
L3-L6	47µH choke	yellow - purple - black - gold
Y1	11.0592MHz crystal	11.0592

Reference	Part	Marking/notes
U1	89C4051 μ -controller	AT89C2051 or AT89C4051
U6	74HC148 encoder	74HC148N, MM74HC148 etc.
U4-U5	OPA604 audio op. amp.	
C7-C8,C11-C12, C18-C19	100nF film capacitor	100n, 104 or 0,1
JP1	Motor connector	2-pin header
JP2	Power relay connector	2-pin header
JP3	Address header	6-pin header
JP8	Power connector	
K1-K4	DPDT DIL relay	
SW1-SW5	Push-buttons	
L1	Ferrite bead	
C1-C2,C14-C15, C25	47 μ F electrolytic	47 μ F-25V, 47 μ F-35V etc.
C5-C6,C9-C10 ...	100 μ F electrolytic	100 μ F-25V, 100/35 etc.
C16-C17, C20-C21	10 μ F electrolytic	10 μ F-25V, 10 μ F-35V etc.
Q1,Q2,Q12	BC547 transistor	BC547, C547B etc.
Q3-Q11	PN2222A transistor	PN2222A, MPS2222A etc.
U2	LM7805 5V regulator	L78M05CV, 7805CT etc.
U3	IR detector	
U7	LM317 positive regulator	
U8	LM337 negative regulator	
U9	DC/DC converter	
C22	2m2 electrolytic	2200 μ F-25V, 2200/25 etc.
D16-D20	2mm LED	
JP5-JP6,JP10 ...	Phono connectors	
P1	Motorpot	