

Timer Motor Control

Bill of Materials

Control Circuit Board

Item	Part	Description	Value
1	R01	¼ W Resistor	110 kΩ
2	R02	¼ W Resistor	110 kΩ
3	R03	¼ W Resistor	330 Ω
4	R04	¼ W Resistor	330 Ω
5	R05	¼ W Resistor	330 Ω
6	R06	¼ W Resistor	330 Ω
7	R07	¼ W Resistor	330 Ω
8	C01	Mylar Capacitor	.01 μF
9	C02	Electrolytic Capacitor	10 μF
10	IC01	Timer	LM555
11	IC02	Decade Counter	CD4017B
12	IC03	Hex Inverter Buffer	CD4049
13	D01	LED	
14	D02	LED	
15	D03	LED	
16	D04	LED	
17	D05	LED	

Relay Circuit Board

Item	Part	Description	Value
18	R08	¼ W Resistor	1 kΩ
19	R02	¼ W Resistor	1 kΩ
20	D06	150 mA 100 Diode	1N4148
21	D07	150 mA 100 Diode	1N4148
22	D08	150 mA 100 Diode	1N4148
23	D09	150 mA 100 Diode	1N4148
24	D09	150 mA 100 Diode	1N4148

25	Q01	NPN Transistor	2N2222
26	C02	NPN Transistor	2N222
27	REL01	SPST Relay	5V
28	REL02	DPDT Relay	5V

Sources

Supplier	Location	Web	Comment
Sayal Electronics	Greater Toronto Area	https://secure.sayal.com/STORE4/index.php	Good source for small quantities. Limited stock
DigiKey	On-Line	https://www.digikey.ca/	Massive Inventory
Component Electronics	Mississauga	https://www.componentonline.com/	Excellent Inventory

Notes

1. The protoboard was ordered on Amazon. Unfortunately, the protoboards used in the example are no longer available.
2. Princess Auto Electric may or may not have suitable motors, but these are available on Amazon, or through the suppliers listed in the sources
3. CMOS IC's are frequently numbered CD#####XXXX The XXXX refers to the packaging and grade of the device.