

Step	Qty	Reference(s)	Value	Part	Notes
1	12	C4, C5, C6, C7, C8, C9, C10, C11, C12, C13, C14, C15	100n	device:C	Capacitor_SMD:C_0805
2	2	Q1, Q2	MMBT3906	BJT:MMBT3906 SOT-23	Possibly bc857, check pinout
3	3	U1, U2, U4	TL072	Package_SO:SOIC-8_3.9x4.	pin1 by dot
4	1	U3	LM13700	Package_SO:SOIC-16_3.9x9	pin1 by dot
5	10	R4, R5, R7, R8, R10, R12, R15, R19, R21, R39	10K	0805 SMT	Resistor_SMD:R_0805
6	9	R16, R17, R22, R23, R28, R34, R35, R37, R40	100K	0805 SMT	Resistor_SMD:R_0805
7	7	R2, R24, R25, R26, R27, R36, R38	1K	0805 SMT	Resistor_SMD:R_0805
8	6	R6, R13, R14, R18, R20, R31	47K	0805 SMT	Resistor_SMD:R_0805
9	5	R11, R29, R30, R32, R33	470R	0805 SMT	Resistor_SMD:R_0805
10	2	R3, R9	100R	0805 SMT	red LED limiter
11	1	J11	Conn_02x05_Oc	Connector_Generic:Conn_0	Power Header
12	2	D6, D7	1N5819	Diode_THT:D_DO-41	power protection optional
13	1	R1	1K	Resistor_THT: quarter watt rated (to drop 11.3V in 1KOhm is 0.14W)	
14	2	J9, J10	01x08_Female	1x08_P2.54mm_Vertical	straighten to PCB2 press together in PCB1
14	2	J7, J8	01x08_Male	1x08_P2.54mm_Vertical	
		reopen the two pcbs			
15	3	C1, C2, C3	10u	THT:CP_Radial_D5.0mm	slightly fold over to fit within the boards
16	1	J1	Jan6418 Valve	TUBE w/ 5 wires (pin 1 at right, marked in red), fold to fit flat and not overhang the board.	
17	5	D1, D2, D3, D4, D5	LED	5mm or 3mm	amber, green, blue, red, red. Flat to board.

fit steps 18-20 to faceplate before soldering any of them.

18	3	RV1, RV2, RV3	B100K	device:POT	Potentiometer_Alpha_RD901F
19	1	SW1	SWITCH_SPDT	switch_spdt:SWITCH_SPDT	ON-ON
20	5	J2-J6	Jack	device:JACK_2P	europi:Thonkiconn