

PARTS LIST

Check each part against the following list. The key numbers correspond to the numbers on the Parts Pictorial (Illustration Booklet, Page 1). Any part that is packed in an individual envelope with a part number on it should be placed back in the envelope after you identify it until called for in a step. Do not throw away any packing material until all parts are accounted for.

To order a replacement part, use the Parts Order Form furnished with this kit. If a Parts Order Form is not available, refer to "Replacement Parts" inside the rear cover of the Manual. For pricing information, refer to the separate "Heath Parts Price List."

Each circuit part in this kit has its own component number (R2, R4, etc.). Use these numbers when you want to positively identify the same part in the various sections of the Manual. These numbers, which are especially useful if a part has to be replaced, appear:

- In the Parts List,
- At the beginning of each step where a component is installed,
- In some illustrations,
- In the Schematic,
- In the sections at the rear of the Manual.

KEY No.	HEATH Part No.	QTY.	DESCRIPTION	CIRCUIT Comp. No.
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RESISTORS, 1/4-Watt

NOTE: The following resistors have 5% tolerance and have a gold fourth band.

A1	6-479-12	2	4.7 Ω (yellow-violet-gold)	R107, R117
A1	6-470-12	2	47 Ω (yellow-violet-black)	R12, R13
A1	6-151- 12	1	150 Ω (brown-green- ^{1/2} watt brown)	R104
A1	6-221- 12	1	220 Ω (red-red-brown) ^{1/2} watt	R114
A1	6-561-12	1 X	560 Ω (green-blue-brown)	R15, R101
A1	6-102-12	3 X	1000 Ω (brown-black-red)	R14, R4 R101
A1	6-222-12	1	2200 Ω (red-red-red)	R18
A1	6-332-12	5	3300 Ω (orange-orange-red)	R2, R3, R8, R9, R16
A1	6-472-12	1	4700 Ω (yellow-violet-red)	R17
A1	6-563-12	2	56 k Ω (green-blue-orange)	R105, R115

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CAPACITORS

B1	21-163	4	.001 μ F disc	C2, C4, C10 C113
B2	27-74	2	.01 μ F Mylar*	C1, C3
B3	25-865	2	10 μ F electrolytic	C102, C112
B4	25-876	2	1000 μ F electrolytic	C101, C111

CONTROLS

C1	10-1054	1	1000 Ω (1 K)	R122
C1	10-1053	2	3000 Ω	R106, R116
C1	10-1055	1	100 k Ω	R121
C2	10-391	1	1000 Ω	R4
C3	12-146	1	100 k Ω dual	R1/R5

DIODES

D1	56-56	5	1N4149	D1, D2, D3, D106, D107
D1	56-620	2	15-volt zener, 1N4744	ZD101, ZD102
D1	57-65	4	1N4002	D101, D102, D104, D105

*DuPont Registered Trademark.

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TRANSISTORS — INTEGRATED CIRCUIT

NOTE: Transistors and integrated circuit are marked for identification in one of the following four ways:

1. Part number.
2. Type number. (On integrated circuits this refers only to the numbers, the letters may be different or missing.)
3. Parts number and type number.
4. Part number with a type number other than the one listed

E1	417-235	4	2N4121 transistor	Q2, Q105, Q107, Q108
E1	417-801	6	MPSA20 transistor	Q1, Q3, Q4, Q101, Q103, Q104
E2	417-818	1	MJE181 transistor	Q102
E2	417-819	1	MJE171 transistor	Q106
E3	442-22	1	N5741V or MC1741CPI or μ A7417C or LM741CN integrated circuit	IC1

SWITCHES — INSULATORS

F1	60-78	1	DPDT slide switch	SW1
F2	60-607	1	SPST rocker switch	SW101
F3	73-92	1	Foam tape (5" × 3/4")	
F4	75-52	1	Switch insulator	
F5	75-724	1	Insulator plate	
F6	75-29	1	Strain relief	
	75-809	1	Insulator paper	

HARDWARE

NOTE: The hardware may be in more than one packet. Open all the hardware packets before you check the hardware against the Parts List.

#4 Hardware

G1	250-163	3	#4 × 5/16" self-tapping screw
G2	250-4	2	4-40 × 3/8" screw
G3	252-2	2	4-40 nut
G4	254-9	2	#4 lockwasher

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#6 Hardware

H1	250-116	4	6-32 × 1/4" black screw
H2	250-32	1	6-32 × 3/8" flat head screw
H3	250-592	9	#6 × 3/8" self-tapping screw
H4	250-591	1	#6 × 1/2" self-tapping screw
H5	250-559	8	#6 × 5/8" self-tapping screw
H6	250-1137	2	#6 × 1-1/8" self-tapping screw
H7	252-3	1	6-32 nut
H8	252-170	2	6-32 brass insert nut
H9	254-1	2	#6 lockwasher
	259-1	1	#6 Solder Lug

Other Hardware

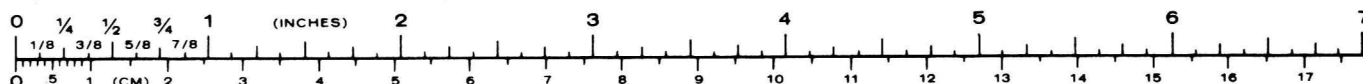
J1	252-7	5	Control nut
J2	253-10	5	Control flat washer
J3	254-4	5	Control lockwasher

WIRE — SLEEVING — LINE CORD

344-3	2'	Red stranded wire
344-52	5'	Red solid wire
344-50	5'	Black wire
344-51	3'	Brown wire
344-53	3'	Orange wire
344-54	5'	Yellow wire
344-55	3'	Green solid solid wire
344-56	3'	Blue wire
346-1	6"	Small sleeving
346-46	1-3/4"	Large sleeving
89-54	1'	Line cord
344-155	15"	Green Stranded wire

LAMPS — LENS — FUSE

K1	412-640	1	LED (light-emitting diode)	D103
K2	412-83	1	Incandescent lamp	L1
K3	413-15	1	Red lens	
K4	421-26	1	1/8-ampere slow-blow fuse	F101



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MISCELLANEOUS

	54-892	1	Power transformer	T101
	85-2571-1	1	Circuit board	
L1	92-737	1	Cabinet top	
L2	92-738	1	Cabinet bottom	
M1	204-2539	1	Relief plate	
M2	207-3	1	Cable clamp	
M3	215-99	2	Heat sink	
M4	261-34	4	Plastic foot	
M5	352-13	1	Silicone grease	
M6	431-44	1	Terminal strip	
M7	432-874	15	Connector block	
M8	432-875	1	Breadboarding socket (with vinyl strip and connectors)	

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Miscellaneous (cont'd.)

N1	434-230	1	IC socket	
N2	455-50	5	Knob bushing	
N3	462-399	5	Knob	
N4	423-11	1	Fuseholder	
N5	490-111	1	IC puller	
N6	490-5	1	Nut starter	
	390-1872	1	FCC compliance label	
	390-1918	1	Caution label	
	390-1136	1	Heathkit label	
		1	Blue and white label	
	597-260	1	Parts Order Form	
		1	Assembly Manual (See Page 1 for part number.)	
			Solder	

STEP-BY-STEP ASSEMBLY

ASSEMBLY NOTES

1. There are some small foil areas around some of the circuit board holes, and there some small areas between foils. Therefore, use the utmost care to prevent solder bridges between adjacent foil areas. Use only a minimum amount of solder and a soldering iron with a small tip when you solder these small areas. Allow it to reach operating temperature, and then apply it only long enough to make a good solder connection.
2. Always use rosin core, radio-type solder (60:40 or 50:50 tin-lead content) for all of the soldering in this kit. This is the type we have supplied

with the parts. The Warranty will be void and we will not service any kit in which acid core solder or paste has been used.

3. Resistors will be called out by their resistance value in Ω , $k\Omega$, or $M\Omega$, and color code.
4. Capacitors will be called out by their capacitance value (in pF or μF) and type (disc, mica, or electrolytic).

SAFETY WARNING: Avoid eye injury when you cut off excess lead lengths. Hold the leads so the ends cannot fly toward your eyes.