







Bill of Materials for ES20 - 1973 VCO [4mm] Full Kit V0.0  
**Main Board [ES20 - 1973 VCO Component Kit]**

Item	Description	Qty	Designator	Package
<b>CAPACITOR</b>				
1	33pF 5% Ceramic	1	C104	RAD-0.2N
2	47pF 5% Ceramic	1	C102	RAD-0.2N
3	82pF 5% Ceramic	1	C202	RAD-0.2N
4	1nF 63V Polyester	1	C103	RAD-0.2
5	10nF 63V Polyester	1	C101	RAD-0.2
6	10nF 5% Ceramic	1	C305	RAD-0.2N
7	100nF Ceramic	2	C303, C304	RAD-0.2N
8	4.7uF 25V Electrolytic	1	C201	RB-D5.0-P2.0
9	10uF 35V Electrolytic	2	C301, C302	RB-D5.0-P2.0
10	47uF Electrolytic	2	C106, C203	RB-D5-P2.5
<b>CONNECTOR</b>				
11	IDC16 Box Header	1	J301	2.54MM
12	IDC16 Receptacle	2	J101, J102	2.54MM
13	14-pin IC Socket 0.3inch	1	U101	DIP-14
<b>DIODE</b>				
14	1N4148	3	D201, D202, D203	DIODE-0.3
<b>LINEAR</b>				
15	LM3900 - Quad Norton Amplifier	1	U101	DIP-14
<b>INDUCTOR</b>				
16	Ferrite Bead - 5A	2	L301, L302	AXIAL-0.3
<b>RESISTOR</b>				
17	15R 1% 0.5W Metal Film	1	R114	AXIAL-0.4
18	330R 1% 0.5W Metal Film	3	R121, R123, R209	AXIAL-0.4
19	470R 1% 0.5W Metal Film	1	R211	AXIAL-0.4
20	1K0 1% 0.5W Metal Film	2	R118, R202	AXIAL-0.4
21	3K3 1% 0.5W Metal Film	2	R115, R122	AXIAL-0.4

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	<b>RESISTOR - continued</b>			
22	10K 1% 0.5W Metal Film	2	R208, R210	AXIAL-0.4
23	15K 1% 0.5W Metal Film	1	R112	AXIAL-0.4
24	22K 1% 0.5W Metal Film	5	R103, R104, R107, R108, R120	AXIAL-0.4
25	30K 1% 0.5W Metal Film	1	R213 NB: See modification	AXIAL-0.4
26	33K 1% 0.5W Metal Film	2	R204, R207 NB: R207 - See modification	AXIAL-0.4
27	36K 1% 0.5W Metal Film	1	R117	AXIAL-0.4
28	82K 1% 0.5W Metal Film	1	R116	AXIAL-0.4
29	100K 1% 0.5W Metal Film	3	R119, R124, R212	AXIAL-0.4
30	220K 1% 0.5W Metal Film	1	R201	AXIAL-0.4
31	330K 1% 0.5W Metal Film	4	R105, R106, R109, R110	AXIAL-0.4
32	1M0 1% 0.5W Metal Film	2	R101, R111	AXIAL-0.4
33	1M5 1% 0.5W Metal Film	2	R205, R206 NB: R206 - See modification	AXIAL-0.4
34	3M3 1% 0.5W Metal Film	1	R102	AXIAL-0.4
35	4M7 1% 0.5W Metal Film	1	R203	AXIAL-0.4
36	6M8 1% 0.5W Metal Film	1	R113	AXIAL-0.4
	<b>TRANSISTOR</b>			
37	2N3904 NPN Transistor	3	Q101, Q102, Q201	TO-92
	<b>TRIMPOT</b>			
38	10K MTV Cermet	1	P102	T93YA
39	20K MTV Cermet	2	P101, P201	T93YA
	<b>UNITS</b>			
40	Panther - IDC16 - 24cm	1	J301	-









