

**SCHEMATIC DIAGRAMS  
AND  
PARTS LIST**



**MODEL 3017A**

**SWEEP/FUNCTION GENERATOR**

**PARTS LIST**

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NUMBER
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**RESISTORS**

Unlisted resistors are  $\pm 5\%$ , 1/4 W. See schematic diagram for value.

R202, 204	100 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-003
R206	33.2 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-3-322
R207	100 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-003
R208A, 208B	1 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-001
R209A, 209B	100 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-003
R210	49.9 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-4-992
R213	100 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-003
R214A, 214B	3.01 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-3-011
R216	4.99 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-4-991
R217A	348 $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-3-480
R217	7.32 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-7-321
R218	75 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-7-502
R219, 220	750 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-7-503
R221	75 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-7-502
R222A	348 $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-3-480
R222	7.32 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-7-321
R223	4.99 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-4-991
R304, 305	1 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-001
R306, 307	4.02 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-4-021
R308	2 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-2-001
R309	30.1 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-3-012
R310	10 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-002
R311	499 $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-4-990
R312, 313	13 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-302
R317, 318	10.5 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-052
R319	7.5 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-7-501
R401	49.9 $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-4-998
R402, 403	11.3 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-132
R404	309 $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-3-090
R405, 406	12.1 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-212
R407	200 $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-2-000
R408, 409	24.9 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-2-492
R410	127 $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-270
R412	63.4 $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-6-348
R502	2 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-2-001
R504	1.21 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-211
R506	2 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-2-001
R507	18.2 k $\Omega$ $\pm 1\%$ , 1/4 W Metal Film .....	015-144-1-822

**COMPOSITE  
499-402-9-001**

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NUMBER
<b>RESISTORS (Continued)</b>		
R508	174 Ω ±1%, 1/4 W Metal Film .....	015-144-1-740
R510	100 Ω ±1%, 1/4 W Metal Film .....	015-144-1-000
R511	274 Ω ±1%, 1/4 W Metal Film .....	015-144-2-740
R512	3.01 kΩ ±1%, 1/4 W Metal Film .....	015-144-3-011
R513	24.3 kΩ ±1%, 1/4 W Metal Film .....	015-144-2-432
R514	3.01 kΩ ±1%, 1/4 W Metal Film .....	015-144-3-011
R515, 518	47 Ω ±5%, 2 W Carbon Film .....	002-002-5-470
R519, 520	100 Ω ±1%, 1/2 W Metal Film .....	015-124-1-000
R521	499 Ω ±1%, 1/2 W Metal Film .....	015-124-4-990
R522	56.2 Ω ±1%, 1/2 W Metal Film .....	015-124-5-628
TH601, 602	Thermistor, 90 Ω .....	005-015-9-001
R611	100 Ω ±1%, 1/4 W Metal Film .....	015-144-1-000
R633	1.21 kΩ ±1%, 1/4 W Metal Film .....	015-144-1-211
SVR101, 102	470 Ω Trimmer Potentiometer .....	010-027-9-002
SVR201	22 kΩ Trimmer Potentiometer .....	010-027-9-006
SVR202, 203	10 kΩ Trimmer Potentiometer .....	010-026-9-004
SVR301	4.7 kΩ Trimmer Potentiometer .....	010-027-9-003
SVR302, 303	2.2 kΩ Trimmer Potentiometer .....	010-084-9-001
SVR304	1 kΩ Trimmer Potentiometer .....	010-027-9-004
SVR401	1 kΩ Trimmer Potentiometer .....	010-027-9-004
SVR503	10 kΩ Trimmer Potentiometer .....	010-026-9-004
SVR602	4.7 kΩ Trimmer Potentiometer .....	010-027-9-003
SVR603-605	10 kΩ Trimmer Potentiometer .....	010-026-9-004
SVR606	5 kΩ Multiturn Trimmer Potentiometer (FREQ SET; HI) .....	010-084-9-002
SVR607	470 Ω Trimmer Potentiometer .....	010-025-9-002
SVR608	10 kΩ Trimmer Potentiometer .....	010-026-9-004
SVR609	5 kΩ Multiturn Trimmer Potentiometer (FREQ SET; LO) .....	010-084-9-002
SVR611	4.7 kΩ Trimmer Potentiometer .....	010-027-9-003
SVR612	22 kΩ Trimmer Potentiometer .....	010-027-9-006
VR201	5 kΩ Potentiometer (Frequency Control) .....	008-846-9-004
VR202	20 kΩ Potentiometer w/ Switch (DUTY/INVert) .....	008-846-9-002
VR305	1 kΩ Potentiometer w/Switch (TTL/CMOS ADJust) .....	008-845-9-002
VR501	1 kΩ Potentiometer w/Switch (AMPL/-20 dB) .....	008-845-9-002
VR502	50 kΩ Potentiometer w/Switch (OFFSET/ADJ) .....	008-845-5-003
VR601	10 kΩ Potentiometer (SWEEP TIME) .....	008-846-9-001
<b>CAPACITORS</b>		
C101	1000 μF +80/-20%, 35 V Electrolytic .....	022-335-9-004
C103	1000 μF +80/-20%, 35 V Electrolytic .....	022-335-9-004
C105-108	47 μF +80/-20%, 25 V Electrolytic .....	022-328-9-001
C201	1 μF ±1%, 100 V Metalized Polyester .....	025-250-9-004
C202	100 pF ±5%, 50 V NP0 Disc .....	031-069-9-003
C203	0.001 μF ±1%, 100 V Metalized Polyester .....	025-304-9-001
C204	0.01 μF ±1%, 100 V Metalized Polyester .....	025-250-9-002
C205	0.1 μF ±1%, 100 V Metalized Polyester .....	025-250-9-003
C206-207	220 pF ± 5% 50 V Disc .....	020-386-9-001
C301	56 pF ±5%, 50 V NP0 Disc .....	031-069-9-005
C302, 303	0.047 μF +80/-20%, 25 V Disc .....	020-385-9-003
C305, 306	4.7 μF +80/-20%, 50 V Electrolytic .....	022-336-9-002
C307	0.1 μF +80/-20%, 12 V Disc .....	020-385-9-001
C308	220 μF +80/-20%, 25 V Electrolytic .....	022-336-9-001
C309	0.1 μF +80/-20%, 25 V Disc .....	020-386-9-004

SCHEMATIC SYMBOL	DESCRIPTION	B & K-PRECISION PART NUMBER
<b>CAPACITORS (Continued)</b>		
C310	470 pF ±5%, 50 V Disc .....	020-386-9-006
C311	56 pF ±5%, 50 V NP0 Disc .....	031-069-9-005
C401, 402	0.047 μF +80/-20%, 25 V Disc .....	020-385-9-003
C403, 404	39 pF ±5%, 50 V NP0 Disc .....	031-069-9-004
C405	5 pF ±1/2 pF, 50 V NP0 Disc .....	031-069-9-002
C501, 502	6.8 μF ±10%, 35 V Tantalum .....	027-076-9-001
C503, 504	0.047 μF +80/-20%, 25 V Disc .....	020-385-9-003
C505	4 pF ±1/2 pF, 50 V NP0 Disc .....	031-072-9-001
C506	220 pF ±5%, 50 V Disc .....	020-386-9-001
C510, 511	0.033 μF +80/-20%, 50 V Disc .....	020-386-9-005
C601, 602	220 μF +80/-20%, 25 V Electrolytic .....	022-336-9-001
C603	2.2 μF ±10%, 35 V Tantalum .....	027-074-9-001
C604	100 pF ±5%, 50 V NP0 Disc .....	031-069-9-003
C605, 606	500 pF ±5%, 50 V Disc .....	020-386-9-003
C607	300 pF ±5%, 50 V Disc .....	020-386-9-002
SVC201, 401	6-30 pF Trimmer Capacitor .....	028-094-9-002
SVC501	8-16 pF Trimmer Capacitor .....	028-093-9-001
<b>TRANSISTORS &amp; DIODES</b>		
Q101	2SD313E NPN Silicon Transistor .....	176-104-9-003
Q102	TIP 32C PNP Silicon Transistor .....	172-080-9-001
Q201	2SC1815GR NPN Silicon Transistor .....	176-095-9-001
Q202, 203	2SA1015GR PNP Silicon Transistor .....	177-057-9-001
Q204	2SC1815GR NPN Silicon Transistor .....	176-095-9-001
Q301	2N5485 N-Channel Field-Effect Transistor .....	182-067-9-001
Q302, 303	2SA1015GR PNP Silicon Transistor .....	177-057-9-001
Q304, 305	2SC1815GR NPN Silicon Transistor .....	176-095-9-001
Q501, 502	2SC1923 NPN Silicon Transistor .....	176-193-9-001
Q503	2SA1015GR PNP Silicon Transistor .....	177-057-9-001
Q504	2SC1923 NPN Silicon Transistor .....	176-193-9-001
Q505	2N2219A NPN Silicon Transistor .....	172-045-9-001
Q506	2N2905A NPN Silicon Transistor .....	173-005-9-001
Q507-508	2SC1815GR NPN Silicon Transistor .....	176-095-9-001
Q601	2SA1015GR PNP Silicon Transistor .....	177-057-9-001
D101	LED (Red) .....	158-076-9-001
D201-208	1N4148 Silicon Diode .....	151-038-9-001
D301-327	1N4148 Silicon Diode .....	151-038-9-001
D503, 504	1N4148 Silicon Diode .....	151-038-9-001
D601, 602	1N4148 Silicon Diode .....	151-038-9-001
BD 101	Bridge Rectifier Assembly, 1 A .....	157-038-9-001
BD401-403	1N4148 .....	151-038-9-001
ZD101, 102	5.6 V ±5%, 1/2 W Zener Diode .....	152-072-9-001
ZD301	5.6 V ±5%, 1/2 W Zener Diode .....	152-072-9-001
ZD302	5.1 V ±5%, 1/2 W Zener Diode .....	152-112-9-001
ZD401, 402	3.3 V ±5%, 1/2 W Zener Diode .....	152-158-9-001
ZD601	5.6 V ±5%, 1/2 W Zener Diode .....	152-072-9-001
<b>INTEGRATED CIRCUITS</b>		
U101, 102	741CP .....	307-018-9-001
U201, 202	741CP .....	307-018-9-001
U203, 204	LM308N .....	307-423-9-002
U301	CA3046 .....	307-087-9-001
U302	4081 .....	308-117-9-001
U303	7420N .....	307-033-9-001
U401	CA3030 .....	307-423-9-001
U601	LM324N .....	307-306-9-002
U602	MC1458CP .....	307-046-9-001

**SCHEMATIC SYMBOL**

**DESCRIPTION**

**B & K-PRECISION PART NUMBER**

**INTEGRATED CIRCUITS (Continued)**

U603	CA3046 .....	307-087-9-001
U604, 605	3140E .....	308-191-9-001

**TRANSFORMERS & SWITCHES**

	Power Transformer.....	065-245-9-001
S101	1-Station Pushbutton Switch (PWR) .....	088-152-9-002
S201	7-Station Pushbutton Switch Assembly (RANGE).....	088-152-9-001
S501	3-Station Pushbutton Switch Assembly (FUNCTION).....	088-151-9-002
S601, 602	2-Station Pushbutton Switch Assembly (LO/HI & CONT/VAR, LIN/LOG & AUTO/MAN) .....	088-152-9-003

**MISCELLANEOUS**

F101	0.3 A, 250 V 3AG Fuse (110/120 V operation) ..	196-303-0-300
	0.2 A, 250 V 3AG (220/240 V operation)....	196-303-0-200
	PC Fuse Clip (2 Required) .....	741-184-9-001
	Power Input Receptacle.....	770-031-9-001
	AC Line Cord.....	420-039-9-001
	BNC-to-Insulated Clips Test Cable .....	534-241-0-000
	BNC Connector.....	772-024-9-002
	Front Panel.....	255-278-9-001
	Rear Plate.....	262-081-9-001
	Bottom Case.....	271-483-9-001
	Top Case.....	271-482-9-001
	Handle .....	746-091-9-001
	Handle Insert .....	746-092-9-001
	Rubber Foot (4 Required) .....	381-188-9-001
	Bottom Screw, 3x50mm.....	634-201-9-001
	Knob (FREQUENCY).....	751-314-9-001
	Knob (DUTY, AMPL, etc).....	751-314-9-002
	Switch Button, Gray.....	384-090-9-001
	Switch Button, Black.....	384-135-9-001
	Switch Button, Red.....	384-079-9-003
	Instruction Manual .....	480-648-9-001

**PARTS ORDERING INFORMATION**

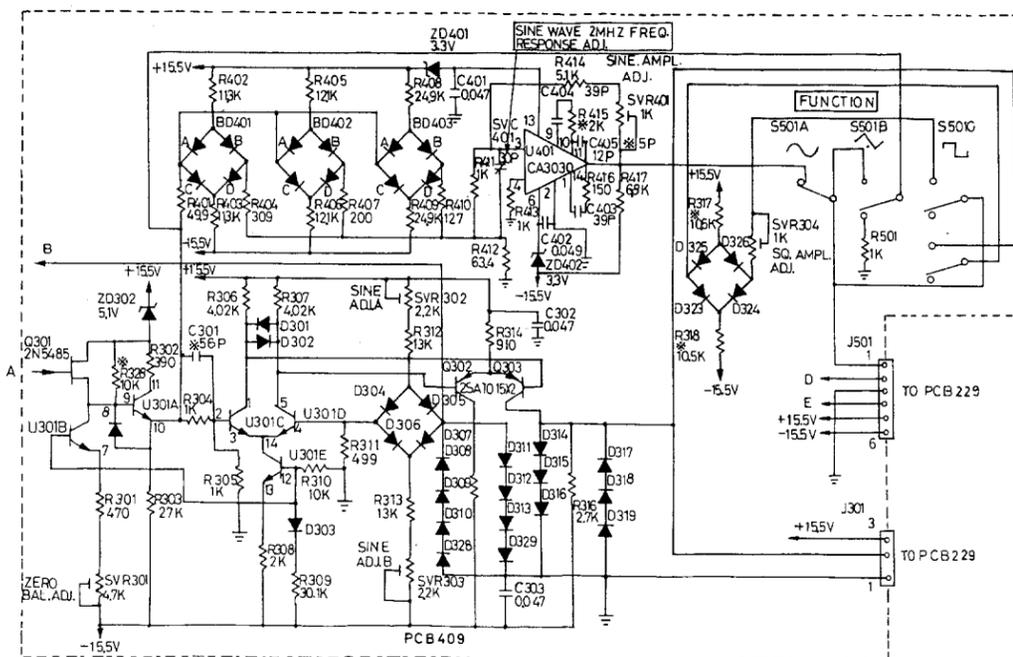
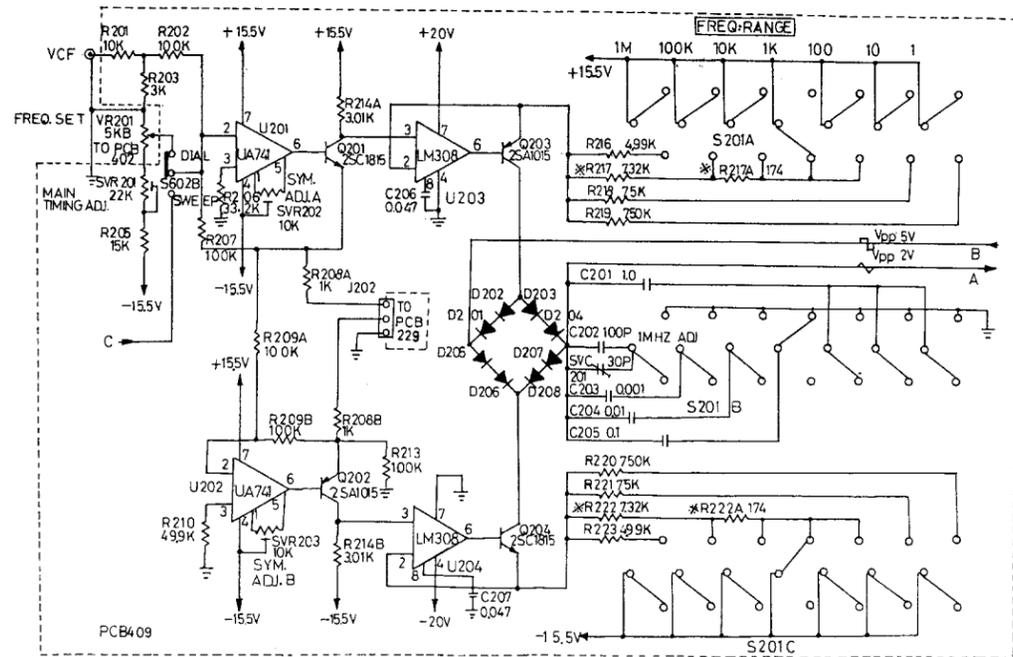
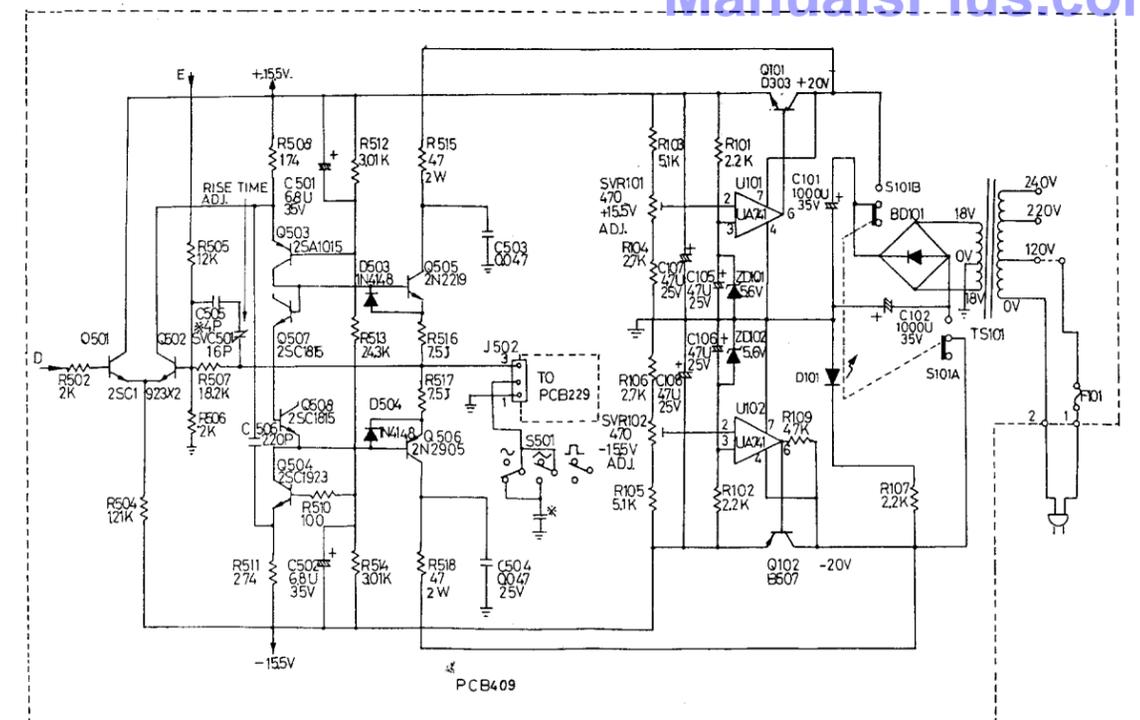
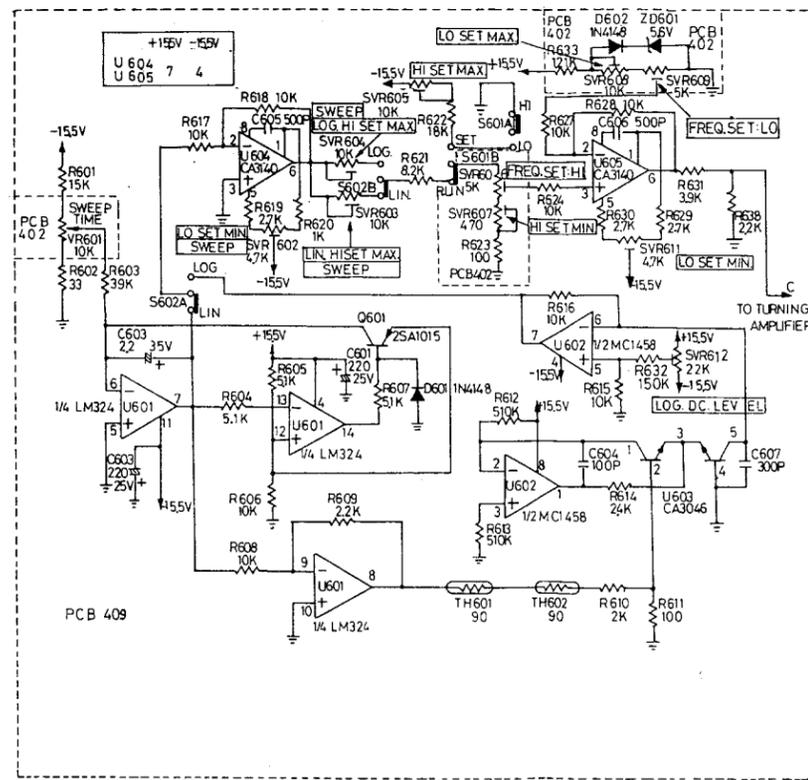
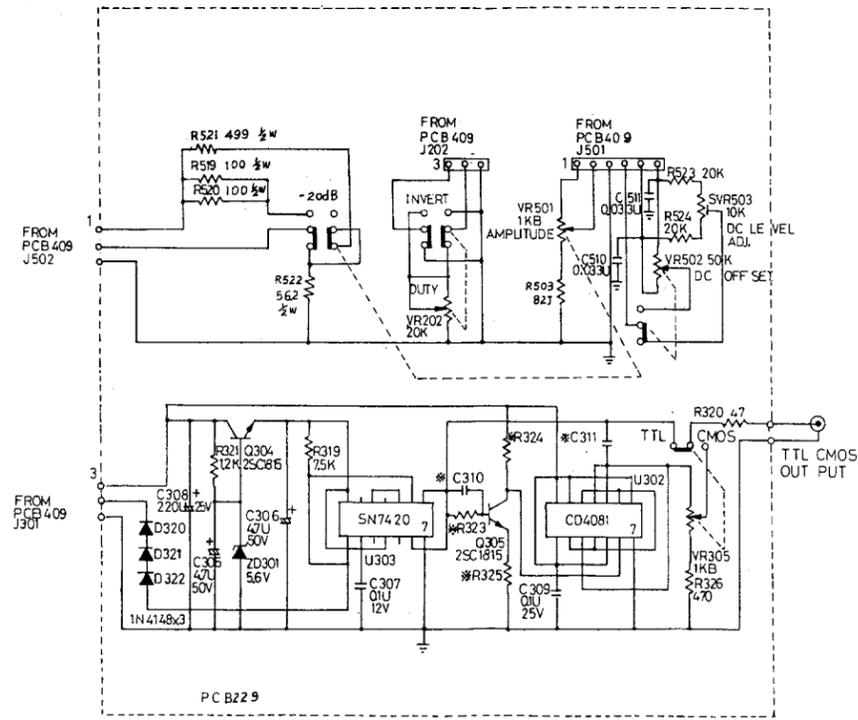
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6470 W. Cortland Street  
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ALL DIODES ARE 1N4148