

Full Polymoog Service Manual Volume II (schematics)

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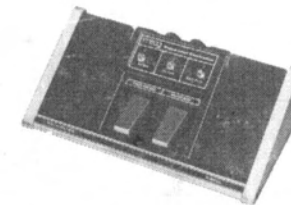
Sorry - no Volume I, which I don't have

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ChristianH  
07-MAR-2006

# TECHNICAL SERVICE MANUAL for



Model 203A



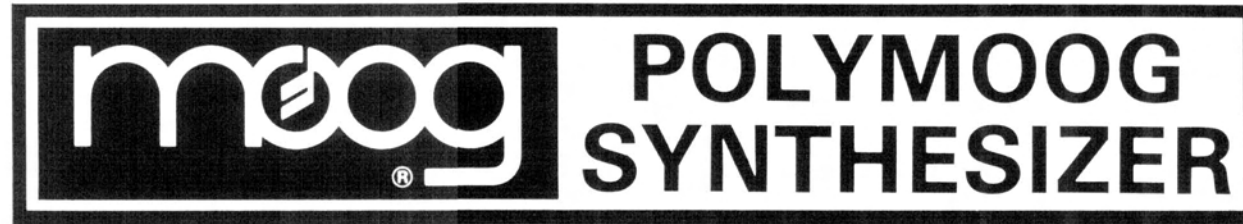
POLYPEDAL  
Model 285

2500 Walden Ave.  
Buffalo, N.Y. 14225

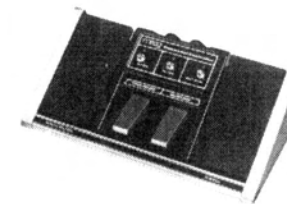


NORLIN MUSIC  
(716) 681-7242

# TECHNICAL SERVICE MANUAL for



Model 203A



POLYPEDAL  
Model 285

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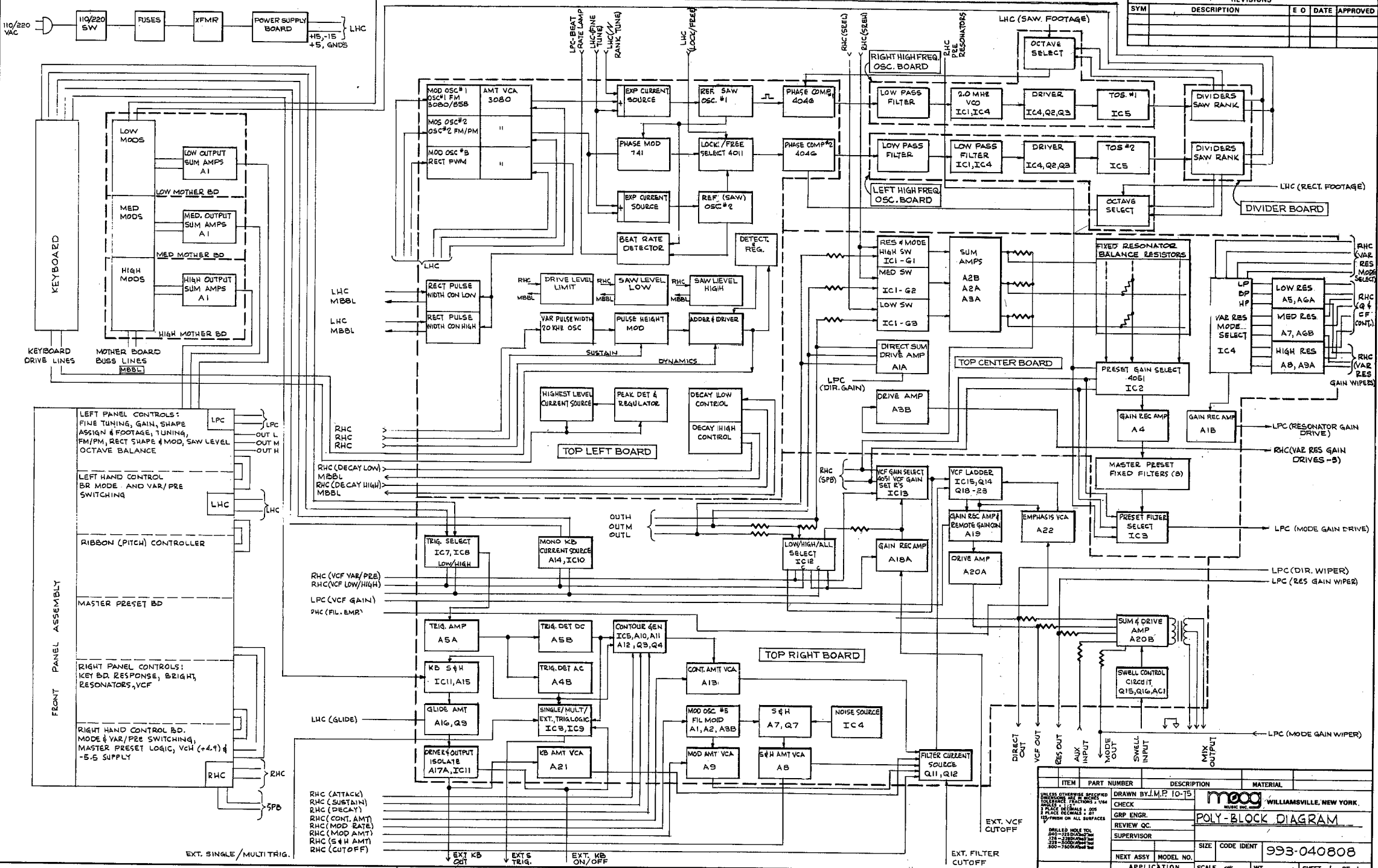
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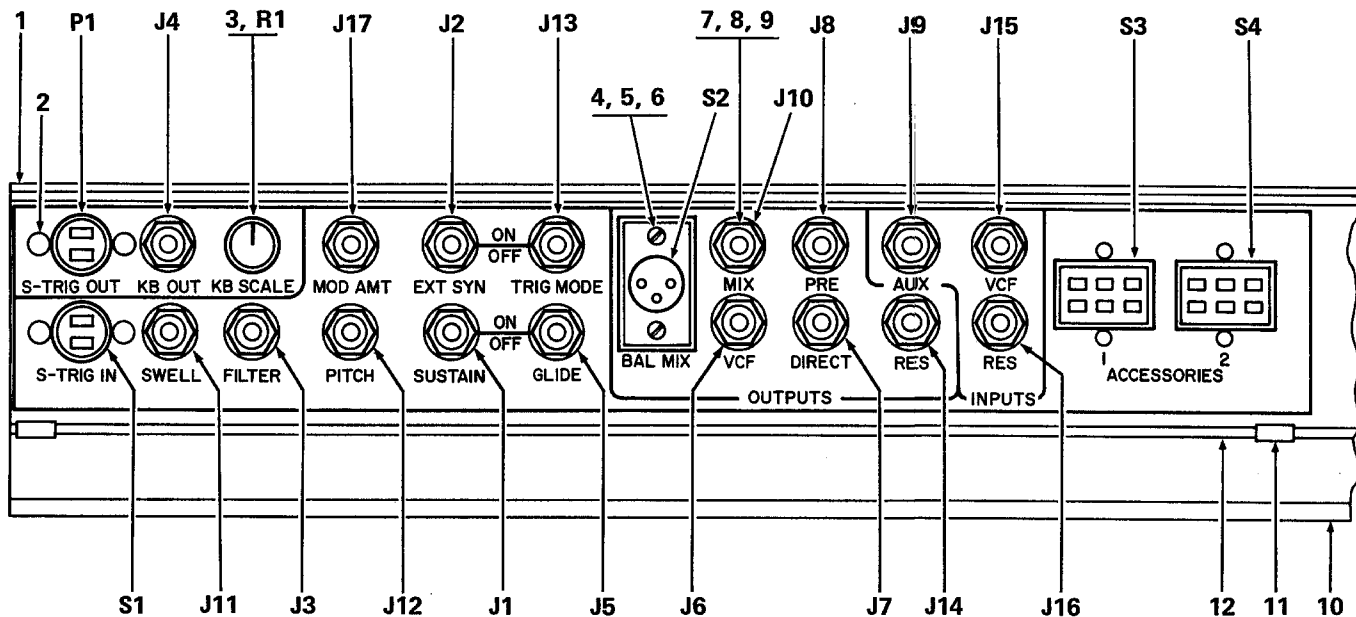


REVISIONS			
SYM	DESCRIPTION	E O	DATE APPROVED

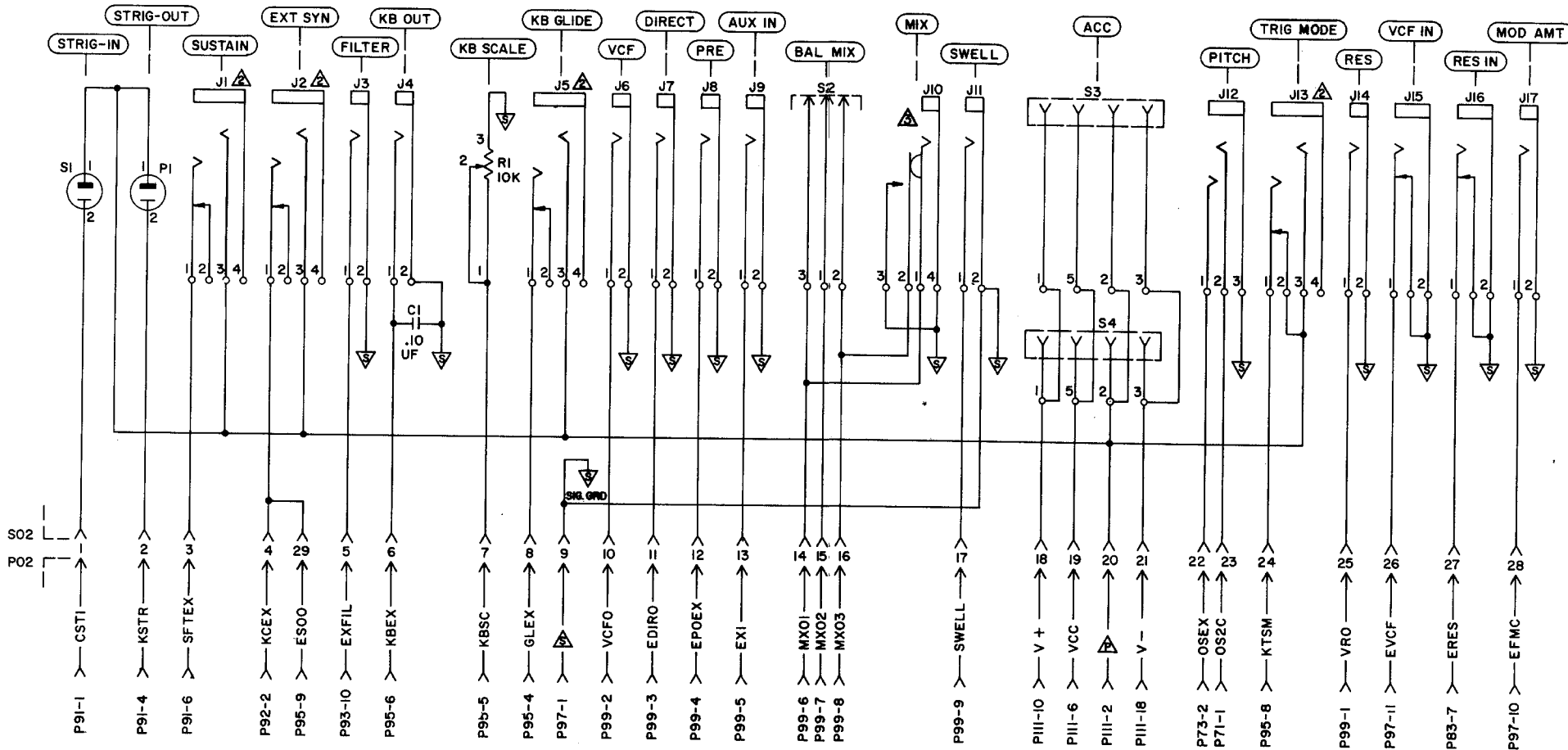
ITEM	PART NUMBER	DESCRIPTION	MATERIAL
<small>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES DIMENSIONS IN PARENTHESES ARE IN MILLIMETERS 2 PLACE DECIMALS + .005 3 PLACE DECIMALS + .001 15° FINISH ON ALL SURFACES</small>			
DRAWN BY J.M.P. 10-75		meag WILLIAMSVILLE, NEW YORK.	
CHECK GRP ENGR.		POLY-BLOCK DIAGRAM	
REVIEW QC.		SIZE CODE IDENT 993-040808	
SUPERVISOR		NEXT ASSY MODEL NO.	
EXT. VCF CUTOFF		EXT. FILTER CUTOFF	
APPLICATION		SCALE	WT.
SHEET 1 OF 1			

**NOTES:**

1. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 5 FOR THE PART NUMBER, DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.
2. CONNECTOR DESIGNATORS INCLUDE A CODED REFERENCE PERTAINING TO ITS PRINTED CIRCUIT BOARD ORIGIN, I.E., P91 INDICATES IT IS PART OF BOARD 11. REFER TO TABLE 1-1 FOR OTHER BOARD NUMBERS AND NOMENCLATURE.



REVISIONS			
SYM	DESCRIPTION	E O D	DATE
A	GEN. REMOVALS		7/56
B	REVISED, SPLIT GROUND		5/76
C	ADDED C.I. PINS J16 & J17		2/49
D	REDRAWN, REWIRING FOR PROD.		2/52



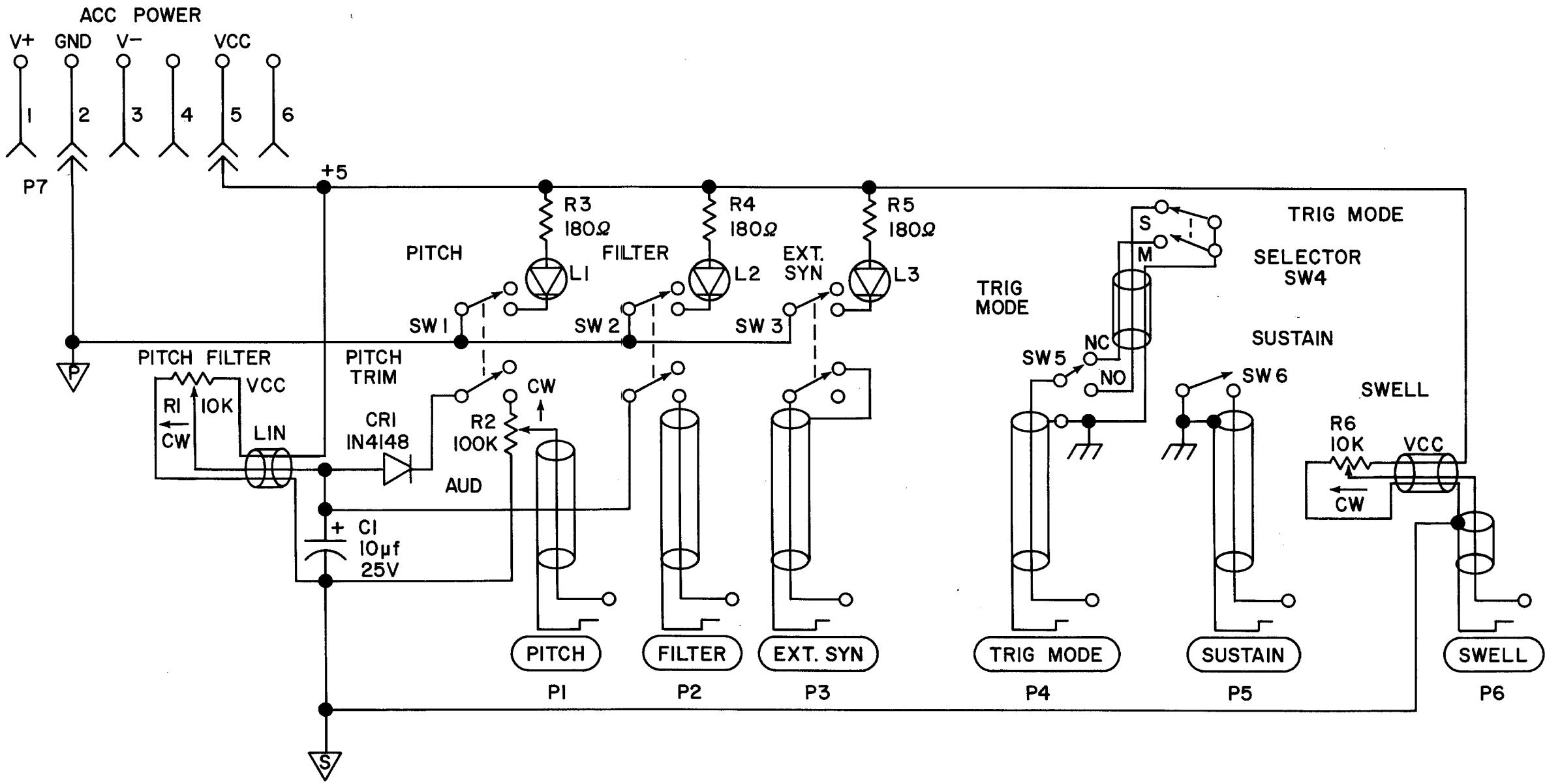
NOTES

1. ALL JACKS ARE .250 DIA PHONE TYPE EXCEPT AS NOTED.

▲ .206 DIA PHONE JACK.

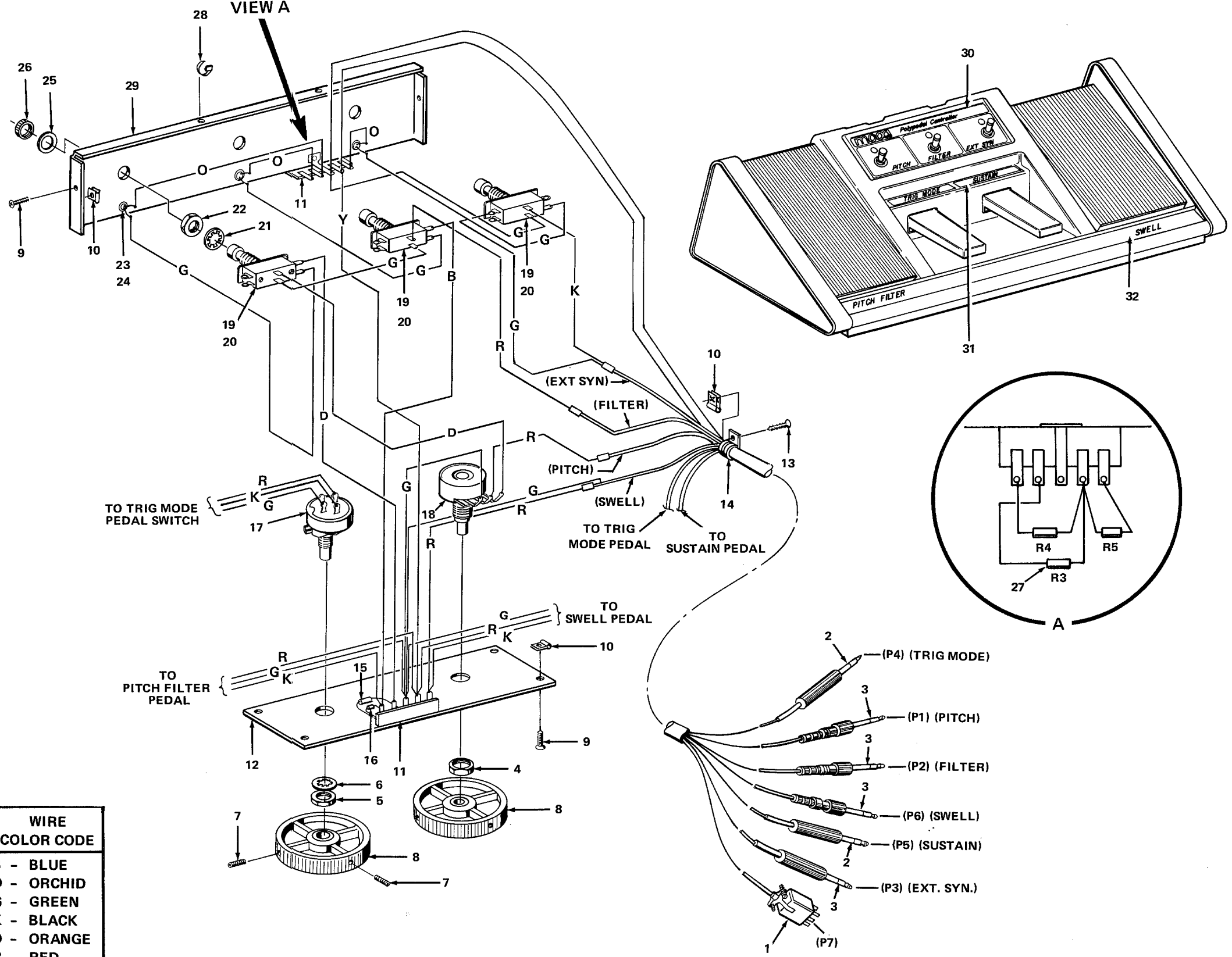
▲ .250 DIA PHONE JACK WITH INSULATED NORM. OPEN SWITCH BETWEEN PINS 2 & 3.

ITEM	PART NUMBER	DESCRIPTION	MATERIAL
DRAWN BY: <i>[Signature]</i>		moog WILLIAMSVILLE, NEW YORK	
CHECKED BY: <i>[Signature]</i>		SCHEMATIC REAR PANEL	
GRP ENGR: <i>[Signature]</i>		CONTROLS POLYMOOG	
REVIEW QC:		993-040691	
SUPERVISOR: <i>[Signature]</i>		SIZE: CODE IDENT: D	
NEXT ASSY: MODEL NO.:		SCALE: WT. SHEET 1 OF 1	



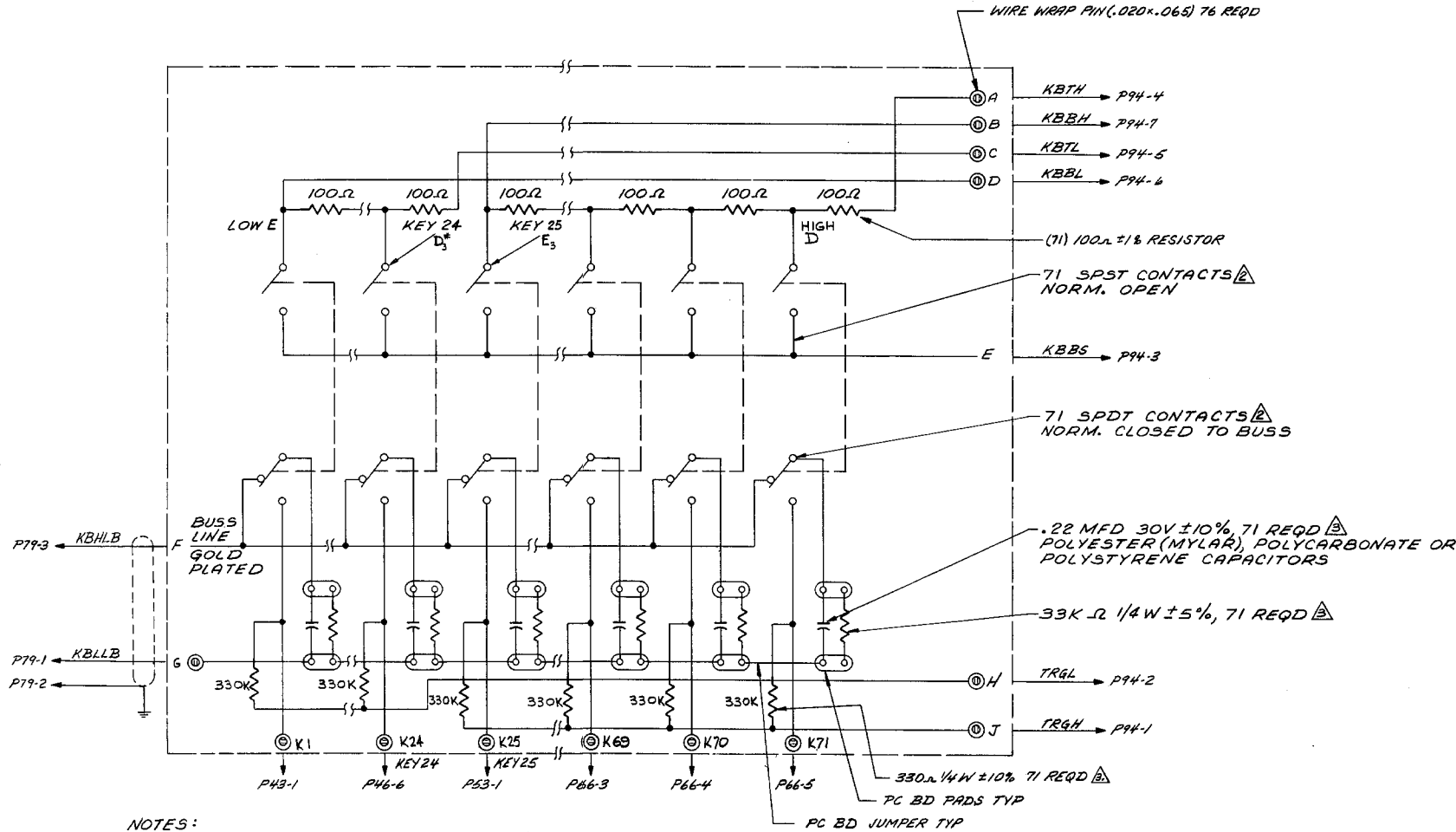


VIEW A



WIRE COLOR CODE	
B	BLUE
D	ORCHID
G	GREEN
K	BLACK
O	ORANGE
R	RED
Y	YELLOW

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
	KB WAS T-10, RES. PACK WAS 1K, ADDED (11) 100Ω		1-2-75	
A	RES. 33K RES. WAS 22K, POINTS A, B, C, E		4-5-75	
	H & J RELOCATED TO HIGH END. (RE-DRAWN)			
B	RELOCATED KEY SPRT KEY 24 WAS 25, KEY 25 WAS 30, 100Ω RES. PACK WAS 7 REQ'D, 1 PACKS LOW END WAS 3 PACKS		AS-11-195 10/2/115	
C	330K RES. WAS 1MΩ, RES. AND CAP. WERE 72 REQ'D, KB. WAS C-B.		2-21-76	
-	RELEASED FOR PRODUCTION		02.15	
D	ADDED PLUG & PARTS DESIGNATION, REMOVED NOTES & RESISTOR PACKS		2-11-77	



NOTES:

- PROFESSIONAL KEYBOARD, 71 NOTE E TO D.
- SPST NORM OPEN SWITCH ARM TO CONTACT (SEE CONTACT SEQUENCE SHIT. 1)
- TO BE SUPPLIED & INSTALLED BY PRATT & READ ON KEYBOARD PCB.

ITEM	PART NUMBER	DESCRIPTION	MATERIAL
DRAWN BY: <i>W. J. R. / 1/75</i>		moog WILLIAMSVILLE, NEW YORK. MUSIC INC.	
CHECK: <i>W. J. R. / 1/76</i>			
GRP ENGR: <i>W. J. R. / 1/76</i>		SCHEMATIC - POLYMOOG KEYBOARD CIRCUIT E-D	
REVIEW QC: <i>W. J. R. / 1/76</i>			
SUPERVISOR: <i>W. J. R. / 1/76</i>		SIZE: D	CODE IDENT: 979-040253
NEXT ASSY MODEL NO. <i>203A</i>		SCALE:	WT.
APPLICATION:		SCALE:	SHEET 2 OF 2

TOP RIGHT BOARD VOLTAGES

S93-PINS	1	2	3	4	5	6	7	8	9	10
STRING	1	.181	2.50	2.50	2.50	.808	6.06	2.87	0	0
P PIANO	2	0	2.50	2.50	2.50	.245	0	.649	0	1.81
R ORGAN	3	0	2.50	2.50	2.50	.706	0	.888	0	1.26
E HARPSI	4	0	2.50	2.50	2.50	6.46	0	1.18	0	1.79
S FUNK	5	5.88	2.50	2.50	2.50	.267	0	1.78	8.60	0
E CLAV	6	0	2.50	2.50	2.50	1.25	0	.651	0	2.09
T VIBES	7	3.89	2.50	2.50	2.50	.273	3.92	1.10	0	.998
BRASS	8	0	2.50	2.50	2.50	0	0	.885	0	2.07

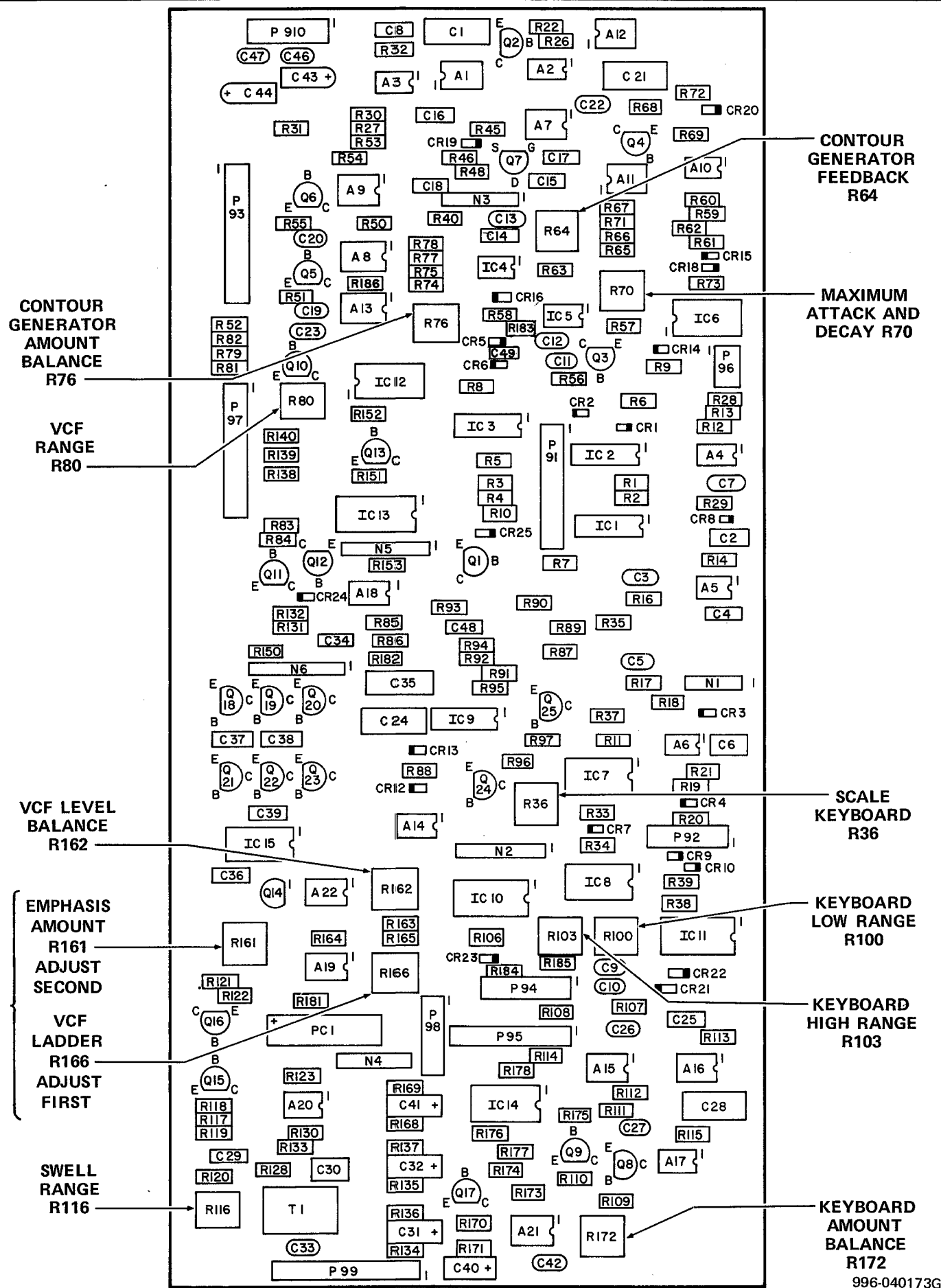
S95-PINS	2
STRING	1 1.61
P PIANO	2 1.20
R ORGAN	3 1.19
E HARPSI	4 1.05
S FUNK	5 1.31
E CLAV	6 1.26
T VIBES	7 1.31
BRASS	8 1.07

S96-PINS	1	2	3
STRING	1 .760	.065	0
P PIANO	2 .573	.544	1.93
R ORGAN	3 .450	.062	2.14
E HARPSI	4 2.59	.546	.141
S FUNK	5 0	0	0
E CLAV	6 .933	.263	2.15
T VIBES	7 3.09	6.70	2.06
BRASS	8 1.56	1.83	1.58

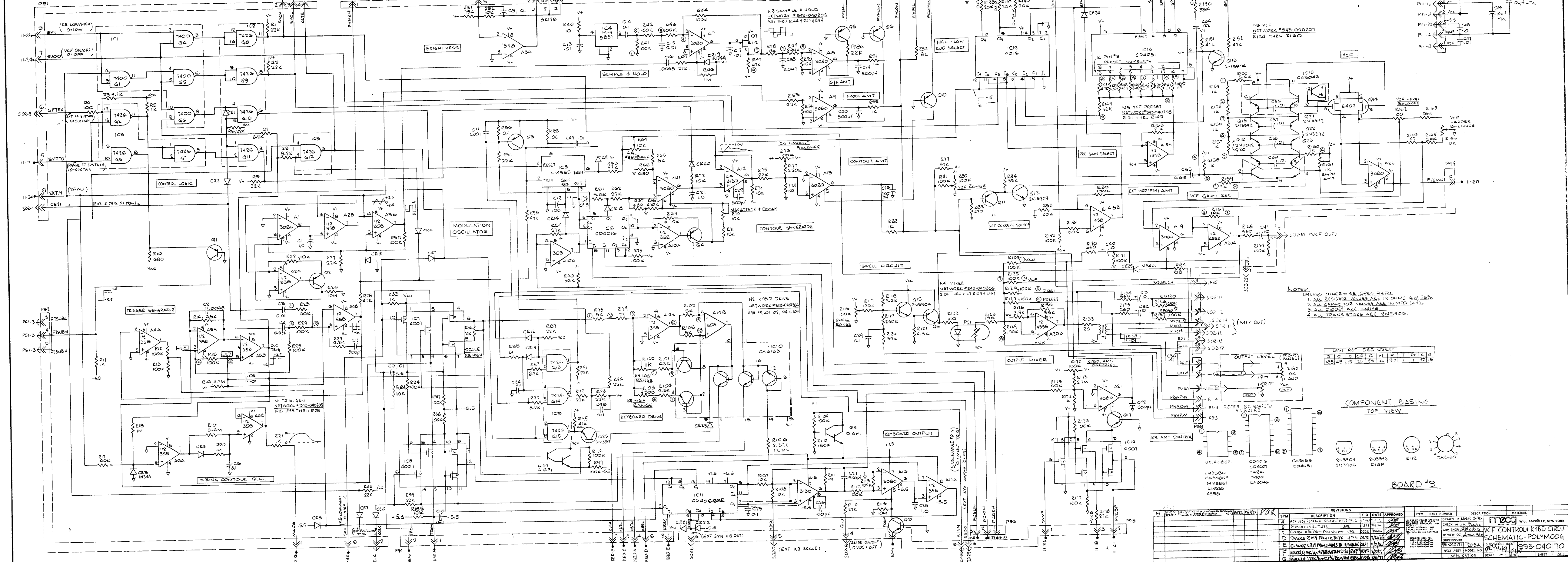
S99-PINS	10
STRING	1 1.35
P PIANO	2 1.71
R ORGAN	3 2.08
E HARPSI	4 .926
S FUNK	5 1.85
E CLAV	6 2.09
T VIBES	7 0
BRASS	8 0

NOTES:

1. CONNECTOR VOLTAGES MUST BE READ WITH CONNECTORS REMOVED FROM RESPECTIVE BOARD.
2. FOR PRESET 2 STRINGS, READINGS MUST BE TAKEN WITH A KEY DEPRESSED.
3. VOLTAGES ARE FOR INSTRUMENTS ABOVE S/N 3000.
4. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 9 FOR THE PART NUMBER AND DESCRIPTION OF EACH REFERENCE DESIGNATOR.



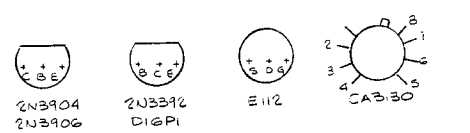
996-040173G



NOTES:  
 UNLESS OTHERWISE SPECIFIED:  
 1. ALL RESISTOR VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.  
 2. ALL CAPACITOR VALUES ARE IN PFD UNLESS OTHERWISE SPECIFIED.  
 3. ALL DIODES ARE IN 1N4148 UNLESS OTHERWISE SPECIFIED.  
 4. ALL TRANSISTORS ARE 2N3904 UNLESS OTHERWISE SPECIFIED.

LAST REF DES USED											
R	C	IC	CR	Q	N	S	T	PC	A	E	
151	49	1	2	3	4	5	6	7	8	9	10

COMPONENT BASING  
 TOP VIEW



BOARD #9

REVISIONS				ITEM		PART NUMBER		DESCRIPTION		MATERIAL	
NO.	DATE	BY	CHKD	NO.	NO.	NO.	NO.	NO.	NO.	NO.	NO.
1	10/17/74	JML	JML	1	1	1	1	1	1	1	1
2	11/17/74	JML	JML	2	2	2	2	2	2	2	2
3	12/17/74	JML	JML	3	3	3	3	3	3	3	3
4	1/17/75	JML	JML	4	4	4	4	4	4	4	4
5	2/17/75	JML	JML	5	5	5	5	5	5	5	5
6	3/17/75	JML	JML	6	6	6	6	6	6	6	6
7	4/17/75	JML	JML	7	7	7	7	7	7	7	7
8	5/17/75	JML	JML	8	8	8	8	8	8	8	8
9	6/17/75	JML	JML	9	9	9	9	9	9	9	9

WILLIAMSVILLE, NEW YORK  
 VCF CONTROL & KYBD CIRCUIT  
 SCHEMATIC - POLYMO04  
 93-040170  
 SHEET 1 OF 1

TOP LEFT BOARD VOLTAGES

S71-PINS		1	2	3	4	5	6	7
STRING	1	0	8.25	3.75	0	0	4.29	1.03
P PIANO	2	0	0	.294	0	0	0	0
R ORGAN	3	0	0	3.80	0	0	0	0
E HARPSI	4	0	0	0	0	0	0	.505
S FUNK	5	0	0	1.86	0	0	2.87	4.48
E CLAV	6	0	0	.292	0	0	.750	4.44
T VIBES	7	0	0	0	0	0	0	0
BRASS	8	0	0	0	0	0	6.30	.603

S72-PINS		1	2	3	4	5	6
STRING	1	1.63	1.27	1.24	8.38	1.47	2.00
P PIANO	2	.408	.290	.293	0	.650	.418
R ORGAN	3	1.63	1.71	1.71	0	1.44	2.21
E HARPSI	4	1.63	1.87	1.92	0	.889	.568
S FUNK	5	1.63	.939	.937	0	5.75	6.10
E CLAV	6	1.00	.699	.687	0	1.31	.741
T VIBES	7	.508	1.44	1.43	0	0	0
BRASS	8	1.63	1.88	1.88	0	0	0

S75-PINS		1	4
STRING	1	.540	.590
P PIANO	2	1.76	1.74
R ORGAN	3	0	0
E HARPSI	4	1.95	1.94
S FUNK	5	1.14	1.16
E CLAV	6	1.67	1.67
T VIBES	7	5.01	5.01
BRASS	8	0	0

S77-PINS		2	3	6	7	8
STRING	1	1.11	1.02	1.02	0	0
P PIANO	2	1.23	1.39	1.38	0	0
R ORGAN	3	.833	.705	.700	0	0
E HARPSI	4	.686	.545	.541	0	0
S FUNK	5	1.69	1.48	1.45	0	0
E CLAV	6	.424	.392	.397	0	0
T VIBES	7	3.42	3.78	3.82	0	0
BRASS	8	.688	.773	.769	5.00	5.00

S78-PINS		1	2	3
STRING	1	6.40	3.62	.666
P PIANO	2	0	0	.766
R ORGAN	3	1.91	2.99	.928
E HARPSI	4	0	0	2.75
S FUNK	5	0	1.00	2.77
E CLAV	6	0	0	.776
T VIBES	7	0	.752	.663
BRASS	8	1.65	1.64	.780

- NOTES:
1. CONNECTOR VOLTAGES MUST BE READ WITH CONNECTORS REMOVED FROM RESPECTIVE BOARD.
  2. FOR PRESET 2 STRINGS, READINGS MUST BE TAKEN WITH A KEY DEPRESSED.
  3. VOLTAGES ARE FOR INSTRUMENTS ABOVE S/N 3000.
  4. REPLACEMENT OF INTEGRATED CIRCUITS A2, A4, A7, A9, A13, A14 OR A15 REQUIRES REALIGNMENT.

INTERACTING CONTROLS

INTERACTING CONTROLS

OSC 1 MOD AMT R30  
 PULSE WIDTH MOD LOW BAL R21  
 PULSE WIDTH MOD HIGH BAL R15

OSC 1 SCALE R54  
 ADJUST FIRST

OSC 2 SCALE R80  
 ADJUST FIRST

OSC 2 RANGE R76  
 ADJUST SECOND

OSC 1 RANGE R51  
 ADJUST SECOND

PHASE MOD AMOUNT R100

DRIVE LIMIT LEVEL R108  
 SAWTOOTH LEVEL HIGH R114  
 PULSE WIDTH HIGH SET R138  
 SAWTOOTH LEVEL LOW R120  
 PULSE WIDTH MED SET R145  
 PULSE WIDTH LOW SET R152  
 FM 2 MOD AMT R38  
 OSC 2 MOD AMT R35

ATTACK SET R165

SUSTAIN LEVEL SET R174  
 ADJUST SECOND

LOWEST LEVEL SET R182  
 ADJUST FIRST

DECAY MED SET R127

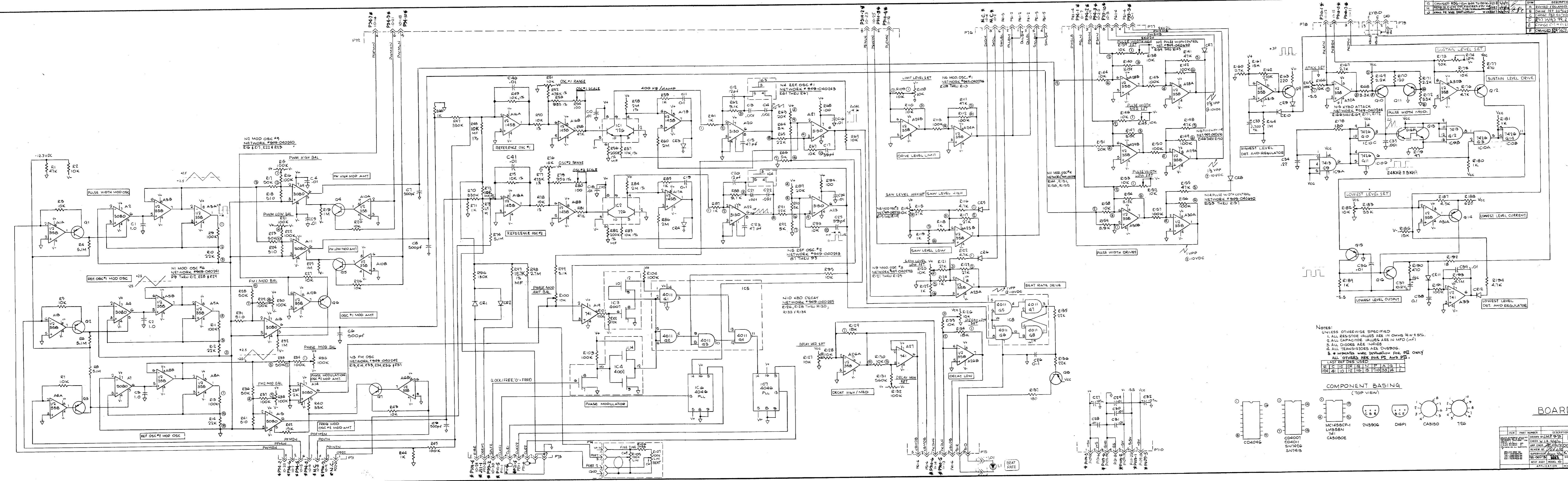
DECAY LOW SET R126

DECAY HIGH SET R132

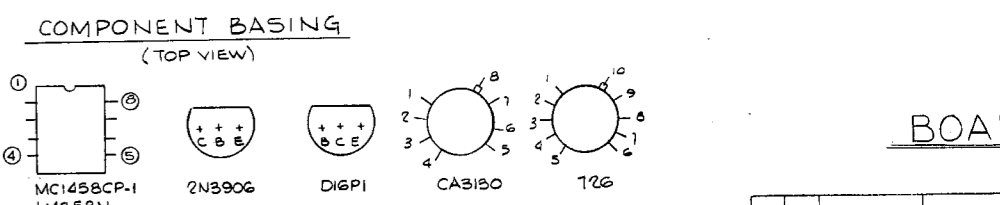
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REFERENCE AND MODULATION OSCILLATOR WAVESHAPES AND KEYBOARD CONTROL PRINTED CIRCUIT BOARD ASSEMBLY

REV	DESCRIPTION	DATE	APPROVED	REVISIONS
G	CHANGED R5C FROM 10K TO 30K	10/28/71		A
H	CHANGED R5C FROM 30K TO 10K	10/28/71		B
I	CHANGED R5C FROM 10K TO 30K	10/28/71		C
J	CHANGED R5C FROM 30K TO 10K	10/28/71		D
K	CHANGED R5C FROM 10K TO 30K	10/28/71		E
L	CHANGED R5C FROM 30K TO 10K	10/28/71		F

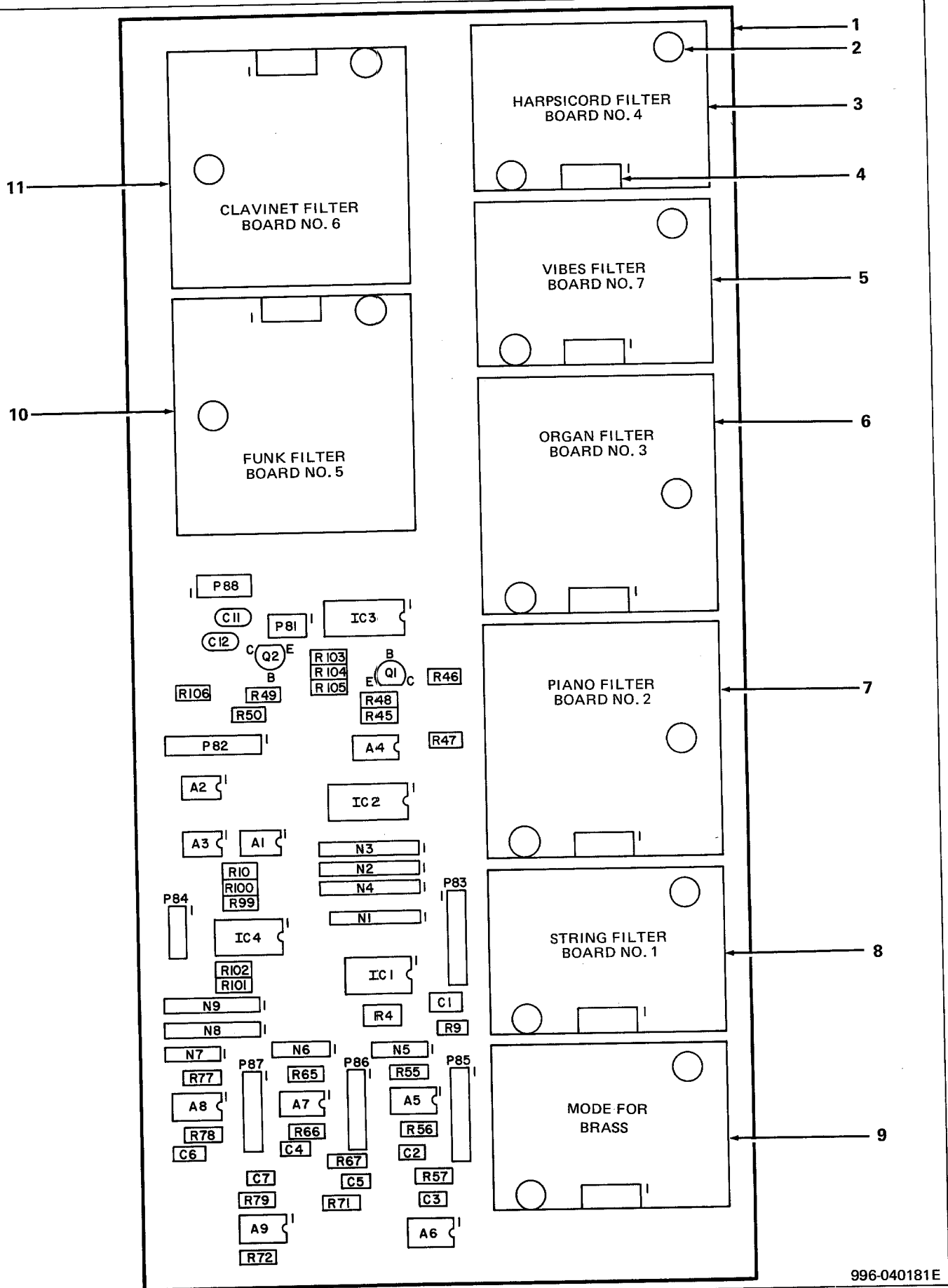


NOTES:  
 UNLESS OTHERWISE SPECIFIED  
 1. ALL RESISTOR VALUES ARE IN OHMS % W ± 5%.  
 2. ALL CAPACITOR VALUES ARE IN MFD (uF).  
 3. ALL DIODES ARE 1N4148.  
 4. ALL TRANSISTORS ARE 2N3906.  
 5. \* INDICATES WIRE DESTINATION FOR P11 ONLY.  
 ALL OTHERS ARE FOR P1 AND P11.



BOARD # 7

ITEM	PART NUMBER	DESCRIPTION	DATE
1	CD4046	PHASE LOCK LOOP	9/30
2	CD4007	CMOS INVERTER	9/30
3	741	OP-AMP	9/30
4	2N3906	TRANSISTOR	9/30
5	741	OP-AMP	9/30
6	741	OP-AMP	9/30

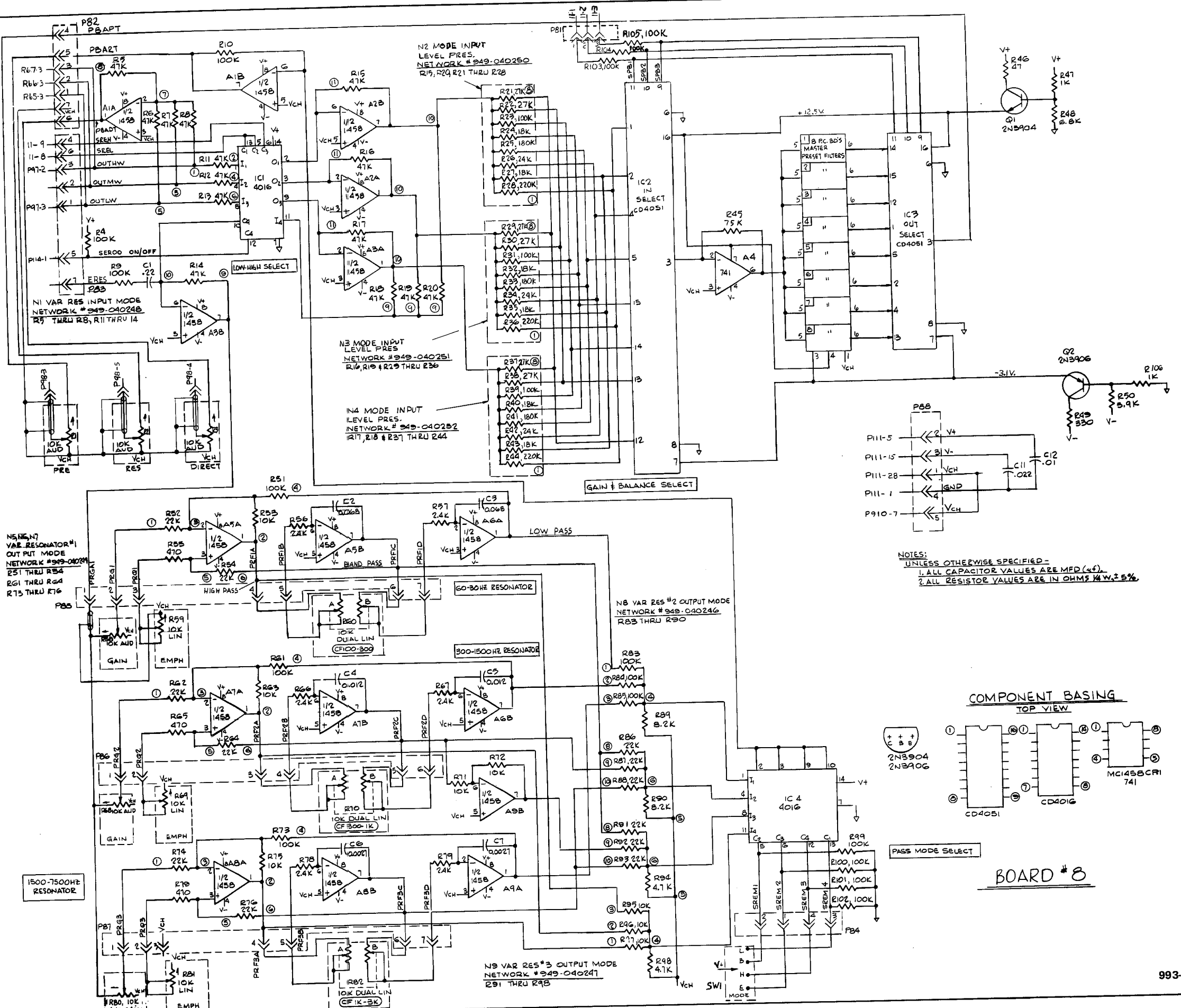


NOTES:

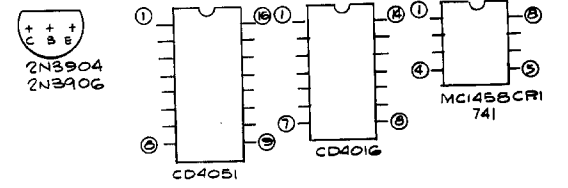
1. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 10 FOR THE PART NUMBER, DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.
2. CONNECTOR DESIGNATORS INCLUDE A CODED REFERENCE PERTAINING TO ITS PRINTED CIRCUIT BOARD ORIGIN, I.E., P87 INDICATES IT IS PART OF BOARD 8. REFER TO TABLE 1-1 FOR OTHER BOARD NUMBERS AND NOMENCLATURE.

996-040181E

FIXED AND VARIABLE RESONANT FILTERS PRINTED CIRCUIT BOARD ASSEMBLY



NOTES:  
UNLESS OTHERWISE SPECIFIED:-  
1. ALL CAPACITOR VALUES ARE MFD (μF)  
2. ALL RESISTOR VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED

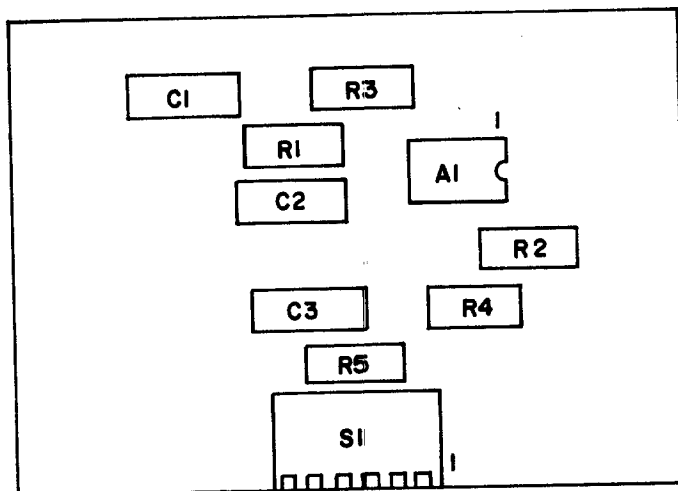


PASS MODE SELECT

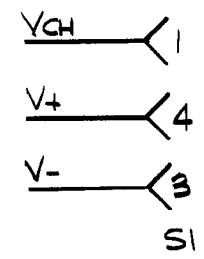
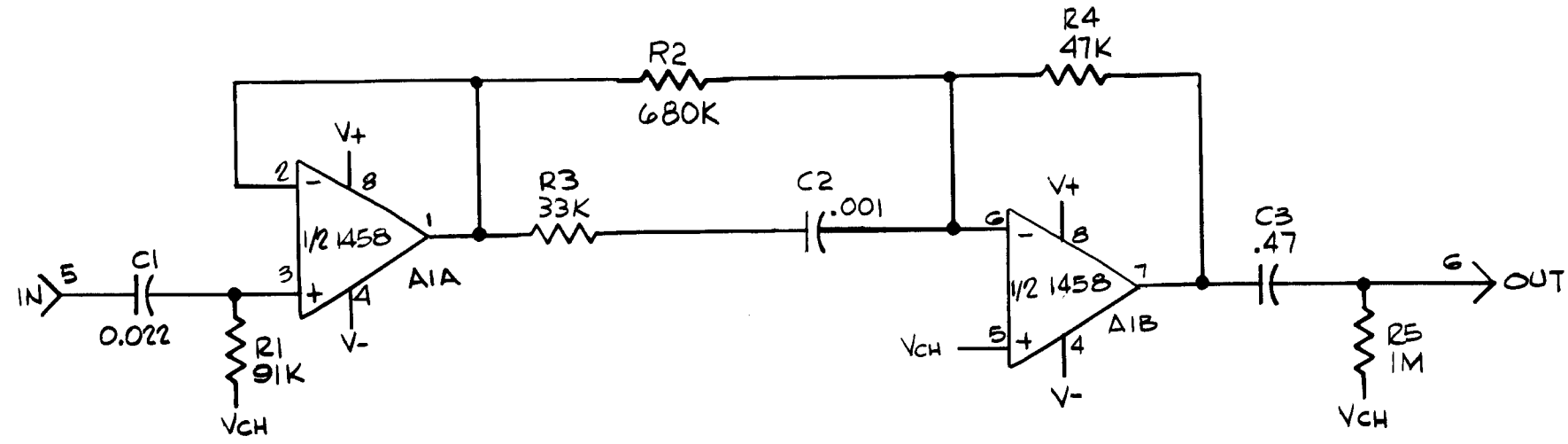


**NOTE:**

**REFER TO THE REPLACEMENT PARTS LIST IN SECTION 10 FOR THE PART NUMBER AND DESCRIPTION OF EACH REFERENCE DESIGNATOR.**



996-040352B



**NOTES:**  
 1. UNLESS OTHERWISE SPECIFIED -  
 ALL RESISTORS ARE IN OHMS 1/4W, ±5%  
 ALL CAPACITORS ARE IN MFD (μf)

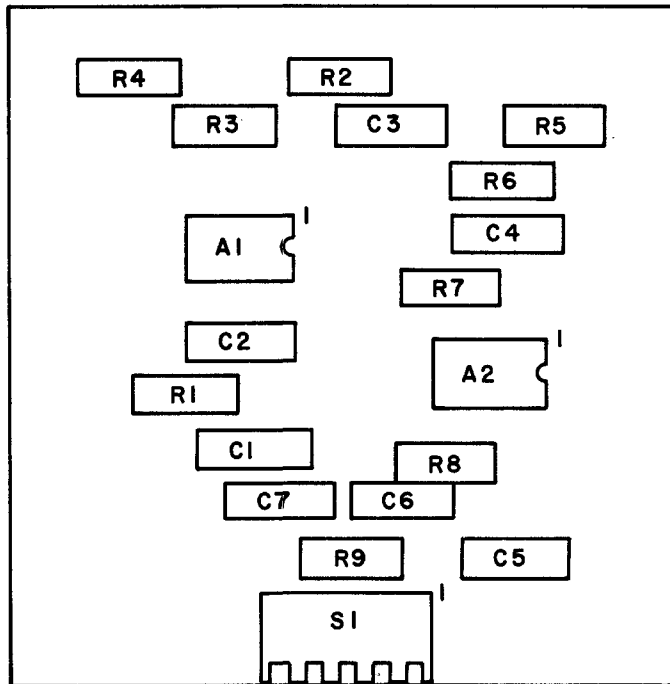
LAST REF DES USED			
A	C	R	S
1	3	5	1

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
-	RELEASED FOR PRODUCTION	0192	6/21/76	<i>[Signature]</i>
A	CHANGED C3 FROM .125 TO .47μf	JML	8/10/76	<i>[Signature]</i>
B	CHANGED PER E.O. 0277	JML	9/27/76	<i>[Signature]</i>

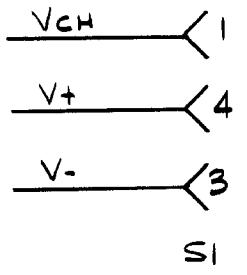
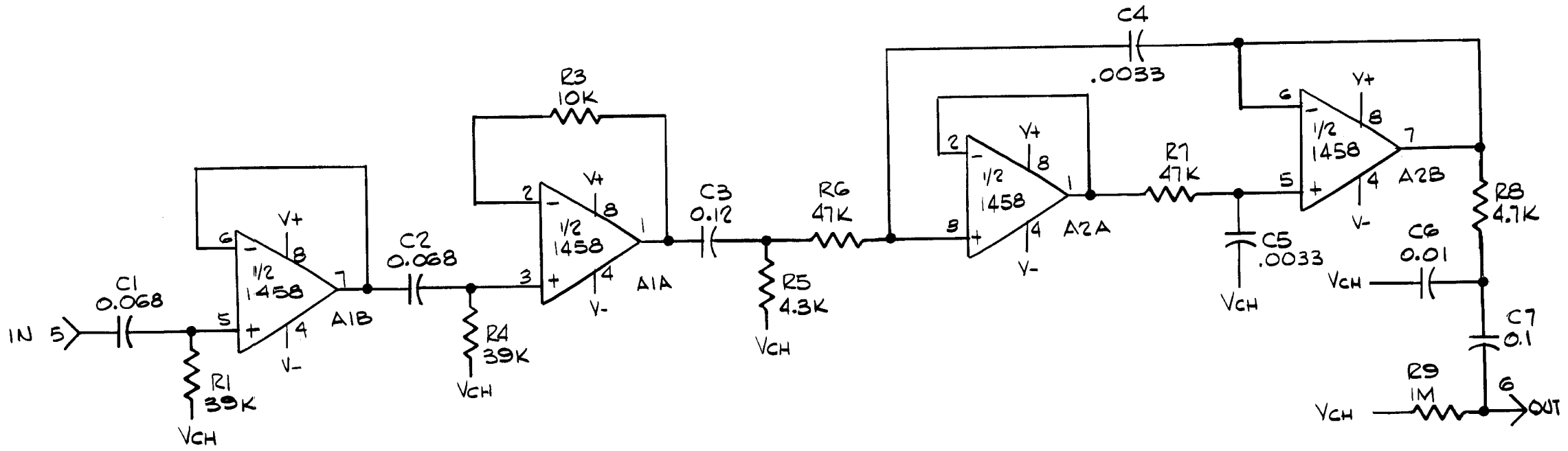
ITEM	PART NUMBER	DESCRIPTION	MATERIAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE: FRACTIONS = 1/64 ANGLES = 1/2° 3 PLACE DECIMALS = .005 2 PLACE DECIMALS = .01 125° FINISH ON ALL SURFACES		DRAWN BY J.M.P. 5-76 CHECK W.J.A. 6/21/76 GRP ENGR. <i>[Signature]</i> 6/21/76 REVIEW QC. <i>[Signature]</i> SUPERVISOR <i>[Signature]</i> 981-040350 203A NEXT ASSY MODEL NO.	moog WILLIAMSVILLE, NEW YORK MUSIC INC. POLYMOOG SCHEMATIC STRING FILTER #1 SIZE CODE IDENT B 993-040349
APPLICATION		SCALE —	WT. SHEET OF 1

**NOTES:**

1. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 10 FOR THE PART NUMBER AND DESCRIPTION OF EACH REFERENCE DESIGNATOR.
2. R2 DELETED ON LATER INSTRUMENTS.



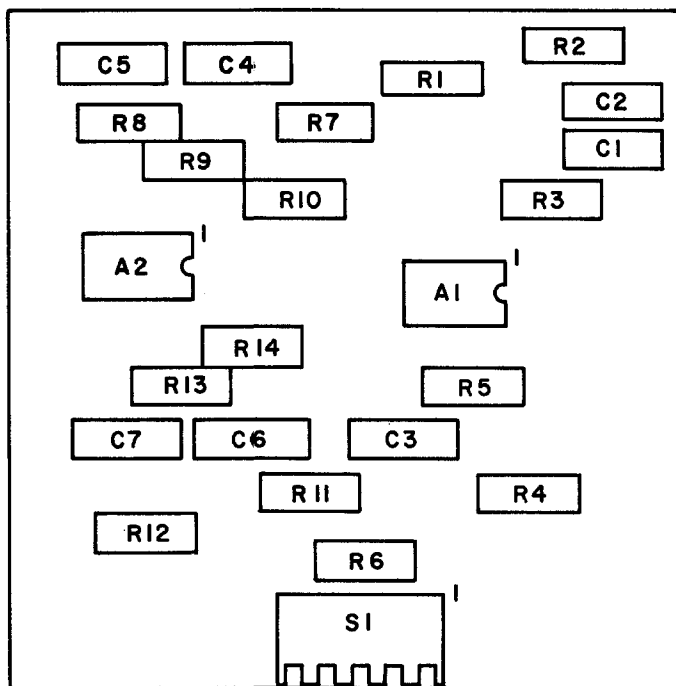
996-040356A



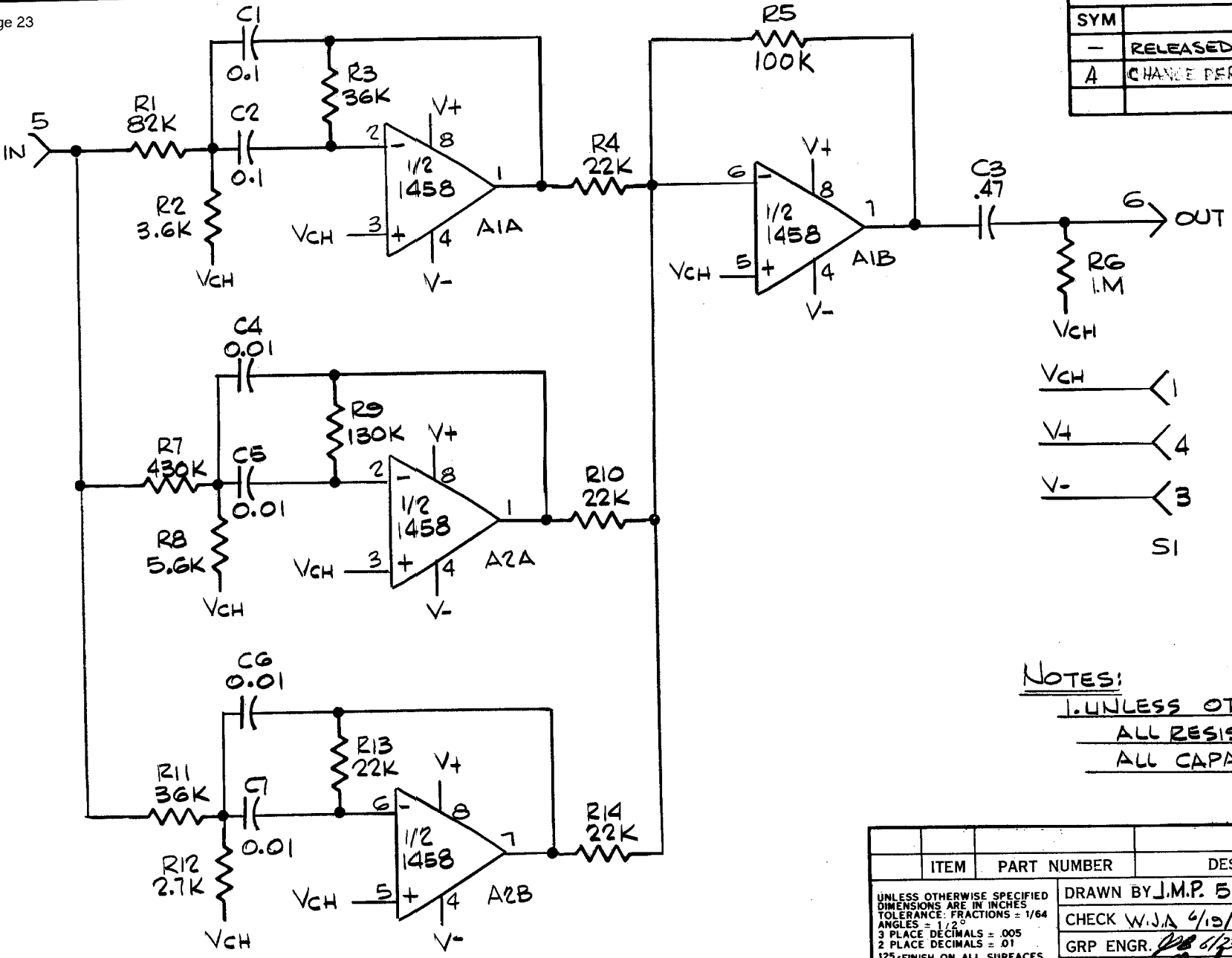
**NOTES:**  
 1. UNLESS OTHERWISE SPECIFIED -  
 ALL RESISTORS ARE 1/4W, ±5%.  
 ALL CAPACITORS ARE MFD (µf)

**NOTE:**

**REFER TO THE REPLACEMENT  
PARTS LIST IN SECTION 10 FOR  
THE PART NUMBER AND  
DESCRIPTION OF EACH  
REFERENCE DESIGNATOR.**

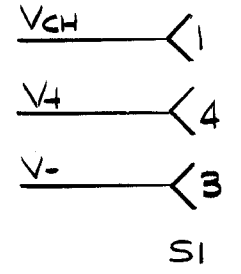


996-040360A



REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
-	RELEASED FOR PRODUCTION	0192	6/21/76	<i>JML</i>
A	CHANGE PER EC #0233	0233	7/26/76	<i>JML</i>

- FIL #1 G = -13  
F = 140HZ  
Q = 1.7
- FIL #2 G = -17  
F = 600HZ  
Q = 2.4
- FIL #3 G = -10  
F = 2050HZ  
Q = 1.5

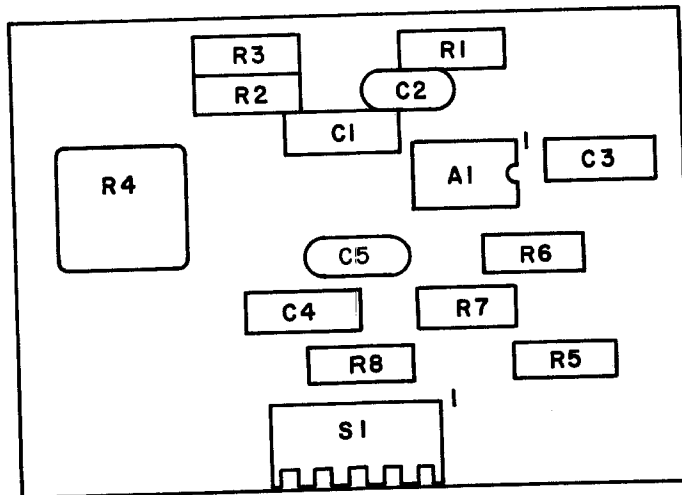


LAST REF DES USED			
A	C	R	S
2	7	14	1

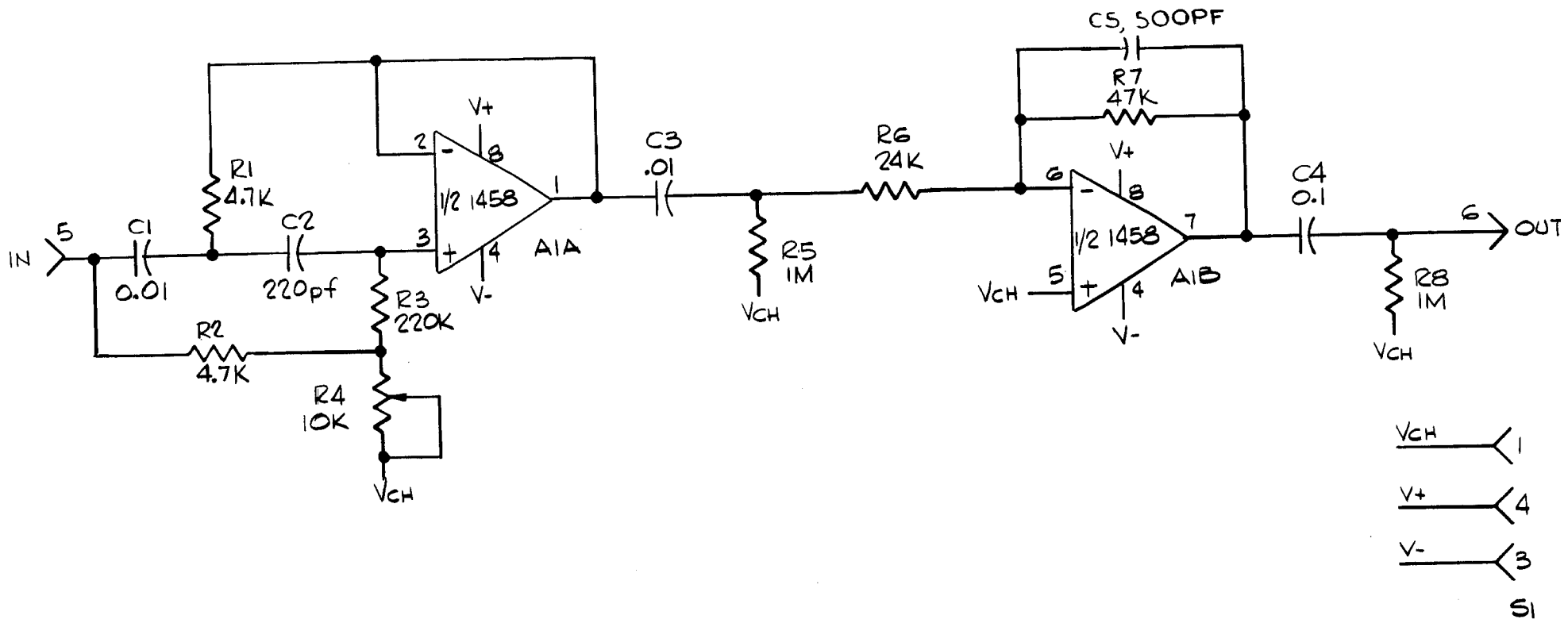
**NOTES:**  
1. UNLESS OTHERWISE SPECIFIED -  
ALL RESISTORS ARE IN OHMS 1/4W, ±5%  
ALL CAPACITORS ARE IN MFD (uf)

ITEM	PART NUMBER	DESCRIPTION	MATERIAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE: FRACTIONS = 1/64 ANGLES = 1/2° 3 PLACE DECIMALS = .005 2 PLACE DECIMALS = .01 125/FINISH ON ALL SURFACES		DRAWN BY J.M.P. 5/76	<b>moog</b> WILLIAMSVILLE, NEW YORK MUSIC INC.
		CHECK W.J.A. 6/19/76	POLYMOOG SCHEMATIC ORGAN FILTER #3
		GRP ENGR. <i>JML</i> 6/23/76	
		REVIEW QC <i>JML</i> 6/24	
		SUPERVISOR <i>JML</i> 6/26	
		981-040358	SIZE CODE IDENT B
		NEXT ASSY MODEL NO.	993-040357
DRILLED HOLE TOL .040-.325 DIA to 2.00l .126-.228 DIA to 3.00l .229-.500 DIA to 4.00l .500-.750 DIA to 5.00l		APPLICATION	SCALE - WT. SHEET 1 OF 1

**NOTE:**  
**REFER TO THE REPLACEMENT**  
**PARTS LIST IN SECTION 10 FOR**  
**THE PART NUMBER AND**  
**DESCRIPTION OF EACH**  
**REFERENCE DESIGNATOR.**



996-040364A

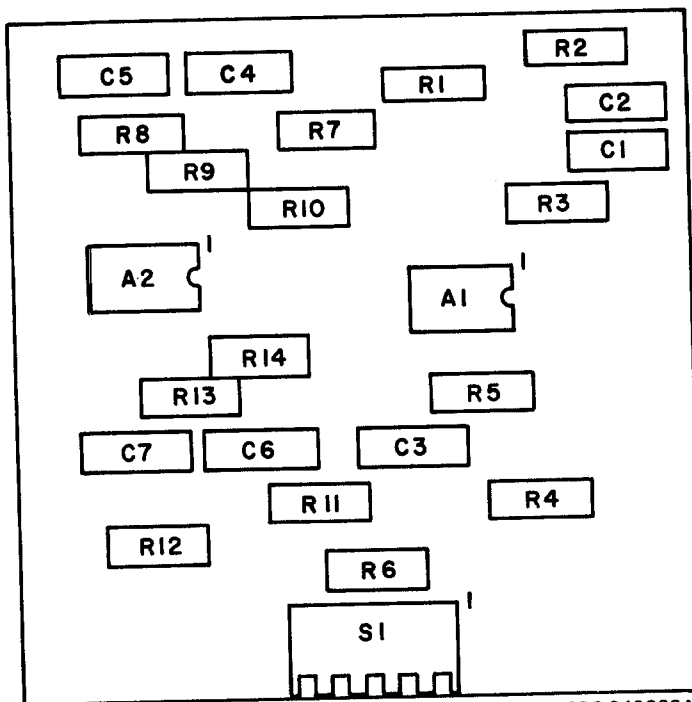


NOTES:  
 UNLESS OTHERWISE SPECIFIED:-  
 ALL RESISTORS ARE IN OHMS 1/4W, ±5%.  
 ALL CAPACITORS ARE IN MFD (uf)

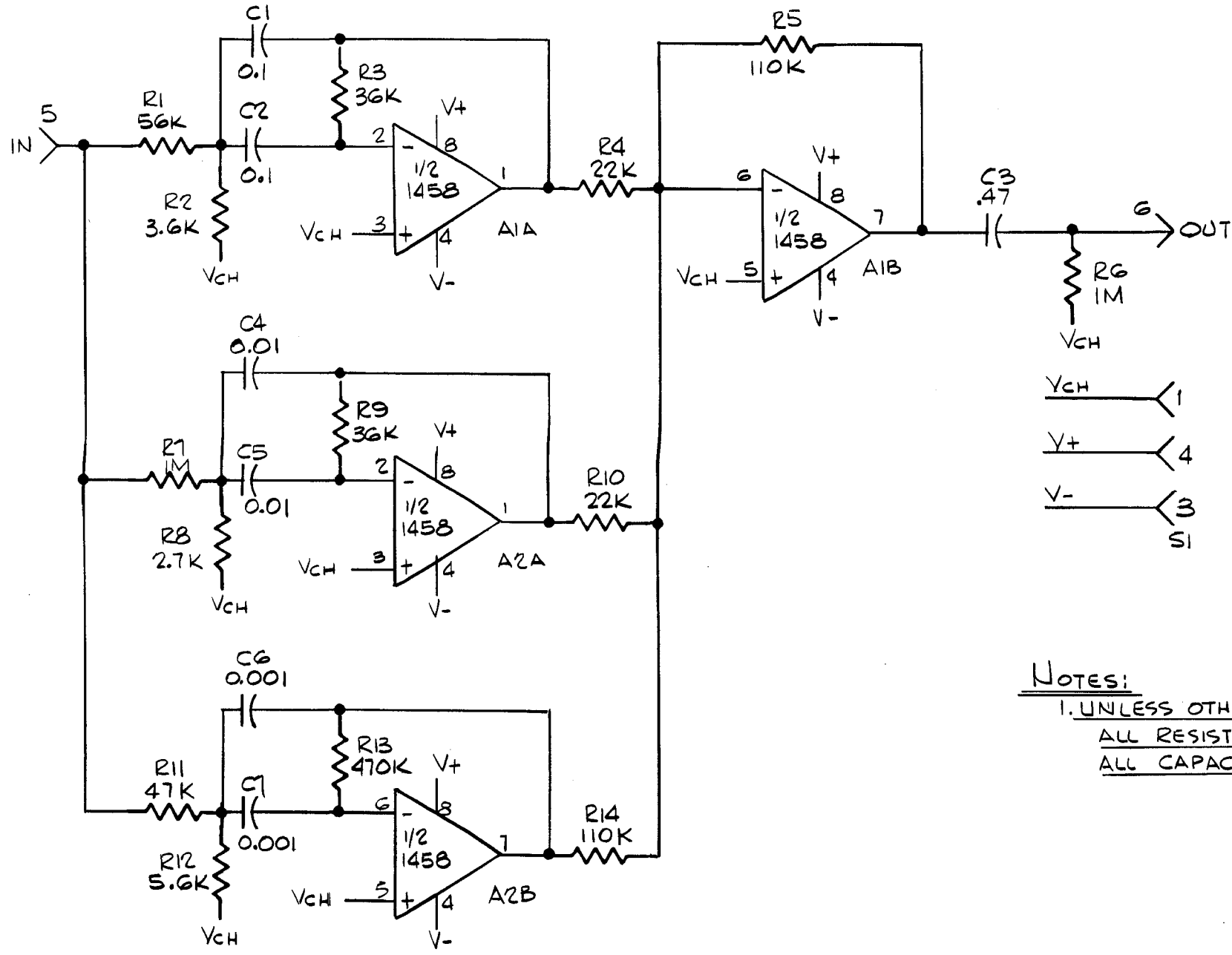


**NOTE:**

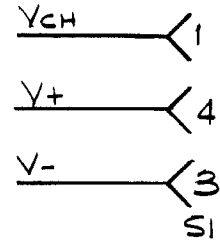
**REFER TO THE REPLACEMENT  
PARTS LIST IN SECTION 10 FOR  
THE PART NUMBER AND  
DESCRIPTION OF EACH  
REFERENCE DESIGNATOR.**



996-040366A

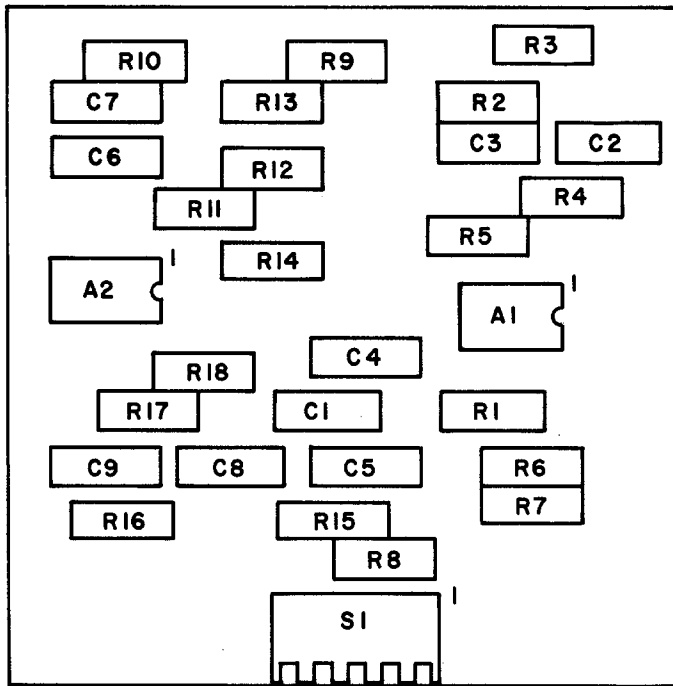


FIL#1	G = -10
	F = 146 Hz
	Q = 1.7
FIL#2	G = -35
	F = 1630 Hz
	Q = 1.8
FIL#3	G = 0
	F = 3K Hz
	Q = 2.7

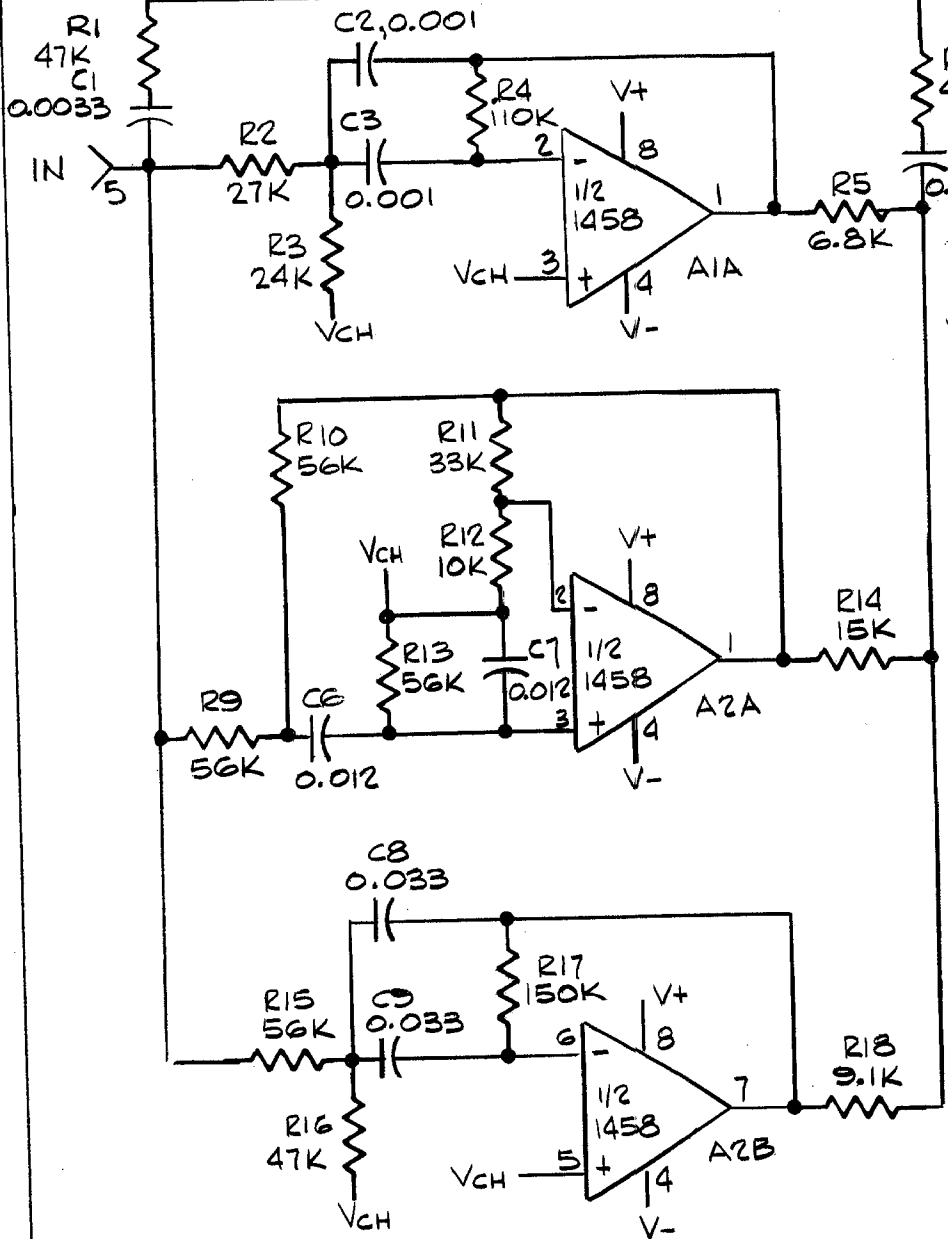


NOTES:  
 1. UNLESS OTHERWISE SPECIFIED -  
 ALL RESISTORS ARE IN OHMS 1/4W, ±5%  
 ALL CAPACITORS ARE IN MFD (μf)

**NOTE:**  
REFER TO THE REPLACEMENT  
PARTS LIST IN SECTION 10 FOR  
THE PART NUMBER AND  
DESCRIPTION OF EACH  
REFERENCE DESIGNATOR.



996-040370

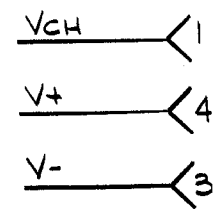


REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
-	RELEASED FOR PRODUCTION	0152	6/2/76	<i>[Signature]</i>

FIL #1 G = 6.4  
F = 4.2KHz  
Q = 1.5

FIL #2 G = 15  
F = 450 Hz  
Q = 2.2

FIL #3 G = 4.4  
F = 90 Hz  
Q = 1.3

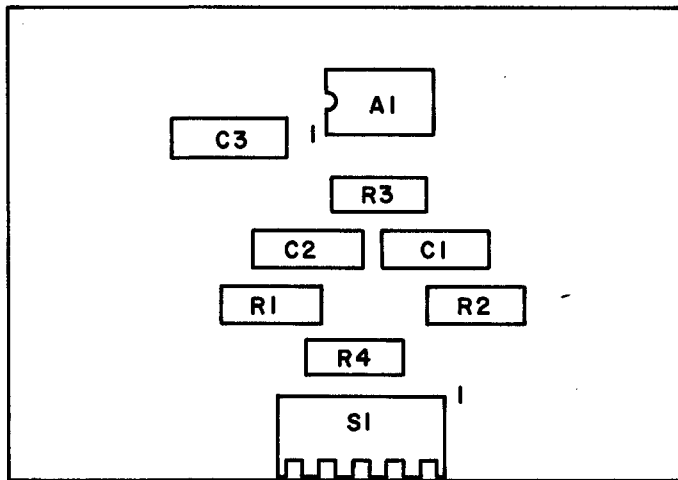


**NOTES:**  
UNLESS OTHERWISE SPECIFIED -  
ALL RESISTORS ARE IN OHMS 1/4W, ±5%  
ALL CAPACITORS ARE IN MFD (µf)

LAST REF Des Used			
A	C	R	S
2	9	18	1

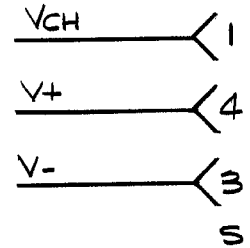
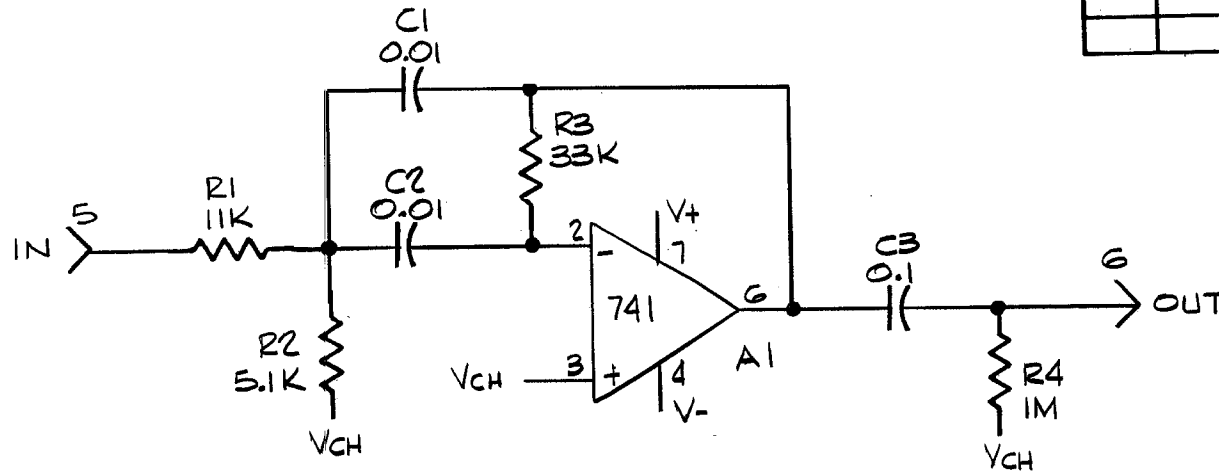
ITEM	PART NUMBER	DESCRIPTION	MATERIAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE: FRACTIONS = 1/64 ANGLES = 1/2° 3 PLACE DECIMALS = .005 2 PLACE DECIMALS = .01 125 FINISH ON ALL SURFACES		DRAWN BY J.M.P. 5/76	<b>moog</b> WILLIAMSVILLE, NEW YORK MUSIC INC.
CHECK W.J.A. 4/12/76		GRP ENGR. <i>[Signature]</i> 5/23/76	POLYMOOG SCHEMATIC CLAVINET FILTER #6
REVIEW QC. <i>[Signature]</i> 6/1/76		SUPERVISOR <i>[Signature]</i> 6/7/76	
981-040368		203A	SIZE CODE IDENT
NEXT ASSY		MODEL NO.	993-040367
APPLICATION		SCALE	WT. SHEET 1 OF 1

**NOTE:**  
**REFER TO THE REPLACEMENT**  
**PARTS LIST IN SECTION 10 FOR**  
**THE PART NUMBER AND**  
**DESCRIPTION OF EACH**  
**REFERENCE DESIGNATOR.**



996-040374

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
-	RELEASED FOR PRODUCTION	019Z	6/21/76	<i>MB</i>



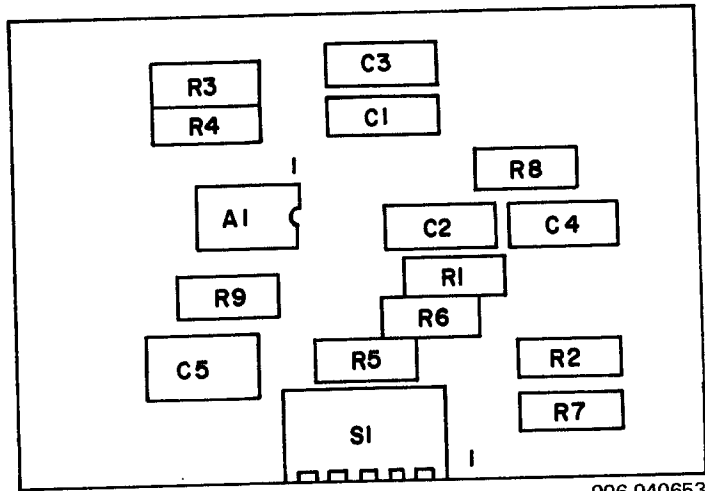
NOTES:

- UNLESS OTHERWISE SPECIFIED -  
ALL RESISTORS ARE IN OHMS 1/4 W, ± 5%.  
ALL CAPACITORS ARE IN MFD (μf)

LAST REF DES USED			
A	C	R	S
1	3	4	1

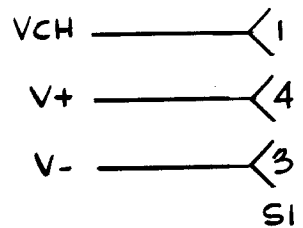
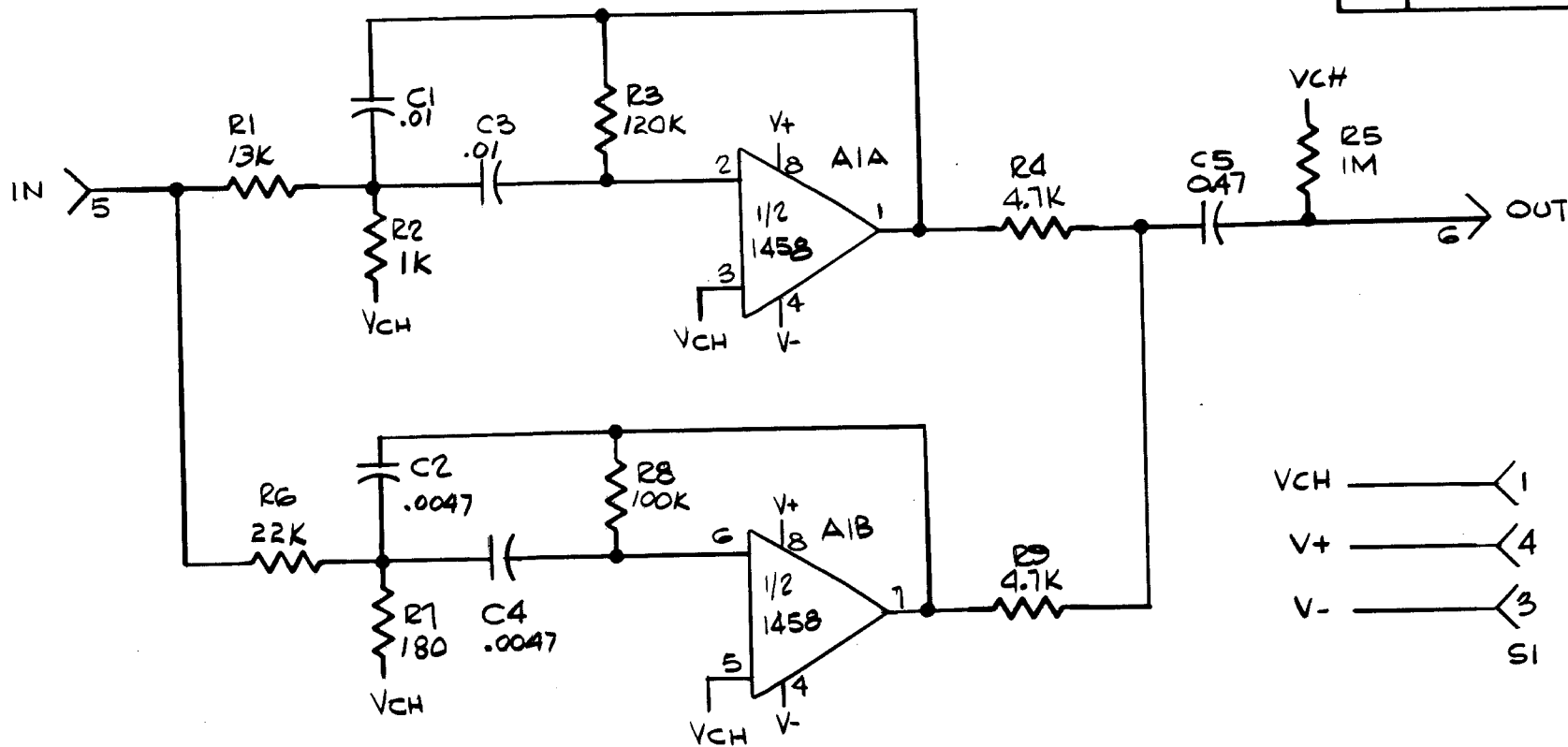
ITEM	PART NUMBER	DESCRIPTION	MATERIAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE: FRACTIONS = 1/64 ANGLES = 1/2° 3 PLACE DECIMALS = .005 2 PLACE DECIMALS = .01 125/FINISH ON ALL SURFACES		DRAWN BY J.M.P. 5/76 CHECK W.J.A. 6/9/76 GRP ENGR. <i>MB</i> 8/27/76 REVIEW QC. <i>PDZ</i> 6/76 SUPERVISOR <i>TCM</i> 6/76	<b>moog</b> WILLIAMSVILLE, NEW YORK MUSIC INC.
DRILLED HOLE TOL .040 - .125 DIA ± .002 .126 - .228 DIA ± .003 .229 - .500 DIA ± .004 .500 - .750 DIA ± .005		981-040372 203A NEXT ASSY MODEL NO.	<b>POLYMOOG SCHEMATIC VIBES FILTER #7</b> SIZE CODE IDENT B 993-040371
APPLICATION		SCALE -	WT. SHEET   OF

**NOTE:**  
REFER TO THE REPLACEMENT PARTS  
LIST IN SECTION 10 FOR THE PART  
NUMBER AND DESCRIPTION OF  
EACH REFERENCE DESIGNATOR.



996-040653

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
-	RELEASED FOR PRODUCTION	0233	9/76	✓



**NOTES:**

1. UNLESS OTHERWISE SPECIFIED
  - a) ALL RESISTORS ARE IN OHMS 1/4W, ± 5%
  - b) ALL CAPACITORS ARE IN MFD (4f)

LAST REF DES USED			
A	C	R	S
1	5	9	1

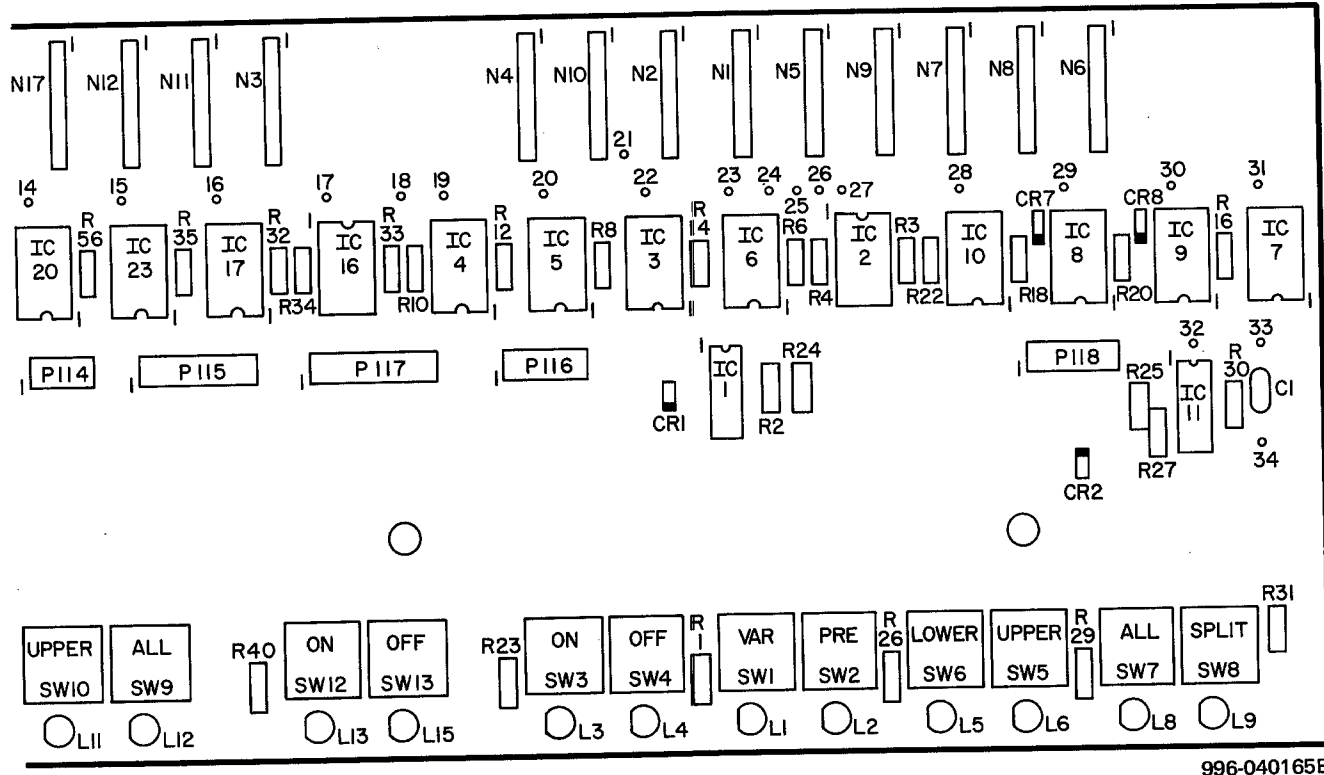
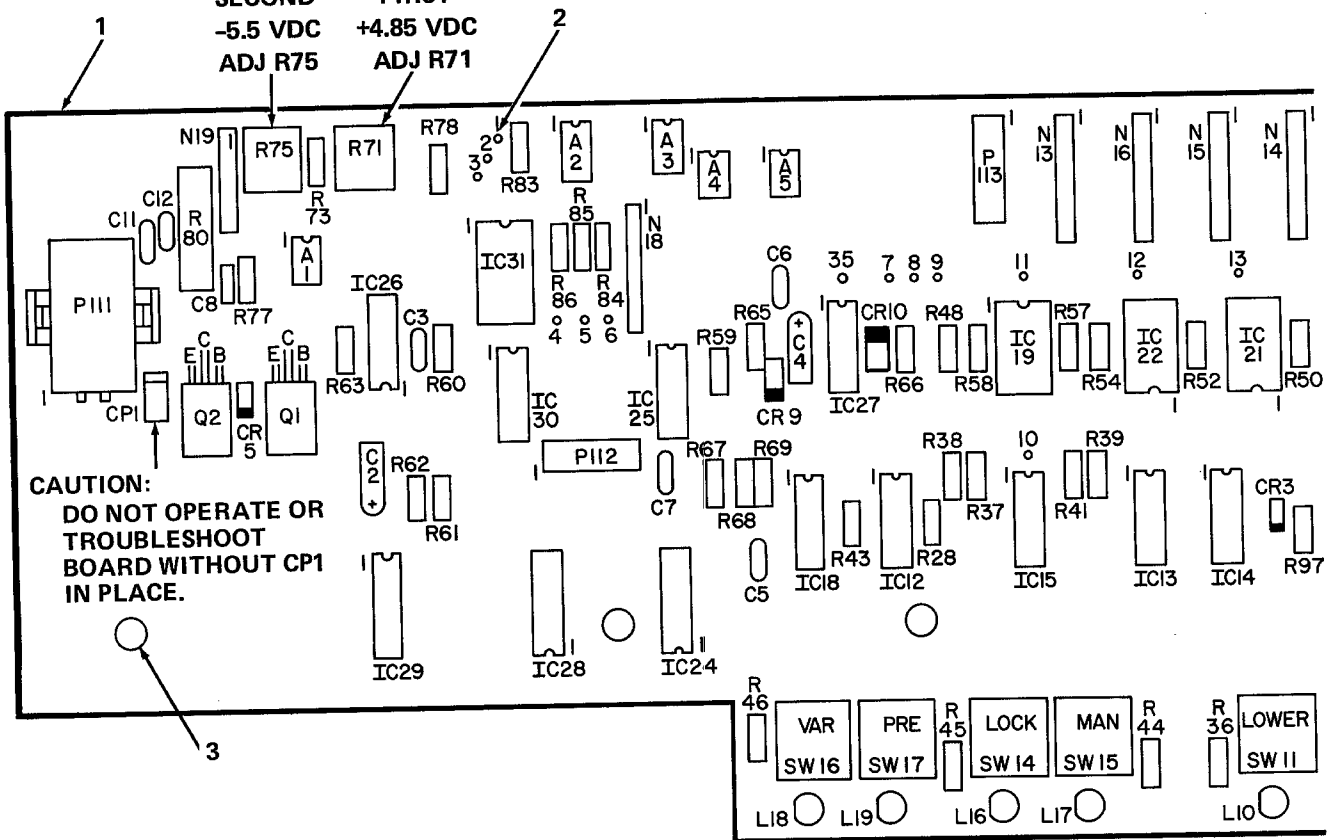
ITEM	PART NUMBER	DESCRIPTION	MATERIAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE FRACTIONS = 1/64 ANGLES = 1/2° 3 PLACE DECIMALS = .005 2 PLACE DECIMALS = .01 125/FINISH ON ALL SURFACES		DRAWN BY J.M.P. 9-76 CHECK W.J.A. 10/76 GRP ENGR. <i>[Signature]</i> 11/2/76 REVIEW QC <i>[Signature]</i> 1/9/76 SUPERVISOR <i>[Signature]</i> 11/2/76	<b>moog</b> WILLIAMSVILLE, NEW YORK MUSIC INC.
DRILLED HOLE TOL .040-.125 DIA .002 .001 .126-.228 DIA .003 .001 .229-.500 DIA .004 .001 .500-.750 DIA .005 .001		981-040651 203A	<b>POLYMOOG SCHEMATIC MODE FILTER FOR BRASS</b>
NEXT ASSY MODEL NO.		SIZE CODE IDENT	993-040650
APPLICATION		SCALE ~	WT. SHEET 1 OF 1



**INTERACTING CONTROLS**

ADJUST SECOND  
-5.5 VDC  
ADJ R75

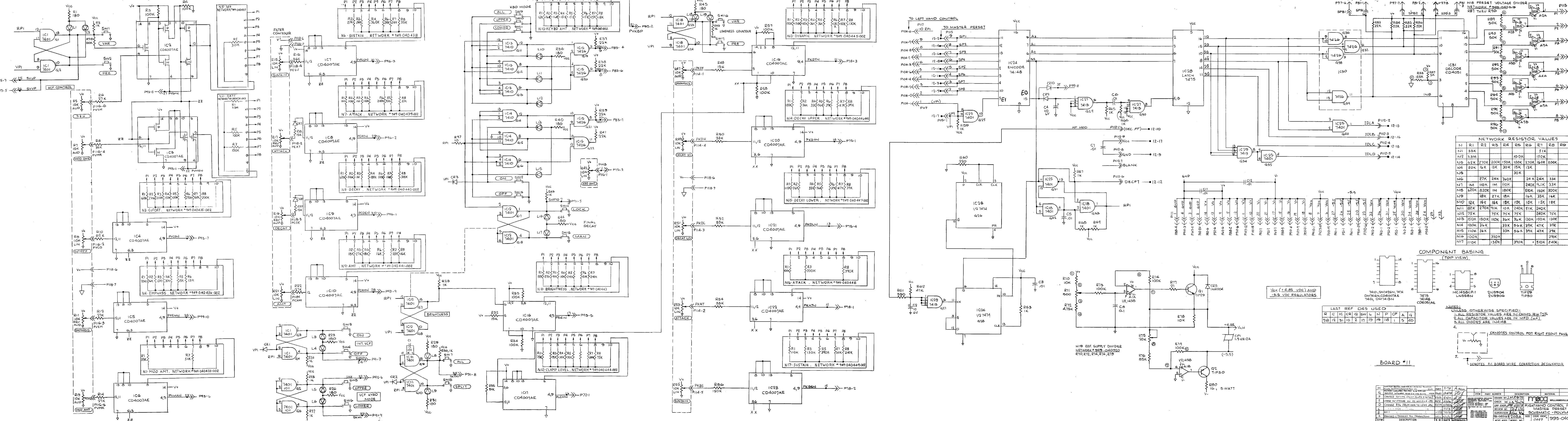
ADJUST FIRST  
+4.85 VDC  
ADJ R71



**NOTE:**  
REFER TO THE REPLACEMENT PARTS LIST  
IN SECTION 6 FOR THE PART NUMBER,  
DESCRIPTION AND QUANTITY OF EACH  
INDEX NUMBER OR REFERENCE DESIGNA-  
TOR.

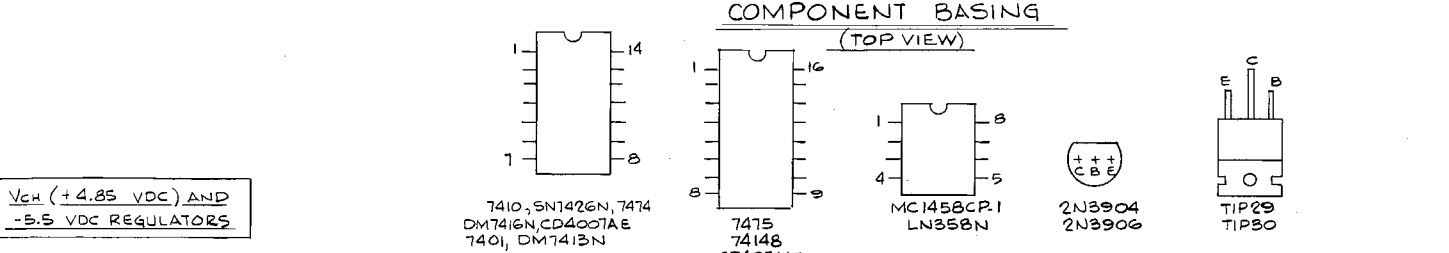
996-040165E

**RIGHT HAND CONTROL AND MASTER PRESET PRINTED CIRCUIT BOARD ASSEMBLY**



**NETWORK RESISTOR VALUES**

N	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
N1	33K									
N2	33M				100K		51K		150K	
N3	62K	270K	200K	150K	100K	270K	160K	200K		
N4	20K	14K	13K	30K	15K	13K				
N5					30K					
N6	27K	24K	300K		24K	24K	33K			
N7	1M	110K	1M	110K	240K	9.1K	33K			
N8	620K	820K	1M	180K	50K	150K	300K			
N9	150K	130K	110K	100K	36K	36K	150K	130K		
N10	12K	16K	16K	18K	15K	15K	18K			
N11	62K	270K	91K	10K	240K	51K	240K			
N12	75K		75K	75K	75K		240K	75K		
N13	150K	130K	110K	100K	36K	36K	150K	130K		
N14	120K	36K		33K	56K	39K	47K	39K		
N15	110K	36K		33K	56K	39K	47K	39K		
N16	100K		330K				390K			
N17	110K		130K		390K		510K	240K		



**LAST REF DES USED**

R	C	IC	CR	Q	SW	L	N	P	CP	A	G
38	12	31	10	2	17	19	18	1	5	40	

**NOTES:**

- UNLESS OTHERWISE SPECIFIED - ALL RESISTOR VALUES ARE IN OHMS UNLESS OTHERWISE SPECIFIED.
- ALL CAPACITOR VALUES ARE IN PFD (P.F.).
- ALL DIODES ARE IN4148.
- Ⓜ DENOTES CONTROL POT RIGHT FRONT PANEL.
- Ⓜ DENOTES P.C. BOARD WIRE CONNECTION DESIGNATOR.

**BOARD #11**

REV	DESCRIPTION	DATE	APPROVED
1	ISSUED FOR PRODUCTION	04/99	[Signature]

**REVISIONS**

REV	DESCRIPTION	DATE	APPROVED
1	ISSUED FOR PRODUCTION	04/99	[Signature]

**APPLICATION** SCALE 1/16" = 1"

**WILLIAMSVILLE, NEW YORK**

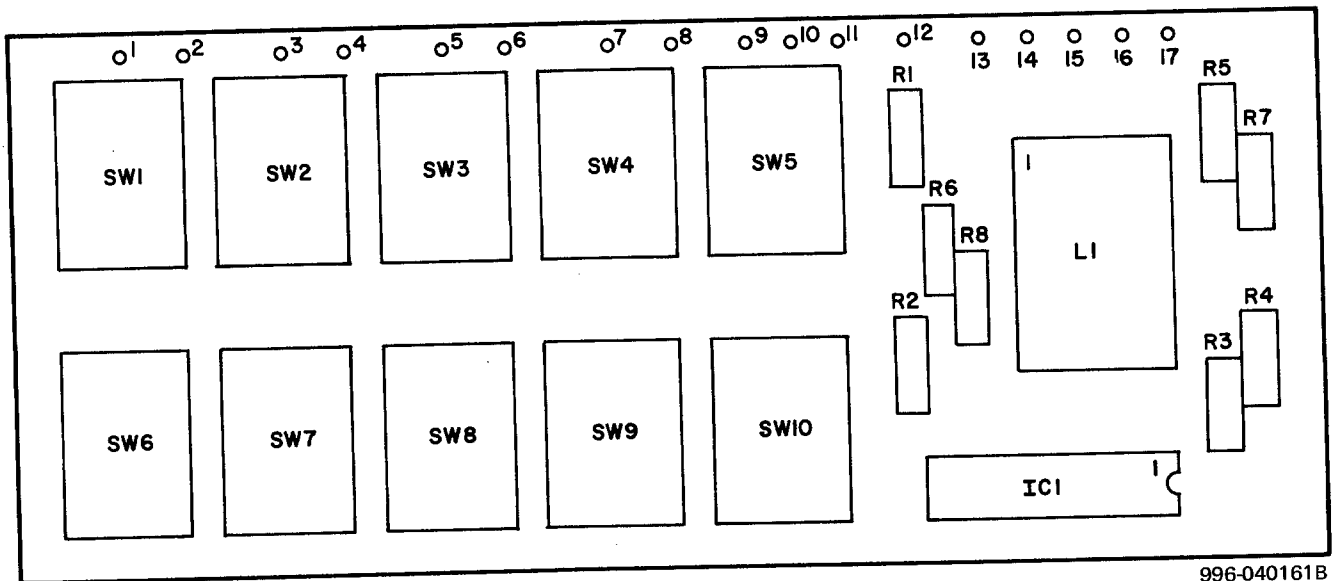
**RIGHT-HAND CONTROL PANEL & MASTER PRESET**

**SCHEMATIC - POLYMOOS**

**993-0401G2**

**NOTES:**

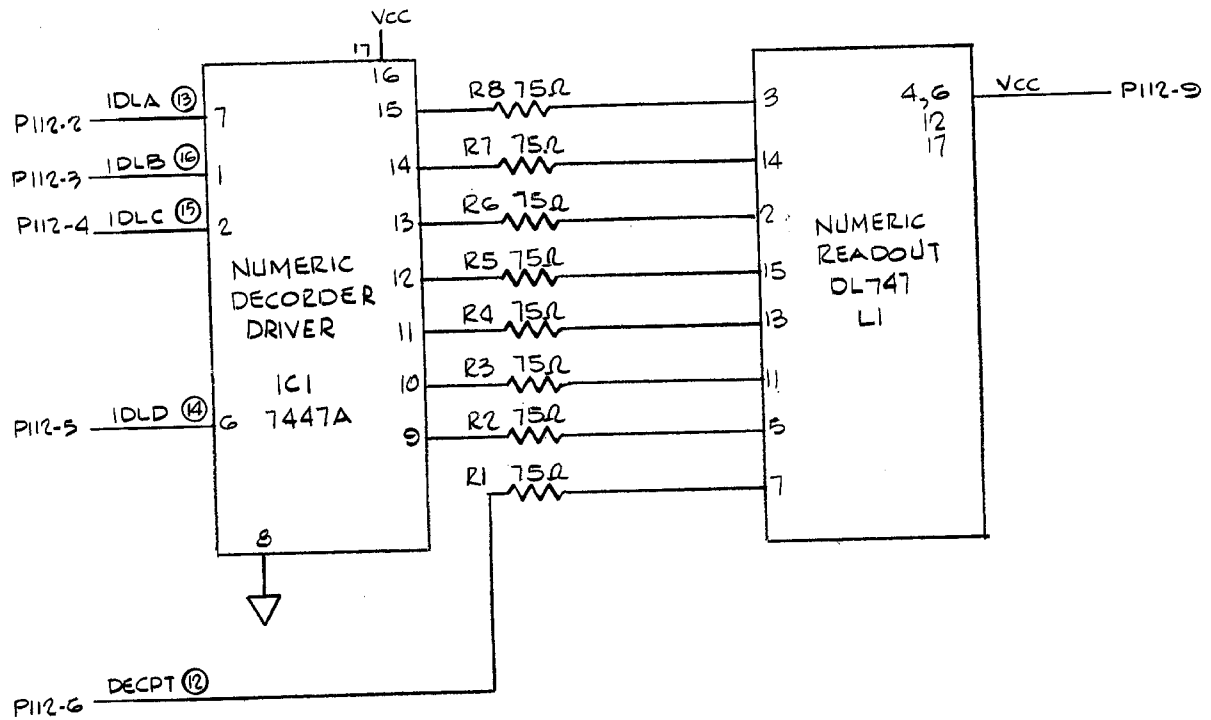
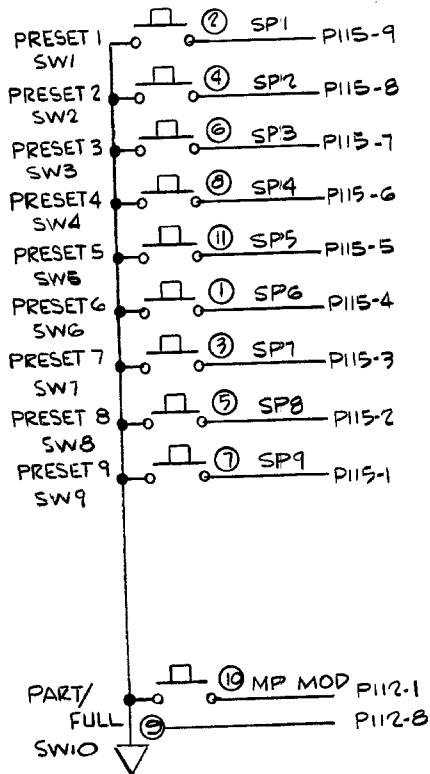
1. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 6 FOR THE PART NUMBER AND DESCRIPTION OF EACH REFERENCE DESIGNATOR.
2. CONNECTOR DESIGNATORS INCLUDE A CODED REFERENCE PERTAINING TO ITS PRINTED CIRCUIT BOARD ORIGIN, I.E., P115 INDICATES IT IS PART OF BOARD 11. REFER TO TABLE 1-1 FOR OTHER BOARD NUMBERS AND NOMENCLATURE.



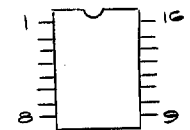
996-040161B

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
A	RELEASED FOR PRODUCTION	W.J.A	0192 3/16/76	<i>WJA</i>

MODE SELECTOR SWITCHES



COMPONENT BASING  
(TOP VIEW)



DL747  
7447A

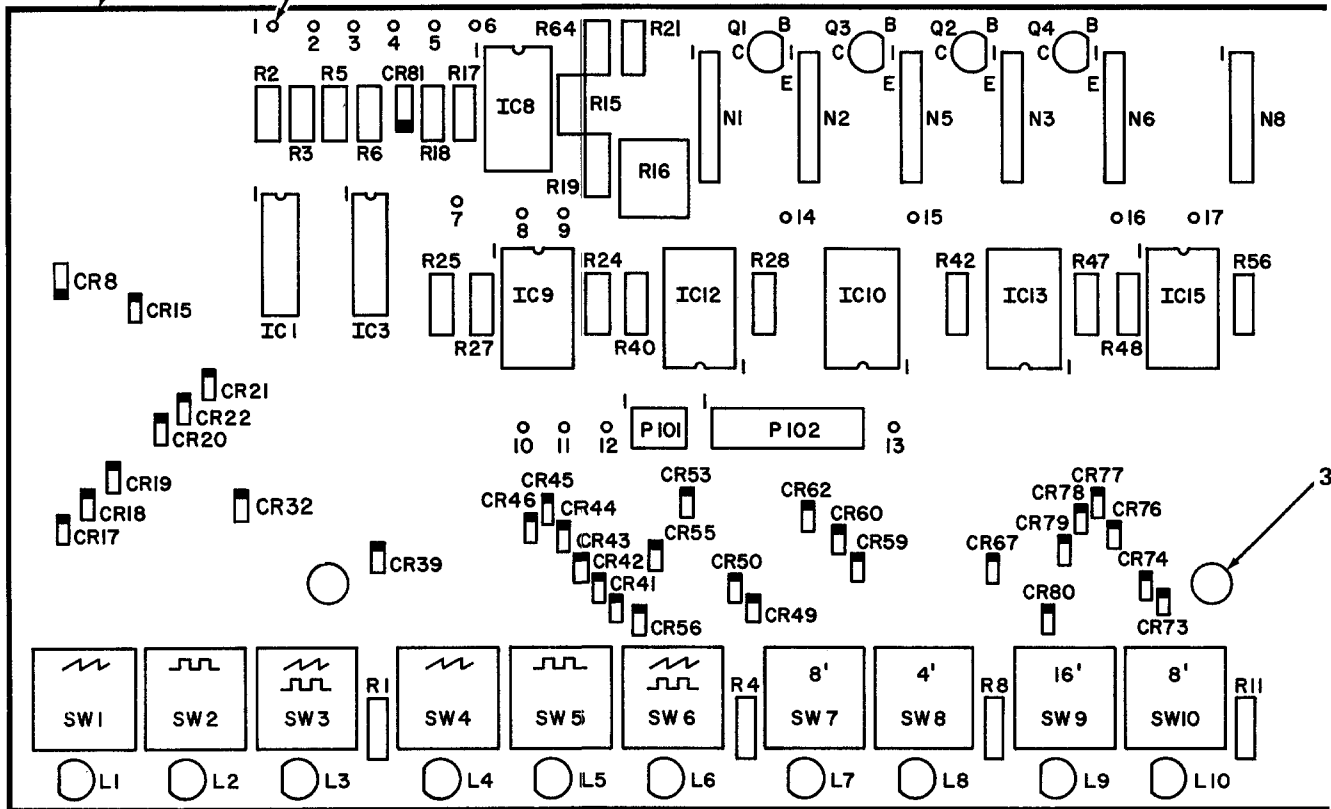
LAST REF DES USED			
R	SW	IC	L
8	10	1	1

BOARD #12

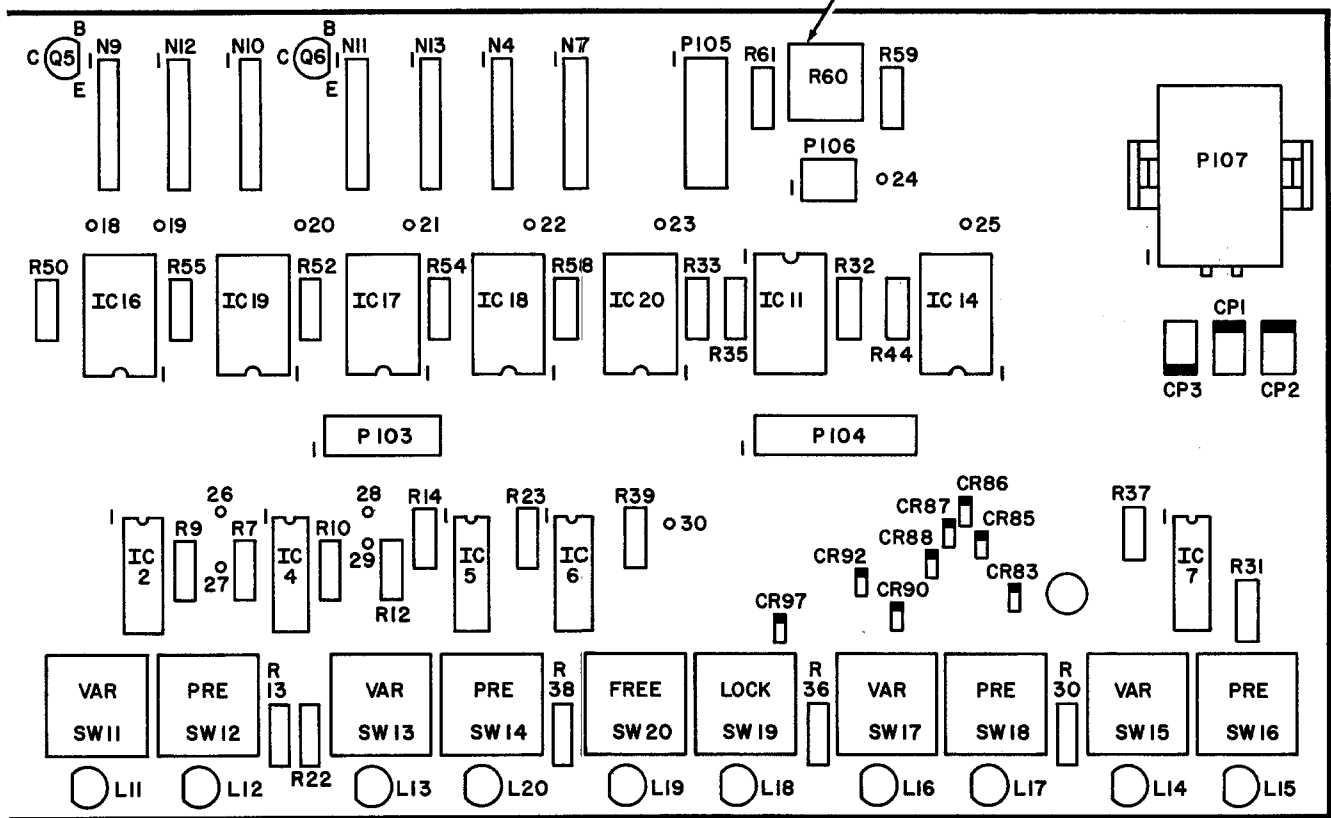
NOTES  
UNLESS OTHERWISE SPECIFIED-  
1. ALL RESISTOR VALUES ARE IN OHMS 1/4 W, ±5%.  
2. O DENOTES WIRE NUMBER

ITEM	PART NUMBER	DESCRIPTION	MATERIAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE: FRACTIONS = 1/64 ANGLES = 1/2° 3 PLACE DECIMALS = .005 2 PLACE DECIMALS = .01 125° FINISH ON ALL SURFACES		DRAWN BY W.J.A. 8/25/75 CHECK <i>WJA</i> 3/16/76 GRP ENGR. <i>Acu</i> 5/14/76 REVIEW QC. SUPERVISOR <i>WJA</i> 5/14/76	<b>moog</b> WILLIAMSVILLE, NEW YORK MUSIC INC.
DRILLED HOLE TOL .040 - .125 DIA .002 .126 - .228 DIA .003 .229 - .500 DIA .004 .500 - .750 DIA .005	361-040159	203A	SIZE C CODE IDENT 993-040158
APPLICATION		SCALE -	WT. - SHEET 1 OF 1

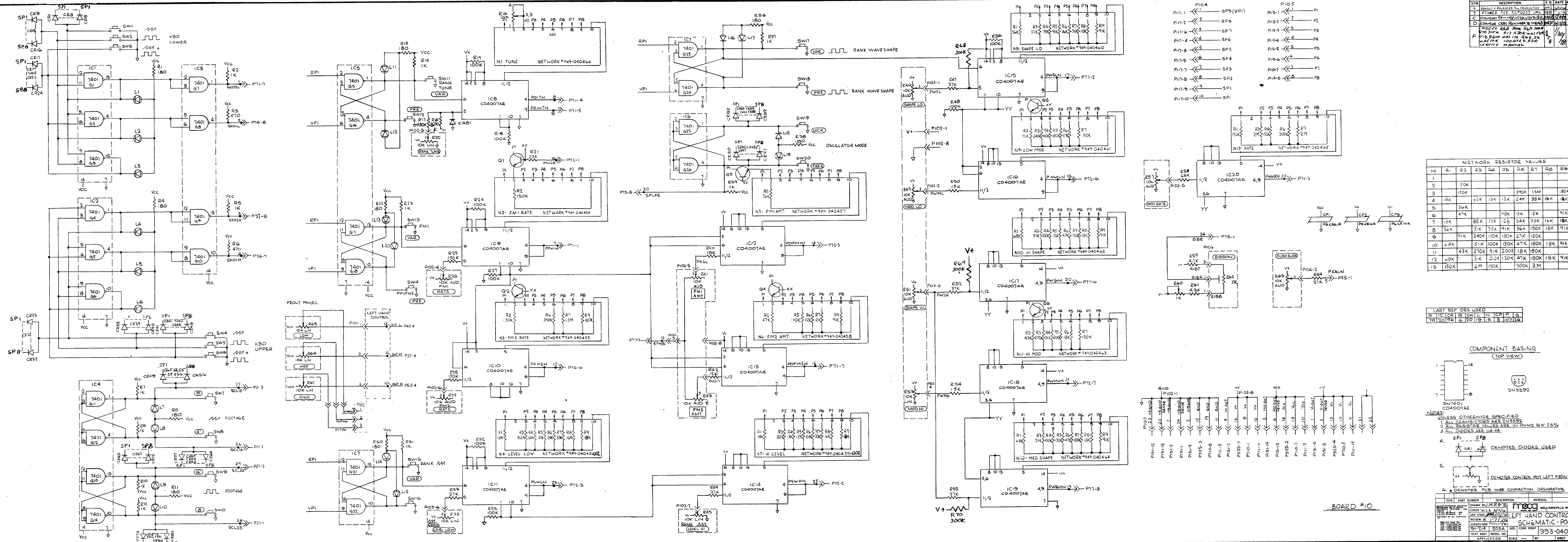
NOTE: REFER TO THE REPLACEMENT PARTS LIST IN SECTION 6 FOR THE PART NUMBER, DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.



PITCH CONTROLLER CENTER ADJ R60



**CAUTION:**  
DO NOT OPERATE OR TROUBLESHOOT BOARD WITHOUT CP2 IN PLACE.



REVISIONS

SYM	DESCRIPTION	E.O.	DATE	APPROVED
A	REDESIGNED RELEASED FROM PRODUCTION	0012	6/11/78	[Signature]
B	REVISED PER EC 0233 JML	0233	7/1/78	[Signature]
C	CHANGED FROM 1/4" TO 1/2" PITCH	0438	1/17/79	[Signature]
D	CHANGED CR81 FROM 100K TO 10K	0439	1/17/79	[Signature]
E	ADDED TO R248 FROM 20K TO 100K	0440	1/17/79	[Signature]
F	ADDED R249 FROM 10K TO 100K	0441	1/17/79	[Signature]
G	ADDED R250 FROM 10K TO 100K	0442	1/17/79	[Signature]
H	ADDED R251 FROM 10K TO 100K	0443	1/17/79	[Signature]
I	ADDED R252 FROM 10K TO 100K	0444	1/17/79	[Signature]
J	ADDED R253 FROM 10K TO 100K	0445	1/17/79	[Signature]
K	ADDED R254 FROM 10K TO 100K	0446	1/17/79	[Signature]
L	ADDED R255 FROM 10K TO 100K	0447	1/17/79	[Signature]
M	ADDED R256 FROM 10K TO 100K	0448	1/17/79	[Signature]
N	ADDED R257 FROM 10K TO 100K	0449	1/17/79	[Signature]
O	ADDED R258 FROM 10K TO 100K	0450	1/17/79	[Signature]
P	ADDED R259 FROM 10K TO 100K	0451	1/17/79	[Signature]
Q	ADDED R260 FROM 10K TO 100K	0452	1/17/79	[Signature]
R	ADDED R261 FROM 10K TO 100K	0453	1/17/79	[Signature]
S	ADDED R262 FROM 10K TO 100K	0454	1/17/79	[Signature]
T	ADDED R263 FROM 10K TO 100K	0455	1/17/79	[Signature]
U	ADDED R264 FROM 10K TO 100K	0456	1/17/79	[Signature]
V	ADDED R265 FROM 10K TO 100K	0457	1/17/79	[Signature]
W	ADDED R266 FROM 10K TO 100K	0458	1/17/79	[Signature]
X	ADDED R267 FROM 10K TO 100K	0459	1/17/79	[Signature]
Y	ADDED R268 FROM 10K TO 100K	0460	1/17/79	[Signature]
Z	ADDED R269 FROM 10K TO 100K	0461	1/17/79	[Signature]

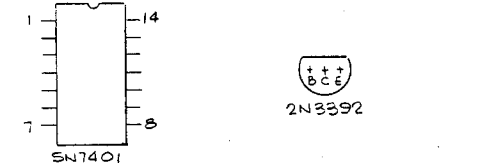
NETWORK RESISTOR VALUES

N	R1	R2	R3	R4	R5	R6	R7	R8	R9
1									
2		50K							
3	15K		52K	13K	12K	24K	33K	16K	18K
4		56K							
5		47K							
6	15K	82K	13K	12K	24K	33K	16K	18K	
7	56K	51K	75K	91K	36K	150K	18K	91K	
8		91K	240K	110K	130K	27K	120K		
9	68K		51K	100K	130K	47K	180K	18K	91K
10	43K	270K	51K	200K	17K	150K			
11	48K		51K	100K	130K	47K	180K	18K	91K
12	150K		2M	150K		300K	2M		
13									

LAST REF DES USED

1	IC	CR	SW	LN	CP	IS	IG
70	20	19	18	17	16	15	14

COMPONENT BASING (TOP VIEW)



- NOTES:
- UNLESS OTHERWISE SPECIFIED ALL TRANSISTORS ARE 2N5592
  - ALL RESISTOR VALUES ARE IN OHMS, %W ±5%
  - ALL DIODES ARE 1N4148

4. SP1 - SP8 DENOTES DIODES USED

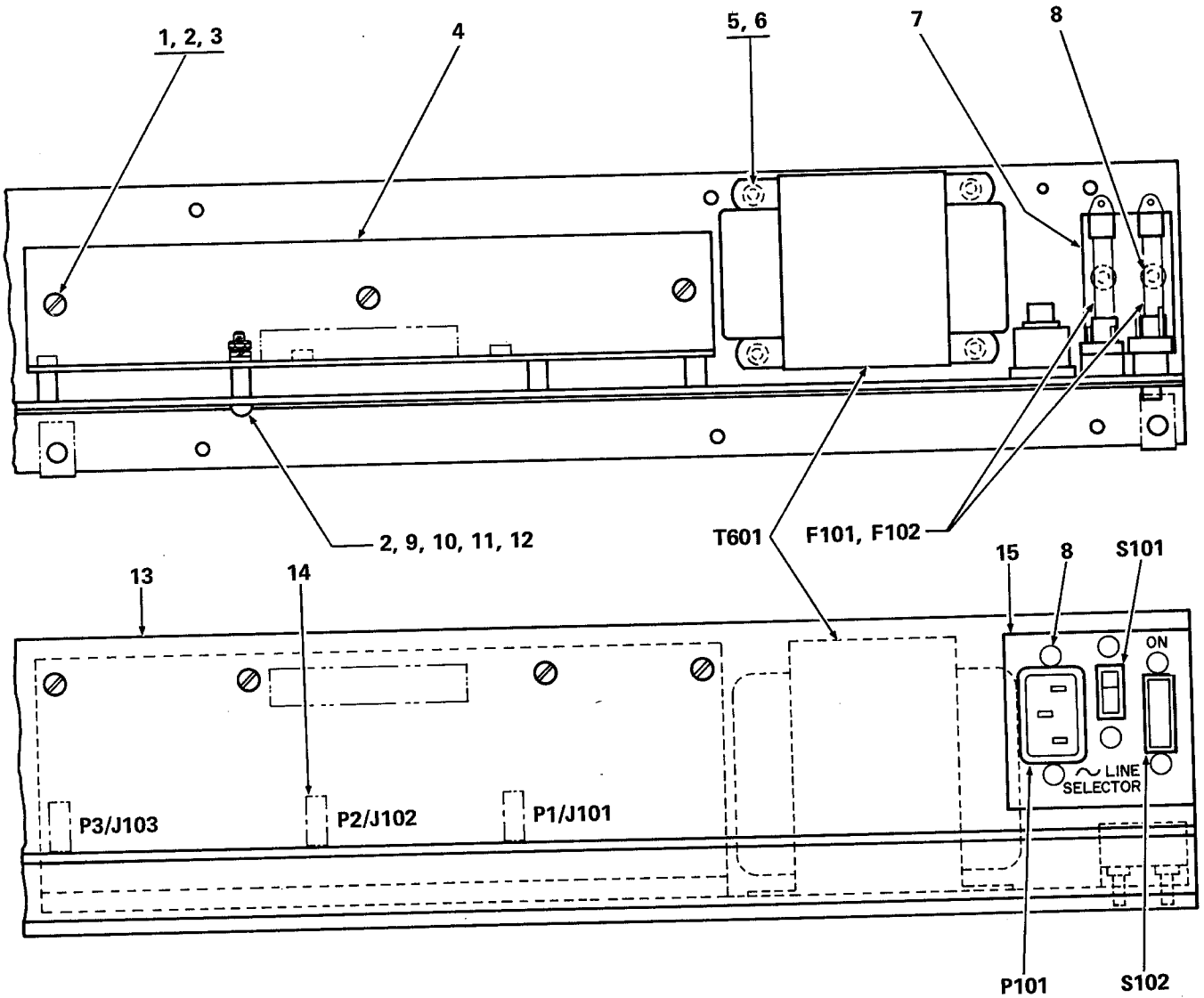
5. DENOTES CONTROL POT LEFT FRONT PANEL

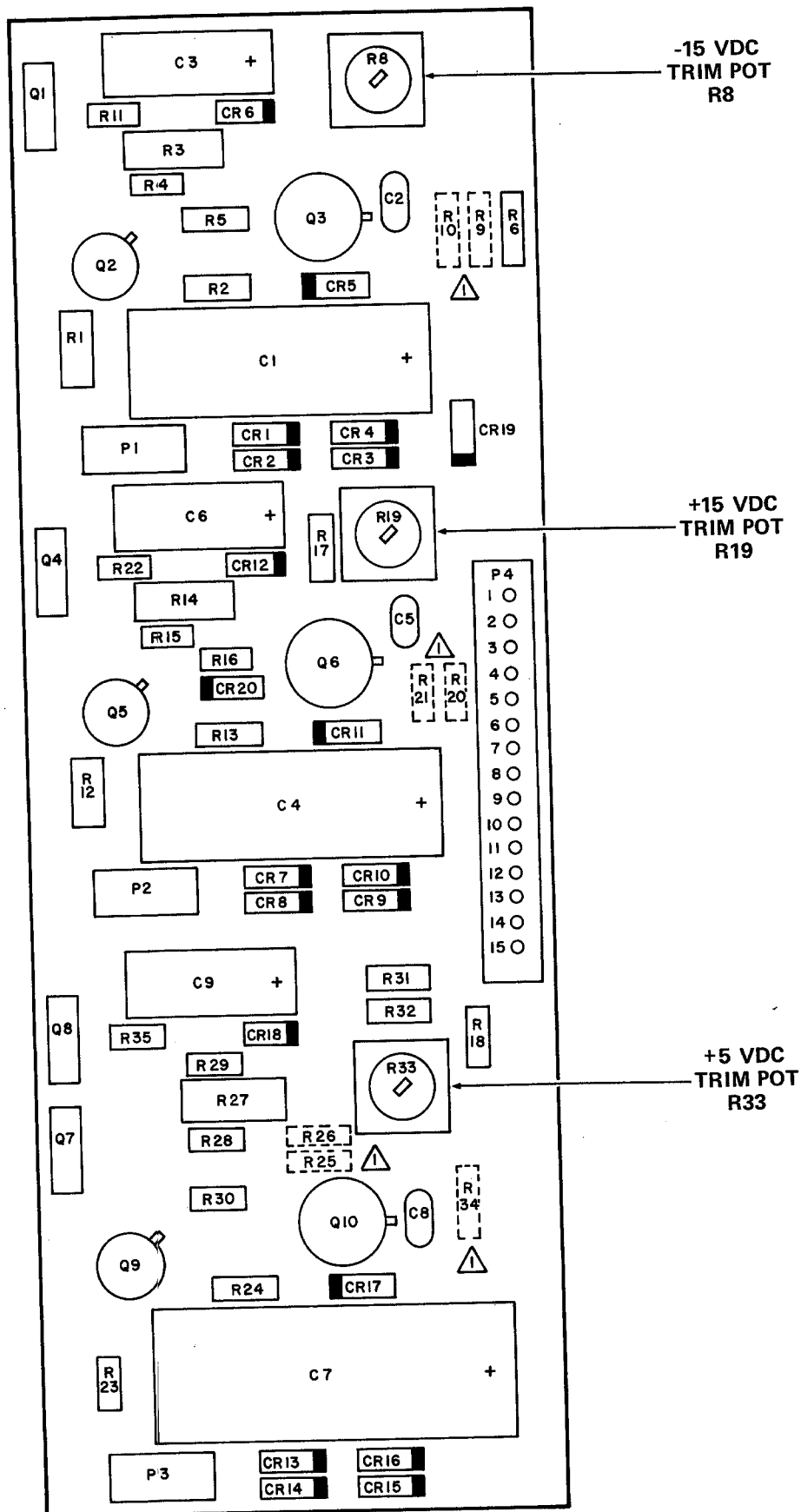
6. DENOTES PCB WIRE CONNECTION DESIGNATOR

BOARD #10

ITEM	PART NUMBER	DESCRIPTION	MATERIAL
1	7401	NAND GATE	2N5592
2	CD4007AIE	COMPARATOR	2N5592
3	RESISTORS	VARIOUS VALUES	VARIOUS
4	DIODES	1N4148	VARIOUS
5	POTENTIOMETERS	VARIOUS VALUES	VARIOUS
6	SWITCHES	VARIOUS TYPES	VARIOUS
7	INDUCTORS	VARIOUS VALUES	VARIOUS
8	CAPACITORS	VARIOUS VALUES	VARIOUS
9	CONNECTORS	VARIOUS TYPES	VARIOUS
10	PRINTED CIRCUIT BOARD	PCB	VARIOUS

**NOTE:**  
REFER TO THE REPLACEMENT PARTS LIST IN SECTION 5 FOR THE PART NUMBER,  
DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.





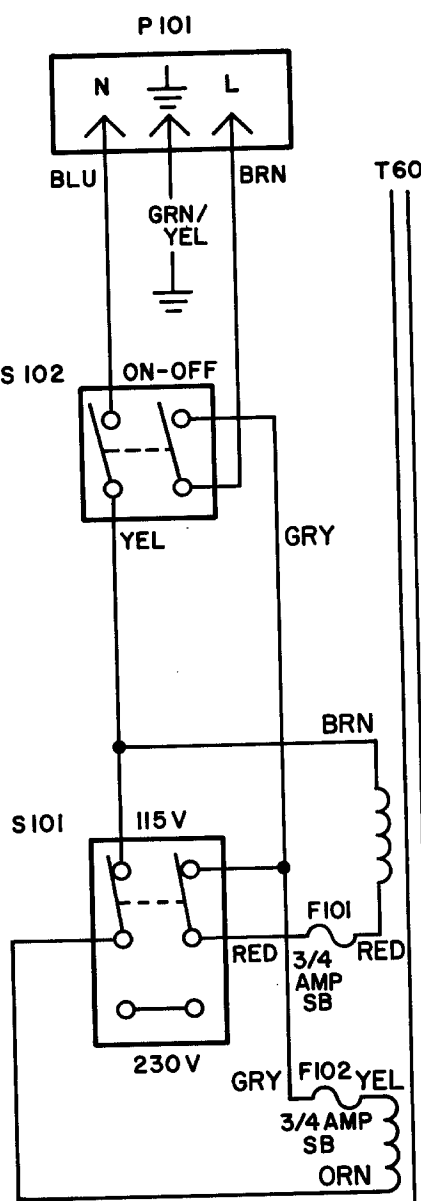
**NOTES:**

1. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 5 FOR THE PART NUMBER AND DESCRIPTION OF EACH REFERENCE DESIGNATOR.
2. TO VERIFY IF POWER SUPPLIES ARE OPERATING:
  - UNPLUG P4.
  - CONNECT PINS 2, 9, 12, AND 13 TOGETHER (ALL GREEN AND WHITE/GREEN WIRES).
  - MEASURE IF THERE ARE OUTPUT VOLTAGES.
  - MEASUREMENTS WILL VARY FROM NOMINAL BUT WILL INDICATE IF SUPPLIES ARE FUNCTIONING.

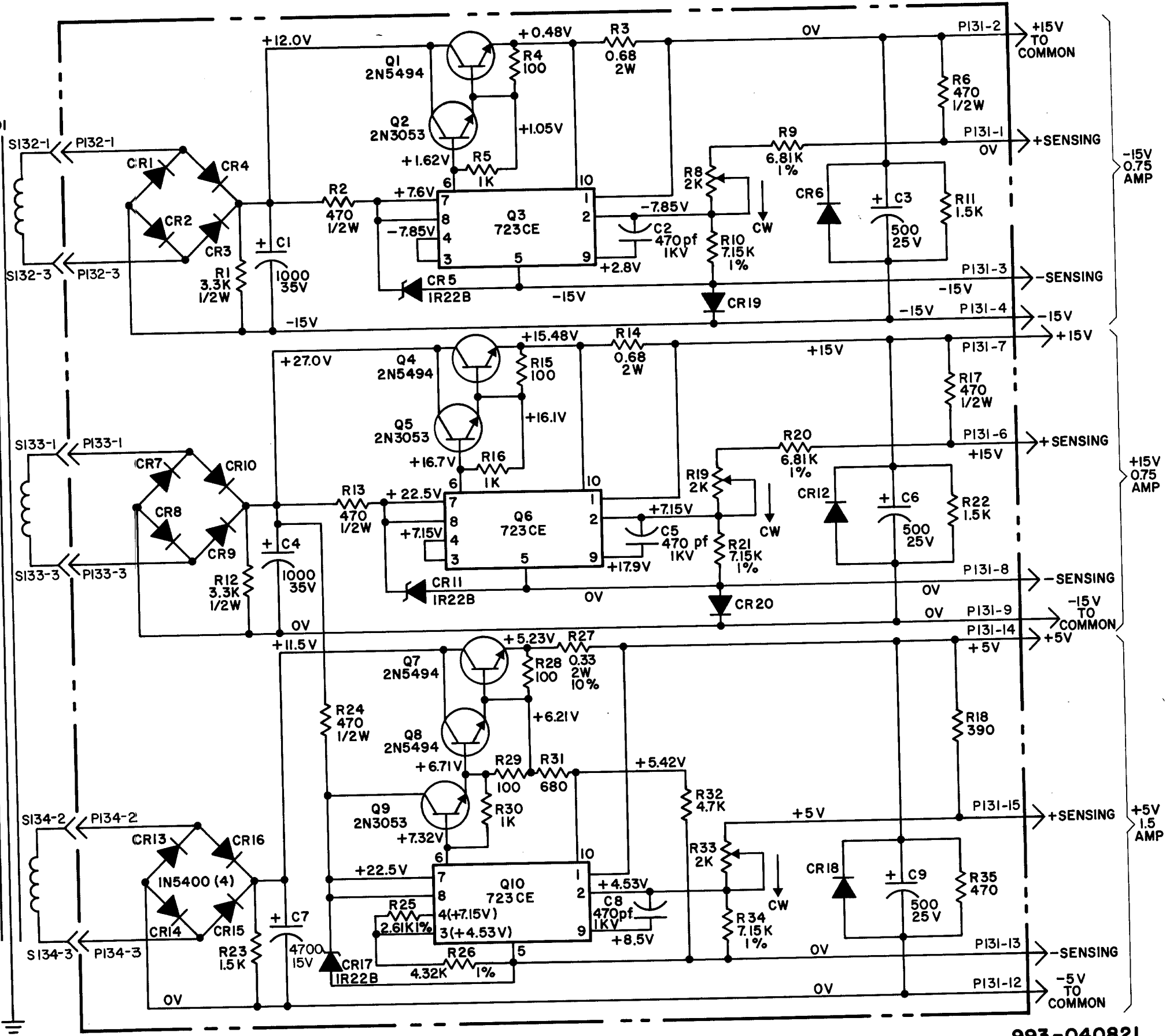
⚠ ALTERNATE PART LOCATION IF NOT PART OF VARIABLE RESISTOR R8, R19 OR R33.

996-040816D





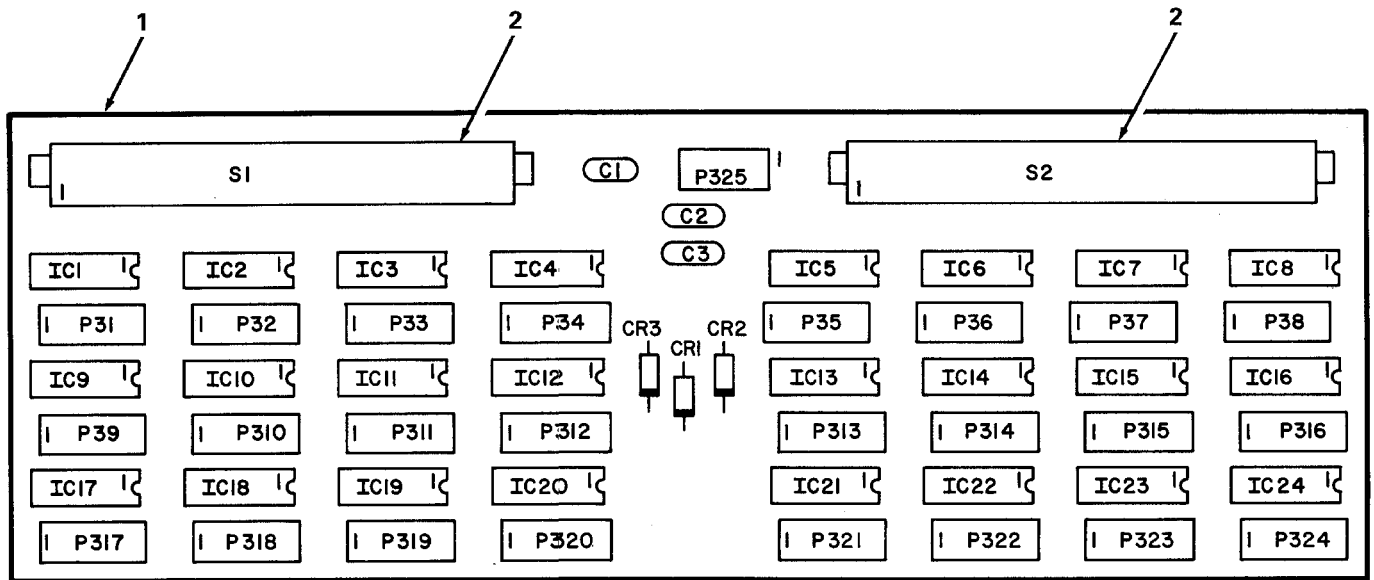
- NOTES:**  
UNLESS OTHERWISE SPECIFIED:
1. ALL RESISTOR VALUES ARE IN OHMS,  $\pm 5\%$ , 1/4 WATT.
  2. ALL CAPACITOR VALUES ARE IN MFD ( $\mu\text{f}$ ).
  3. ALL DIODES ARE 1N4002.
  4. VOLTAGES TAKEN WITH COMMON (REF.) TERMINALS TIED TOGETHER, +AND-15V OUTPUTS LOADED TO 0.7 AMP, +5V OUTPUT LOADED TO 1.5 AMP, 115 VAC INPUT, AND SENSE LINES CONNECTED TO POWER LINES.



POWER SUPPLY SUBASSEMBLY SCHEMATIC DIAGRAM

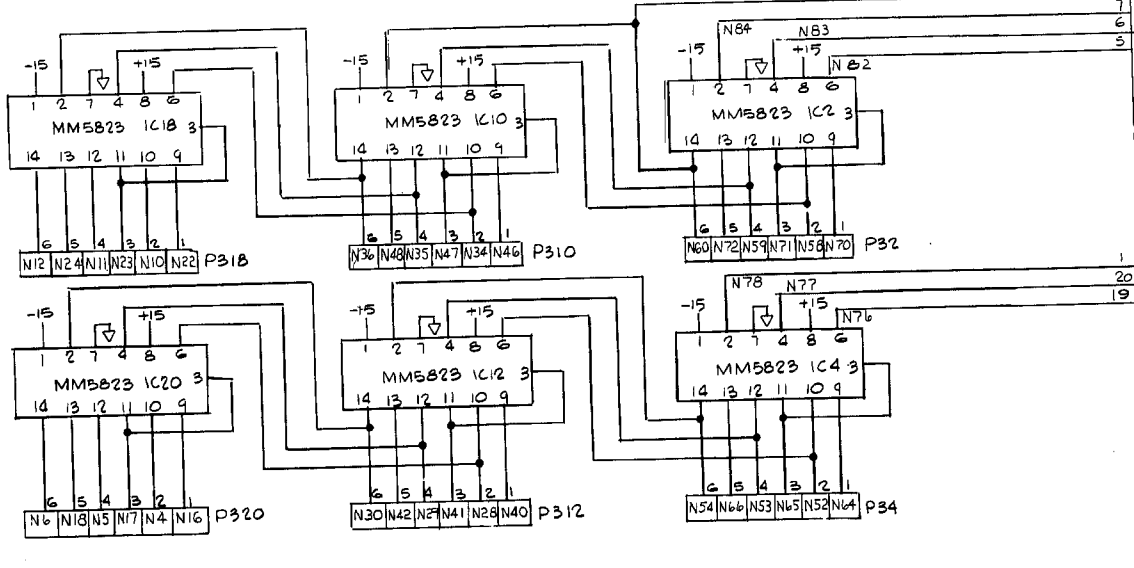
**NOTES:**

1. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 11 FOR THE PART NUMBER, DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.
2. CONNECTOR DESIGNATORS INCLUDE A CODED REFERENCE PERTAINING TO ITS PRINTED CIRCUIT BOARD ORIGIN, I.E., P37 INDICATES IT IS PART OF BOARD 3. REFER TO TABLE 1-1 FOR OTHER BOARD NUMBERS AND NOMENCLATURE.

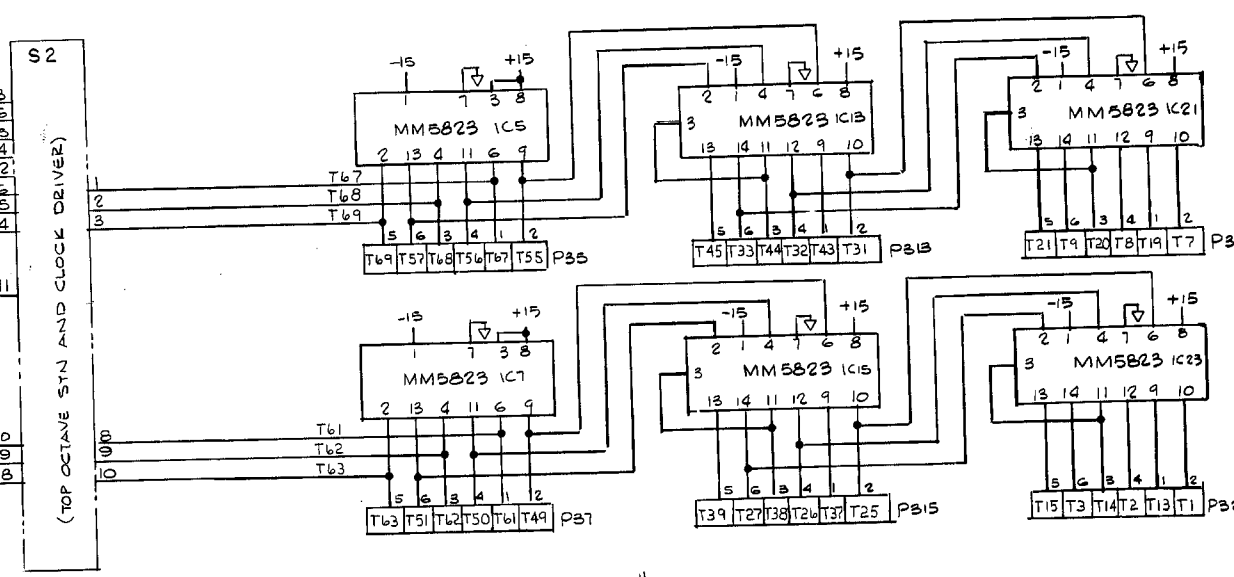
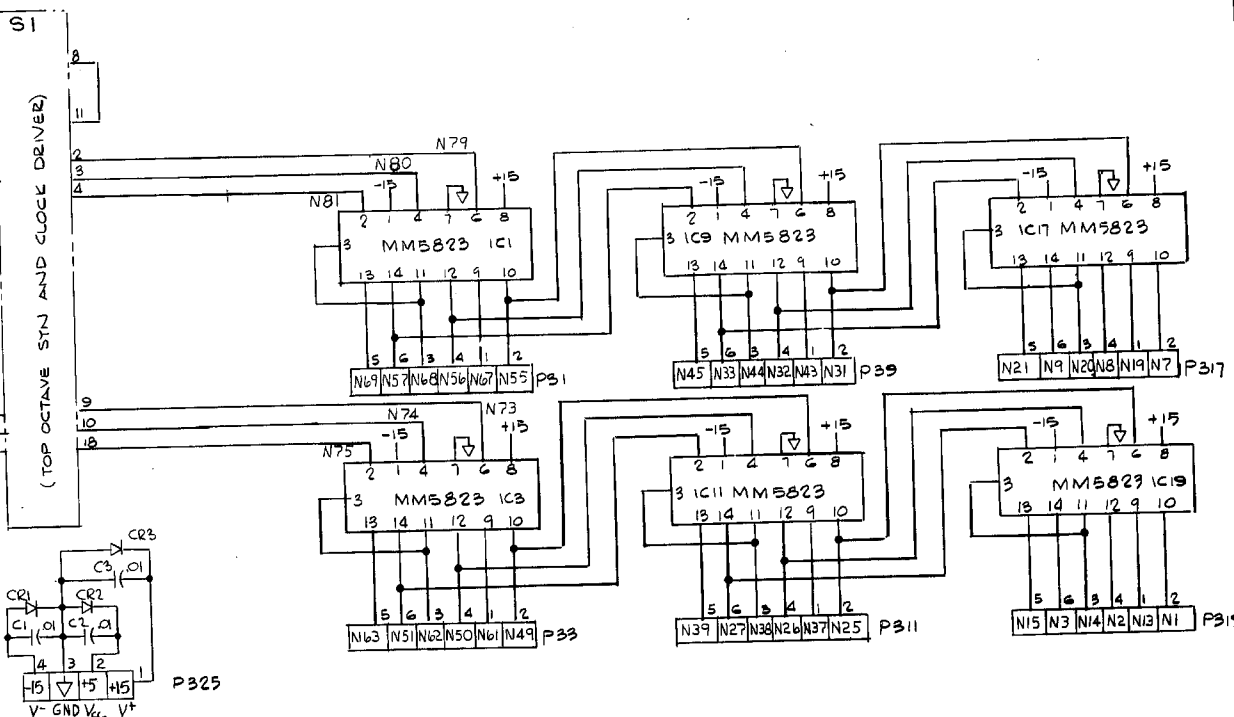
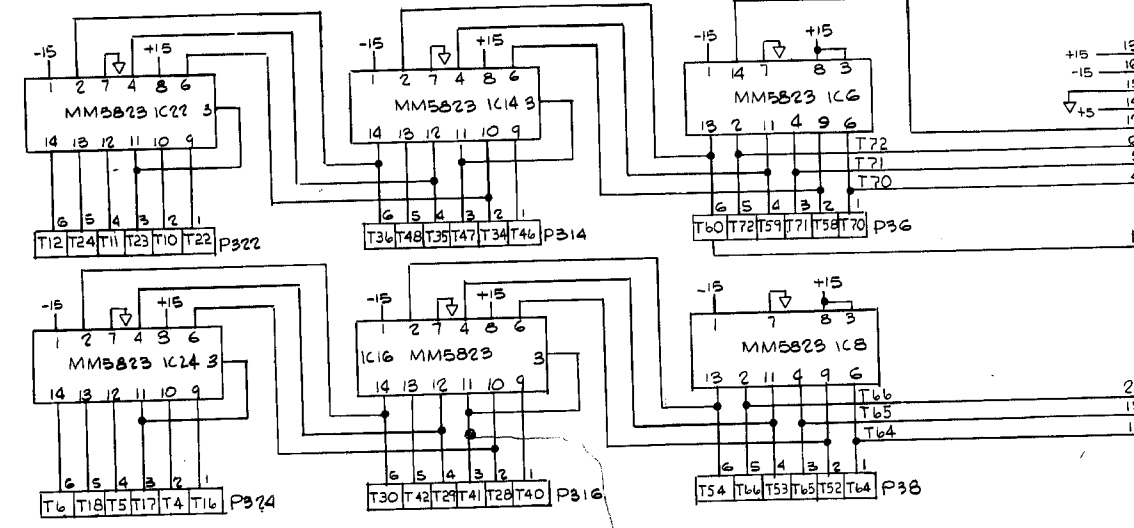


996-040135C

RANK #2  
DIVIDER



RANK #1  
DIVIDER

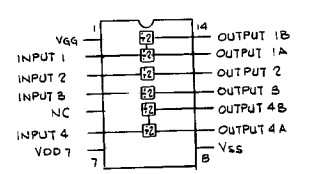
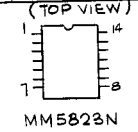


BOARD #3

- NOTES:  
 UNLESS OTHERWISE SPECIFIED-  
 1. ALL CAPACITOR VALUES ARE IN MFD (uf)  
 2. ALL DIODES ARE IN4004  
 3. N AND T SUFFIXES INDICATE NOTE NUMBER,  
 1 BEING LOWEST NOTE ON KEYBOARD.

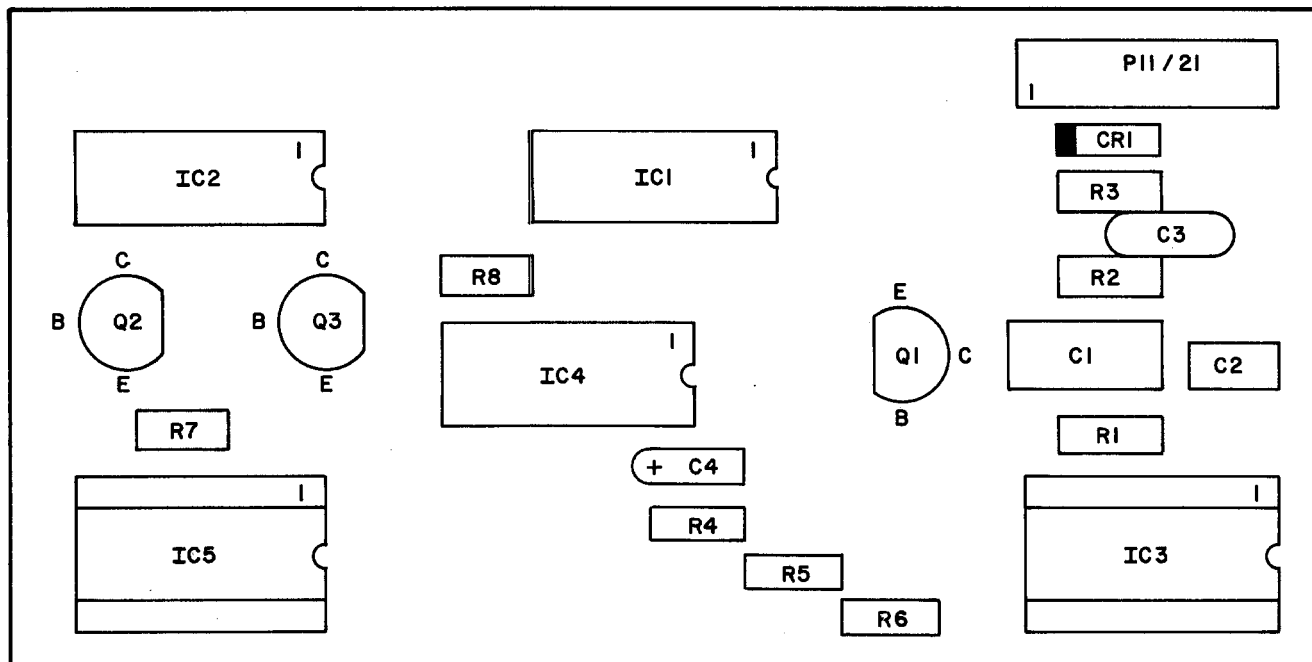
Brücke auf  
S2  
PIN 17

COMPONENT BASING  
(TOP VIEW)



## NOTES:

1. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 11 FOR THE PART NUMBER AND DESCRIPTION OF EACH REFERENCE DESIGNATOR.
2. CONNECTOR DESIGNATORS INCLUDE A CODED REFERENCE PERTAINING TO ITS PRINTED CIRCUIT BOARD ORIGIN, I.E., P11 INDICATES IT IS PART OF BOARD 1. REFER TO TABLE 1-1 FOR OTHER BOARD NUMBERS AND NOMENCLATURE.

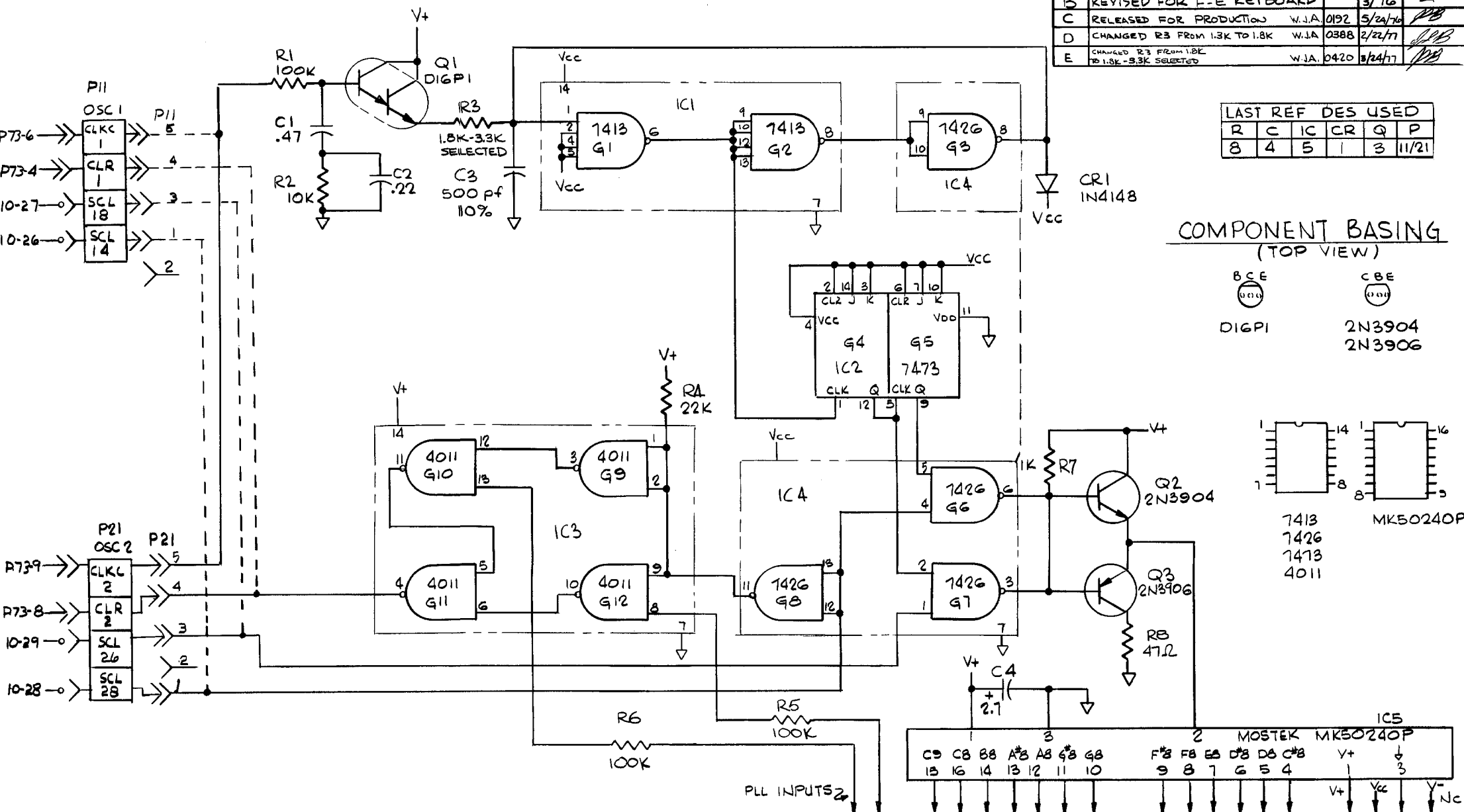
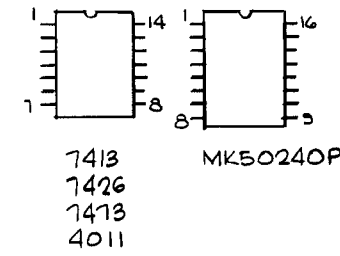
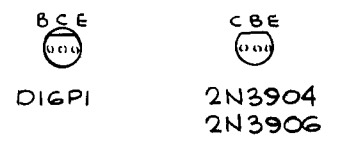


996-040153D

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
A	REVISED FOR C-B KEYBOARD		11/75	<i>[Signature]</i>
B	REVISED FOR F-E KEYBOARD		3/76	<i>[Signature]</i>
C	RELEASED FOR PRODUCTION	W.J.A. 0192	5/24/76	<i>[Signature]</i>
D	CHANGED R3 FROM 1.8K TO 1.8K	W.J.A. 0388	2/22/77	<i>[Signature]</i>
E	CHANGED R3 FROM 1.8K TO 1.8K - 5.3K SELECTED	W.J.A. 0420	5/24/77	<i>[Signature]</i>

LAST REF DES USED					
R	C	IC	CR	Q	P
8	4	5	1	3	11/21

COMPONENT BASING  
(TOP VIEW)

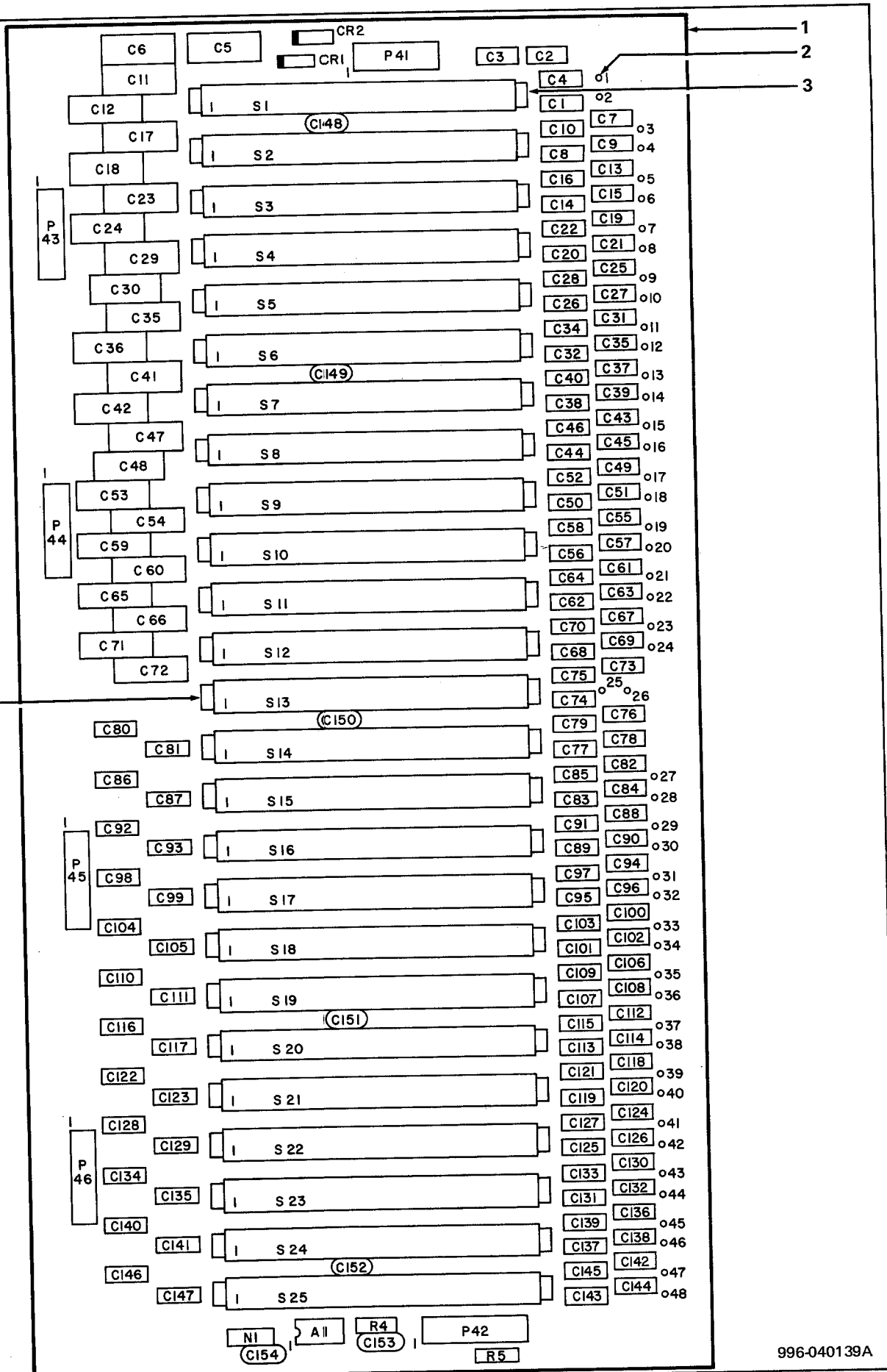


NOTES:  
UNLESS OTHERWISE SPECIFIED  
1. ALL RESISTOR VALUES ARE IN OHMS  $\pm 1/4$  W,  $\pm 5\%$ .  
2. ALL CAPACITOR VALUES ARE IN MFD ( $\mu$ f)

BOARD #1  
BOARD #2

PIN#	11	12	7	8	6	5	4	3	2	1	20	19	18	10	9	13	14	15	16	
OSC 1	T60	T48	T61	T72	T71	T70	T69	T68		T67	T66	T65	T64	T63	T62	+15	+5	GND	-15	
OSC 2	N72	N60	N84	N72	N83	N82	N81	N80	N79		N78	N77	N76	N75	N74	N73				

ITEM	PART NUMBER	DESCRIPTION	MATERIAL
<small>UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE FRACTIONS = 1/64 DIMS = 1 1/2 3 PLACE DECIMALS = .005 1/2 PLACE DECIMALS = .01 125 FINISH ON ALL SURFACES</small>			
DRAWN BY J.M.P. 4-75		moog WILLIAMSVILLE, NEW YORK	
CHECK <i>[Signature]</i> 5/24/76		HIGH FREQUENCY OSCILLATOR SCHEMATIC	
GRP ENGR. <i>[Signature]</i> 6/16		REVIEW QC.	
SUPERVISOR <i>[Signature]</i> 5/76		981-040151 203A	
NEXT ASSY		MODEL NO.	
APPLICATION		SCALE $\frac{1}{4}$ WT.	
		SHEET 1 OF 1	



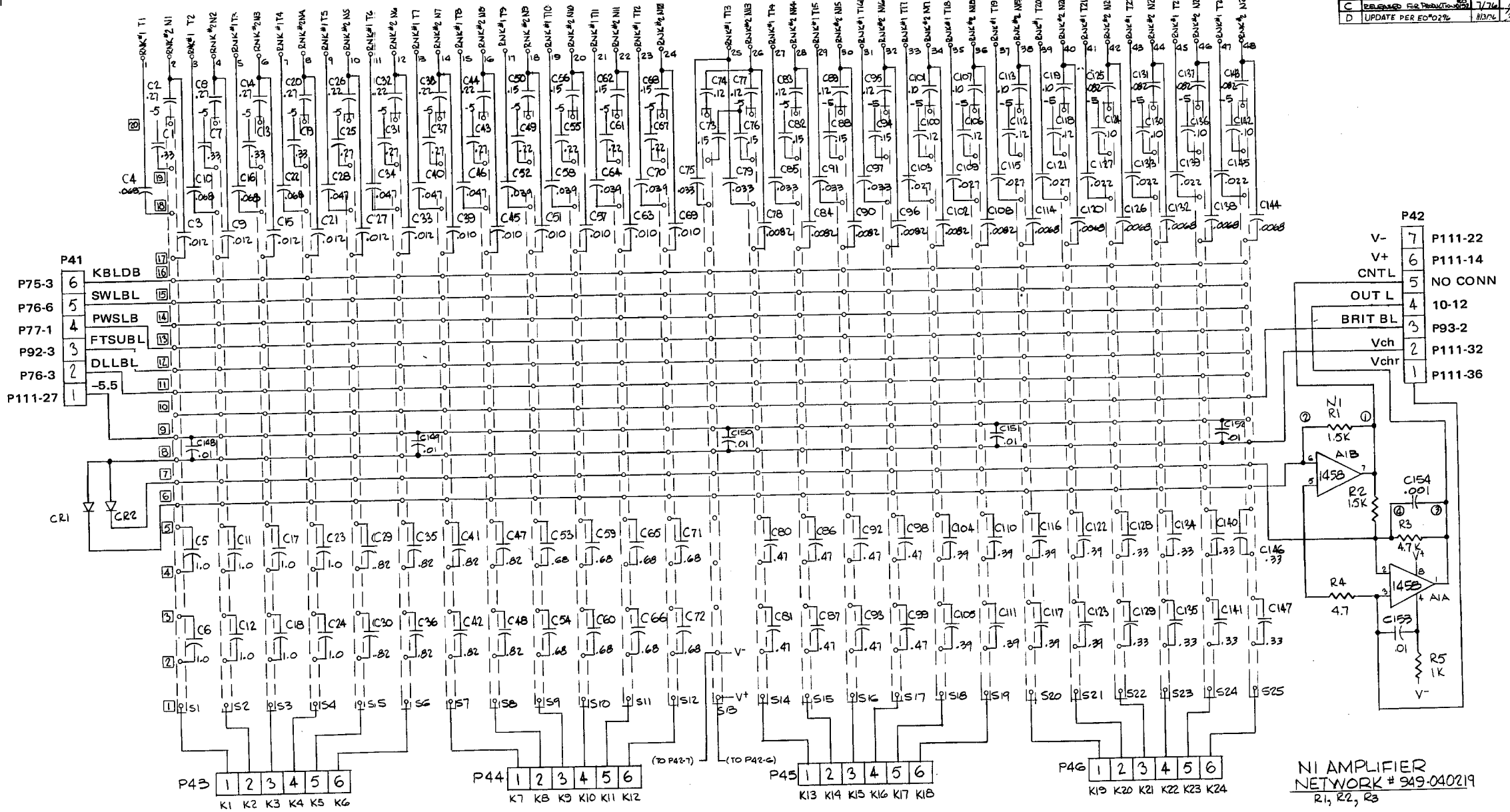
LOW MOTHER BOARD VOLTAGES

P41-PINS		1	2	3	4	5	6	
STRING	1	-5.50	-3.68	-5.51	-7.36	+5.90	-5.44	
P	PIANO	2	-5.50	-4.00	-5.51	-7.44	-2.65	-8.53
R	ORGAN	3	-5.50	-3.68	-5.57	-7.93	+9.90	-3.82
E	HARPSI	4	-5.50	-3.68	-5.68	-8.15	+10.61	-9.15
S	FUNK	5	-5.50	-3.68	-5.50	-6.90	+3.13	-6.99
E	CLAV	6	-5.50	-3.85	-5.70	-8.45	+8.18	-8.33
T	VIBES	7	-5.50	-3.90	-5.50	-4.54	-13.41	-7.54
	BRASS	8	-5.50	-3.68	-5.65	-13.80	+10.31	-8.31

NOTES:

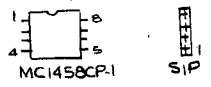
1. MOTHER BOARD VOLTAGES READ ON CONNECTORS, WITH CONNECTORS IN PLACE.
2. VOLTAGES ARE FOR INSTRUMENTS ABOVE S/N 3000.
3. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 8 FOR THE PART NUMBER, DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
A	REVISED FOR C-B KEYBOARD	11/78	
B	REVISED FOR F.E. KEYBOARD	3/79	
C	RELEASED FOR PRODUCTION	7/79	
D	UPDATE PER ED0272	11/86	



NI AMPLIFIER NETWORK # 949-040219  
R1, R2, R3

COMPONENT BASING (TOP VIEW)

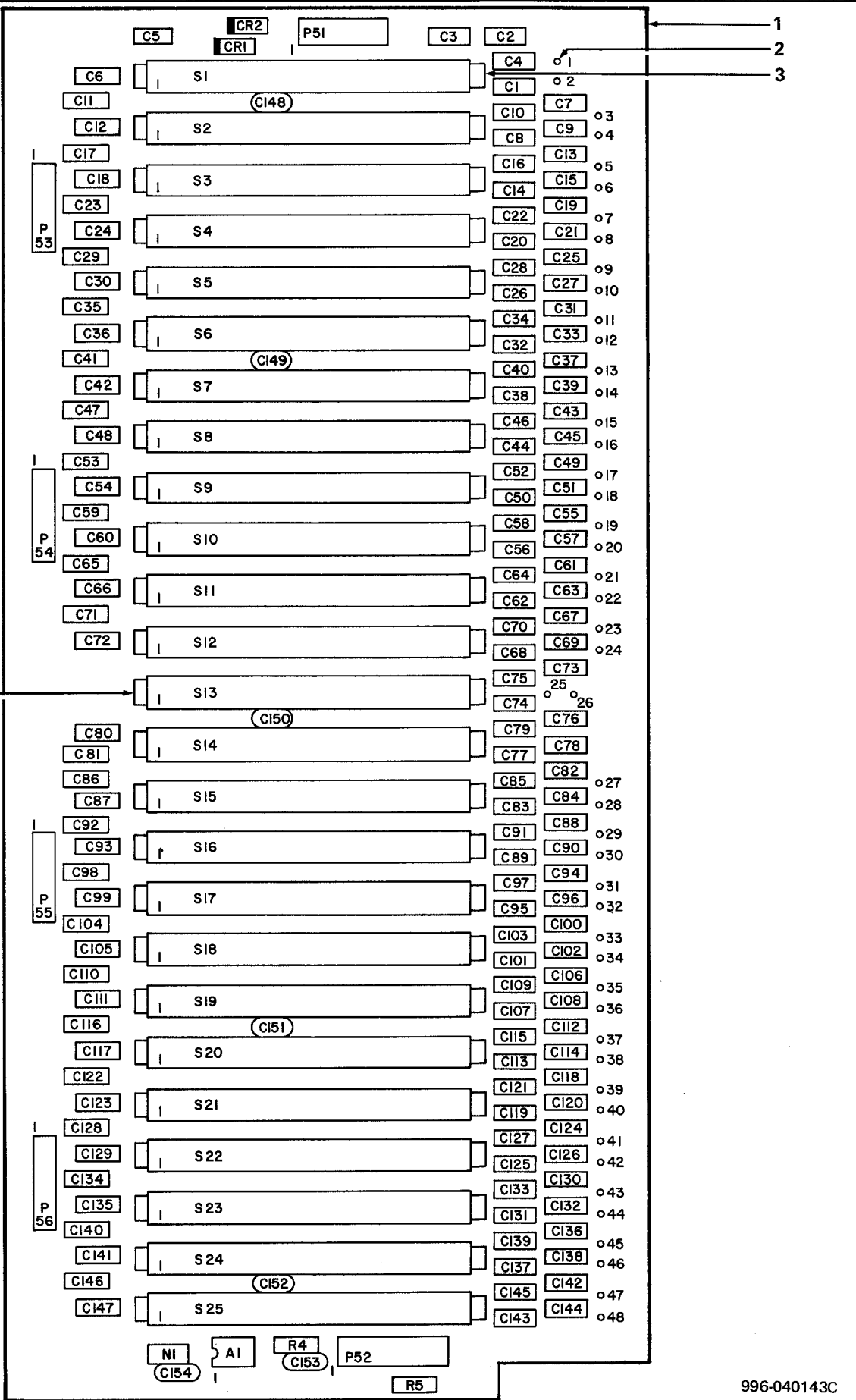


BOARD #4

- NOTES:  
UNLESS OTHERWISE SPECIFIED -  
1. ALL RESISTOR VALUES ARE IN OHMS 1/4W, ±5%  
2. ALL CAPACITOR VALUES ARE IN MFD (.47)  
3. ALL DIODES ARE IN 4004  
4. N AND T SUFFIXES INDICATE NOTE NUMBER,  
1 BEING LOWEST NOTE ON KEYBOARD.

LAST REF	DES	USED
R	C	A
S	1E4	1
	2	6
	25	

ITEM	PART NUMBER	DESCRIPTION	MATERIAL
DRAWN BY JEB 5/78		meag WILLIAMSVILLE, NEW YORK	
CHECK WJA 7/1/78		LOW MOTHER BOARD	
GRP ENGR. JEB 7/78		SCHEMATIC, POLYMOG	
REVIEW OF JEB 7/78		SIZE D CODE IDENT	
SUPERVISOR JEB 7/78		993-040136	
NEXT ASSY MODEL NO. 203A		SCALE - WT. - SHEET 1 OF 1	



MEDIUM MOTHER BOARD VOLTAGES

	P51-PINS	1	2	3	4	5	6	
	STRING	1	-5.50	-3.68	-5.51	-7.87	+5.64	-5.28
P	PIANO	2	-5.50	-4.00	-5.51	-7.44	-2.64	-8.73
R	ORGAN	3	-5.50	-3.68	-5.54	-8.20	+9.93	-3.83
E	HARPSI	4	-5.50	-3.68	-5.65	-8.35	+10.44	-9.16
S	FUNK	5	-5.50	-3.68	-5.50	-6.90	+3.09	-7.00
E	CLAV	6	-5.50	-3.85	-5.70	-8.50	+8.23	-8.33
T	VIBES	7	-5.50	-3.98	-5.50	-4.57	-13.52	-7.54
	BRASS	8	-5.50	-3.68	-5.66	-13.80	+10.50	-8.39

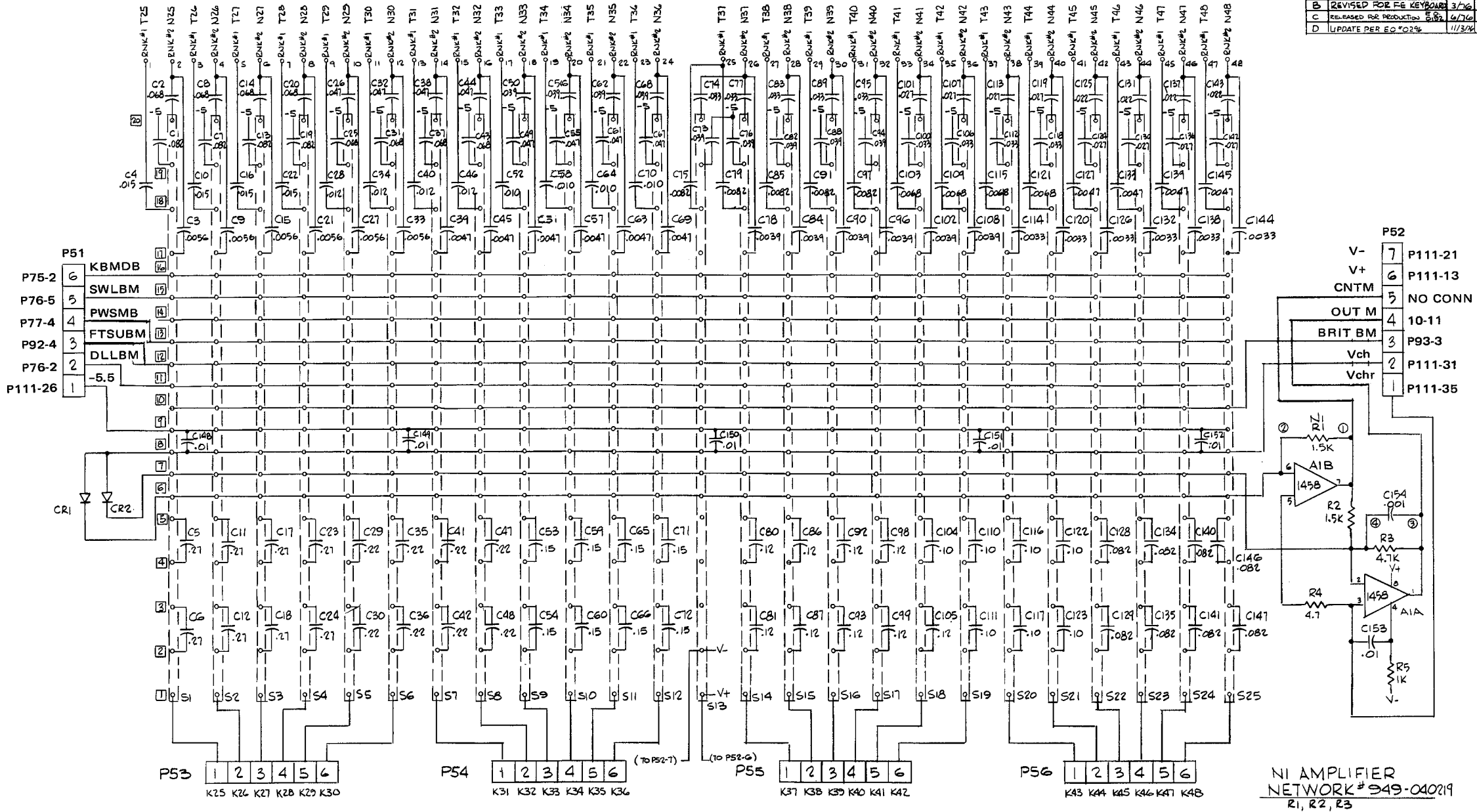
NOTES:

1. MOTHER BOARD VOLTAGES READ ON CONNECTORS, WITH CONNECTORS IN PLACE.
2. VOLTAGES ARE FOR INSTRUMENTS ABOVE S/N 3000.
3. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 8 FOR THE PART NUMBER, DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.
4. CONNECTOR DESIGNATORS INCLUDE A CODED REFERENCE PERTAINING TO ITS PRINTED CIRCUIT BOARD ORIGIN, I.E., P51 INDICATES IT IS PART OF BOARD 5. REFER TO TABLE 1-1 FOR OTHER BOARD NUMBERS AND NOMENCLATURE.

996-040143C

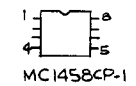


REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
A	REVISED FOR C-B KEYBOARD	11/75	
B	REVISED FOR FE KEYBOARD	3/76	
C	RELEASED FOR PRODUCTION	5/82	
D	UPDATE PER EQ '02'S	11/82	



NI AMPLIFIER NETWORK #949-040219  
R1, R2, R3

COMPONENT BASING (TOP VIEW)

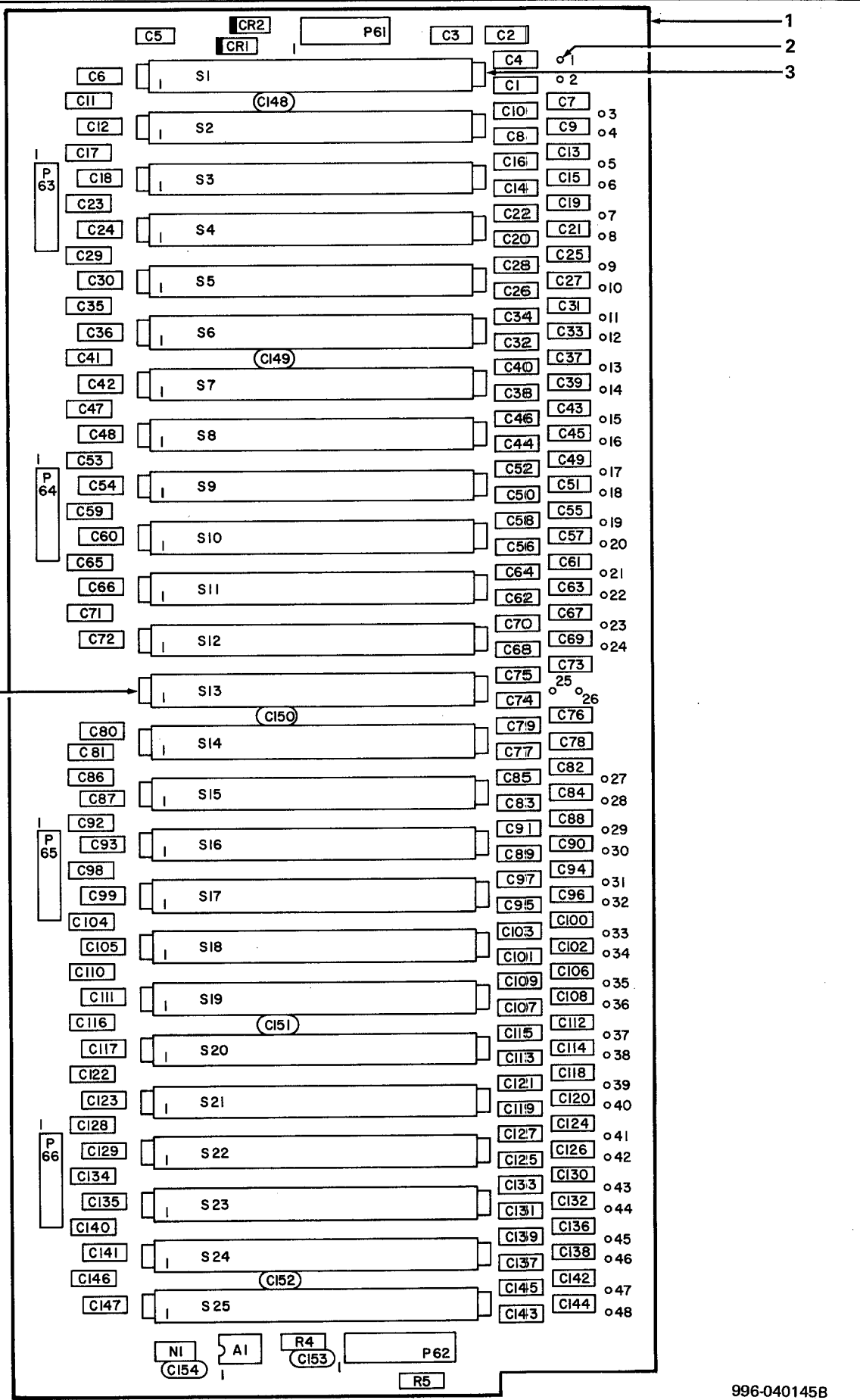


BOARD #5

- NOTES:  
UNLESS OTHERWISE SPECIFIED -  
1. ALL RESISTOR VALUES ARE IN OHMS 1/4W ±5%  
2. ALL CAPACITOR VALUES ARE IN MFD (μf)  
3. ALL DIODES ARE IN4004  
4. N AND T SUFFIXES INDICATE NOTE NUMBER, 1 BEING LOWEST NOTE ON KEYBOARD.

LAST REF DES USED				
R	C	A	P	S
6	154	1	2	25

ITEM	PART NUMBER	DESCRIPTION	MATERIAL
DRAWN BY JCB S/S		CHECK WJA 9/8/76	
GRP ENGR. JCB 8/27/76		REVIEW QC ACA 6/76	
SUPERVISOR WJA 7/16/76		MEDIUM MOTHER BOARD SCHEMATIC, POLYMOOD	
181-000141	203A	SIZE D	CODE IDENT 993-040140
NEXT ASSY MODEL NO.		SCALE	WT.
APPLICATION		SHEET 1 OF 1	



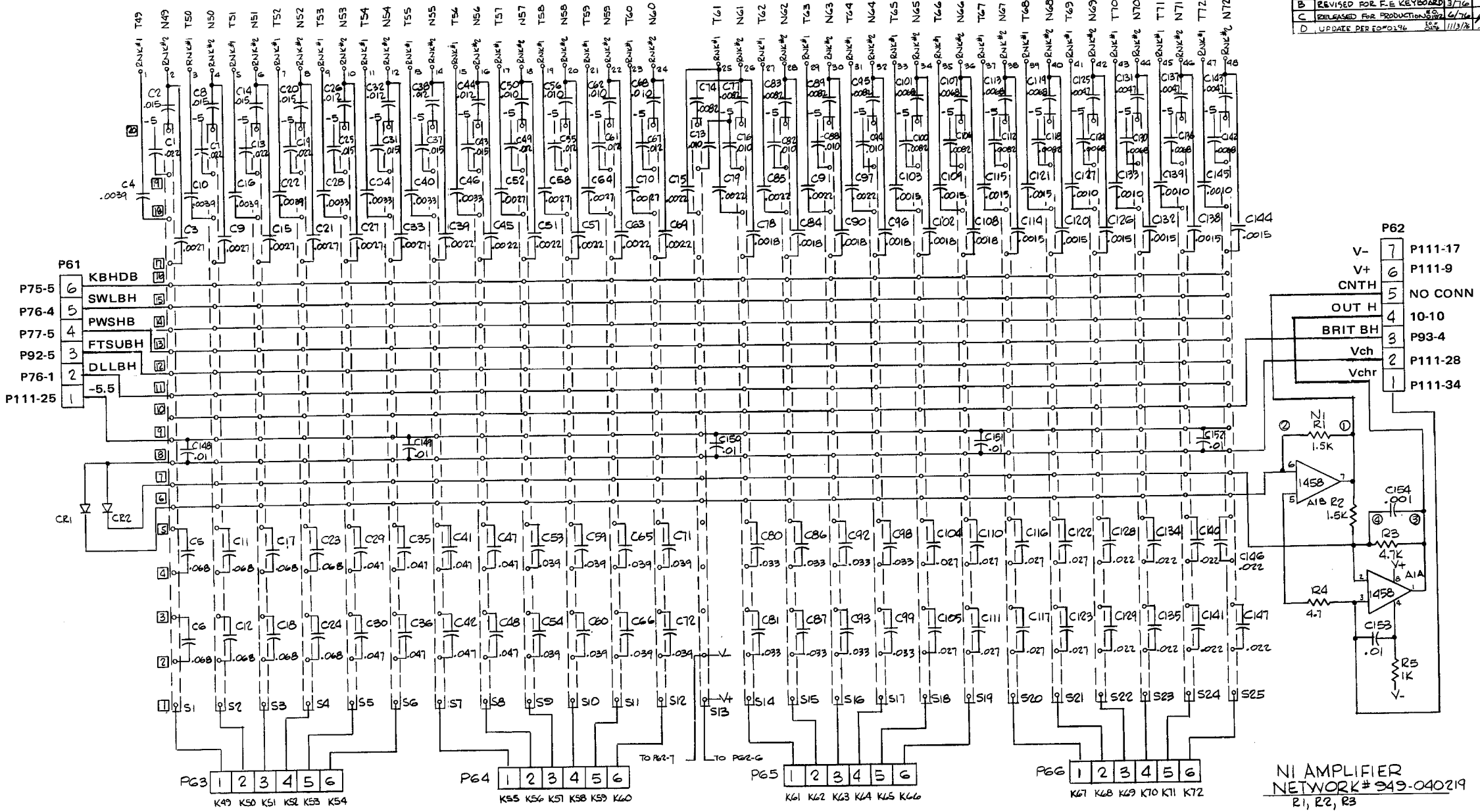
**HIGH MOTHER BOARD VOLTAGES**

		P61-PINS						
		1	2	3	4	5	6	
	STRING	1	-5.50	-3.68	-5.51	-7.82	+5.64	-5.16
P	PIANO	2	-5.50	-4.00	-5.52	-7.44	-2.64	-8.55
R	ORGAN	3	-5.50	-3.68	-5.56	-8.20	+9.94	-3.72
E	HARPSI	4	-5.50	-3.68	-5.63	-8.50	+10.44	-8.97
S	FUNK	5	-5.50	-3.68	-5.50	-6.90	+3.09	-6.85
E	CLAV	6	-5.50	-3.85	-5.71	-8.50	+8.24	-8.16
T	VIBES	7	-5.50	-3.98	-5.50	-4.58	-13.52	-7.38
	BRASS	8	-5.50	-3.68	-5.72	-13.83	+10.50	-8.23

**NOTES:**

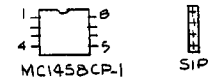
1. MOTHER BOARD VOLTAGES READ ON CONNECTORS, WITH CONNECTORS IN PLACE.
2. VOLTAGES ARE FOR INSTRUMENTS ABOVE S/N 3000.
3. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 8 FOR THE PART NUMBER, DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.
4. CONNECTOR DESIGNATORS INCLUDE A CODED REFERENCE PERTAINING TO ITS PRINTED CIRCUIT BOARD ORIGIN, I.E., P61 INDICATES IT IS PART OF BOARD 6. REFER TO TABLE 1-1 FOR OTHER BOARD NUMBERS AND NOMENCLATURE.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
A	REVISED FOR C-B KEYBOARD	11/75	
B	REVISED FOR F-E KEYBOARD	3/76	
C	RELEASED FOR PRODUCTION	6/76	
D	UPDATE PER FORM 136	11/78	



NI AMPLIFIER NETWORK # 949-040219  
R1, R2, R3

COMPONENT BASING (TOP VIEW)



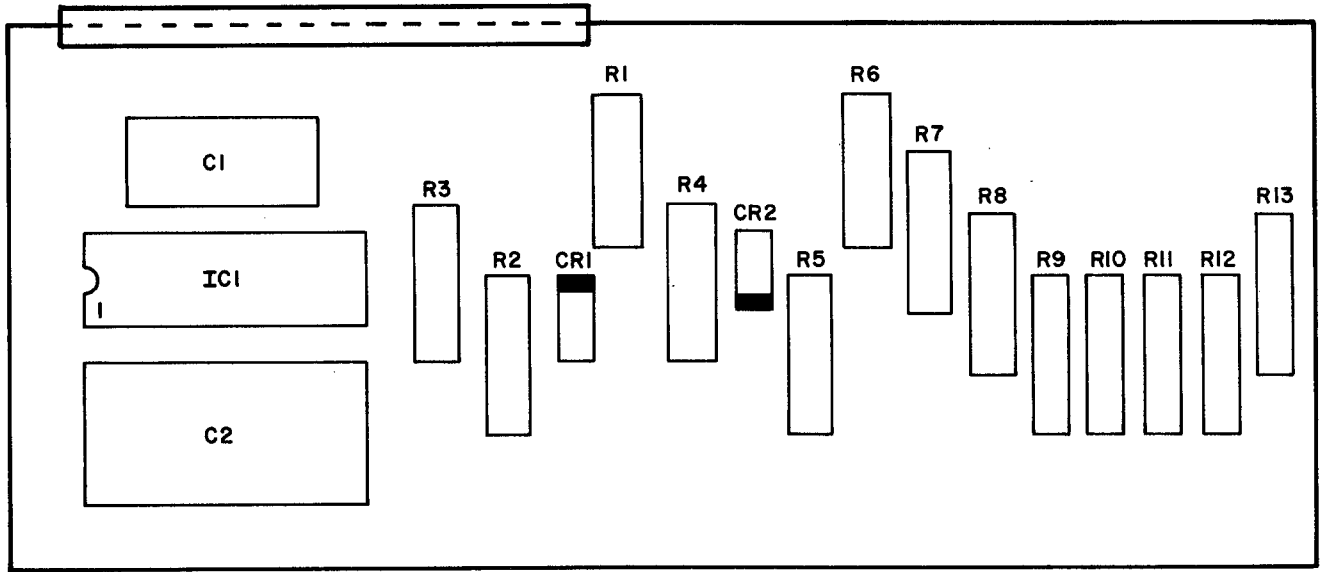
BOARD #6

- NOTES:  
UNLESS OTHERWISE SPECIFIED -  
1. ALL RESISTOR VALUES ARE IN OHMS  $\frac{1}{4}W, \pm 5\%$   
2. ALL CAPACITOR VALUES ARE IN MFD ( $\mu F$ )  
3. ALL DIODES ARE IN4004  
4. N AND T SUFFIXES INDICATE NOTE NUMBER,  
1 BEING LOWEST NOTE ON KEYBOARD.

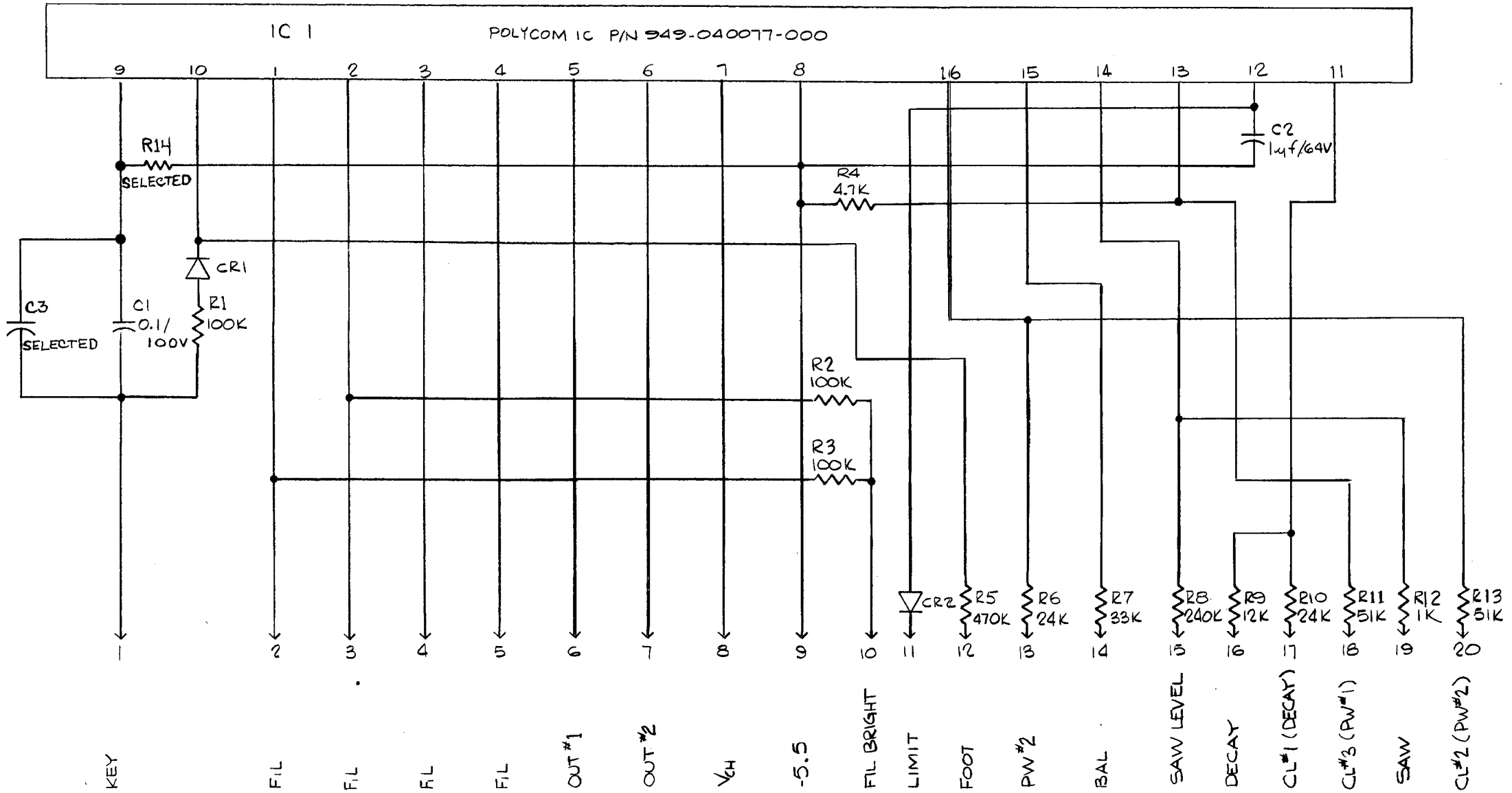
LAST	REF	DES	USED
R	C	A	CR
S	T	B	1
			2
			6
			25

ITEM	PART NUMBER	DESCRIPTION	MATERIAL
DRAWN BY: JPA/SK		MORGAN WILLIAMSVILLE, NEW YORK	
CHECKED BY: WJA/SK		HIGH MOTHER BOARD	
GRP ENGR: JPB/SK		SCHEMATIC, POLYMOOD	
REVIEW QC: KJA/SK		SIZE: CODE IDENT	
SUPERVISOR: MJA/SK		D	
NEXT ASSY: MODEL NO.		993-040141 203A	
APPLICATION		SCALE: WT. SHEET 1 OF 1	

**NOTE:**  
**REFER TO THE REPLACEMENT PARTS**  
**LIST IN SECTION 8 FOR THE PART**  
**NUMBER AND DESCRIPTION OF**  
**EACH REFERENCE DESIGNATOR.**



996-040149B



NOTES:

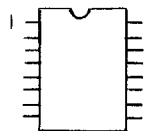
UNLESS OTHERWISE SPECIFIED.

1. ALL RESISTOR VALUES ARE IN OHMS 1/4W, ±5%.

2. ALL CAPACITOR VALUES ARE IN MFD(4f) ±10% METALLIZED MYLAR.

3. ALL DIODES IN4148.

COMPONENT BASING  
(TOP VIEW)



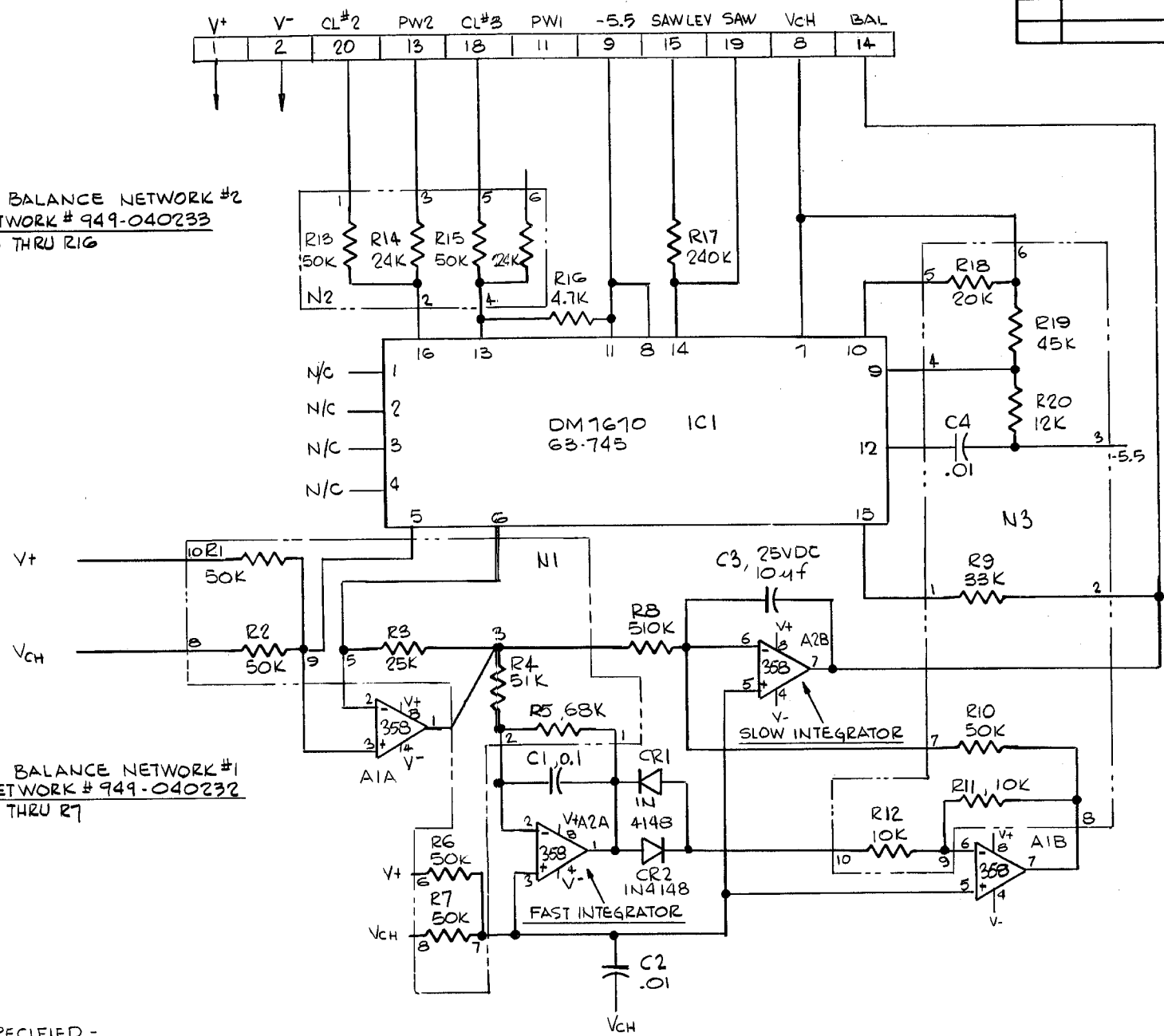
DM7670

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
A	RELEASED FOR PRODUCTION W.I.A.	0192	5/24/76	<i>[Signature]</i>

N2 BALANCE NETWORK #2  
NETWORK # 949-040233  
R13 THRU R16

N3 BALANCE NETWORK #3  
NETWORK # 949-040234  
R18 THRU R22,  
R18 THRU R20

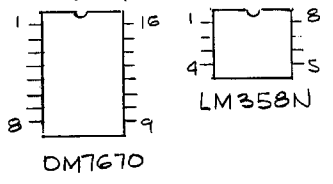
N1 BALANCE NETWORK #1  
NETWORK # 949-040232  
R1 THRU R7



- NOTES:  
UNLESS OTHERWISE SPECIFIED -  
1. ALL RESISTOR VALUES ARE IN OHMS 1/4W, ±5%.  
2. ALL CAPACITOR VALUES ARE IN MFD (uf).

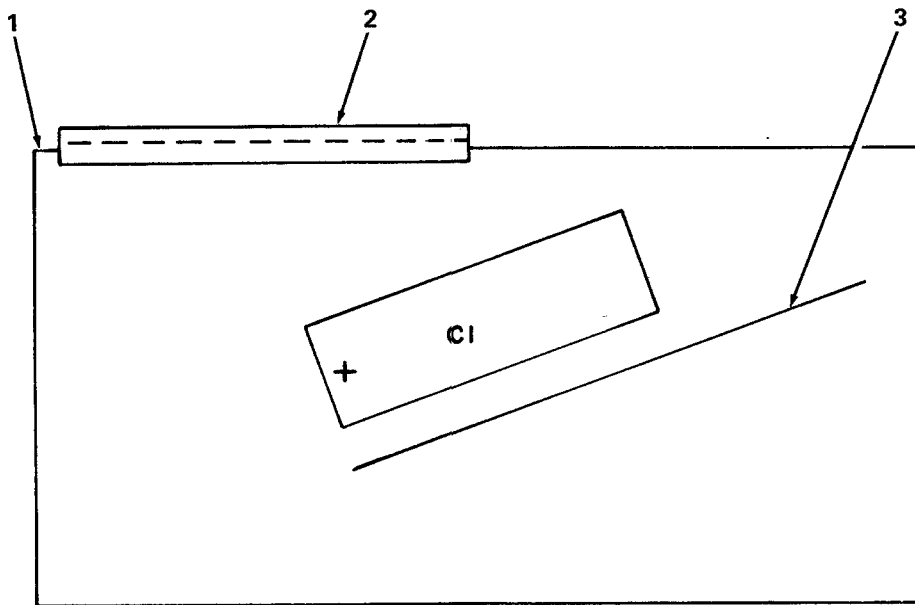
COMPONENT BASING  
(TOP VIEW)

LAST REF DES USED					
R	C	IC	CR	A	N
20	4	1	2	2	3



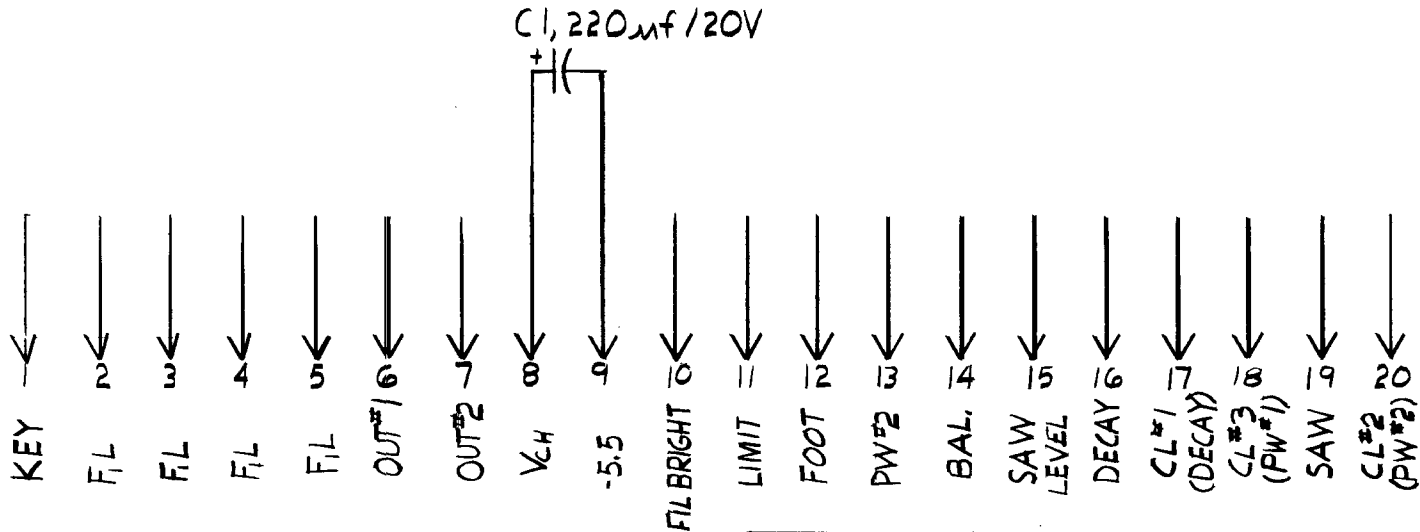
ITEM	PART NUMBER	DESCRIPTION	MATERIAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE FRACTIONS - 1/64 ANGLES - 1, 2, 3 PLACE DECIMALS : .005 2 PLACE DECIMALS : .01 125/ FINISH ON ALL SURFACES			
DRAWN BY J.M.P. 4-75		moog WILLIAMSVILLE, NEW YORK	
CHECK <i>[Signature]</i> 5/21/76		BALANCE CARD SCHEMATIC, POLYMOOR	
GRP ENGR. <i>[Signature]</i>		SIZE CODE IDENT	
REVIEW QC.		993-040154	
SUPERVISOR <i>[Signature]</i>		NEXT ASSY MODEL NO.	
981-040155 203A		APPLICATION SCALE ~ WT. SHEET 1 OF 1	

**NOTE:**  
REFER TO THE REPLACEMENT PARTS  
LIST IN SECTION 8 FOR THE PART  
NUMBER, DESCRIPTION AND  
QUANTITY OF EACH INDEX NUMBER  
OR REFERENCE DESIGNATOR.



996-040635A

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
-	RELEASED FOR PRODUCTION JML	0233	8/11/76	<i>JML</i>



ITEM	PART NUMBER	DESCRIPTION	MATERIAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE: FRACTIONS = 1/64 ANGLES = 1/2° 3 PLACE DECIMALS = .005 2 PLACE DECIMALS = .01 125° FINISH ON ALL SURFACES		DRAWN BY JML 8/76 CHECK W.J.A 8/76 GRP ENGR. <i>MS 9/16/76</i> REVIEW QC. SUPERVISOR <i>MS 9/15/76</i> 996-040635 203A	<b>moog</b> WILLIAMSVILLE, NEW YORK MUSIC INC. BY PASS CARD SCHEMATIC, POLY MOOG
DRILLED HOLE TOL .040-.125 DIA = .002 TOL .126-.228 DIA = .003 TOL .229-.500 DIA = .004 TOL .500-.750 DIA = .005 TOL		SIZE B CODE IDENT 993-040634	APPLICATION SCALE ~ WT. SHEET 1 OF 1