Full Polymoog Service Manual Volume II (schematics)

All missing page numbers are blank pages, nothing has been omitted for scanning

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

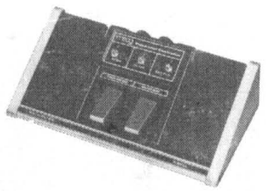
ChristianH
07-MAR-2006

Volume II

MANUAL NO. 993-042314-001
PRICE $25.00

TECHNICAL SERVICE MANUAL
for
moog® POLYMOOG SYNTHESIZER

Model 203A



POLYPEDAL
Model 285

2500 Walden Ave.
Buffalo, N.Y. 14225

Norlin™

NORLIN MUSIC
(716) 681-7242

Volume II

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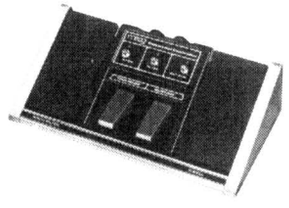
TECHNICAL SERVICE MANUAL
for
moog® POLYMOOG SYNTHESIZER

Model 203A



POLYPEDAL
Model 285

2500 Walden Ave.
Buffalo, N.Y. 14225

Norlin™
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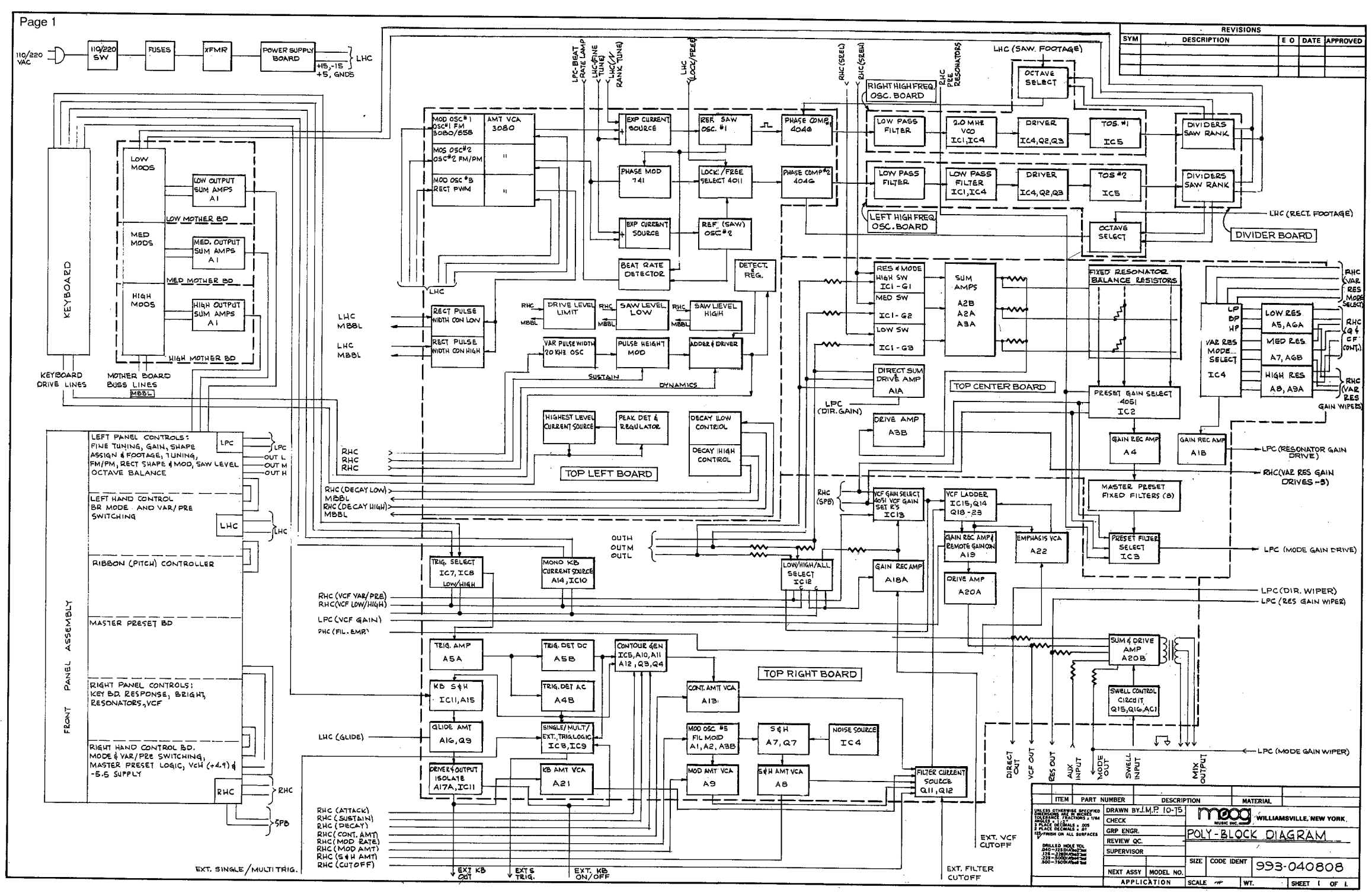
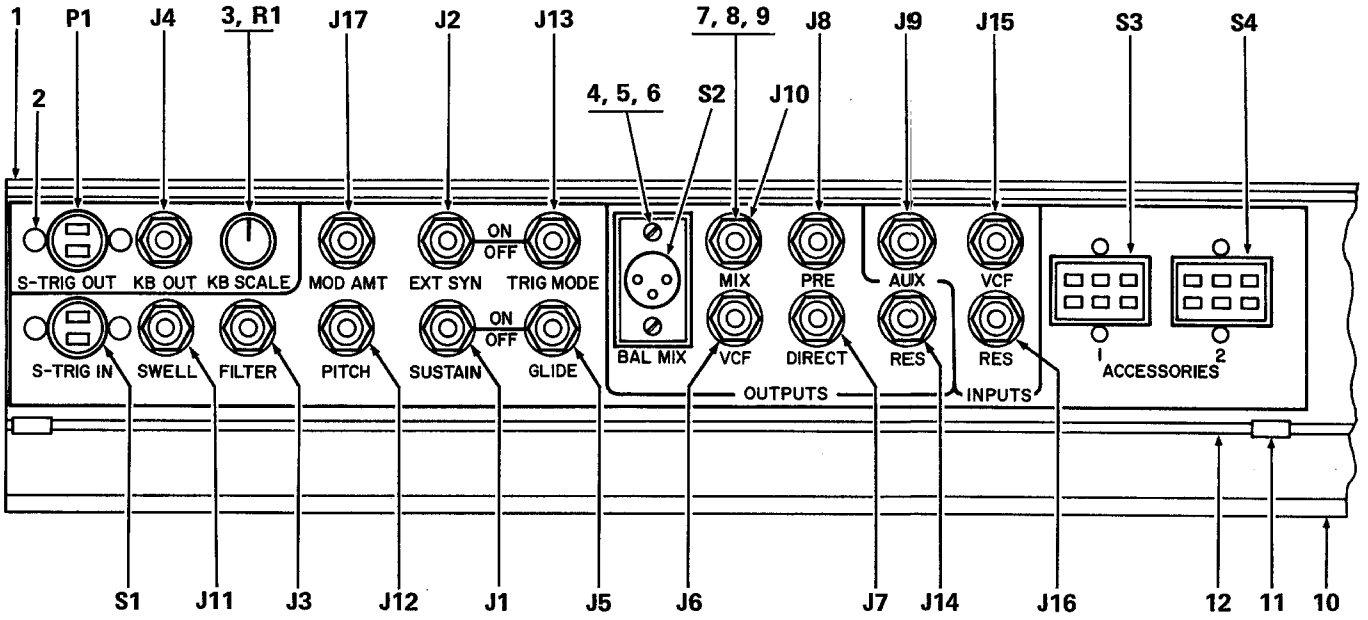
LIST OF ILLUSTRATIONS


110/220 VAC
110/220 SW
FUSES
XFMR
POWER SUPPLY BOARD
+15,-15
+5, GNDS
LHC
REVISIONS
SYM
DESCRIPTION
E O
DATE
APPROVED
KEYBOARD
LOW MODS
LOW OUTPUT SUM AMPS A1
LOW MOTHER BD
MED MODS
MED. OUTPUT SUM AMPS A1
MED MOTHER BD
HIGH MODS
HIGH OUTPUT SUM AMPS A1
HIGH MOTHER BD
KEYBOARD DRIVE LINES
MOTHER BOARD BUSS LINES
MBBL
LPC-BEAT RATE LAMP
LHC-(FINE TUNE)
LHC-(COARSE TUNE)
LHC (LOCK/FREE)
RHC (SEL)
RHC (SEL)
RHC PRE RESONATORS
LHC (SAW. FOOTAGE)
RIGHT HIGH FREQ. OSC. BOARD
OCTAVE SELECT
LOW PASS FILTER
2.0 MHz VCO IC1, IC4
DRIVER IC4, Q2, Q3
TOS. #1 IC5
DIVIDERS SAW RANK
LOW PASS FILTER
LOW PASS FILTER IC1, IC4
DRIVER IC4, Q2, Q3
TOS #2 IC5
DIVIDERS SAW RANK
LHC (RECT. FOOTAGE)
DIVIDER BOARD
LEFT HIGH FREQ. OSC. BOARD
OCTAVE SELECT
MOD OSC #1 OSC#1 FM 3080/858
MOS OSC #2 OSC#2 FM/PM
MOD OSC #B RECT PWM
AMT VCA 3080
EXP CURRENT SOURCE
REF. SAW OSC. #1
PHASE COMP #1 4046
PHASE MOD 741
LOCK / FREE SELECT 4011
PHASE COMP #2 4046
EXP CURRENT SOURCE
REF. (SAW) OSC #2
BEAT RATE DETECTOR
DETECT & REG.
LHC
LHC MBBL
LHC MBBL
RECT PULSE WIDTH CON LOW
RECT PULSE WIDTH CON HIGH
RHC
MBBL
DRIVE LEVEL LIMIT
SAW LEVEL LOW
SAW LIEVEL HIGH
VAR PULSE WIDTH 20 KHz OSC
PULSE HEIGHT MOD
ADDER & DRIVER
SUSTAIN
DYNAMICS
RES & MODE HIGH SW IC1 - G1
MED SW IC1 - G2
LOW SW IC1 - G3
SUM AMPS A2B A2A A3A
FIXED RESONATOR BALANCE RESISTORS
LP BP HP
VAR RES MODE SELECT IC4
LOW RES. A5, A6A
MED RES. A7, A6B
HIGH RES A8, A9A
RHC (VAR RES MODE SELECT)
RHC (6 & CF CONT.)
RHC (VAR RES GAIN WIPERS)
DIRECT SUM DRIVE AMP A1A
TOP CENTER BOARD
LPC (DIR. GAIN)
DRIVE AMP A3B
PRESET GAIN SELECT 4051 IC2
GAIN REC AMP A4
GAIN REC AMP A1B
LPC (RESONATOR GAIN DRIVE)
RHC (VAR RES GAIN DRIVES -5)
HIGHEST LEVEL CURRENT SOURCE
PEAK DET & REGULATOR
DECAY (LOW CONTROL
DECAY (HIGH CONTROL
RHC
RHC
RHC
TOP LEFT BOARD
RHC (DECAY LOW)
MBBL
RHC (DECAY HIGH)
MBBL
RHC (SPB)
VCF GAIN SELECT 4051 VCF GAIN SET R'S IC13
VCF LADDER IC15, Q14 Q18 - 23
MASTER PRESET FIXED FILTERS (8)
OUTH
OUTM
OUTL
GAIN REC AMP & REMOTE GAIN CON A19
EMPHASIS VCA A22
PRESET FILTER SELECT IC3
LPC (MODE GAIN DRIVE)
TRIG. SELECT IC7, IC8 LOW/HIGH
MONO KB CURRENT SOURCE A14, IC10
LOW/HIGH/ALL SELECT IC12
GAIN REC AMP A18A
DRIVE AMP A20A
RHC (VCF VAR/PRE)
RHC (VCF LOW/HIGH)
LPC (VCF GAIN)
PHC (FIL. EMPH)
LPC (DIR. WIPER)
LPC (RES GAIN WIPER)
SUM & DRIVE AMP A20B
TRIG. AMP A5A
TRIG. DET DC A5B
CONTOUR GEN IC5, A10, A11 A12, Q3, Q4
TOP RIGHT BOARD
KB S&H IC11, A15
TRIG. DET AC A4B
CONT. AMT VCA A13
SWELL CONTROL CIRCUIT Q15, Q16, AC1
GLIDE AMT A16, Q9
LHC (GLIDE)
SINGLE/MULT/ EXT. TRIG. LOGIC IC8, IC9
MOD OSC #B FIL MOD A1, A2, A3B
S&H A7, Q7
NOISE SOURCE IC4
DRIVER & OUTPUT ISOLATE A17A, IC11
KB AMT VCA A21
MOD AMT VCA A9
S&H AMT VCA A8
FILTER CURRENT SOURCE Q11, Q12
LPC (MODE GAIN WIPER)
DIRECT OUT
VCF OUT
RES OUT
AUX INPUT
MODE OUT
SWELL INPUT
MIX OUTPUT
FRONT PANEL ASSEMBLY
LEFT PANEL CONTROLS: FINE TUNING, GAIN, SHAPE ASSIGN & FOOTAGE, TUNING, FM/PM, RECT SHAPE & MOD, SAW LEVEL OCTAVE BALANCE
LPC
LPC
OUT L
OUT M
OUT H
LEFT HAND CONTROL BR MODE AND VAR/PRE SWITCHING
LHC
LHC
RIBBON (PITCH) CONTROLLER
MASTER PRESET BD
RIGHT PANEL CONTROLS: KEY BD. RESPONSE, BRIGHT, RESONATORS, VCF
RIGHT HAND CONTROL BD. MODE & VAR/PRE SWITCHING, MASTER PRESET LOGIC, VcH (+4.9) & -5.5 SUPPLY
RHC
RHC
5PB
EXT. SINGLE/MULTI TRIG.
RHC (ATTACK)
RHC (SUSTAIN)
RHC (DECAY)
RHC (CONT. AMT)
RHC (MOD RATE)
RHC (MOD AMT)
RHC (S&H AMT)
RHC (CUTOFF)
EXT KB OUT
EXT S TRIG.
EXT. KB ON/OFF
EXT. VCF CUTOFF
EXT. FILTER CUTOFF
ITEM
PART NUMBER
DESCRIPTION
MATERIAL
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCE: FRACTIONS ± 1/64 ANGLES ± 1° 2 PLACE DECIMALS ± .005 3 PLACE DECIMALS ± .01 125/FINISH ON ALL SURFACES
DRILLED HOLE TOL .040-.125 DIA ±.003 .126-.228 DIA ±.004 .229-.500 DIA ±.005 .501-.750 DIA ±.006
DRAWN BY J.M.P. 10-75
CHECK
GRP ENGR.
REVIEW QC.
SUPERVISOR
NEXT ASSY
MODEL NO.
APPLICATION
moog MUSIC INC. WILLIAMSVILLE, NEW YORK.
POLY-BLOCK DIAGRAM
SIZE
CODE IDENT
993-040808
SCALE
WT.
SHEET 1 OF 1

NOTES:

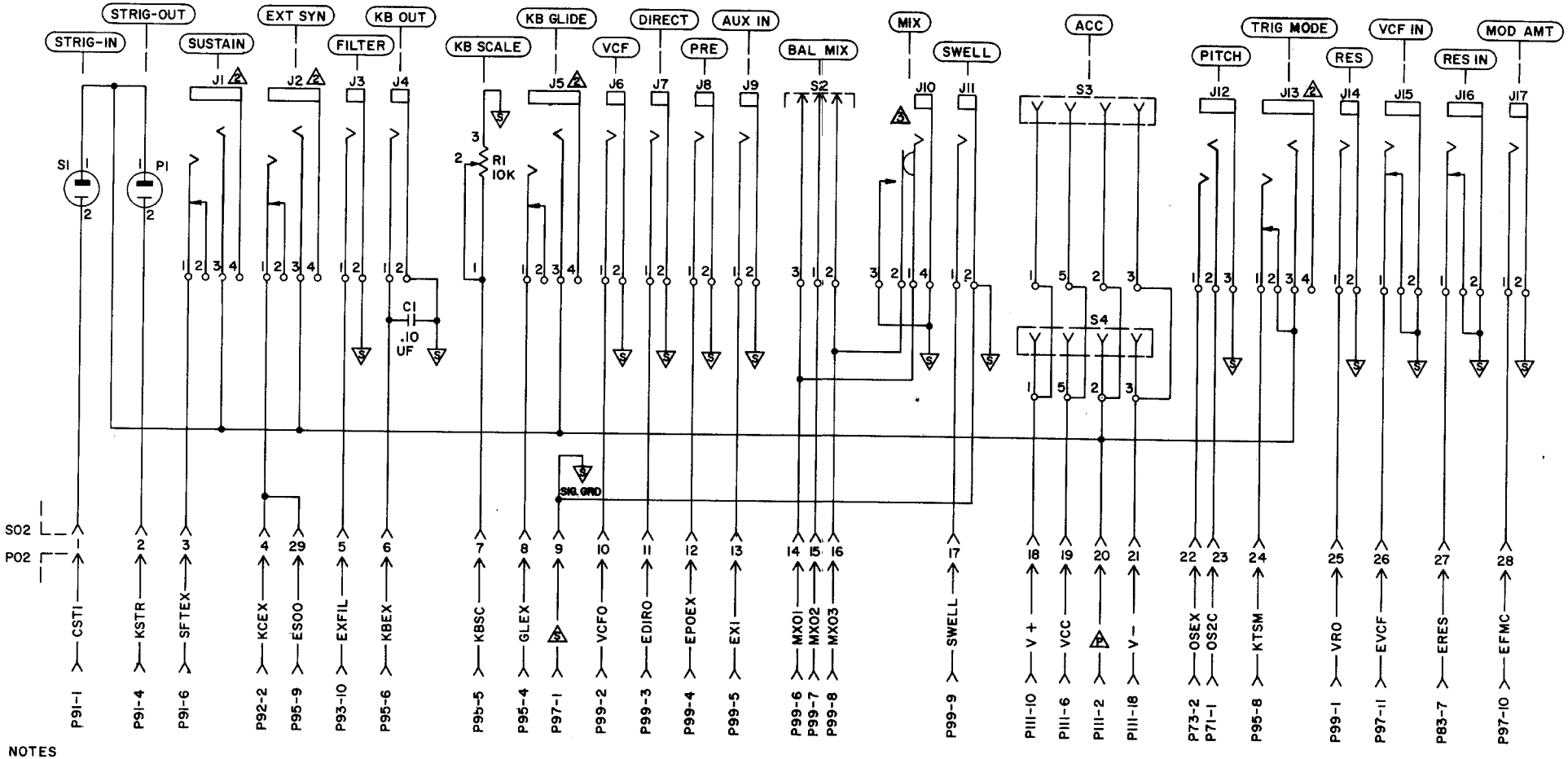
1. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 5 FOR THE PART NUMBER, DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.
2. CONNECTOR DESIGNATORS INCLUDE A CODED REFERENCE PERTAINING TO ITS PRINTED CIRCUIT BOARD ORIGIN, I.E., P91 INDICATES IT IS PART OF BOARD 11. REFER TO TABLE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



997-040348

CONTROLS BASE WIRE ASSEMBLY (REAR PANEL)

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
A	GEN. REVISION		3/76	
B	REVISED, SPLIT GROUND		5/76	
C	ADDED C1, REV. J16 & J17	249	8/76	
D	REDRAWN, RELEASED FOR PROD.	253	10/76	



NOTES

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

2. .206 DIA PHONE JACK.

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

ITEM	PART NUMBER	DESCRIPTION	MATERIAL

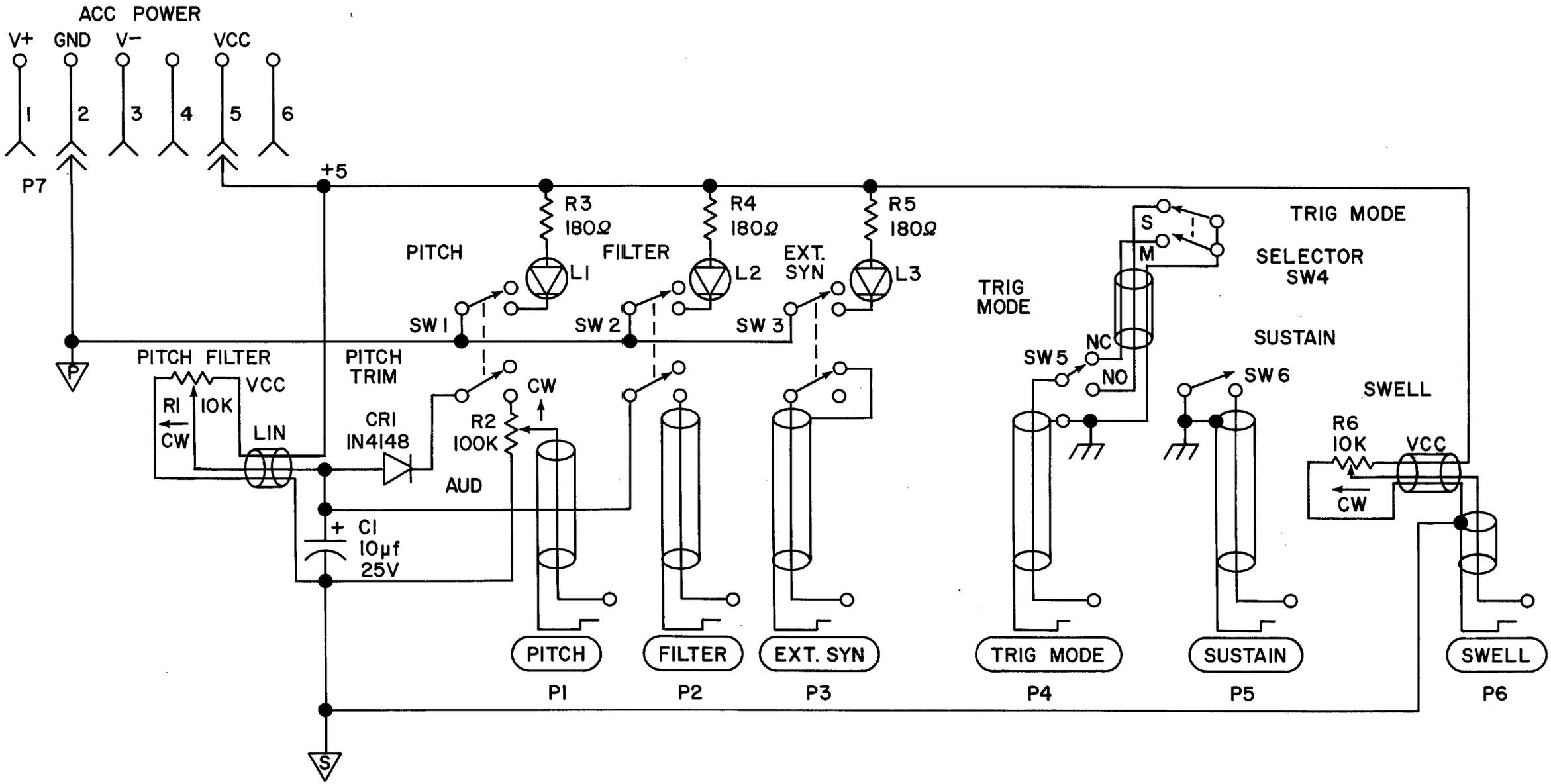
DRAWN BY [illegible] 10/76
CHECK [illegible] 11/4/76
GRP ENGR. [illegible]
REVIEW QC.
SUPERVISOR [illegible] 11/4/76
904-040691 03 A
NEXT ASSY | MODEL NO.
APPLICATION

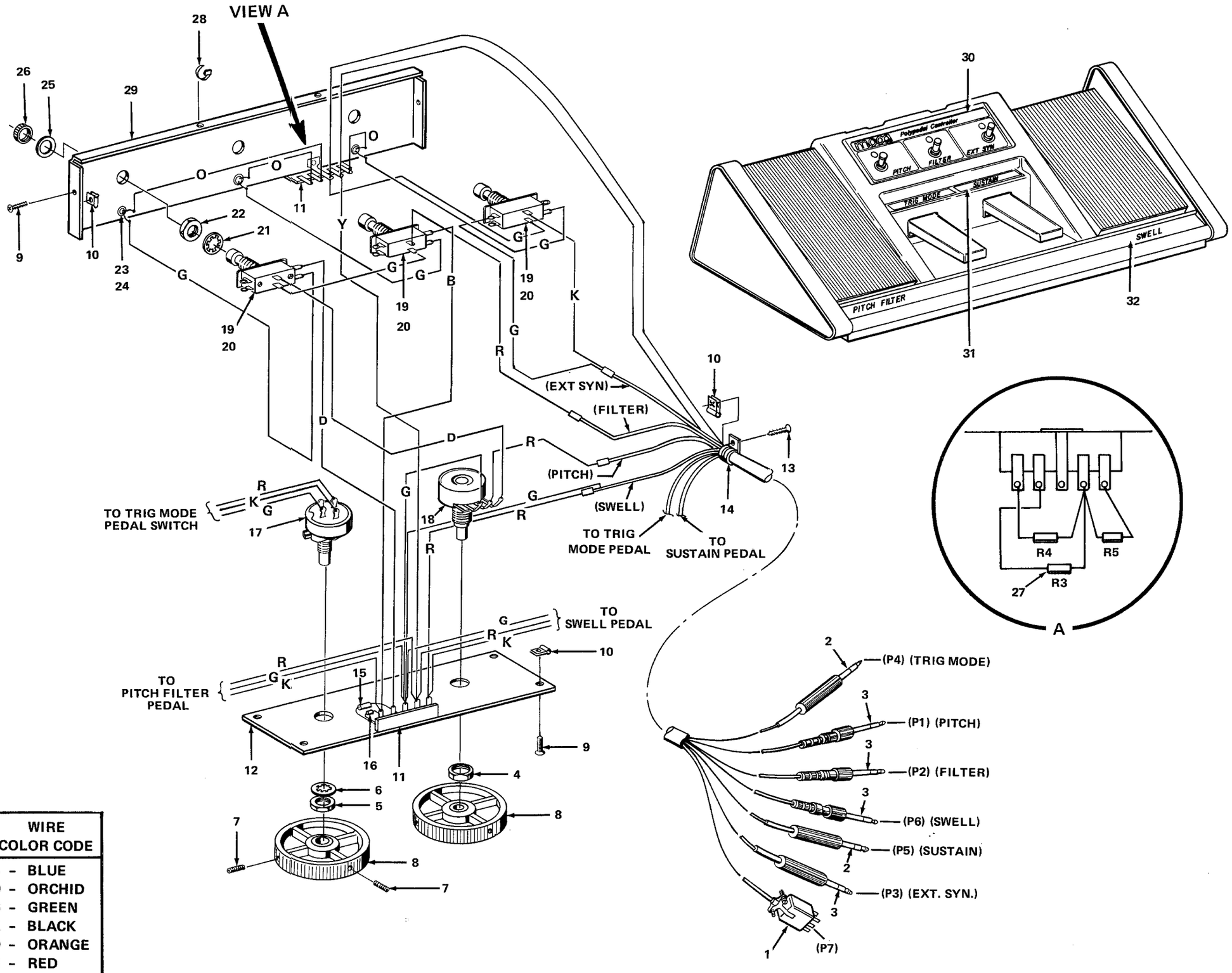
moog MUSIC INC. WILLIAMSVILLE, NEW YORK

SCHEMATIC REAR PANEL CONTROLS POLYMOOG

SIZE D | CODE IDENT | 993-040691

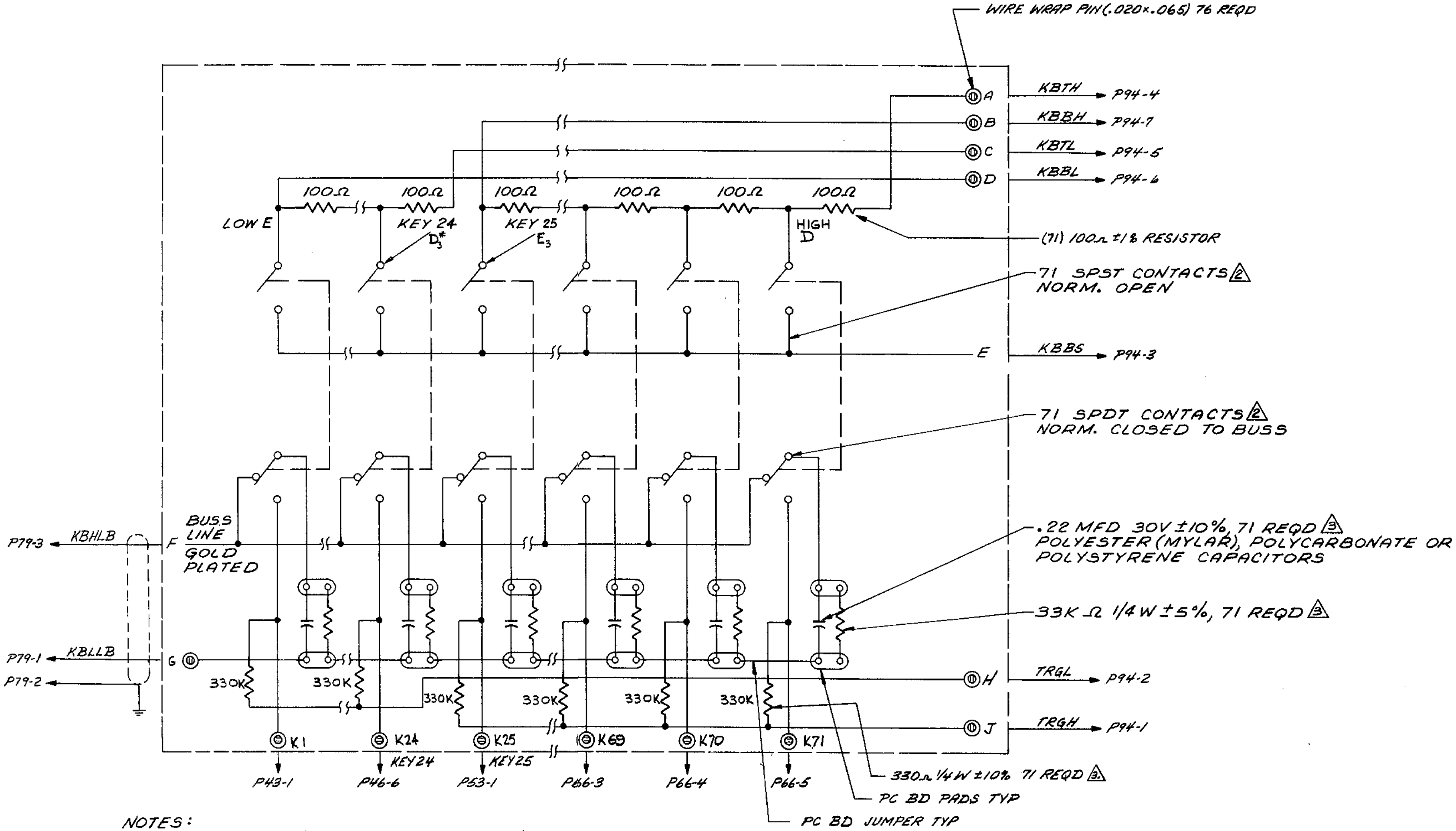
SCALE — | WT. | SHEET 1 OF 1


ACC POWER
V+
GND
V−
VCC
1
2
3
4
5
6
P7
+5
R3
180Ω
R4
180Ω
R5
180Ω
PITCH
FILTER
EXT.
SYN
L1
L2
L3
SW 1
SW 2
SW 3
TRIG MODE
SELECTOR
SW4
S
M
TRIG
MODE
SUSTAIN
NC
SW5
NO
SW 6
SWELL
R6
10K
VCC
CW
PITCH FILTER
VCC
R1
10K
CW
LIN
PITCH
TRIM
CR1
IN4148
R2
100K
CW
AUD
+ C1
10µf
25V
PITCH
FILTER
EXT. SYN
TRIG MODE
SUSTAIN
SWELL
P1
P2
P3
P4
P5
P6
P
S



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

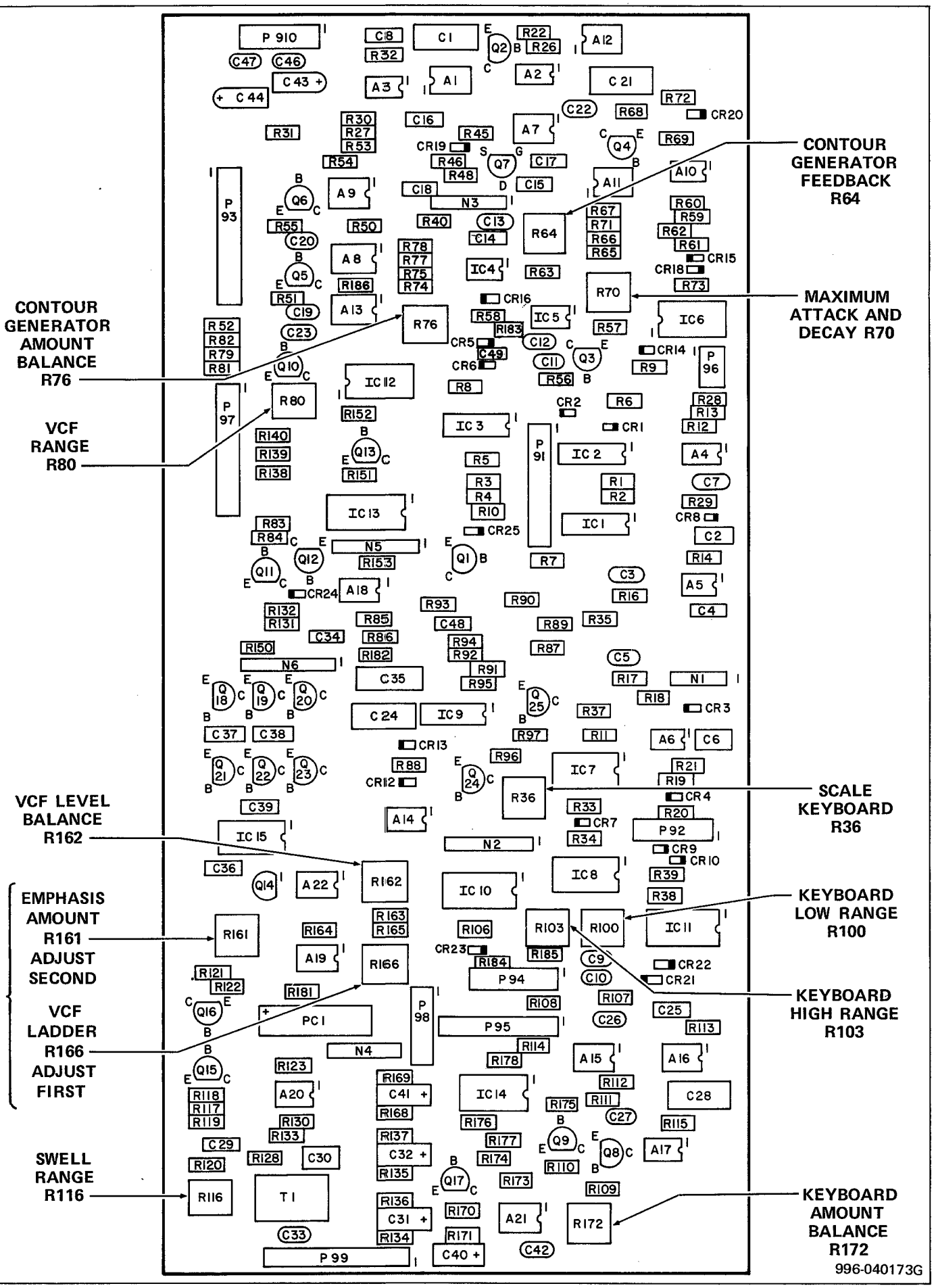
REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
A	KB WAS F TO E, RES. PACK WAS 1K, ADDED (72) 1meg RES., 33K RES. WAS 22K, POINTS A, B, C, E, H & J RELOCATED TO HIGH END. (REDRAWN)		A.S. 9-5-75	[illegible] 9-17-75
B	RELOCATED KEY SPLIT: KEY 24 WAS 29, KEY 25 WAS 30, 100Ω RES. PACK WAS 7 REQ'D, 2 PACKS LOW END WAS 3 PACKS		A.S. 10-21-75	[illegible] 10/21/75
C	330K RES. WAS 1 MEG., RES. AND CAP. WERE 72 REQ'D, KB. WAS C-B		A.S. 3-22-76	[illegible] 3/30/76
—	RELEASED FOR PRODUCTION	0215	A.S. 6-4-76	[illegible] 6/76
D	ADDED PLUG & FUNCTION DESIGNATION REMOVED NOTE 4 & RESISTOR PACKS	0390	D.K. 2-19-77	[illegible] 2/19/77



NOTES:
1. PROFESSIONAL KEYBOARD, 71 NOTE E TO D.
2. SPST NORM OPEN SWITCH ARM TO CONTACT BEFORE SPDT SWITCH SPRING CONTACTS. (SEE CONTACT SEQUENCE SHT. 1)
3. TO BE SUPPLIED & INSTALLED BY PRATT & READ ON KEYBOARD PCB.

	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	DRILLED HOLE TOL .040–.125 DIA +.003 .126–.225 DIA +.004 .226–.500 DIA +.004 .600–.750 DIA +.005
DRAWN BY [illegible] 9/12/75	moog MUSIC INC. WILLIAMSVILLE, NEW YORK.
CHECK [illegible] 3/30/76	SCHEMATIC - POLYMOOG KEYBOARD CIRCUIT E-D
GRP ENGR [illegible] 3/76	
REVIEW QC. [illegible]	
SUPERVISOR [illegible] 3/76	
MODEL NO. 203A	SIZE D, CODE IDENT, 979-040253
NEXT ASSY	
APPLICATION	SCALE —, WT., 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	0
P	PIANO	2	0	2.50	2.50	2.50	.245	0	.649	0	1.81	0
R	ORGAN	3	0	2.50	2.50	2.50	.706	0	.888	0	1.26	0
E	HARPSI	4	0	2.50	2.50	2.50	6.46	0	1.18	0	1.79	0
S	FUNK	5	5.88	2.50	2.50	2.50	.267	0	1.78	8.60	0	0
E	CLAV	6	0	2.50	2.50	2.50	1.25	0	.651	0	2.09	0
T	VIBES	7	3.89	2.50	2.50	2.50	.273	3.92	1.10	0	.998	0
	BRASS	8	0	2.50	2.50	2.50	0	0	.885	0	2.07	0

	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

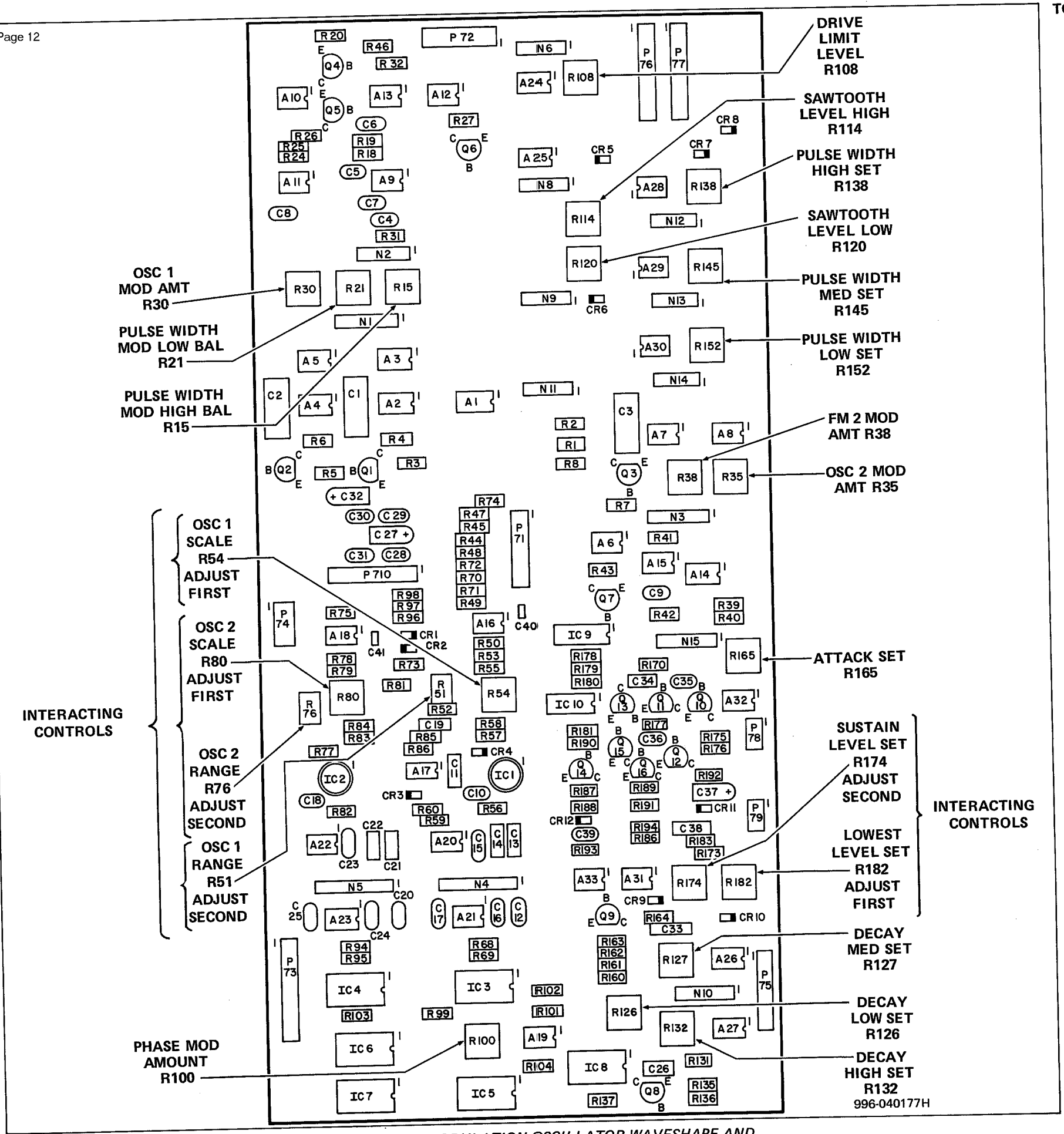
	S96-PINS	1	2	3
	STRING	1	.760	.065	0
P	PIANO	2	.573	.544	1.93
R	ORGAN	3	.450	.062	2.14
E	HARPSI	4	2.59	.546	.141
S	FUNK	5	0	0	0
E	CLAV	6	.933	.263	2.15
T	VIBES	7	3.09	6.70	2.06
	BRASS	8	1.56	1.83	1.58

	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.


CONTROL LOGIC
BRIGHTNESS
SAMPLE & HOLD
N3 SAMPLE & HOLD NETWORK #949-040205
MODULATION OSCILLATOR
CONTOUR GENERATOR
CONTOUR AMT.
HIGH - LOW ADJ SELECT
PRE GAIN SELECT
N5 VCF PRESET NETWORK #949-040208
N6 VCF NETWORK #949-040207
VCF
VCF CURRENT SOURCE
VCF GAIN REC.
EXT MOD (FM) AMT
SWELL CIRCUIT
N4 MIXER NETWORK #949-040206
OUTPUT MIXER
TRIGGER GENERATOR
N1 TRIG. GEN. NETWORK #949-040203
STRING CONTOUR GEN.
N2 KYBD DRIVE NETWORK #949-040204
KEYBOARD DRIVE
KEYBOARD OUTPUT
KB AMT CONTROL
OUTPUT LEVEL (FRONT PANEL)
COMPONENT BASING
TOP VIEW
NOTES:
UNLESS OTHERWISE SPECIFIED:
1. ALL RESISTOR VALUES ARE IN OHMS 1/4 W ±5%.
2. ALL CAPACITOR VALUES ARE IN MFD (uf).
3. ALL DIODES ARE 1N4148.
4. ALL TRANSISTORS ARE 2N3906.
LAST REF DES USED
BOARD #9
REVISIONS
A REVISED & REDRAWN RELEASED FOR PROD.
B REVISED PER EO 0233 JML 0233 7/13/76
C CHANGE R83 FROM 6.8K TO 430Ω JML 0262 9/16/76
D CHANGE R159 FROM 1K TO 7K JML 0273 9/22/76
E CHANGE CR19 FROM 1N4148 TO 1N34A 0291 11/2/76
F ADDED (2) 10K 1/4W ±5% RESISTORS R184 & R185 0383 2/23/77
G ADDED (1) 22K 1/4W ±5% RESISTOR R186 0398 3/8/77
DRAWN BY J.M.P. 2-76
CHECK W.J.A. 5/28/76
GRP ENGR 6/9/76
REVIEW QC
SUPERVISOR
981-040171 203A
NEXT ASSY MODEL NO
APPLICATION
moog MUSIC INC WILLIAMSVILLE, NEW YORK
VCF CONTROL & KYBD CIRCUIT SCHEMATIC-POLYMOOG
SIZE CODE IDENT 993-040170
SCALE WT. SHEET 1 OF 1



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

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.

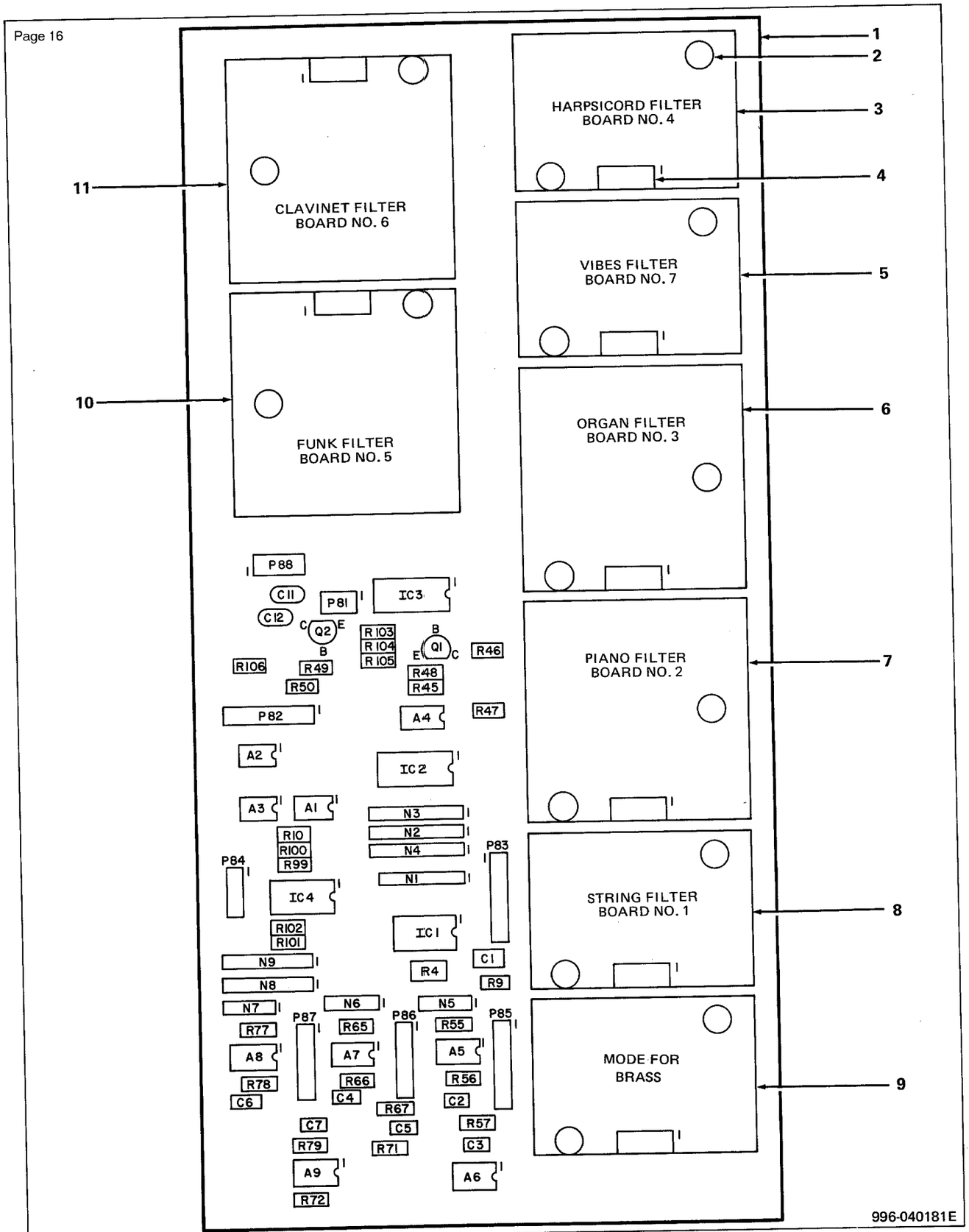
SYM	DESCRIPTION	EO	DATE	APPROVED
G	CHANGED R96 FROM 160K TO 130K	0378	2/4/77	
H	[illegible]	0385	[illegible]	
J	ADDED PII WIRE DESTINATION	W.I.A. 0617	[illegible]	

SYM	REVISIONS DESCRIPTION
A	REVISED & RELEASED FOR PRODUCTION
B	CHANGE PER EO#0233 JML
C	CHANGE PER EO#0262 JML
D	R97 WAS 49.2K Ω
E	CHANGE [illegible]
F	CHANGED [illegible]

Notes:
UNLESS OTHERWISE SPECIFIED
1. ALL RESISTOR VALUES ARE IN OHMS ¼ W ± 5%.
2. ALL CAPACITOR VALUES ARE IN MFD (μf)
3. ALL DIODES ARE IN4148
4. ALL TRANSISTORS ARE 2N3906.
5. * INDICATES WIRE DESTINATION FOR PII ONLY
ALL OTHERS ARE FOR PI AND PII.

LAST REF DES USED									
R	C	IC	CR	Q	N	P	A	G	L
194	41	10	12	16	15	710	33	14	1

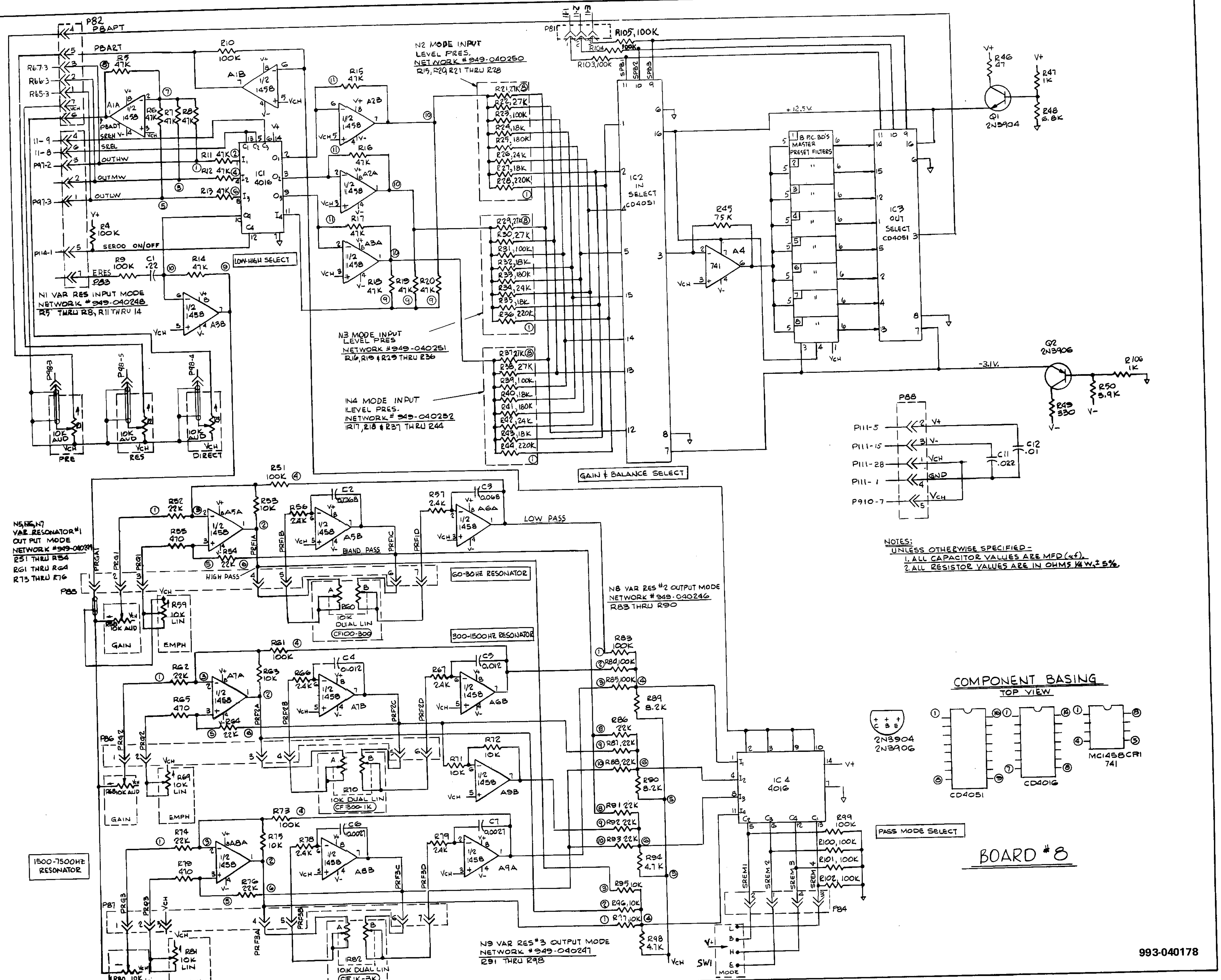
DRAWN BY J.M.P. 9-75
CHECK W. J.A. 6/14/76
GRP ENGR [illegible]
REVIEW QC [illegible]
SUPERVISOR [illegible]
981-040175
NEXT ASSY / MODEL NO / APPLICATION
moog MUSIC INC
REF. & MOD OSC KYBD CONT.
CODE IDENT 561



FIXED AND VARIABLE RESONANT FILTERS PRINTED CIRCUIT BOARD ASSEMBLY

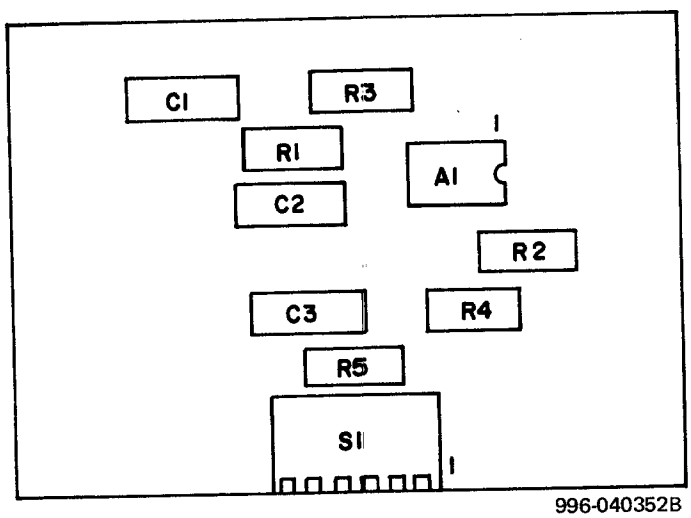
NOTES:

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.**

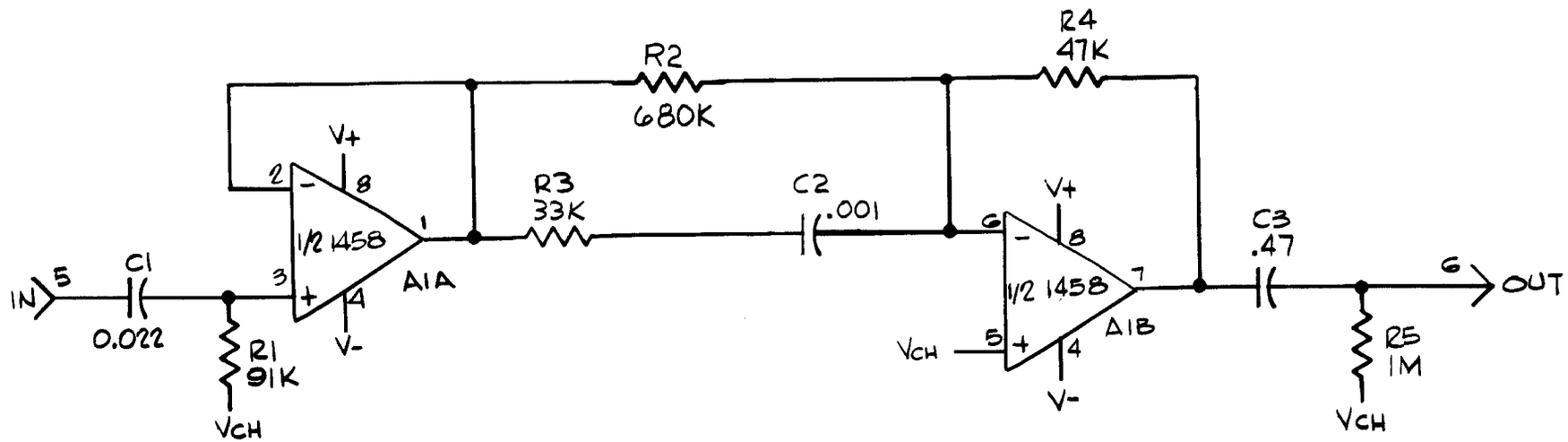

N1 VAR RES INPUT MODE
NETWORK #949-040248
R5 THRU R8, R11 THRU 14
LOW-HIGH SELECT
N2 MODE INPUT
LEVEL PRES.
NETWORK #949-040250
R15, R29 R21 THRU R28
N3 MODE INPUT
LEVEL PRES
NETWORK #949-040251
R16, R19 & R29 THRU R36
N4 MODE INPUT
LEVEL PRES.
NETWORK #949-040252
R17, R18 & R37 THRU R44
GAIN & BALANCE SELECT
IC2
IN
SELECT
CD4051
IC3
OUT
SELECT
CD4051
8 P.C. BD'S
MASTER
PRESET FILTERS
PRE
RES
DIRECT
N5, N6, N7
VAR RESONATOR #1
OUT PUT MODE
NETWORK #949-040249
R51 THRU R54
R61 THRU R64
R73 THRU R76
LOW PASS
BAND PASS
HIGH PASS
60-300HZ RESONATOR
300-1500HZ RESONATOR
1500-7500HZ
RESONATOR
GAIN
EMPH
10K DUAL LIN
CF100-300
CF300-1K
CF1K-3K
N8 VAR RES #2 OUTPUT MODE
NETWORK #949-040246
R83 THRU R90
N9 VAR RES #3 OUTPUT MODE
NETWORK #949-040247
R91 THRU R98
IC4
4016
PASS MODE SELECT
NOTES:
UNLESS OTHERWISE SPECIFIED -
1. ALL CAPACITOR VALUES ARE MFD (μf).
2. ALL RESISTOR VALUES ARE IN OHMS 1/4 W, ± 5%.
COMPONENT BASING
TOP VIEW
2N3904
2N3906
CD4051
CD4016
MC1458CP1
741
BOARD #8

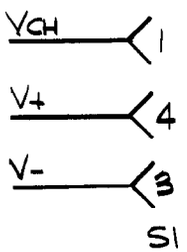
NOTE:

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



STRING FILTER BOARD NO. 1 PRINTED CIRCUIT BOARD ASSEMBLY





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	
A	CHANGED C3 FROM .01 TO .47μf JML	0233	8/10/76	
B	CHANGED PER E.O. 0277 JML	0277	9/27/76	

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

DRILLED HOLE TOL
.040 – .125 DIA 2 tool
.126 – .228 DIA 3 tool
.229 – .500 DIA 4 tool
.500 – .750 DIA 5 tool

DRAWN BY	J.M.P. 5-76
CHECK	W.J.A 6/2/76
GRP ENGR.	6/21/76
REVIEW QC.	6/16
SUPERVISOR	ACM 6/16
981-040350	203A
NEXT ASSY	MODEL NO.
APPLICATION	

moog MUSIC INC. WILLIAMSVILLE, NEW YORK

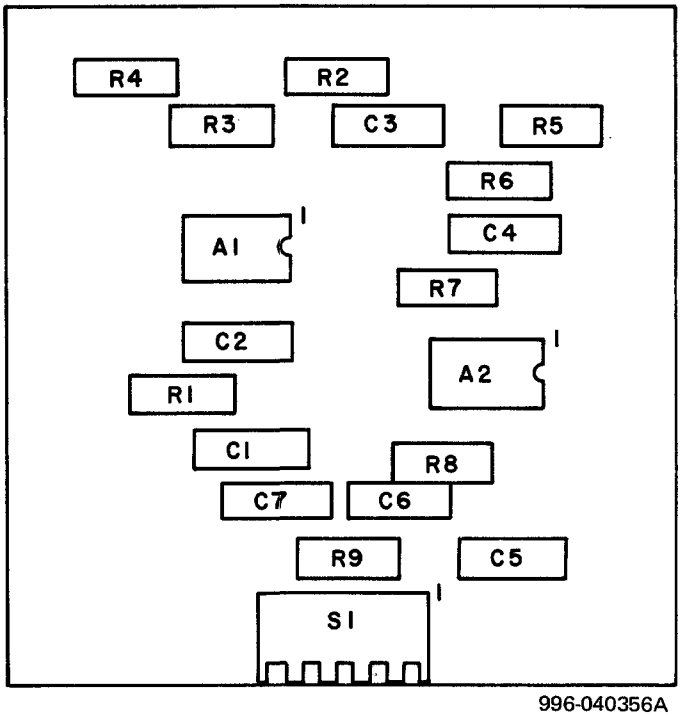
POLYMOOG SCHEMATIC
STRING FILTER #1

SIZE	CODE IDENT	993-040349
B		

SCALE — WT. SHEET OF 1

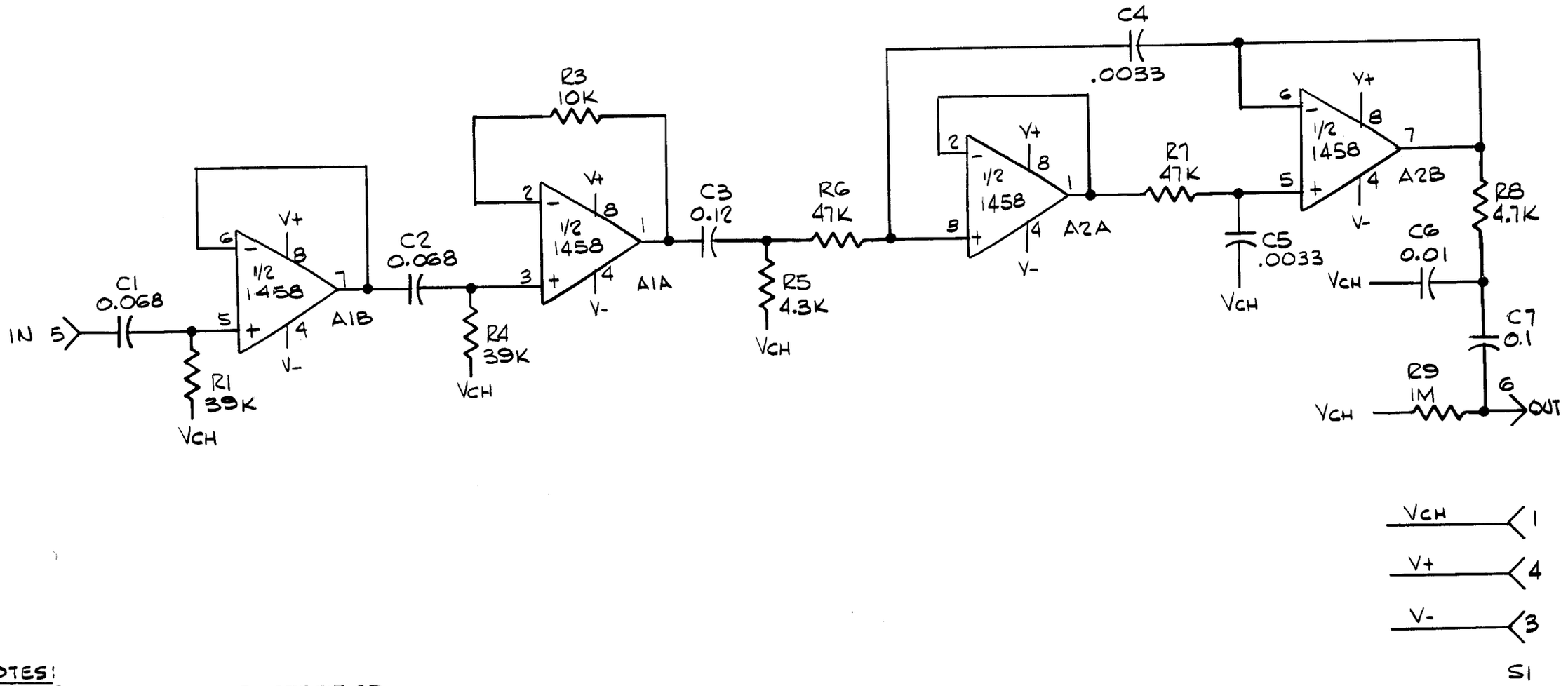
NOTES:

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

PIANO FILTER BOARD NO. 2 PRINTED CIRCUIT BOARD ASSEMBLY

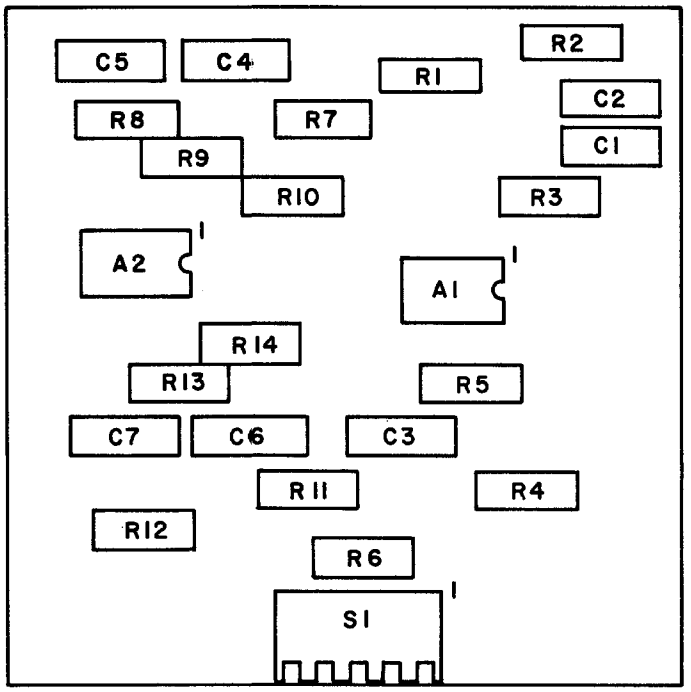


NOTES:

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

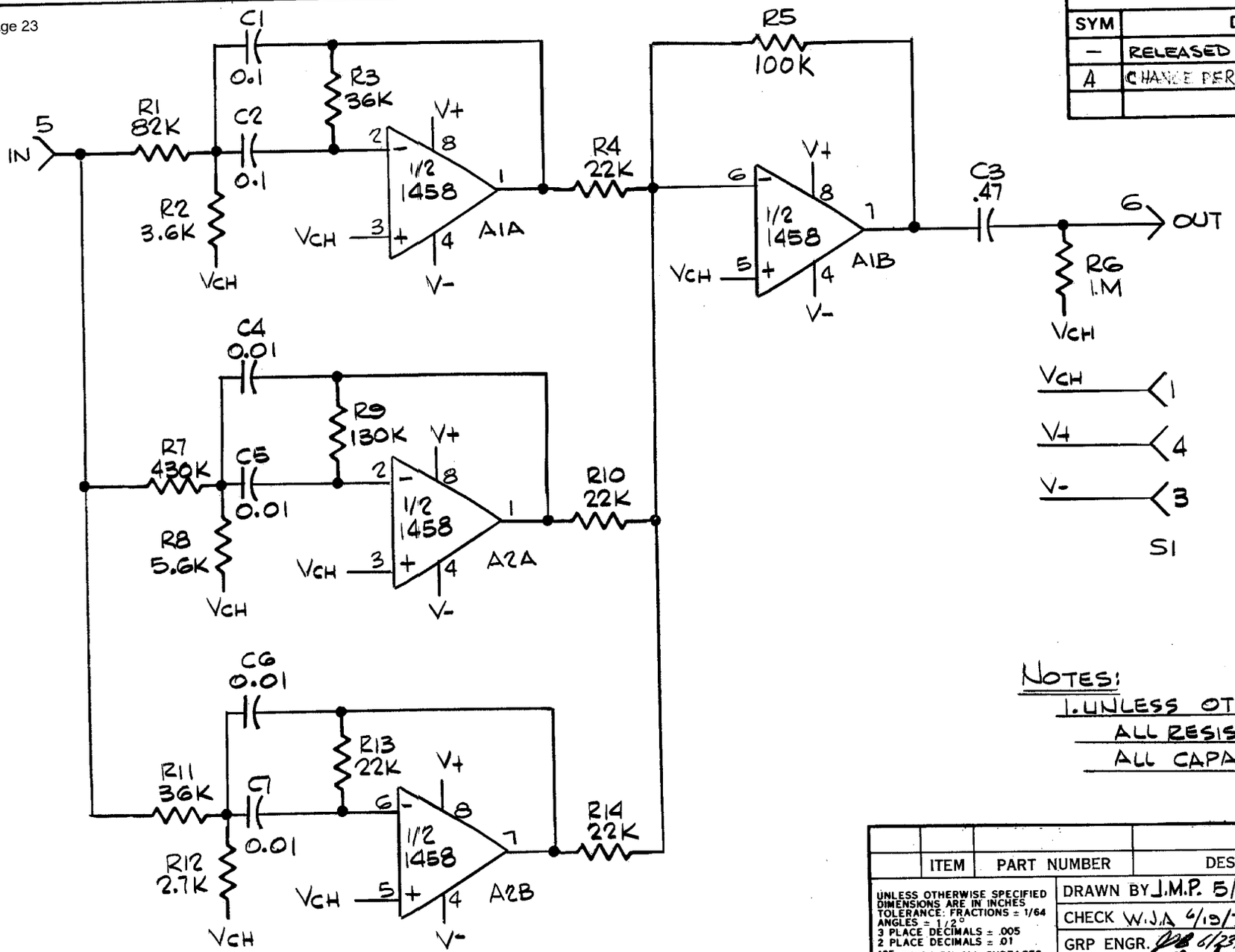
NOTE:

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



996-040360A

ORGAN FILTER BOARD NO. 3 PRINTED CIRCUIT BOARD ASSEMBLY



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

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

DRILLED HOLE TOL
.040–.125 DIA .002 tol
.126–.228 DIA .003 tol
.229–.500 DIA .004 tol
.500–.750 DIA .005 tol

DRAWN BY J.M.P. 5/76
CHECK W.J.A 6/13/76
GRP ENGR. 6/23/76
REVIEW QC 6/76
SUPERVISOR 6/76
981-040358
NEXT ASSY | MODEL NO.
APPLICATION

moog MUSIC INC. WILLIAMSVILLE, NEW YORK

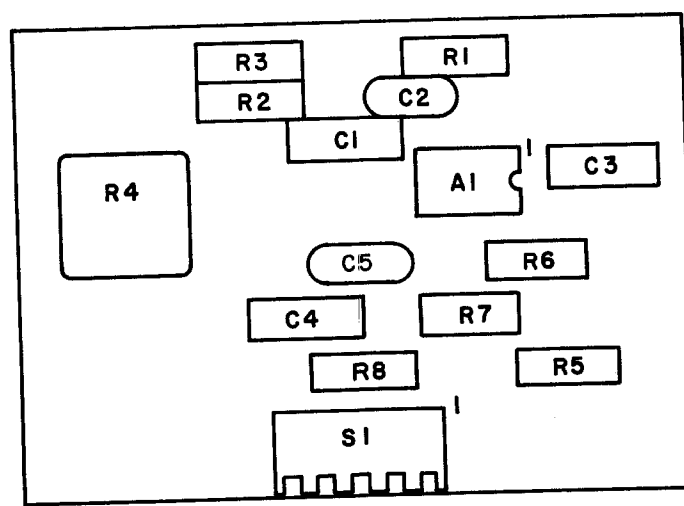
POLYMOOG SCHEMATIC
ORGAN FILTER #3

SIZE B | CODE IDENT | 993-040357

SCALE — | WT. | SHEET 1 OF 1

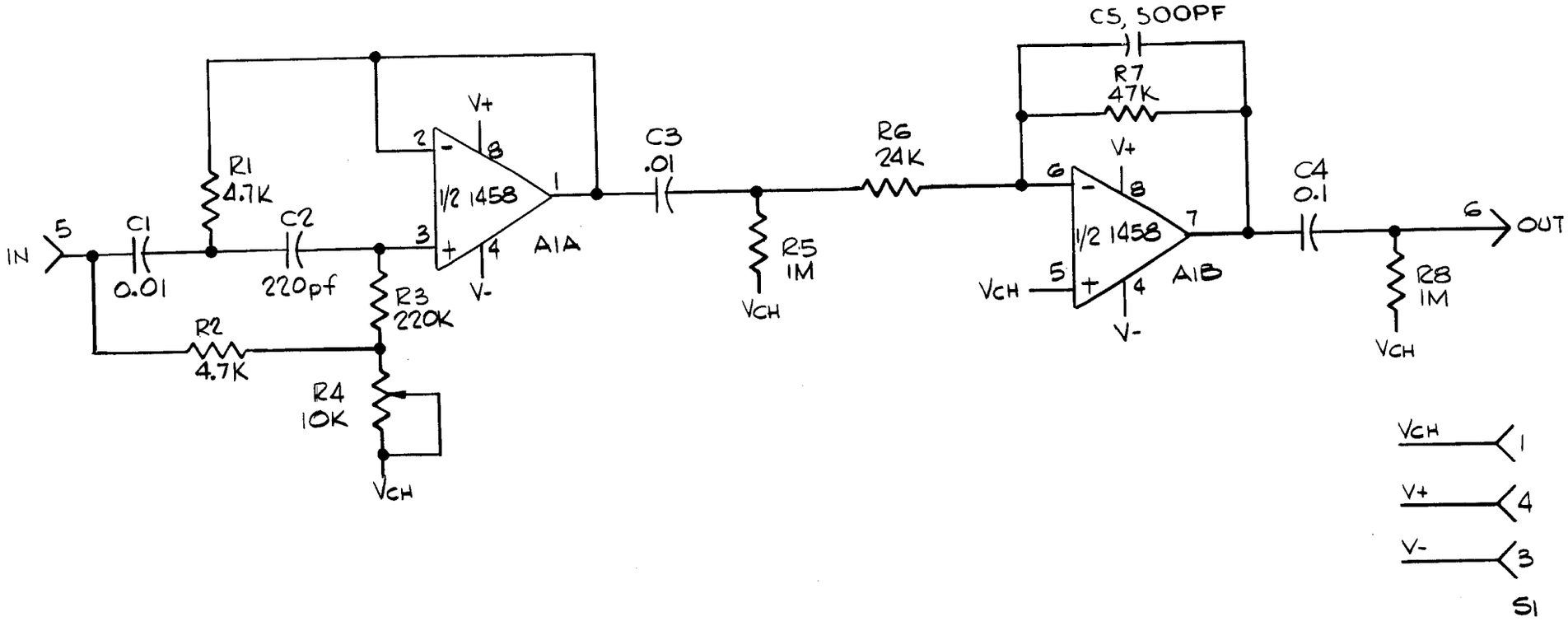
NOTE:

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



996-040364A

HARPSICORD FILTER BOARD NO. 4 PRINTED CIRCUIT BOARD ASSEMBLY



NOTES:

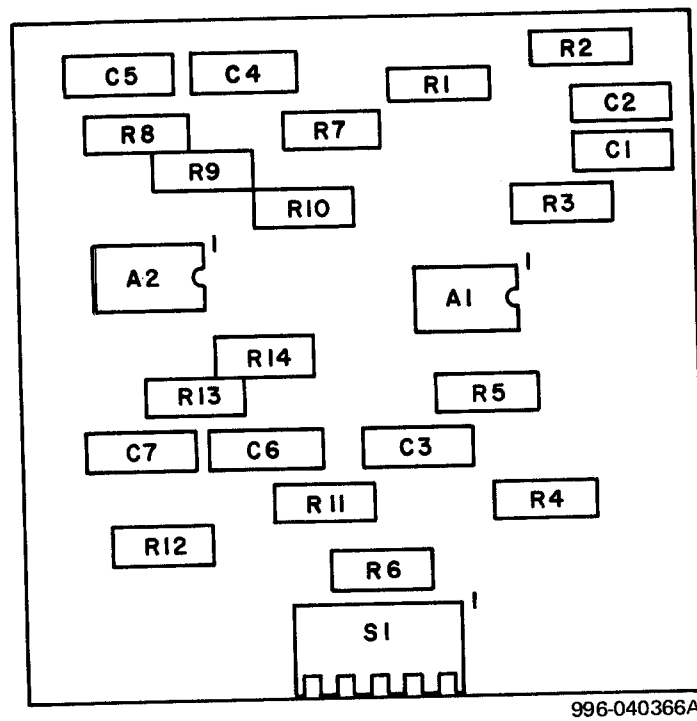
UNLESS OTHERWISE SPECIFIED:

ALL RESISTORS ARE IN OHMS ¼W, ±5%.

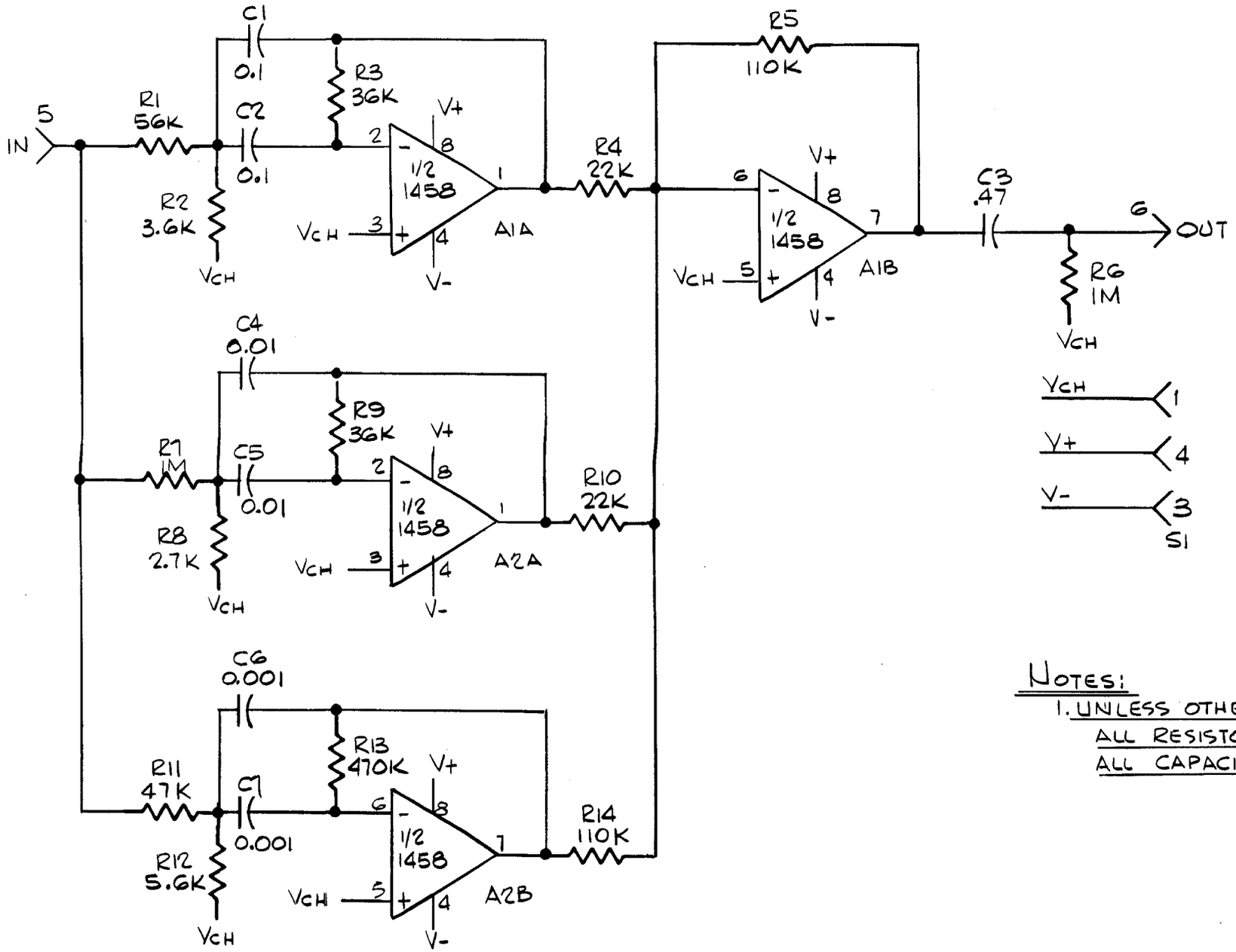
ALL CAPACITORS ARE IN MFD (μf)

NOTE:

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



FUNK FILTER BOARD NO. 5 PRINTED CIRCUIT BOARD ASSEMBLY



VCH — 1
V+ — 4
V- — 3
S1

FIL#1 G = -10
F = 146 HZ
Q = 1.7

FIL#2 G = -35
F = 1630 HZ
Q = 1.8

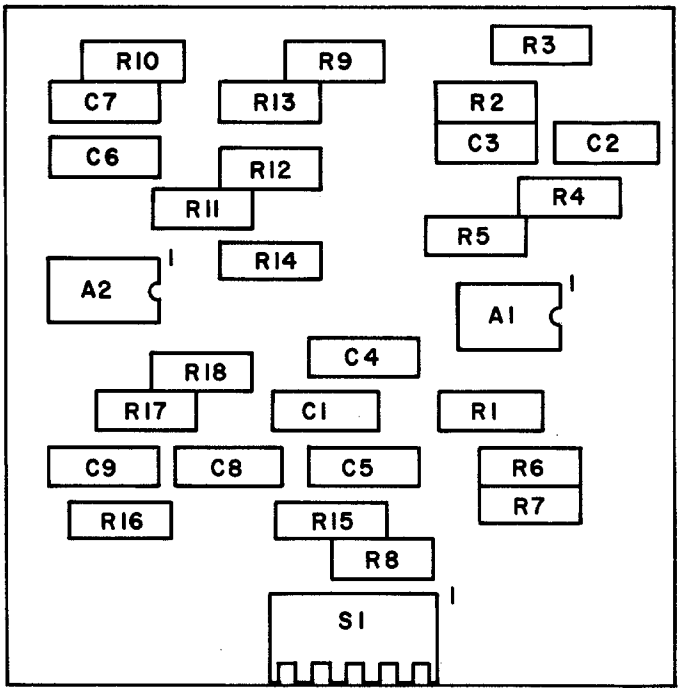
FIL#3 G = 0
F = 3K HZ
Q = 2.7

NOTES:

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

NOTE:

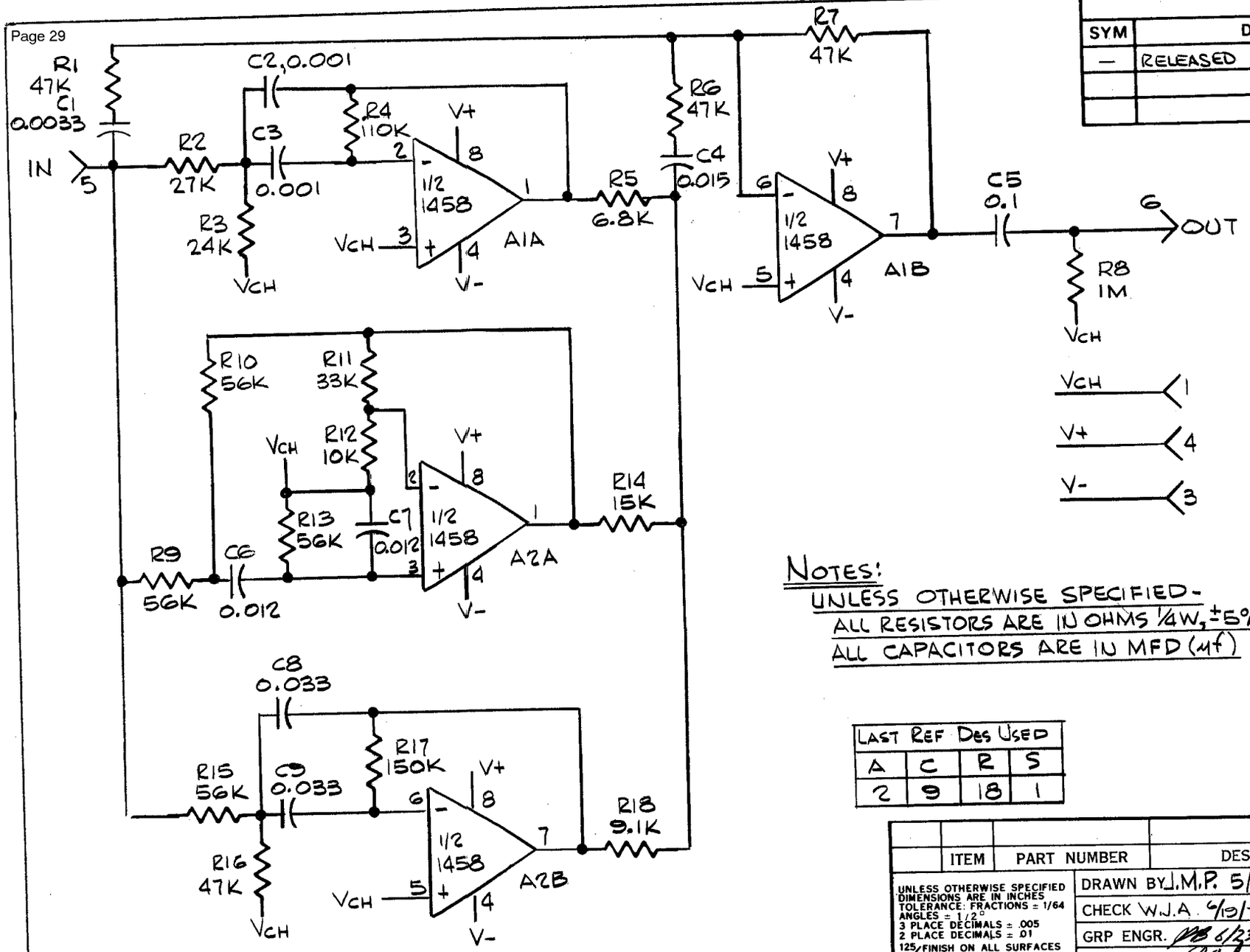
REFER TO THE REPLACEMENT PARTS LIST IN SECTION 10 FOR THE PART NUMBER AND DESCRIPTION OF EACH REFERENCE DESIGNATOR.



996-040370

CLAVINET FILTER BOARD NO. 6 PRINTED CIRCUIT BOARD ASSEMBLY

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
—	RELEASED FOR PRODUCTION	0192	6/21/76	



VCH — 1
V+ — 4
V- — 3

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

DRILLED HOLE TOL
.040–.125 DIA ±.002 TOL
.126–.228 DIA ±.003 TOL
.229–.500 DIA ±.004 TOL
.500–.750 DIA ±.005 TOL

DRAWN BY J.M.P. 5/76
CHECK W.J.A. 6/13/76
GRP ENGR. 6/23/76
REVIEW QC. 6/26/76
SUPERVISOR AOM 6/76

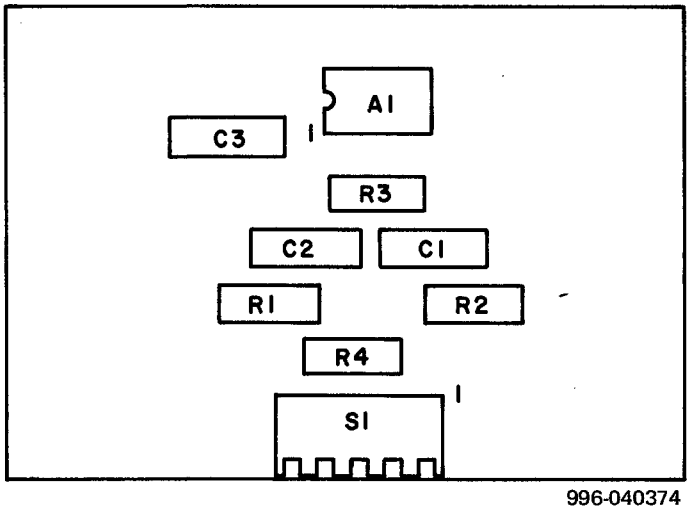
moog MUSIC INC. WILLIAMSVILLE, NEW YORK

POLYMOOG SCHEMATIC
CLAVINET FILTER #6

981-040368	203A	SIZE B	CODE IDENT	993-040367
NEXT ASSY	MODEL NO.			
APPLICATION		SCALE —	WT.	SHEET 1 OF 1

NOTE:

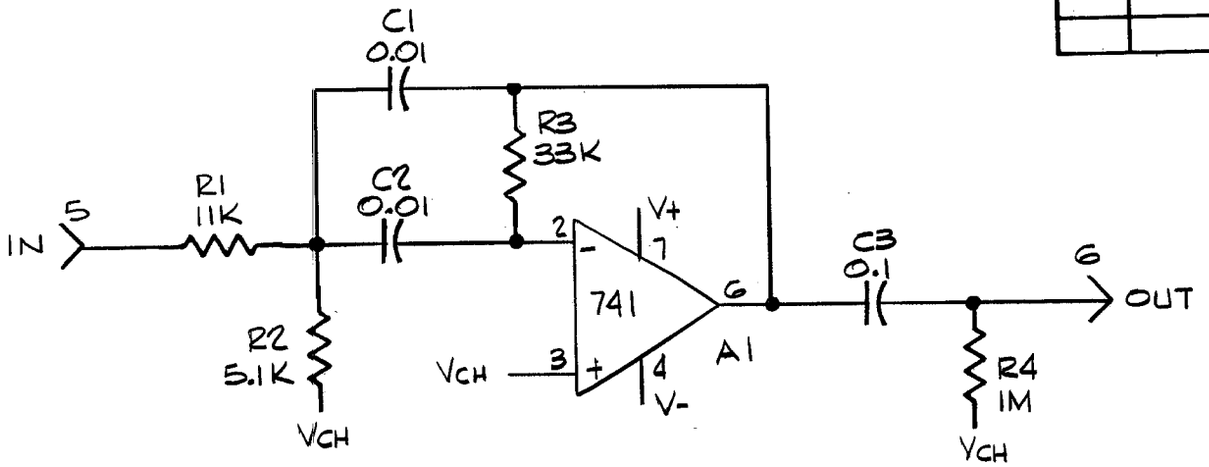
REFER TO THE REPLACEMENT PARTS LIST IN SECTION 10 FOR THE PART NUMBER AND DESCRIPTION OF EACH REFERENCE DESIGNATOR.

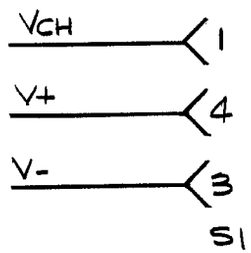


996-040374

VIBES FILTER BOARD NO. 7 PRINTED CIRCUIT BOARD ASSEMBLY

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
—	RELEASED FOR PRODUCTION	0132	6/21/76	





NOTES:

1. 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

DRILLED HOLE TOL
.040–.125 DIA ±.002 TOL
.126–.228 DIA ±.003 TOL
.229–.500 DIA ±.004 TOL
.500–.750 DIA ±.005 TOL

DRAWN BY J.M.P. 5/76
CHECK W.J.A. 6/19/76
GRP ENGR. 6/27/76
REVIEW QC. 6/26/76
SUPERVISOR CM 6/16

moog MUSIC INC. WILLIAMSVILLE, NEW YORK

POLYMOOG SCHEMATIC
VIBES FILTER #7

981-040372 | 203A
NEXT ASSY | MODEL NO.

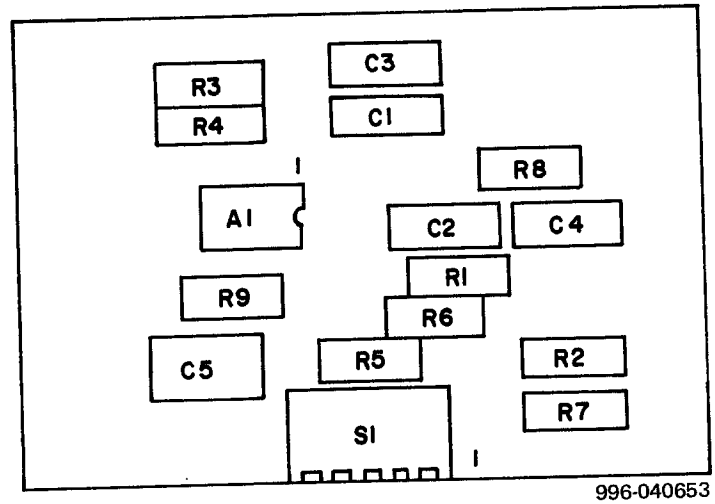
APPLICATION

SIZE B | CODE IDENT | 993-040371

SCALE — | WT. | SHEET 1 OF 1

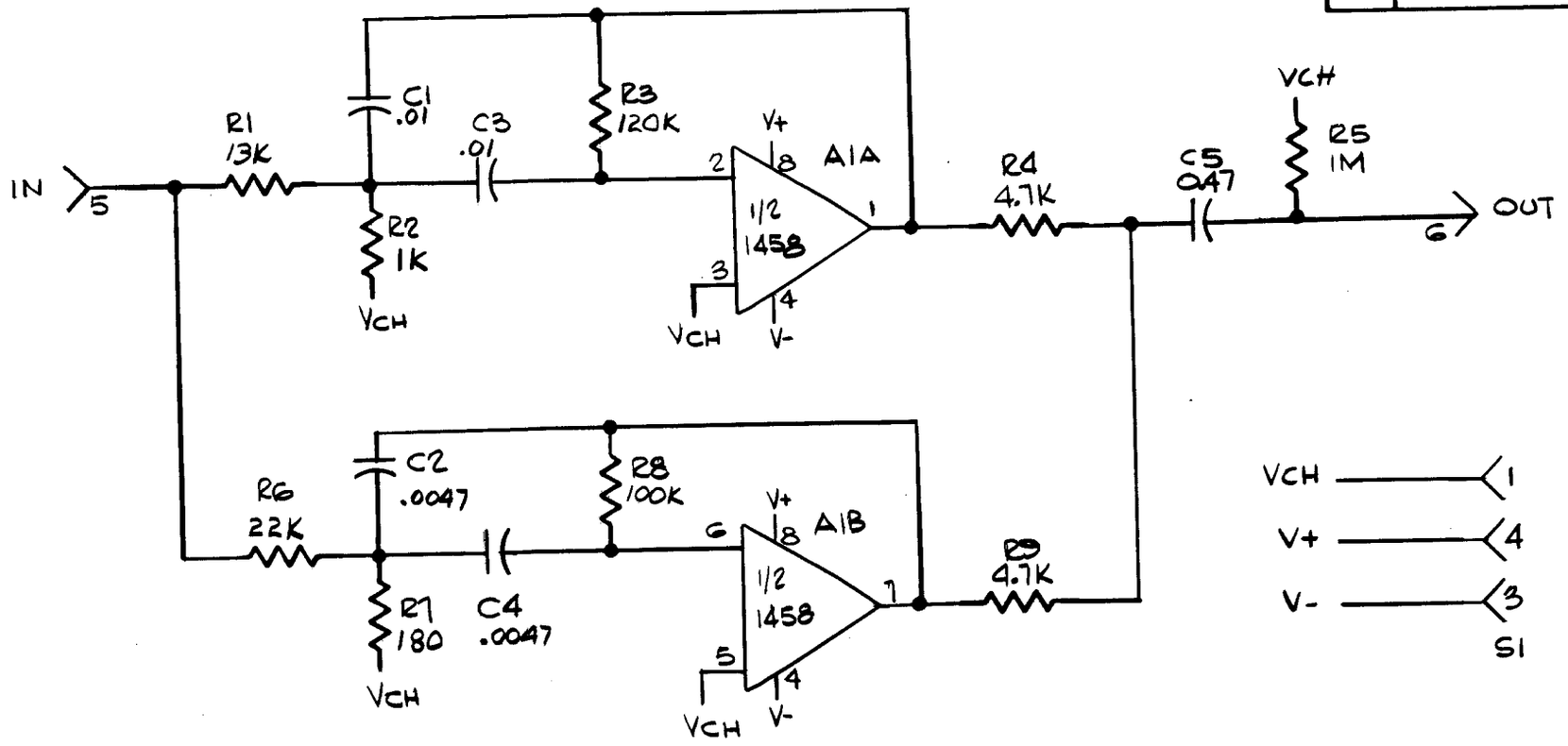
NOTE:

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



MODE FILTER FOR BRASS PRINTED CIRCUIT BOARD ASSEMBLY

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 (μf)

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

DRILLED HOLE TOL
.040–.125 DIA ±.002 TOL
.126–.228 DIA ±.003 TOL
.229–.500 DIA ±.004 TOL
.500–.750 DIA ±.005 TOL

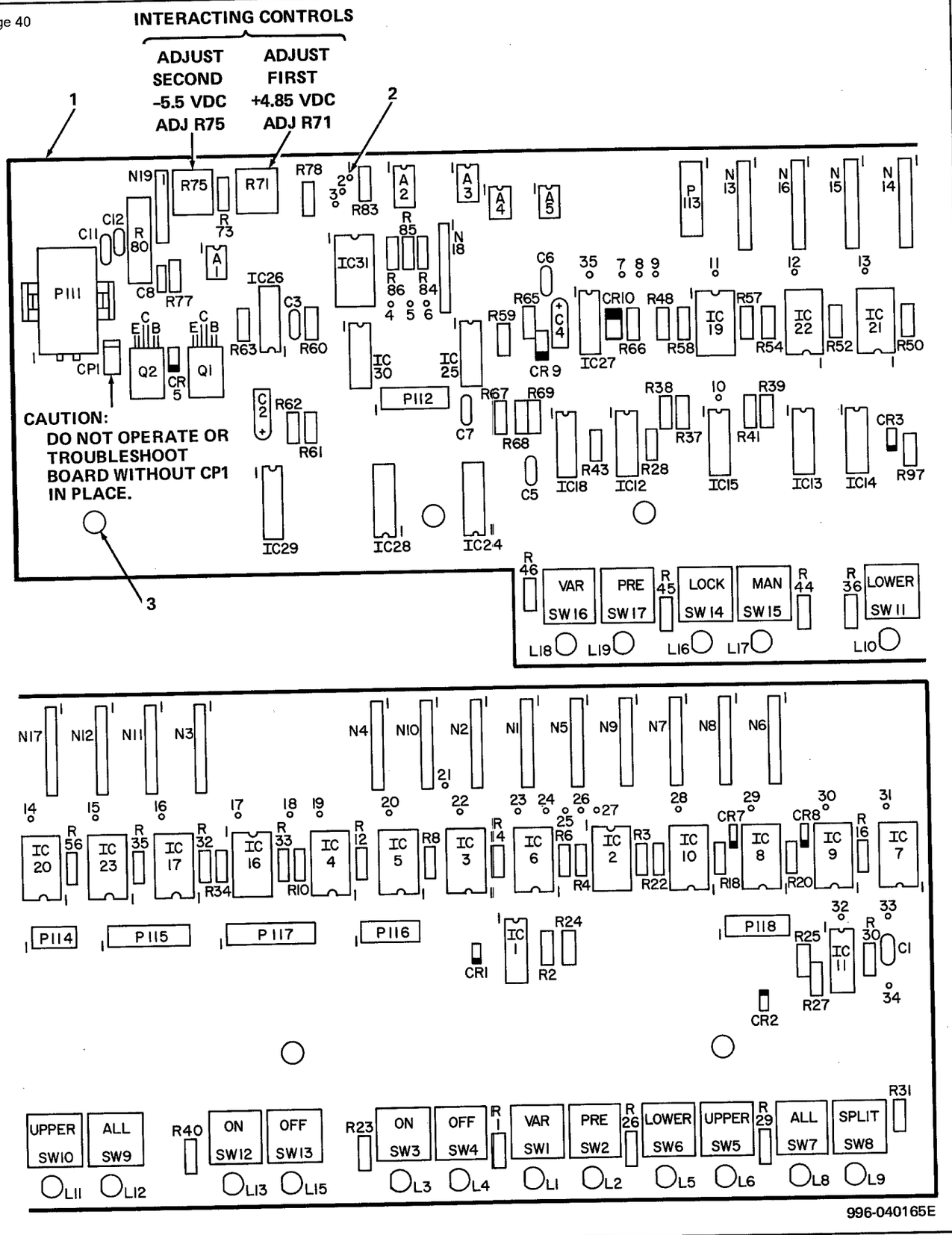
DRAWN BY J.M.P. 9-76
CHECK W.J.A. 10/76
GRP ENGR. 11/2/76
REVIEW QC. 10/76
SUPERVISOR 11/2/76
981-040651 203A
NEXT ASSY MODEL NO.
APPLICATION

moog MUSIC INC. WILLIAMSVILLE, NEW YORK

POLYMOOG SCHEMATIC
MODE FILTER FOR BRASS

SIZE | CODE IDENT | 993-040650

SCALE ~ | WT. | SHEET 1 OF 1



RIGHT HAND CONTROL AND MASTER PRESET PRINTED CIRCUIT BOARD ASSEMBLY

NOTE:

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

NETWORK RESISTOR VALUES

N	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10
N1	33K						51K			
N2	3.3M				100K		150K			
N3	62K	270K	200K	150K	100K	270K	160K	200K		
N4	20K	16K	13K	30K	15K	13K				
N5					30K					
N6		27K	24K	360K		24K	24K	33K		
N7	1M	110K	1M	110K		240K	9.1K	33K		
N8	620K	820K	1M	180K		510K	150K	300K		
N9		18K	27K	18K		16K	33K	16K		
N10	12K	16K	16K	18K	15K	15K	15K	18K		
N11	82K	270K	91K	10K	240K	51K	240K			
N12	75K		75K	75K	75K		240K	75K		
N13	150K	130K	110K	36K	36K	130K	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		

COMPONENT BASING
(TOP VIEW)

7410, SN7426N, 7474, DM7416N, CD4007AE, 7401, DM7413N
7475, 74148, CD4051AE
MC1458CP.1, LN358N
2N3904, 2N3906
TIP29, TIP30

LAST REF DES USED

R	C	IC	CR	Q	SW	L	N	P	CP	A	G
98	12	31	10	2	17	19	19	118	1	5	40

NOTES:
UNLESS OTHERWISE SPECIFIED-
1. ALL RESISTOR VALUES ARE IN OHMS 1/4W ±5%
2. ALL CAPACITOR VALUES ARE IN MFD (uf)
3. ALL DIODES ARE 1N4148
4. DENOTES CONTROL POT RIGHT FRONT PANEL
5. DENOTES P.C. BOARD WIRE CONNECTION DESIGNATOR

BOARD #11

REVISIONS

SYM	DESCRIPTION	E O	DATE	APPROVED
H	CHANGED R61(R5) SLIDE POTS FROM 10K 20K AUD TO 10K LIN. DELETES R2 (50mA) & R6 (LIN) FROM N12 W.J.A.	0687	2-78	
G	REVISED-CIRCUITRY, R41/R51 SLIDE POTS AND RESISTOR NETWORKS. ADDED E15 100K RESISTOR W.J.A.	0651	1/25/78	
F	CHANGED CONNECTING CALLOUT FROM P78-9 TO P78-3	0355	1/11/77	
E	CHANGE N2-P/N WAS 001 R5 WAS 200K JML	0291	11/2/76	
D	CHANGE R56 FROM 100K TO 150K JML	0294	10/28/76	
C	[illegible]		11/1/76	
B	[illegible]	0233	7/13/76	
A	REVISED & RELEASED FOR PRODUCTION	0192	6/11/76	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
DRAWN BY J.M.P. 9-75
CHECK W.J.A.
GRP ENGR.
REVIEW QC.
SUPERVISOR
981-040163 203A
NEXT ASSY MODEL NO.
APPLICATION

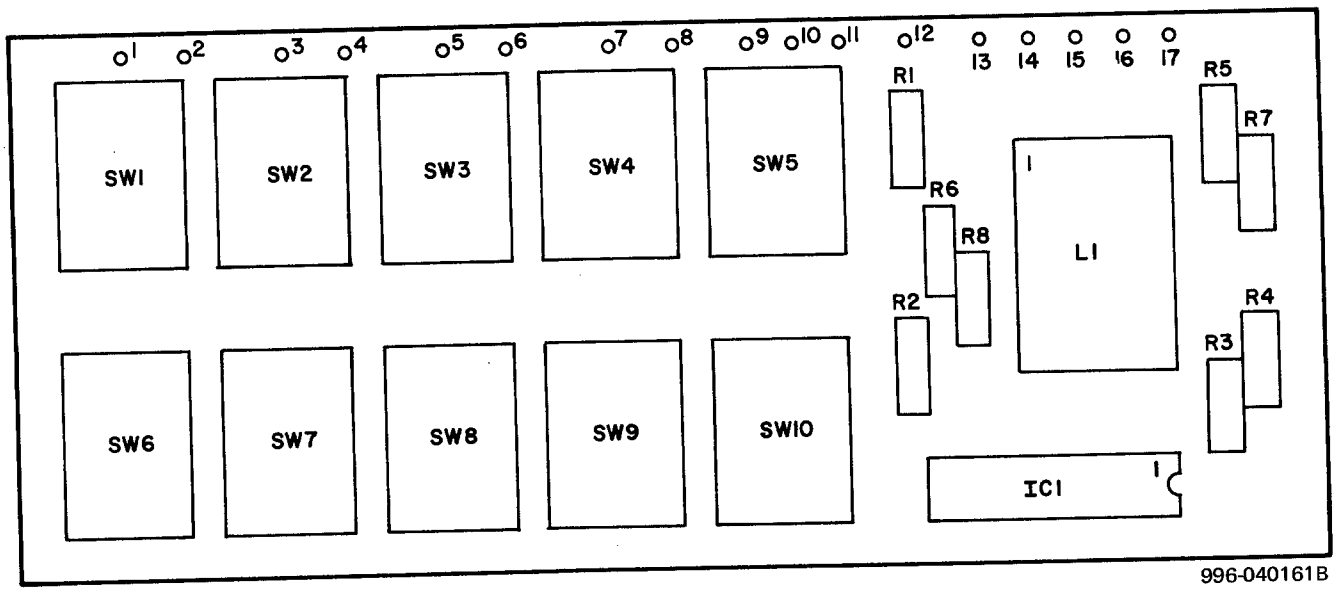
moog MUSIC INC. WILLIAMSVILLE, NEW YORK

RIGHTHAND CONTROL PANEL & MASTER PRESET SCHEMATIC - POLYMOOG

SIZE CODE IDENT 0449 993-040162
SCALE ~ WT. SHEET 1 OF 1

NOTES:

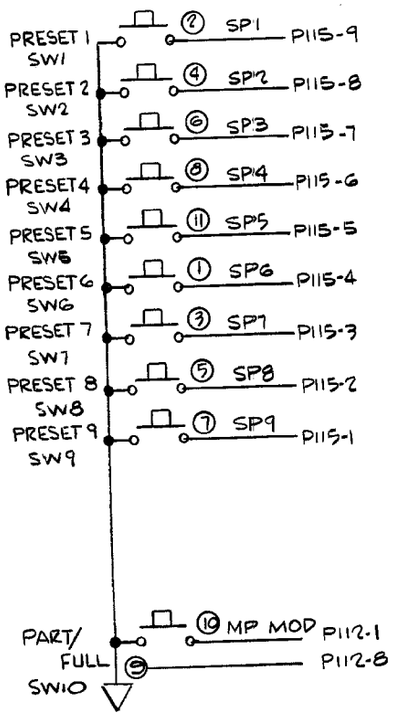
1. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 6 FOR THE PART NUMBER AND DESCRIPTION OF EACH REFERENCE DESIGNATOR.
2. CONNECTOR DESIGNATORS INCLUDE A CODED REFERENCE PERTAINING TO ITS PRINTED CIRCUIT BOARD ORIGIN, I.E., P115 INDICATES IT IS PART OF BOARD 11. REFER TO TABLE 1-1 FOR OTHER BOARD NUMBERS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

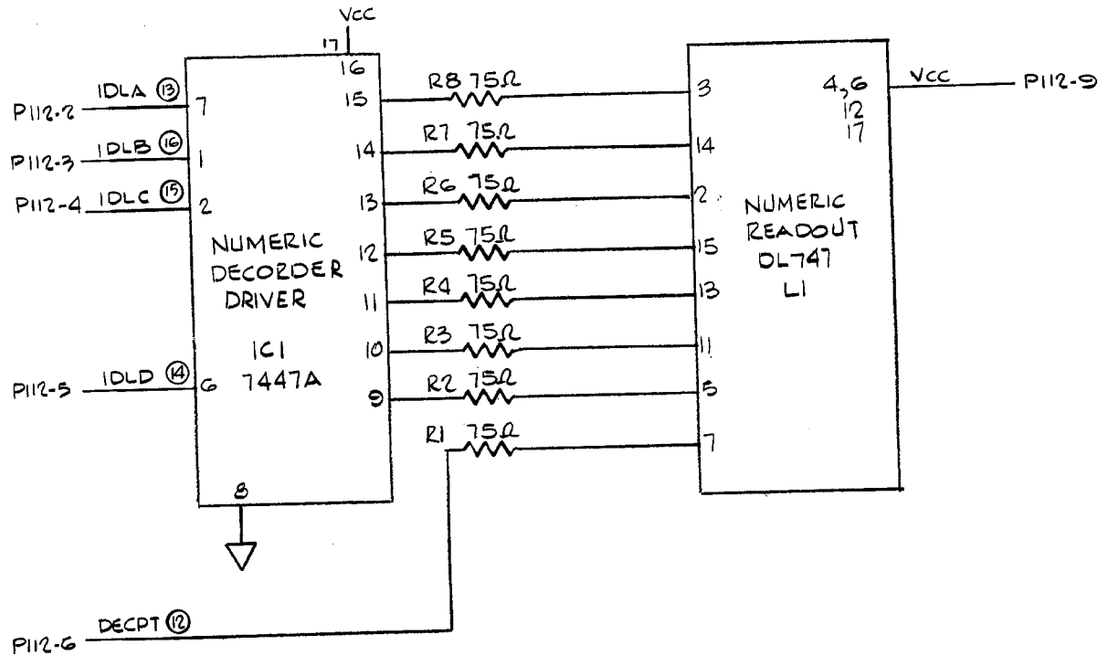


MODE SELECTOR CONTROL PRINTED CIRCUIT BOARD ASSEMBLY

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

MODE SELECTOR SWITCHES

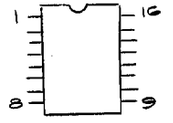




LAST REF DES USED			
R	SW	IC	L
8	10	1	1

COMPONENT BASING

(TOP VIEW)



DL747
7447A

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

DRILLED HOLE TOL
.040–.125 DIA ±.002 TOL
.126–.228 DIA ±.003 TOL
.229–.500 DIA ±.004 TOL
.500–.750 DIA ±.005 TOL

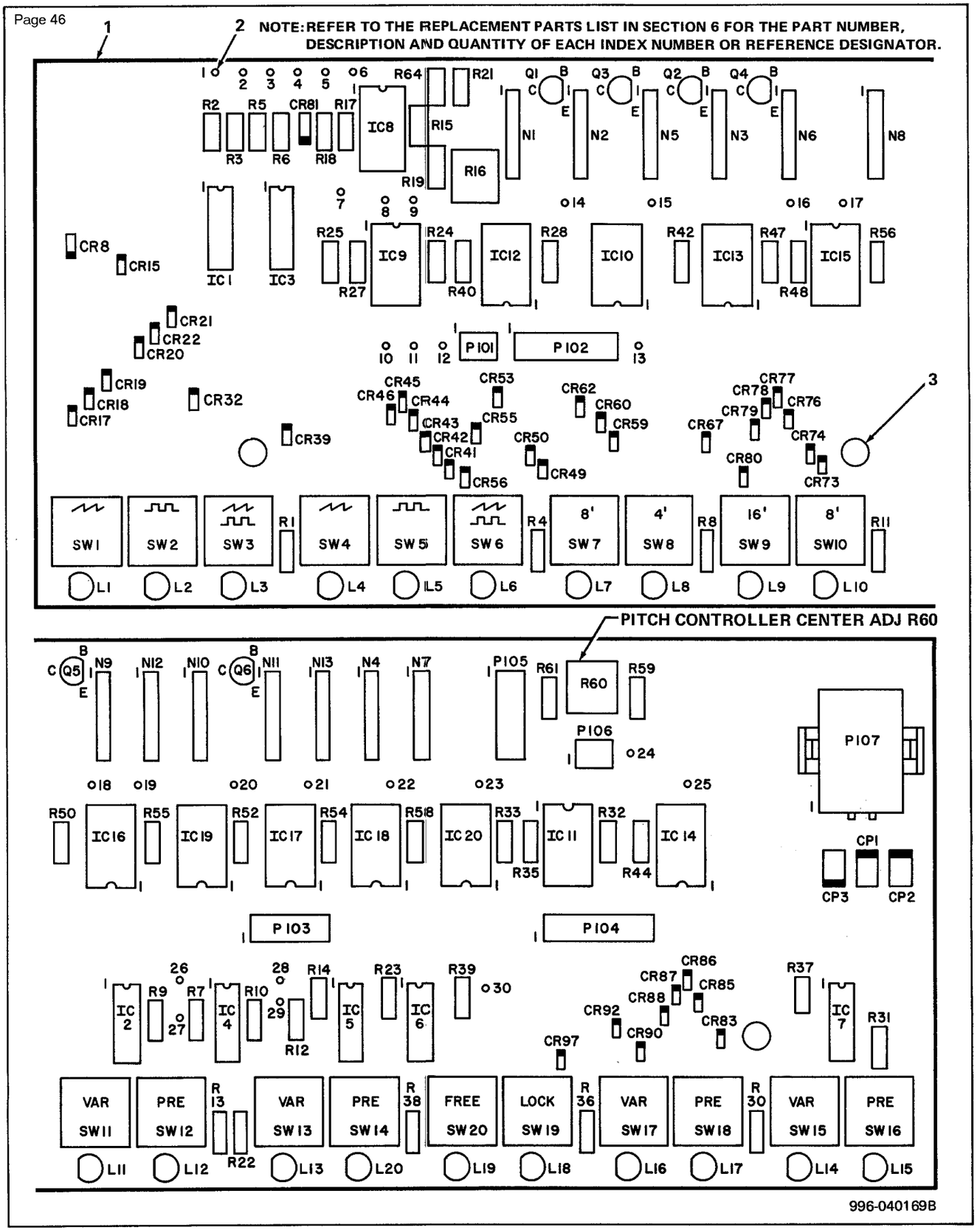
DRAWN BY W. J. A. 8/23/75
CHECK 3/16/76
GRP ENGR. 5/14/76
REVIEW QC.
SUPERVISOR 5/7/76

MOOG MUSIC INC. WILLIAMSVILLE, NEW YORK

MODE SELECTOR CONTROL SCHEMATIC, POLYMOOG

961-040159	203A	SIZE C	CODE IDENT	993-040158
NEXT ASSY	MODEL NO.	SCALE —	WT. —	SHEET 1 OF 1

APPLICATION



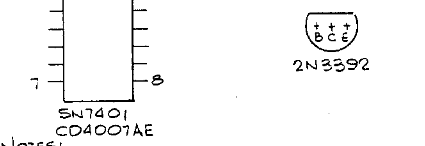
LEFT HAND CONTROL PANEL PRINTED CIRCUIT BOARD ASSEMBLY

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
A	REVISED & RELEASED FOR PRODUCTION	0192	6/10/76	[illegible]
B	REVISED PER EC#0233 JML	0233	[illegible]/76	[illegible]
C	CHANGED R9 IN N4 & N7 FROM 12K TO 18K	0448	5/10/77	[illegible]
D	CHANGED CR81 FROM 1N914A TO 1N4148	0470	6/13/77	[illegible]
F	ADDED R68 300K R69 300K R70 300K R17 430K WAS 470K R18 820K WAS 1M R62 5K WAS 10K UPDATED FOR SERVICE MANUAL	8658	1/30/78	[illegible]

NETWORK RESISTOR VALUES									
N	R1	R2	R3	R4	R5	R6	R7	R8	R9
1									
2		150K							
3		150K				390K	1.5M		180K
4	18K		82K	13K	12K	24K	33K	16K	18K
5		56K							
6		47K			110K	12K	12K		91K
7	18K		82K	13K	12K	24K	33K	16K	18K
8	56K		51K	75K	91K	36K	150K	18K	91K
9		91K	240K	110K	180K	27K	120K		
10	68K		51K	100K	130K	47K	180K	18K	91K
11		43K	270K	51K	200K	18K	150K		
12	68K		51K	100K	130K	47K	180K	18K	91K
13	150K		2M	150K		300K	2M		

LAST REF DES USED									
R	IC	CR	Q	SW	L	N	CP	P	G
70	20	96	6	20	19	13	3	107	26

COMPONENT BASING
(TOP VIEW)



NOTES:
UNLESS OTHERWISE SPECIFIED
1. ALL TRANSISTORS ARE 2N3392
2. ALL RESISTOR VALUES ARE IN OHMS 1/4W ±5%
3. ALL DIODES ARE 1N4148
4. SP1 --- SP8 CR1 DENOTES DIODES USED
5. V+ DENOTES CONTROL POT LEFT FRONT PANEL
6. • DENOTES PCB WIRE CONNECTION DESIGNATOR

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

DRILLED HOLE TOL .040 – .125 DIA .002 .126 – .228 DIA .003 .229 – .500 DIA .004 .500 – .750 DIA .005

DRAWN BY J.M.P. 9-75
CHECK W.J.A. 6/10/76
GRP ENGR [illegible] 6/22/76
REVIEW QC. [illegible]
SUPERVISOR [illegible] 6/76

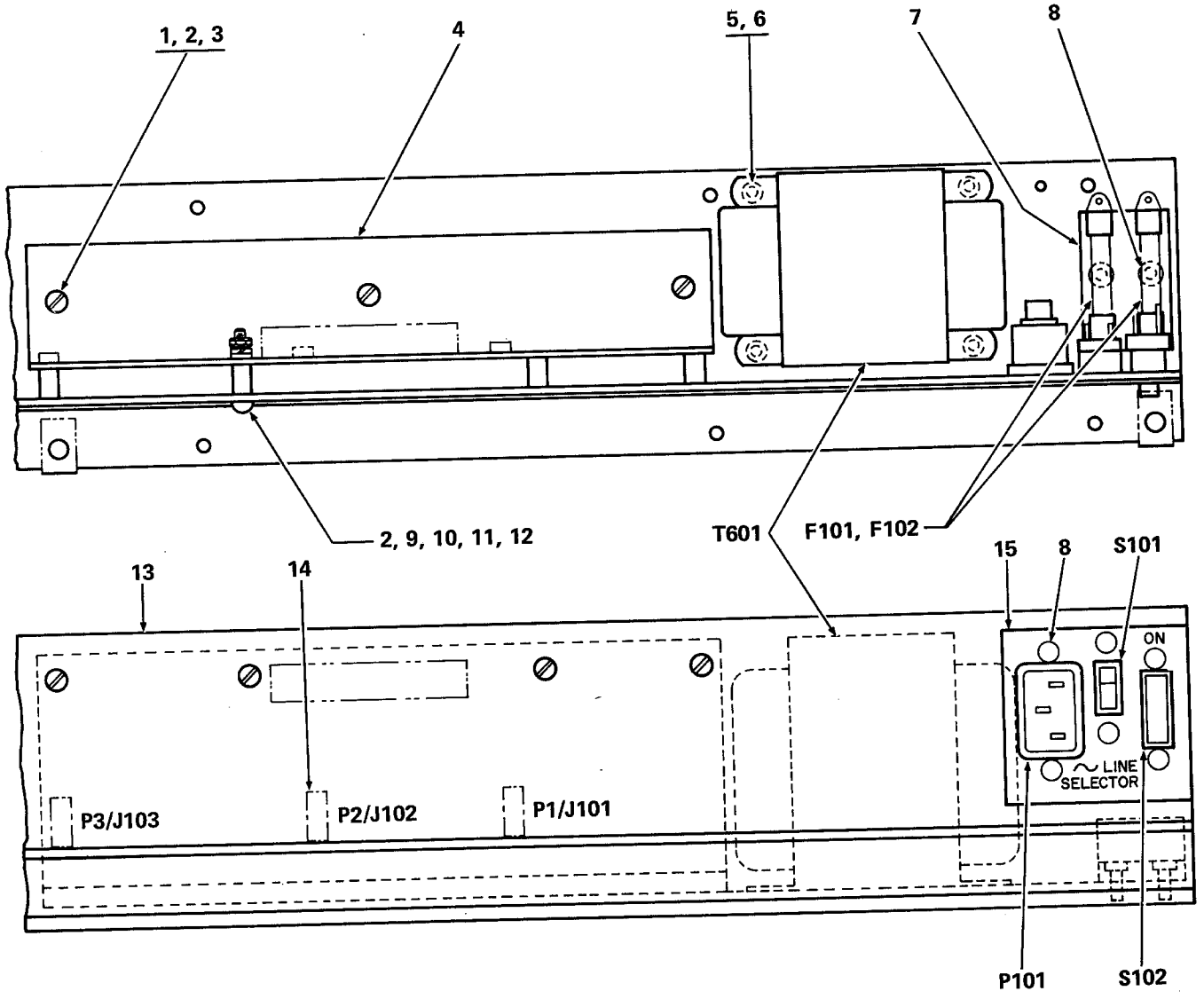
moog MUSIC INC — WILLIAMSVILLE, NEW YORK

LEFT HAND CONTROL PNL SCHEMATIC - POLYMOOG

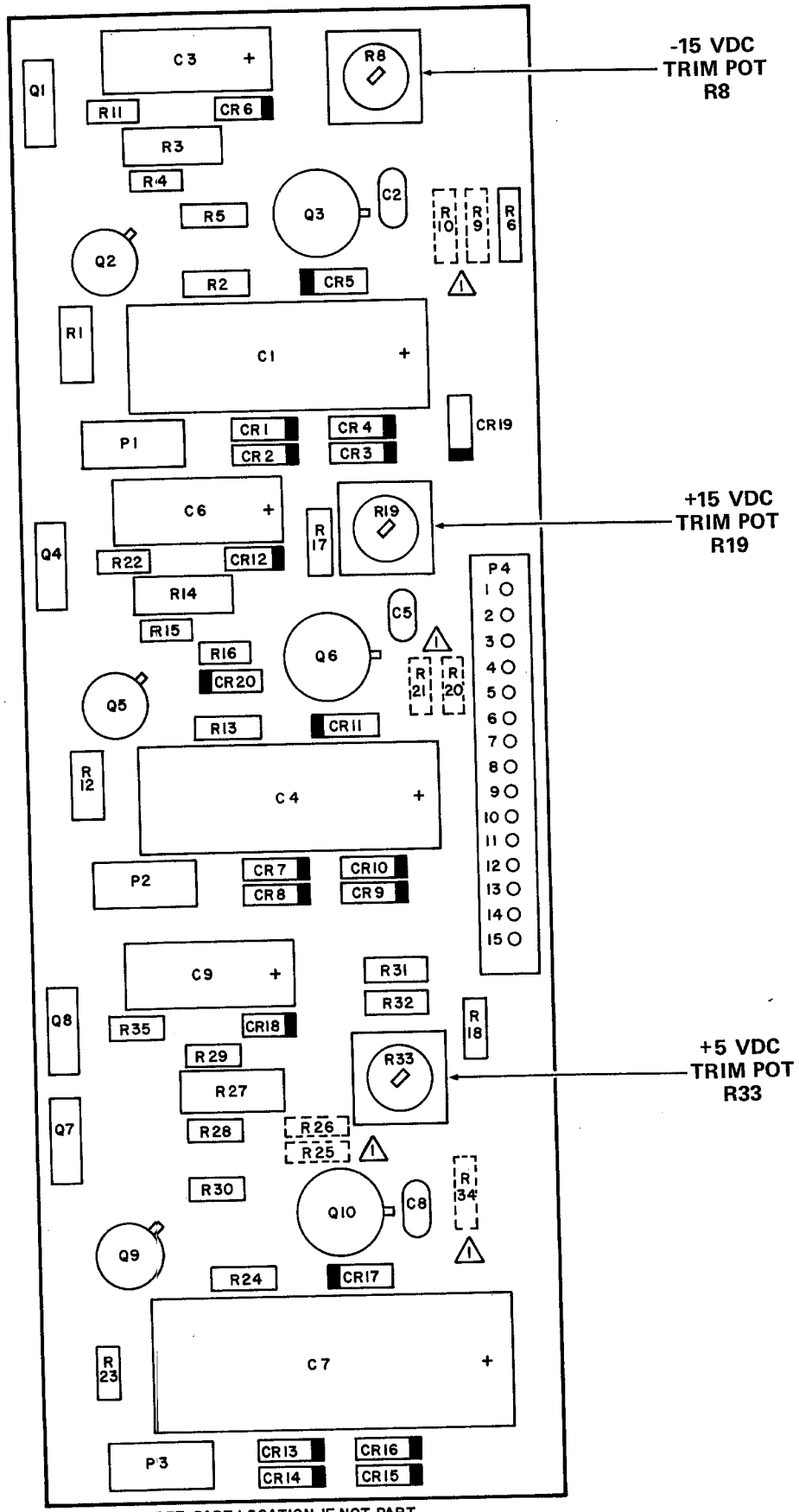
NEXT ASSY	MODEL NO.	SIZE	CODE IDENT	
91-214	203A			993-040166

APPLICATION — SCALE ~ — WT — SHEET 1 OF 1

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



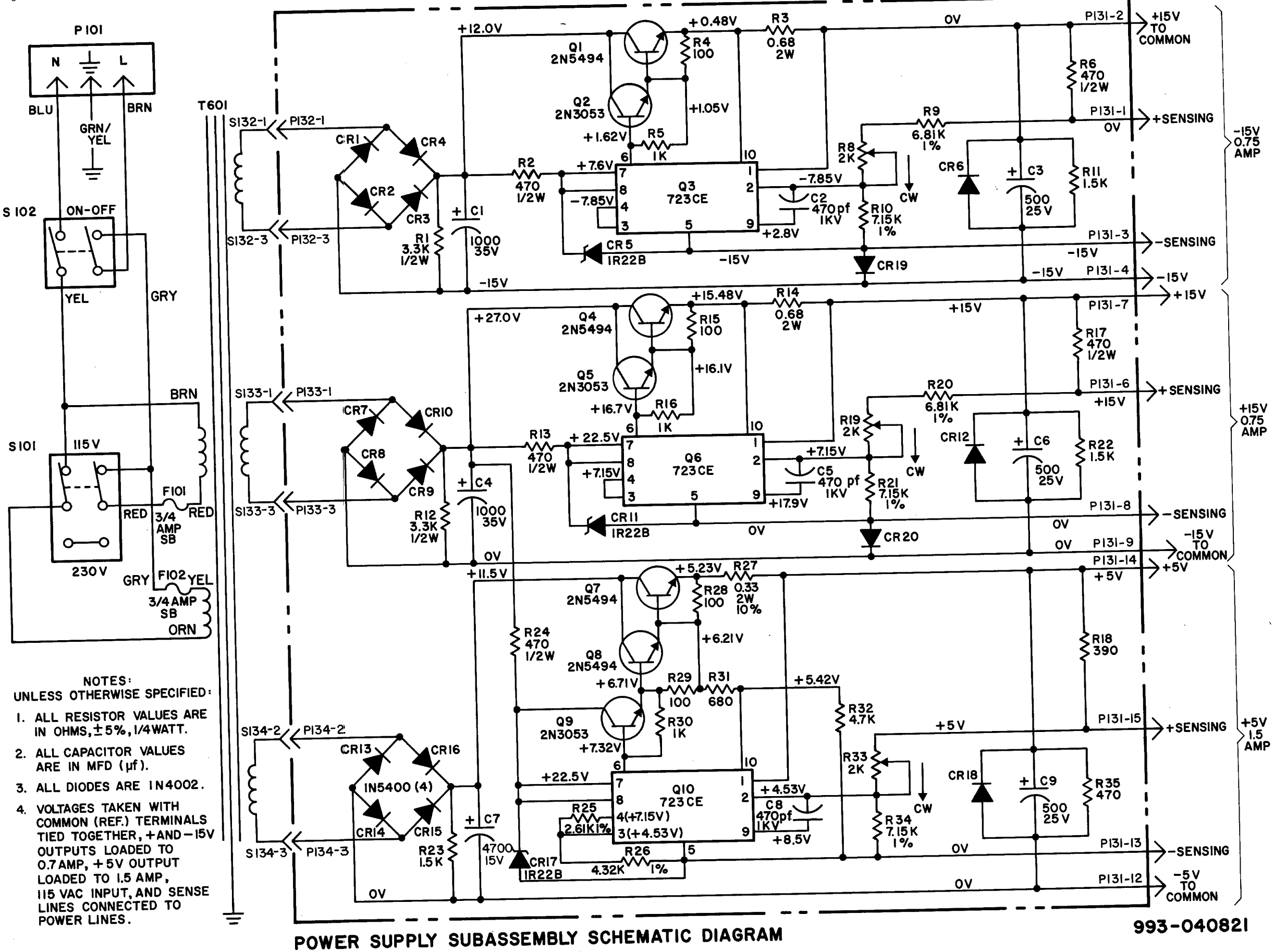
POWER SUPPLY SUBASSEMBLY



POWER SUPPLY PRINTED CIRCUIT BOARD ASSEMBLY

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.**



NOTES:
UNLESS OTHERWISE SPECIFIED:

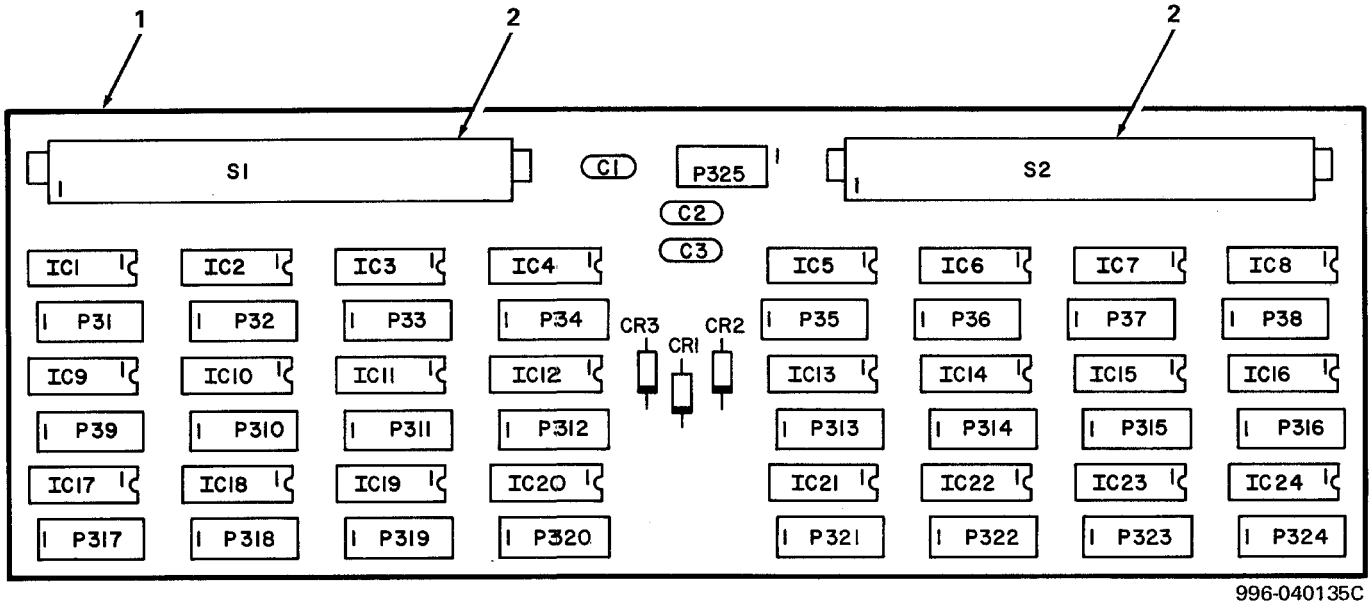
1. ALL RESISTOR VALUES ARE IN OHMS, ±5%, 1/4 WATT.
2. ALL CAPACITOR VALUES ARE IN MFD (μf).
3. ALL DIODES ARE 1N4002.
4. VOLTAGES TAKEN WITH COMMON (REF.) TERMINALS TIED TOGETHER, +AND −15V OUTPUTS LOADED TO 0.7 AMP, +5V OUTPUT LOADED TO 1.5 AMP, 115 VAC INPUT, AND SENSE LINES CONNECTED TO POWER LINES.

POWER SUPPLY SUBASSEMBLY SCHEMATIC DIAGRAM

993-040821

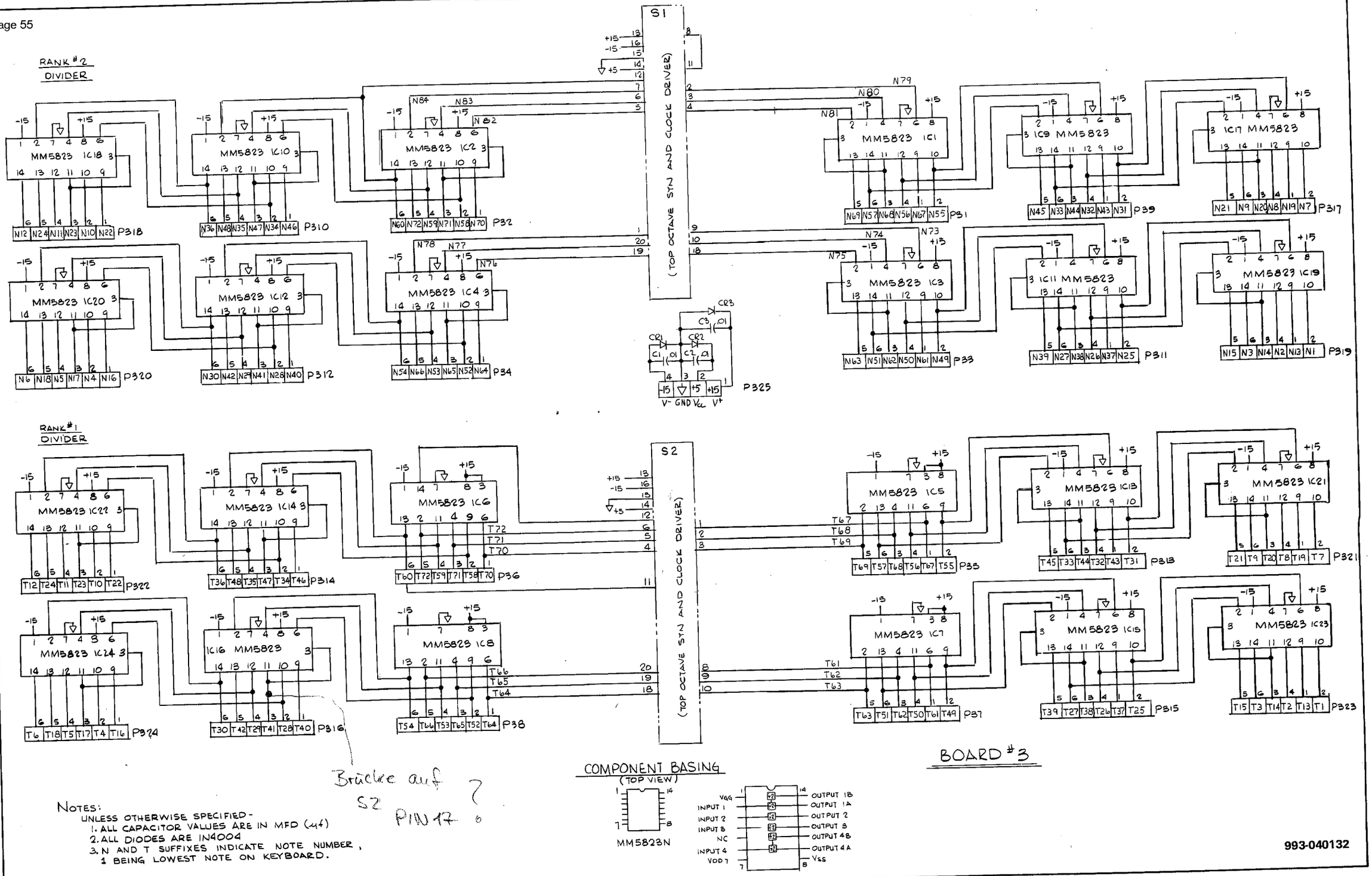
NOTES:

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

DIVIDER PRINTED CIRCUIT BOARD ASSEMBLY

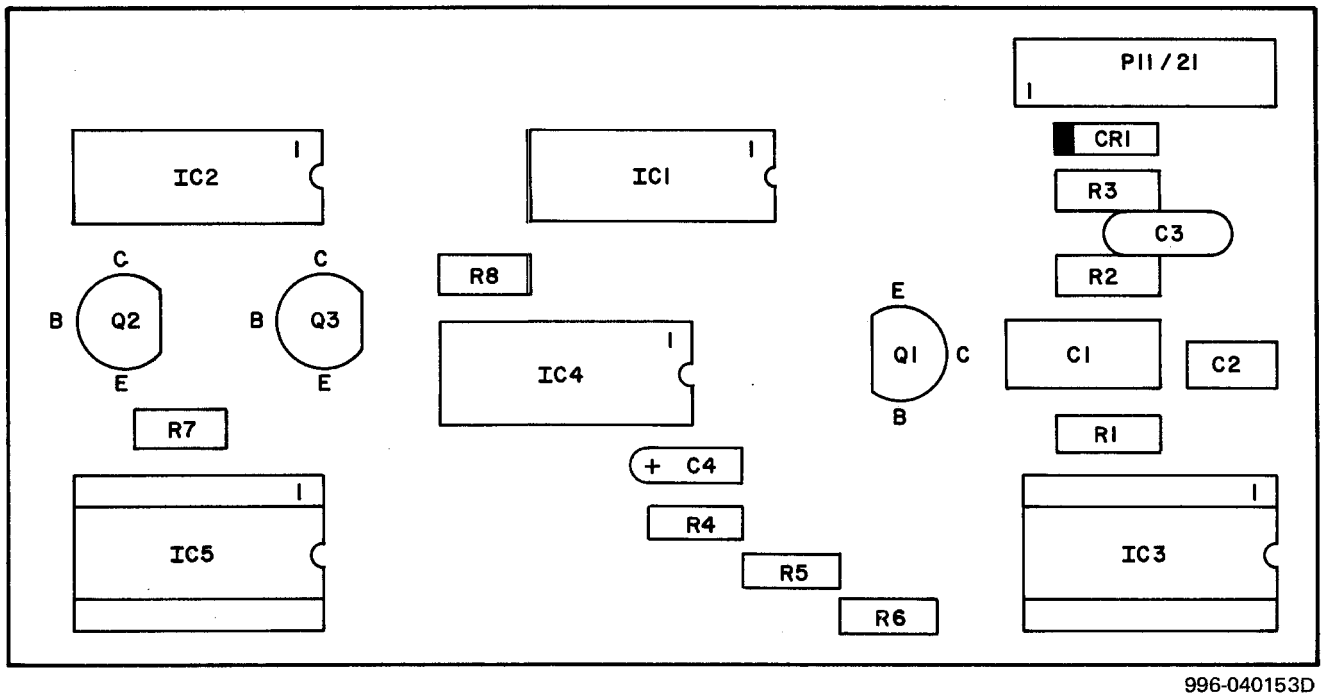


NOTES:
UNLESS OTHERWISE SPECIFIED-
1. ALL CAPACITOR VALUES ARE IN MFD (μf)
2. ALL DIODES ARE IN4004
3. N AND T SUFFIXES INDICATE NOTE NUMBER, 1 BEING LOWEST NOTE ON KEYBOARD.

993-040132

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.

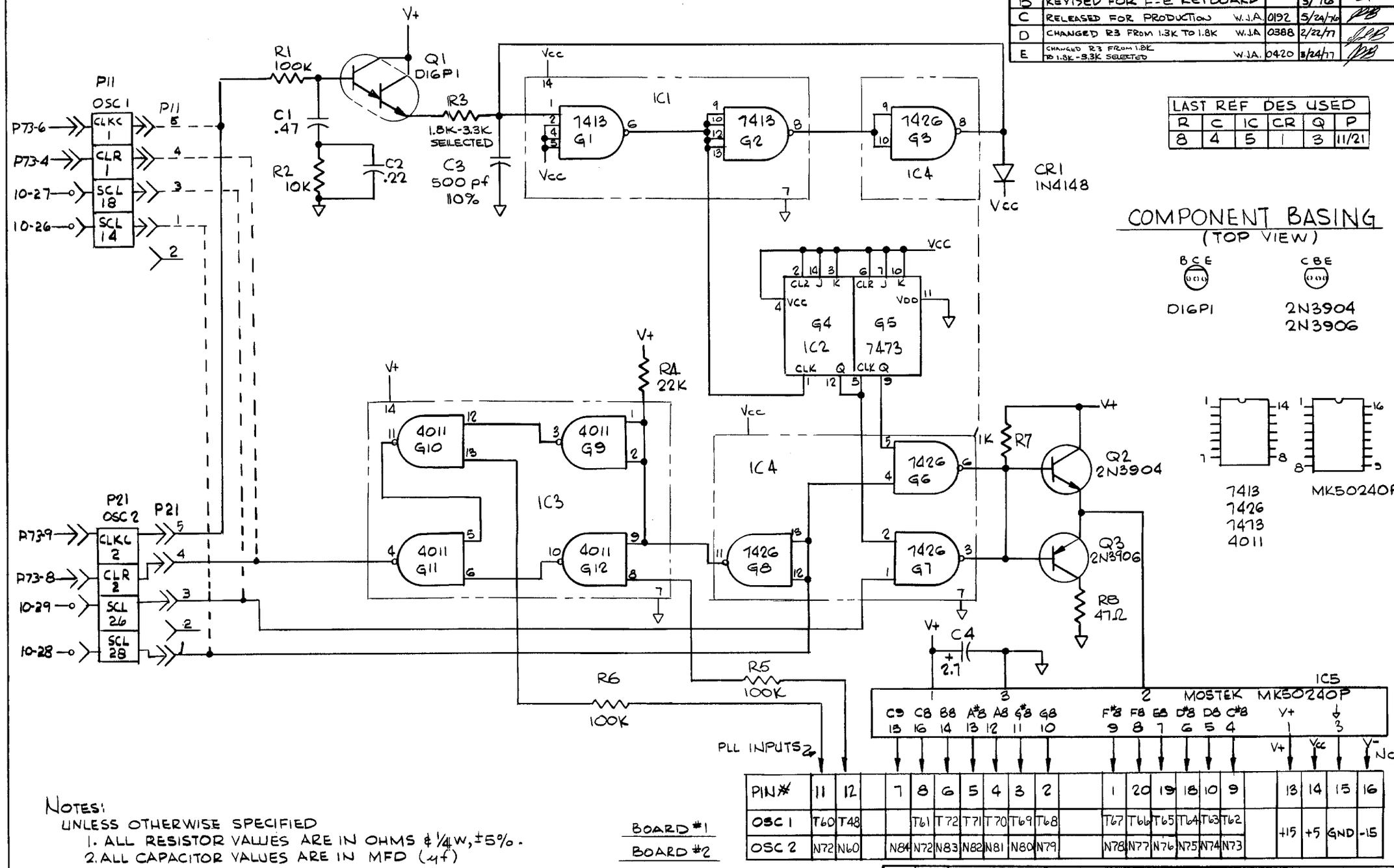


996-040153D

HIGH FREQUENCY OSCILLATOR PRINTED CIRCUIT BOARD ASSEMBLY

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
A	REVISED FOR C-B KEYBOARD		11/75	
B	REVISED FOR F-E KEYBOARD		3/76	
C	RELEASED FOR PRODUCTION W.J.A.	0192	5/24/76	
D	CHANGED R3 FROM 1.3K TO 1.8K W.J.A.	0388	2/22/77	
E	CHANGED R3 FROM 1.8K TO 1.8K-3.3K SELECTED W.J.A.	0420	3/24/77	

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 & 1/4W, ±5%.
2. ALL CAPACITOR VALUES ARE IN MFD (μf)

	PIN#																				
BOARD #1	OSC 1	T60	T48		T61	T72	T71	T70	T69	T68		T67	T66	T65	T64	T63	T62		+15	+5	GND	-15
BOARD #2	OSC 2	N72	N60		N84	N72	N83	N82	N81	N80	N79		N78	N77	N76	N75	N74	N73				

ITEM	PART NUMBER	DESCRIPTION	MATERIAL

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
TOLERANCE FRACTIONS = 1/64
ANGLES = 1°
2 PLACE DECIMALS = .005
3 PLACE DECIMALS = .01
125 FINISH ON ALL SURFACES
DRILLED HOLE TOL
.040-.126 DIA ±.003
.128-.228 DIA ±.004
.229-.500 DIA ±.006
.500-.750 DIA ±.008

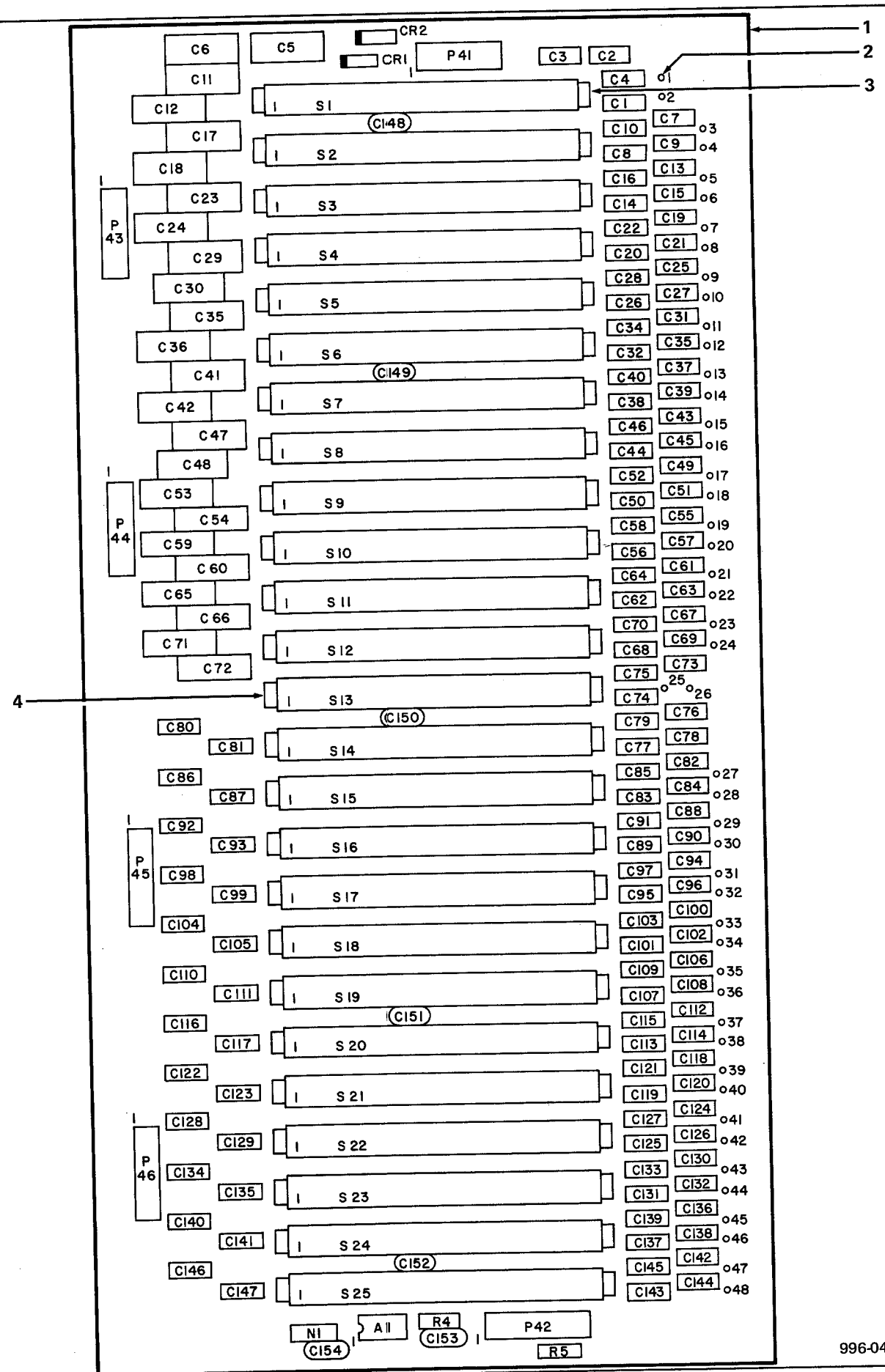
DRAWN BY J.M.P. 4.75
CHECK 5/24/76
GRP ENGR. 6/76
REVIEW QC.
SUPERVISOR 5/76

moog MUSIC INC. WILLIAMSVILLE, NEW YORK

HIGH FREQUENCY OSCILLATOR SCHEMATIC

981-040151 | 203A
NEXT ASSY | MODEL NO.
APPLICATION

SIZE C | CODE IDENT | 993-040150
SCALE | WT. | SHEET 1 OF 1



LOW MOTHER PRINTED CIRCUIT BOARD ASSEMBLY

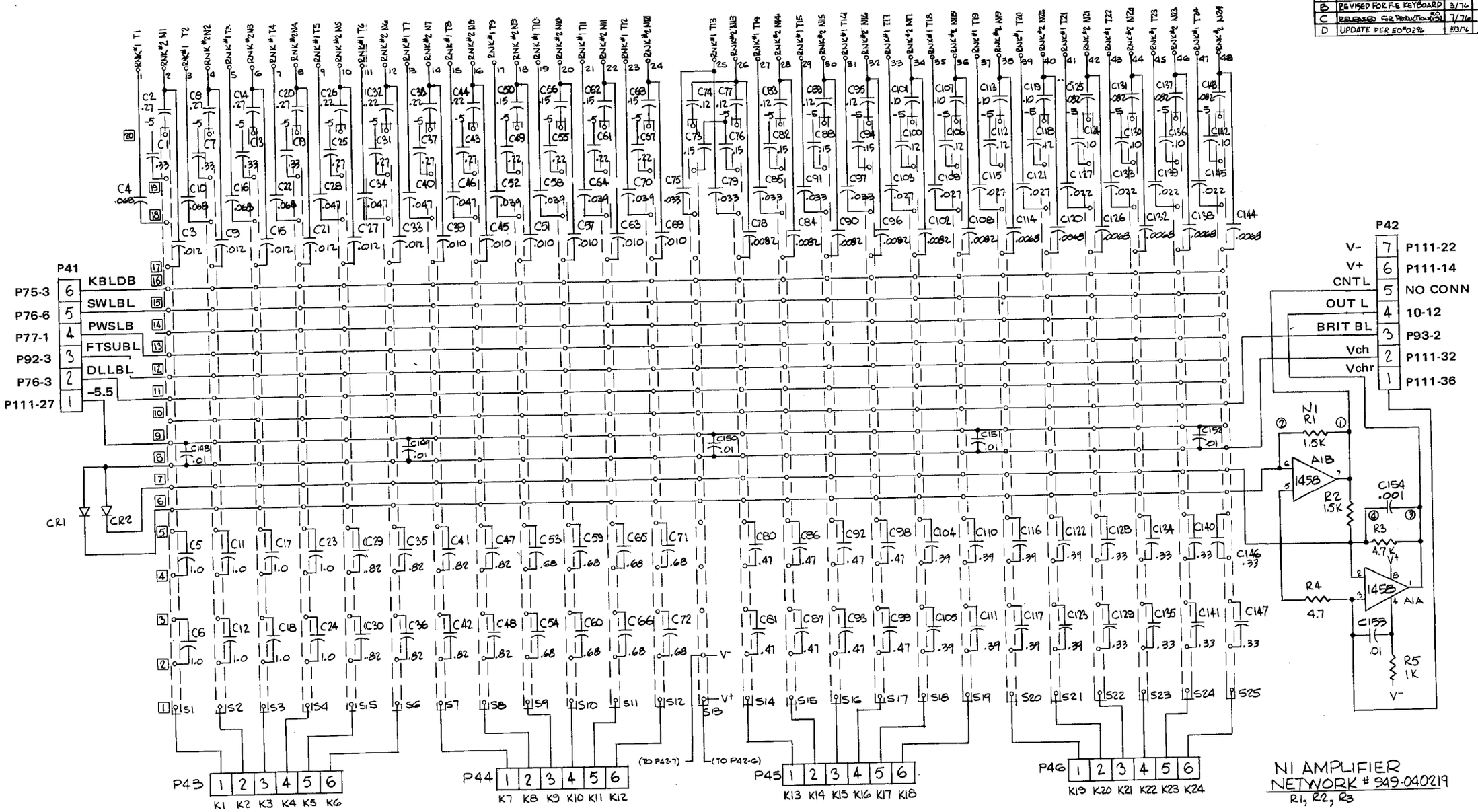
LOW MOTHER BOARD VOLTAGES

	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	+.818	-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:

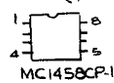
1. MOTHER BOARD VOLTAGES READ ON CONNECTORS, WITH CONNECTORS IN PLACE.
2. VOLTAGES ARE FOR INSTRUMENTS ABOVE S/N 3000.
3. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 8 FOR THE PART NUMBER, DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.

REVISIONS			
SYM	DESCRIPTION	DATE	APPROVED
A	REVISED FOR C-8 KEYBOARD	11/75	
B	REVISED FOR F-E KEYBOARD	3/76	
C	RELEASED FOR PRODUCTION PER ECO #029	7/76	
D	UPDATE PER ECO #029	8/3/76	



N1 AMPLIFIER NETWORK # 949-040219
R1, R2, R3

COMPONENT BASING
(TOP VIEW)



BOARD #4

LAST REF DES USED					
R	C	A	CR	P	S
5	154	1	2	6	25

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.

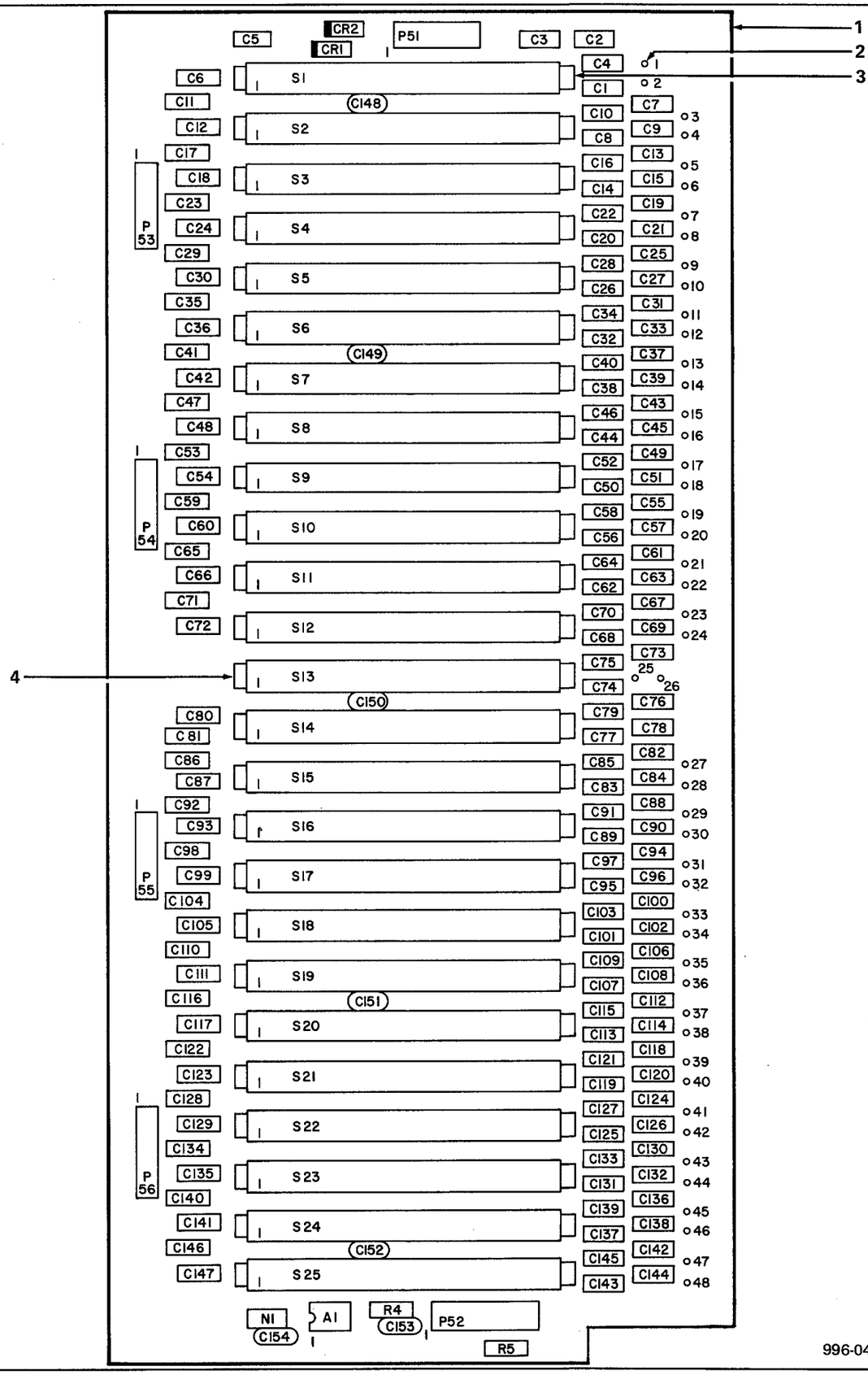
ITEM	PART NUMBER	DESCRIPTION	MATERIAL

DRAWN BY JBB 5/15
CHECK W.J.A 7/1/76
GRP ENGR.
REVIEW
SUPERVISOR
981-040137 203A
NEXT ASSY MODEL NO.
APPLICATION

moog MUSIC INC WILLIAMSVILLE, NEW YORK

LOW MOTHER BOARD
SCHEMATIC, POLYMOOG

SIZE D | CODE IDENT | 993-040136
SCALE — | WT. — | SHEET 1 OF 1



MEDIUM MOTHER PRINTED CIRCUIT BOARD ASSEMBLY

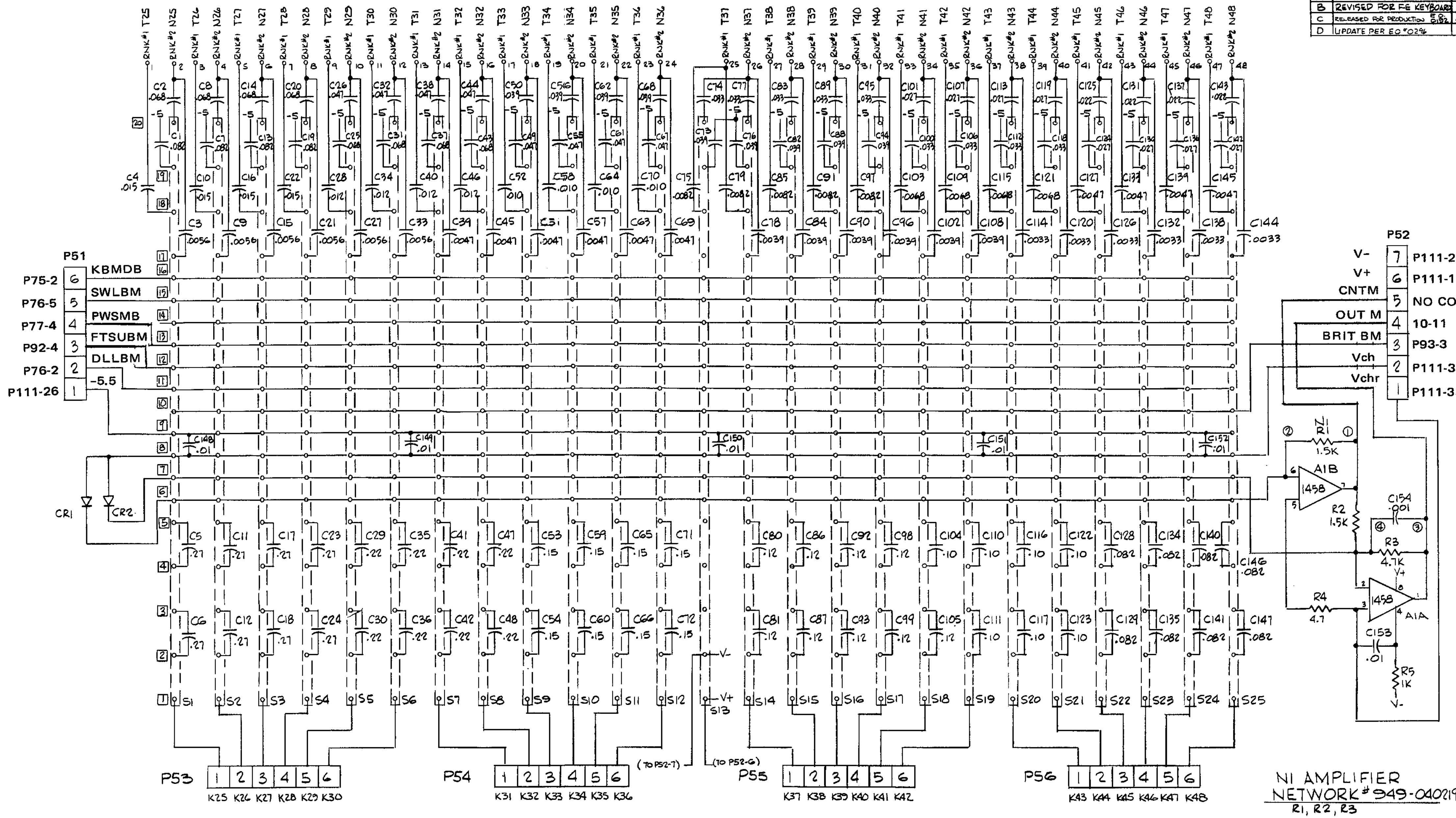
MEDIUM MOTHER BOARD VOLTAGES

	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	+.823	-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:

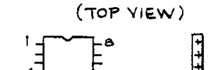
1. MOTHER BOARD VOLTAGES READ ON CONNECTORS, WITH CONNECTORS IN PLACE.
2. VOLTAGES ARE FOR INSTRUMENTS ABOVE S/N 3000.
3. REFER TO THE REPLACEMENT PARTS LIST IN SECTION 8 FOR THE PART NUMBER, DESCRIPTION AND QUANTITY OF EACH INDEX NUMBER OR REFERENCE DESIGNATOR.
4. CONNECTOR DESIGNATORS INCLUDE A CODED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

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 E.O. 8182	6/76	
D	UPDATE PER EO #0296	11/3/76	



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	CR	P	S
5	154	1	2	6	25

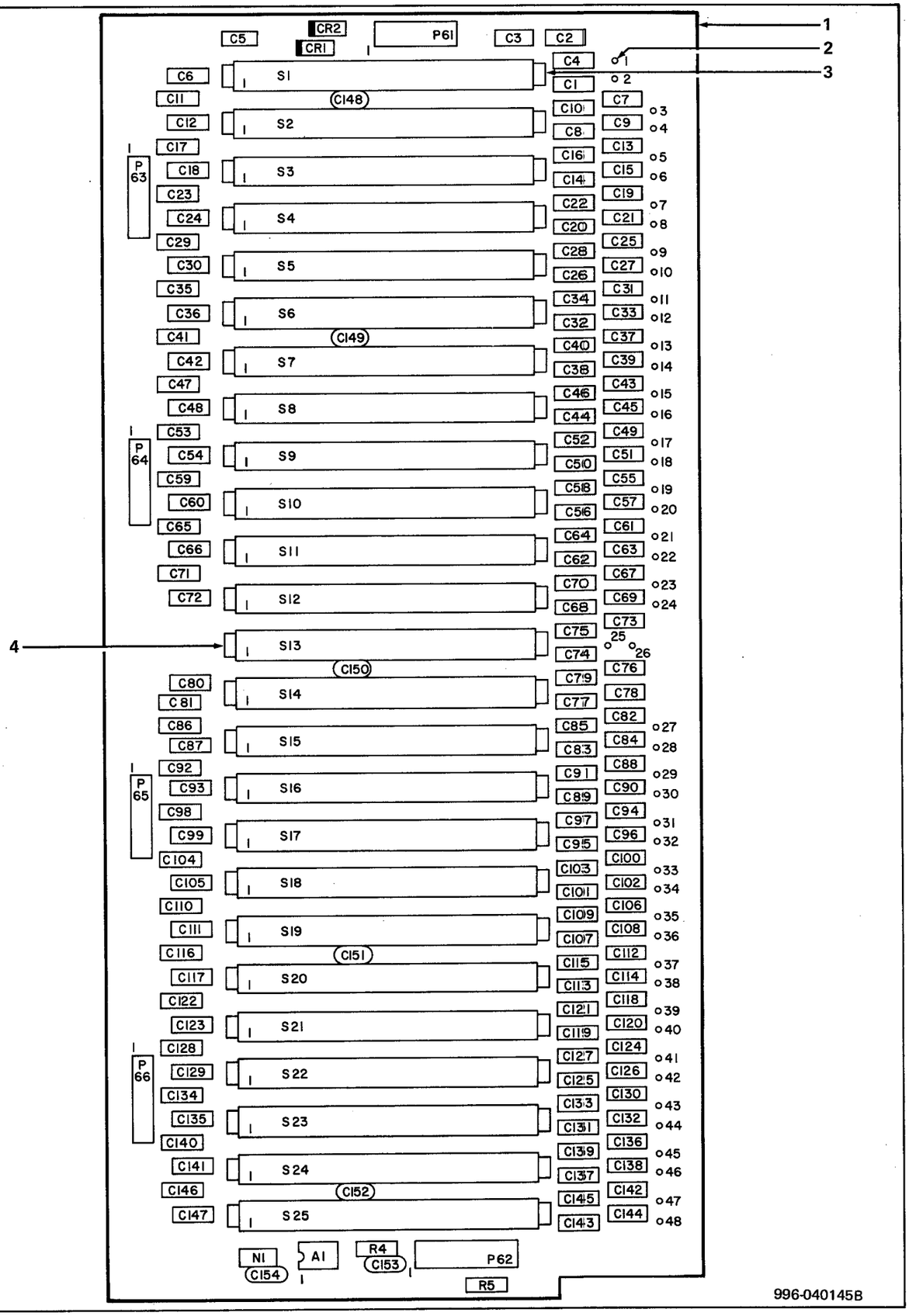
DRAWN BY	JRB 5/75
CHECK	W.J.A. 4/28/76
GRP ENGR.	6/29/76
REVIEW QC	6/76
SUPERVISOR	7/76
881-040141	203A
NEXT ASSY	MODEL NO.
APPLICATION	

moog WILLIAMSVILLE, NEW YORK

MEDIUM MOTHER BOARD SCHEMATIC, POLYMOOG

SIZE D | CODE IDENT | 993-040140

SCALE — | WT. | SHEET 1 OF 1



HIGH MOTHER PRINTED CIRCUIT BOARD ASSEMBLY

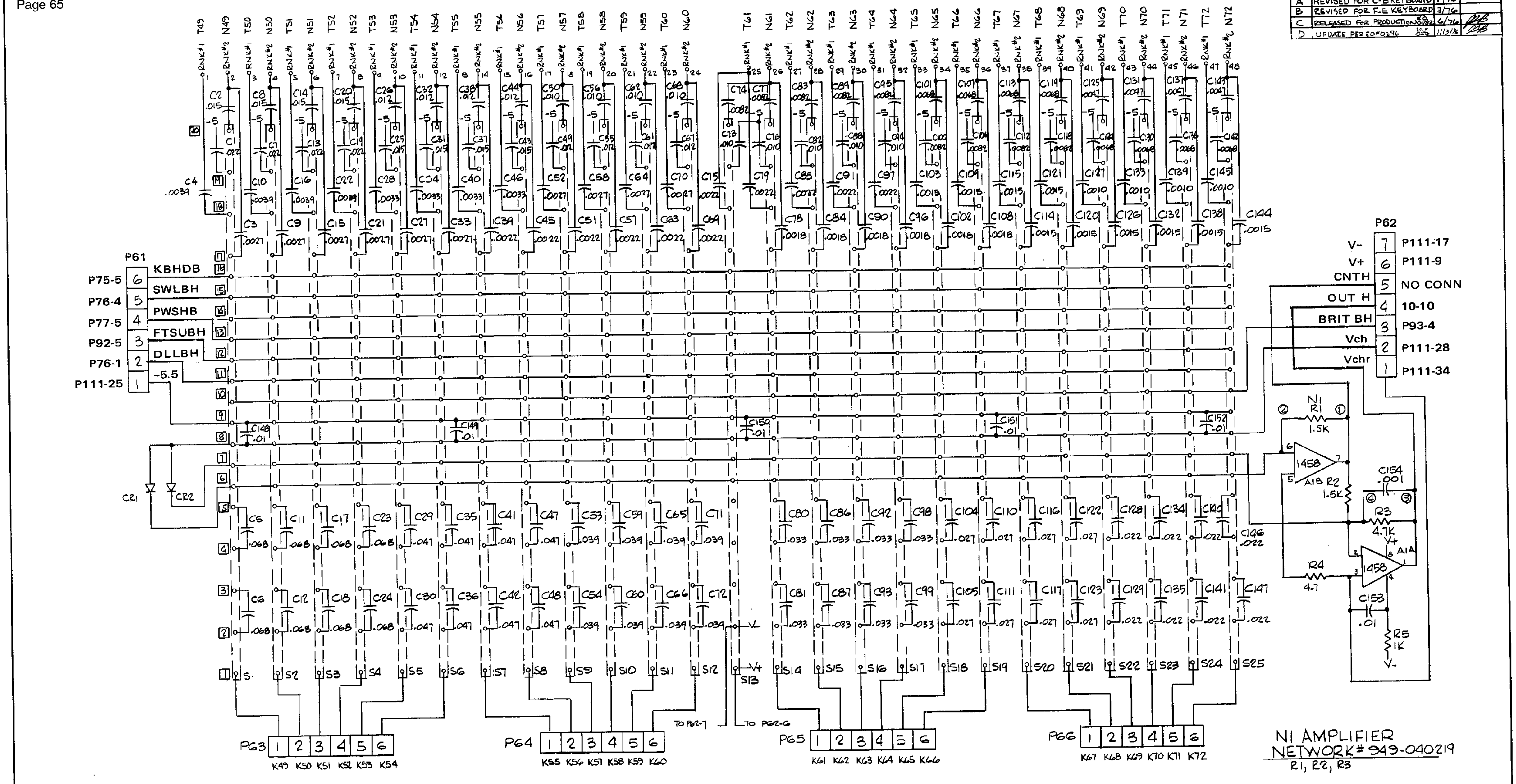
HIGH MOTHER BOARD VOLTAGES

	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	+.824	-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 EO#0296	11/3/76	



LAST REF DES USED					
R	C	A	CR	P	S
5	154	1	2	6	25

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

moog MUSIC INC — WILLIAMSVILLE, NEW YORK

HIGH MOTHER BOARD SCHEMATIC, POLYMOOG

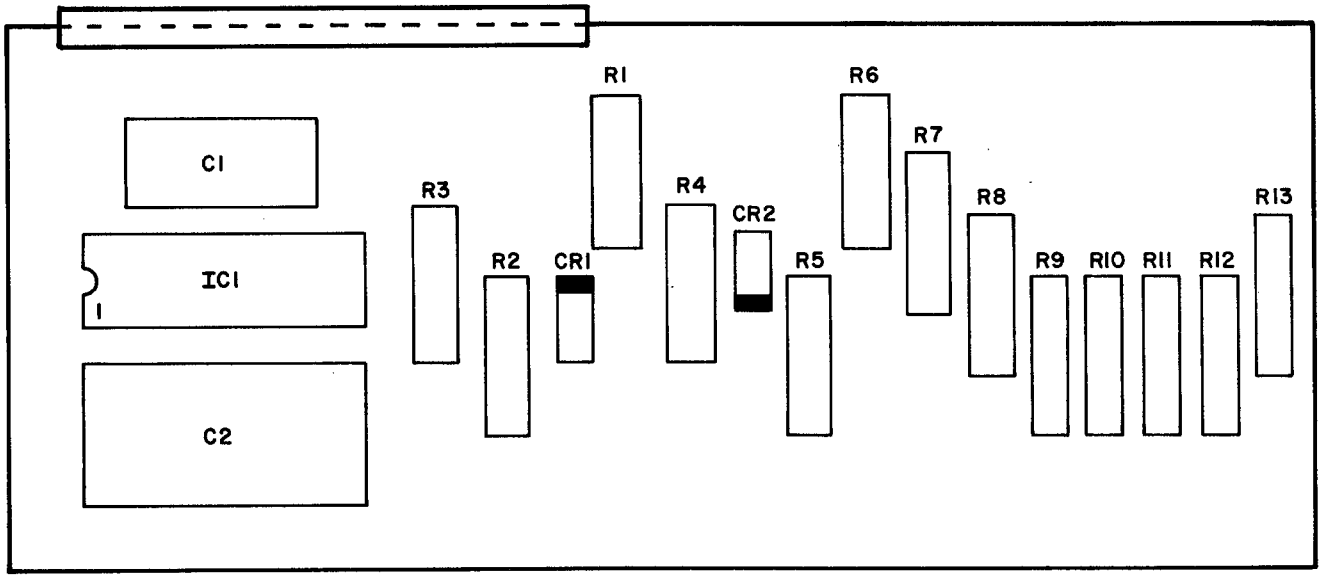
DRAWN BY JPB 5/6 · CHECK W.J.A. · GRP ENGR. · REVIEW QC · SUPERVISOR

981-040141 203A · SIZE D · 993-040144

NEXT ASSY · MODEL NO. · APPLICATION · SCALE — · WT. · SHEET 1 OF 1

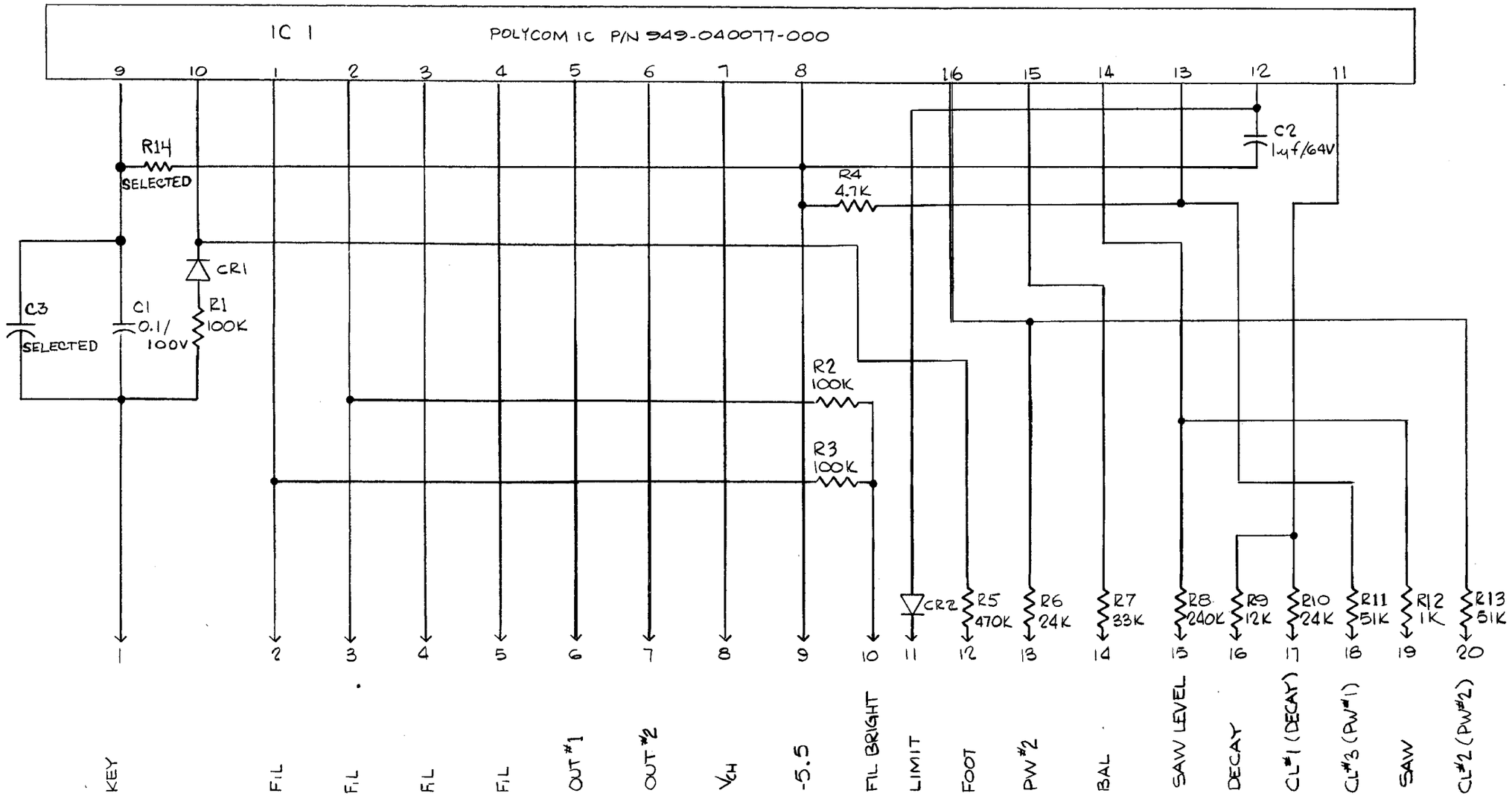
NOTE:

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



996-040149B

MODULATOR PRINTED CIRCUIT BOARD ASSEMBLY

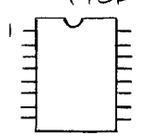


NOTES:

UNESS OTHERWISE SPECIFIED.

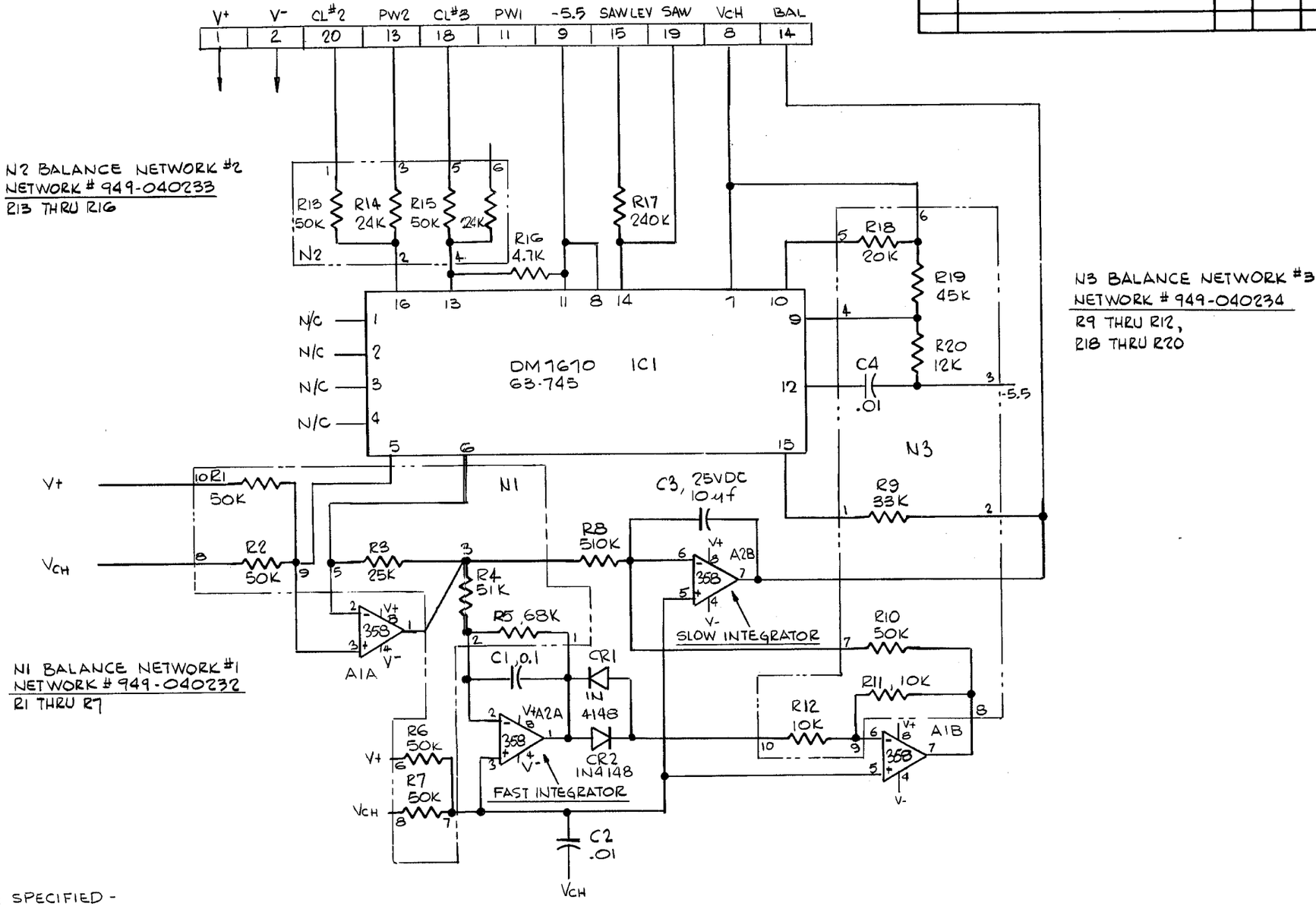
1. ALL RESISTOR VALUES ARE IN OHMS ¼W, ±5%.
2. ALL CAPACITOR VALUES ARE IN MFD (μf) ±10% METALLIZED MYLAR.
3. ALL DIODES IN4148.

COMPONENT BASING
(TOP VIEW)



DM7670

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
A	RELEASED FOR PRODUCTION W.J.A.	0192	5/24/76	



NOTES:

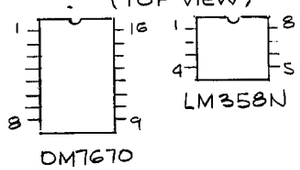
UNLESS OTHERWISE SPECIFIED -

1. ALL RESISTOR VALUES ARE IN OHMS 1/4W, ±5%.
2. ALL CAPACITOR VALUES ARE IN MFD (μf).

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

COMPONENT BASING

(TOP VIEW)



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

DRILLED HOLE TOL
.040 - .125 DIA ±.002
.126 - .228 DIA ±.003
.229 - .500 DIA ±.004
.500 - .750 DIA ±.005

DRAWN BY J.M.P. 4-75
CHECK 5/24/76
GRP ENGR. 5/24/76
REVIEW QC.
SUPERVISOR 5/24/76

moog MUSIC INC. WILLIAMSVILLE, NEW YORK

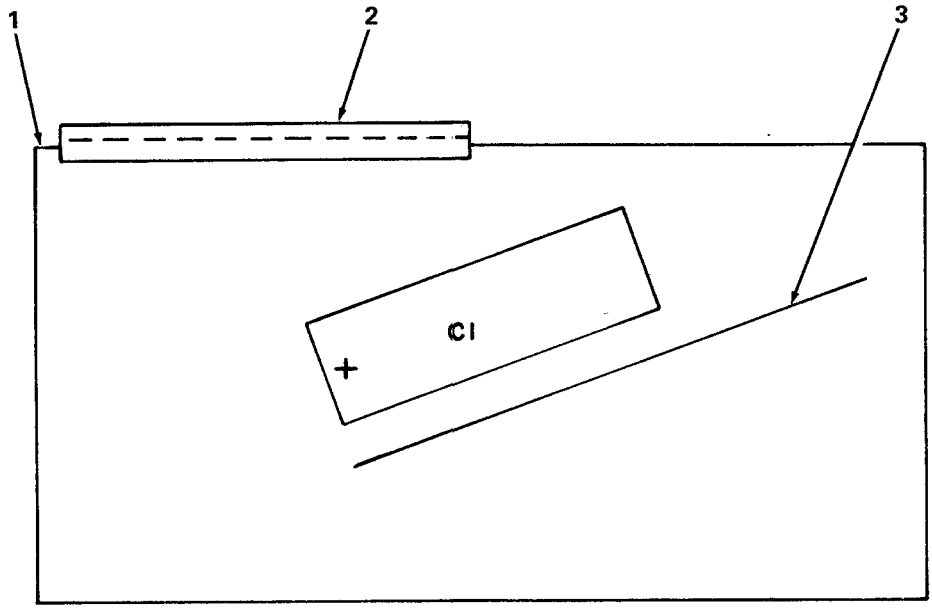
BALANCE CARD SCHEMATIC, POLYMOOG

981-040155 | 203A | SIZE C | CODE IDENT | 993-040154

NEXT ASSY | MODEL NO. | APPLICATION | SCALE ~ | WT. | SHEET 1 OF 1

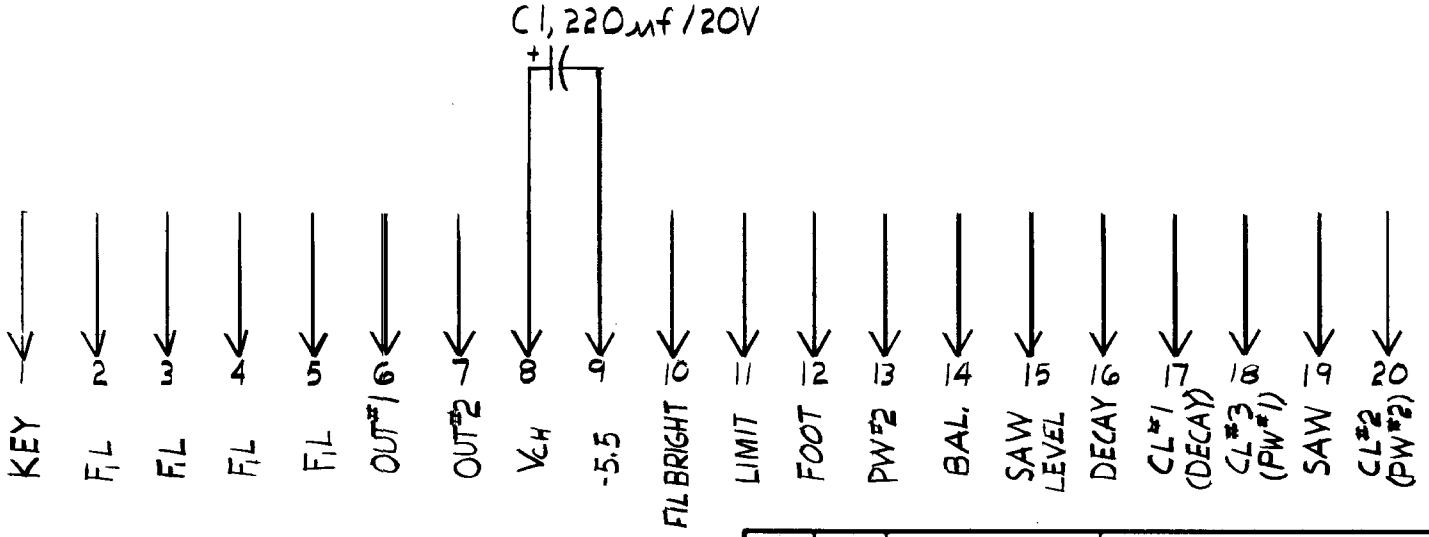
NOTE:

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



BYPASS FILTER PRINTED CIRCUIT BOARD ASSEMBLY

REVISIONS				
SYM	DESCRIPTION	E O	DATE	APPROVED
—	RELEASED FOR PRODUCTION JML	0233	8/11/76	



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

DRILLED HOLE TOL
.040–.125 DIA for 2 tol
.126–.228 DIA for 3 tol
.229–.500 DIA for 4 tol
.500–.750 DIA for 5 tol

DRAWN BY JML 8/76
CHECK W.J.A 8/76
GRP ENGR. 9/14/76
REVIEW QC.
SUPERVISOR 9/15/76
996-040635 | 203A
NEXT ASSY | MODEL NO.
APPLICATION

moog MUSIC INC. WILLIAMSVILLE, NEW YORK

BY PASS CARD SCHEMATIC, POLY MOOG

SIZE B | CODE IDENT | 993-040634

SCALE ~ | WT. | SHEET 1 OF 1