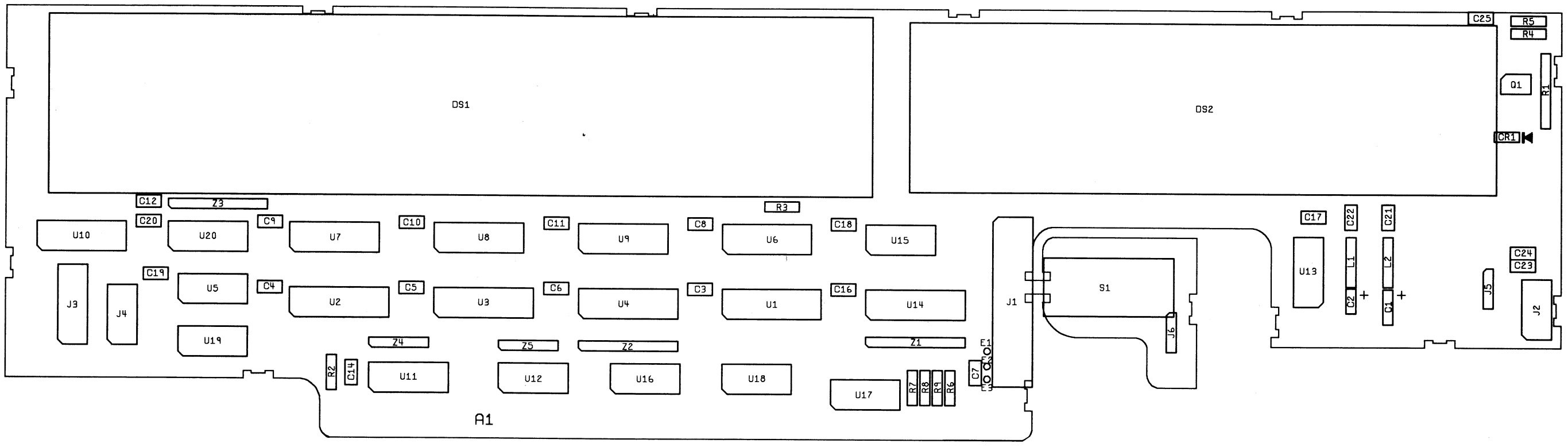
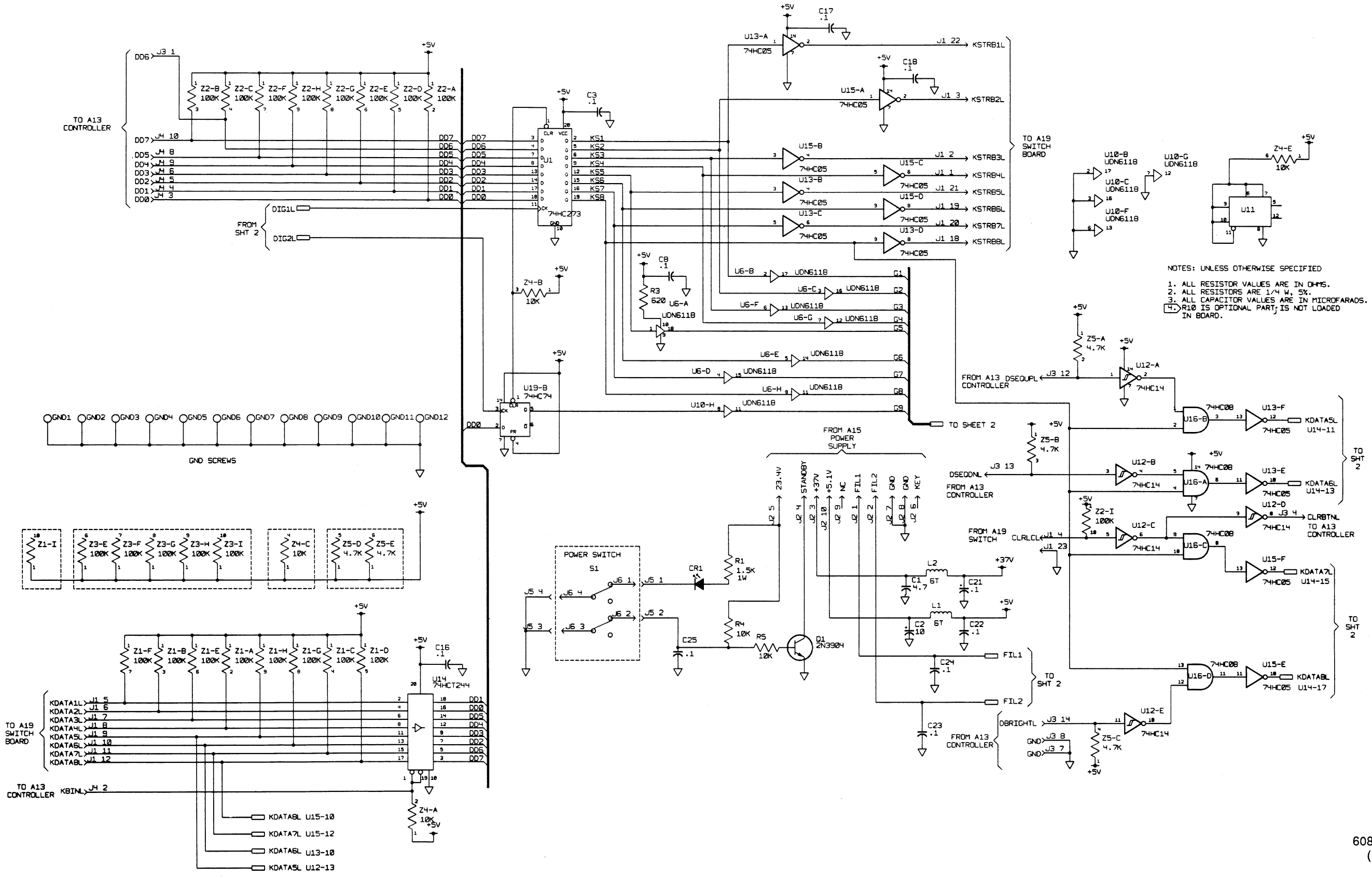


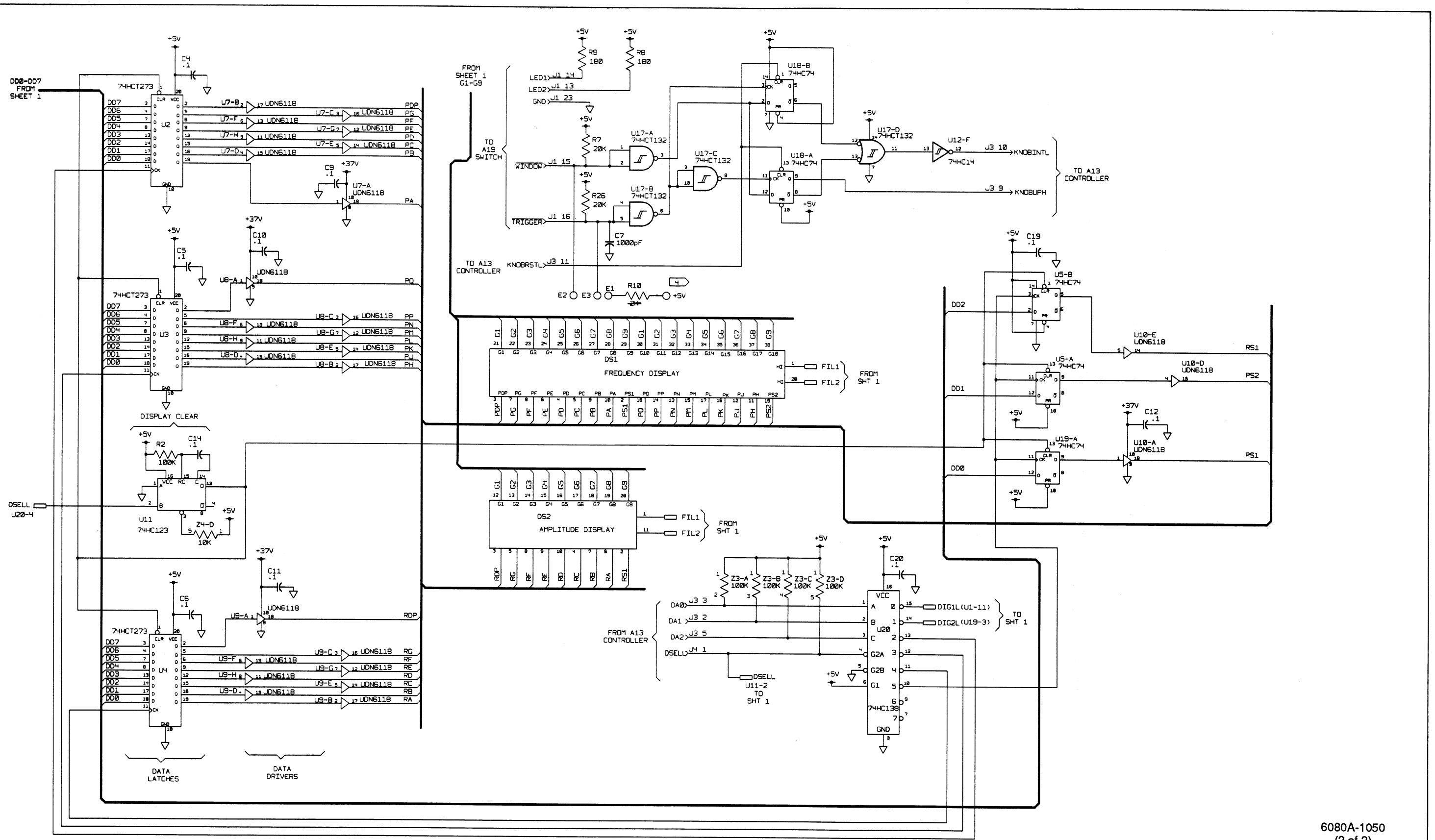
6080A-1604

Figure 8-1. A1 Display PCA



6080A-1050
(1 of 2)

Figure 8-1. A1 Display PCA (cont)



6080A-1050
(2 of 2)

Figure 8-1. A1 Display PCA (cont)

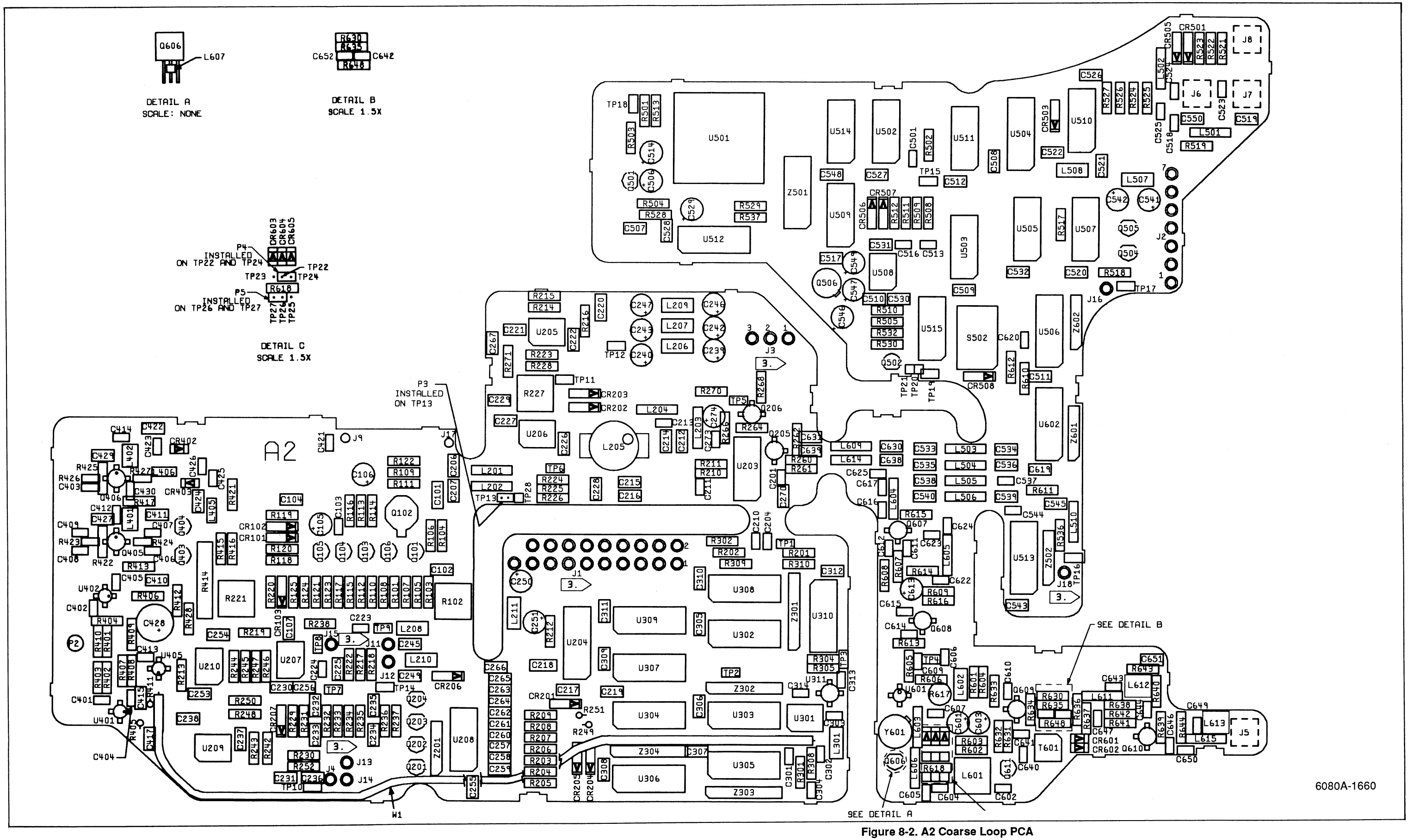


Figure 8-2. A2 Coarse Loop PCA

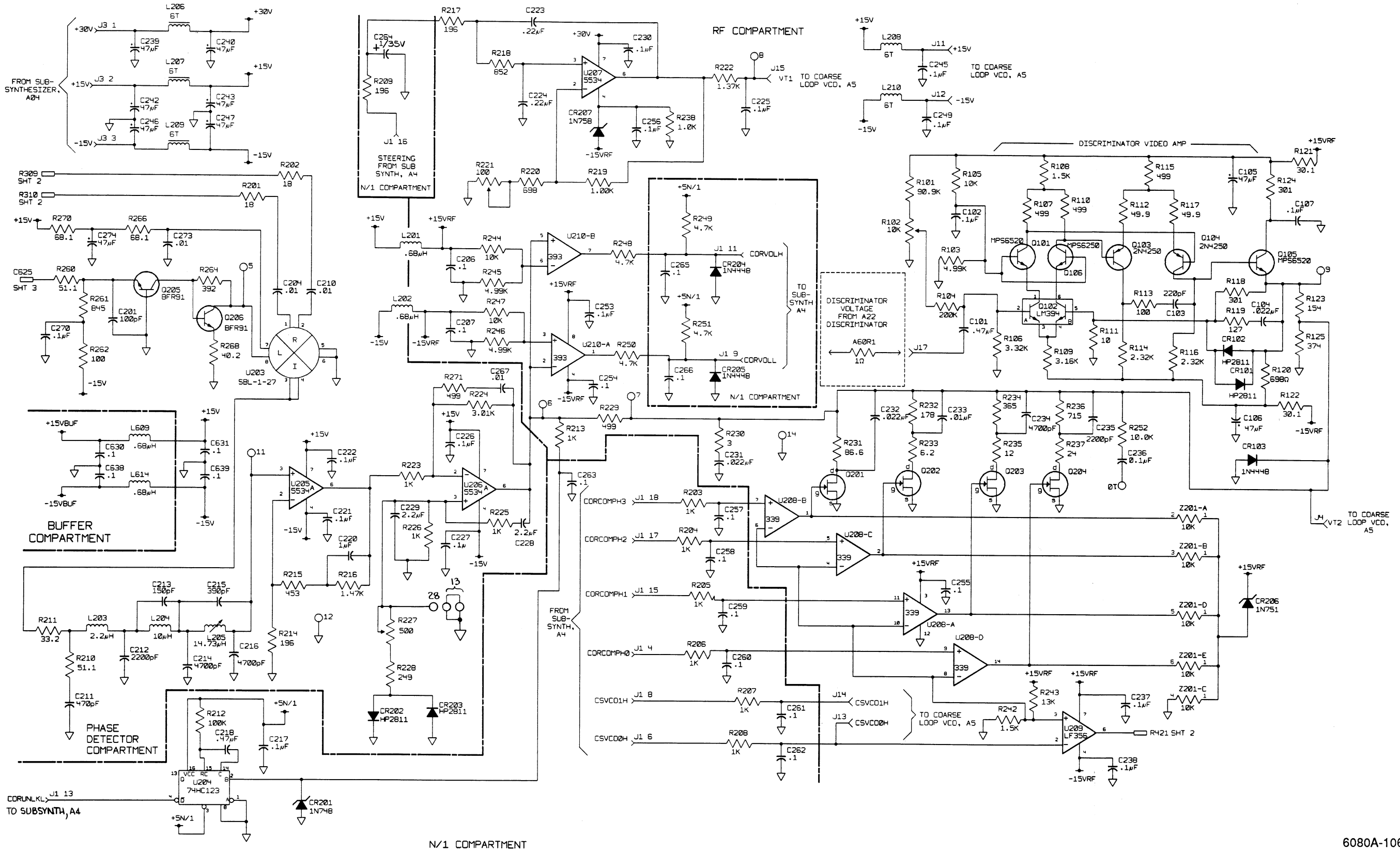
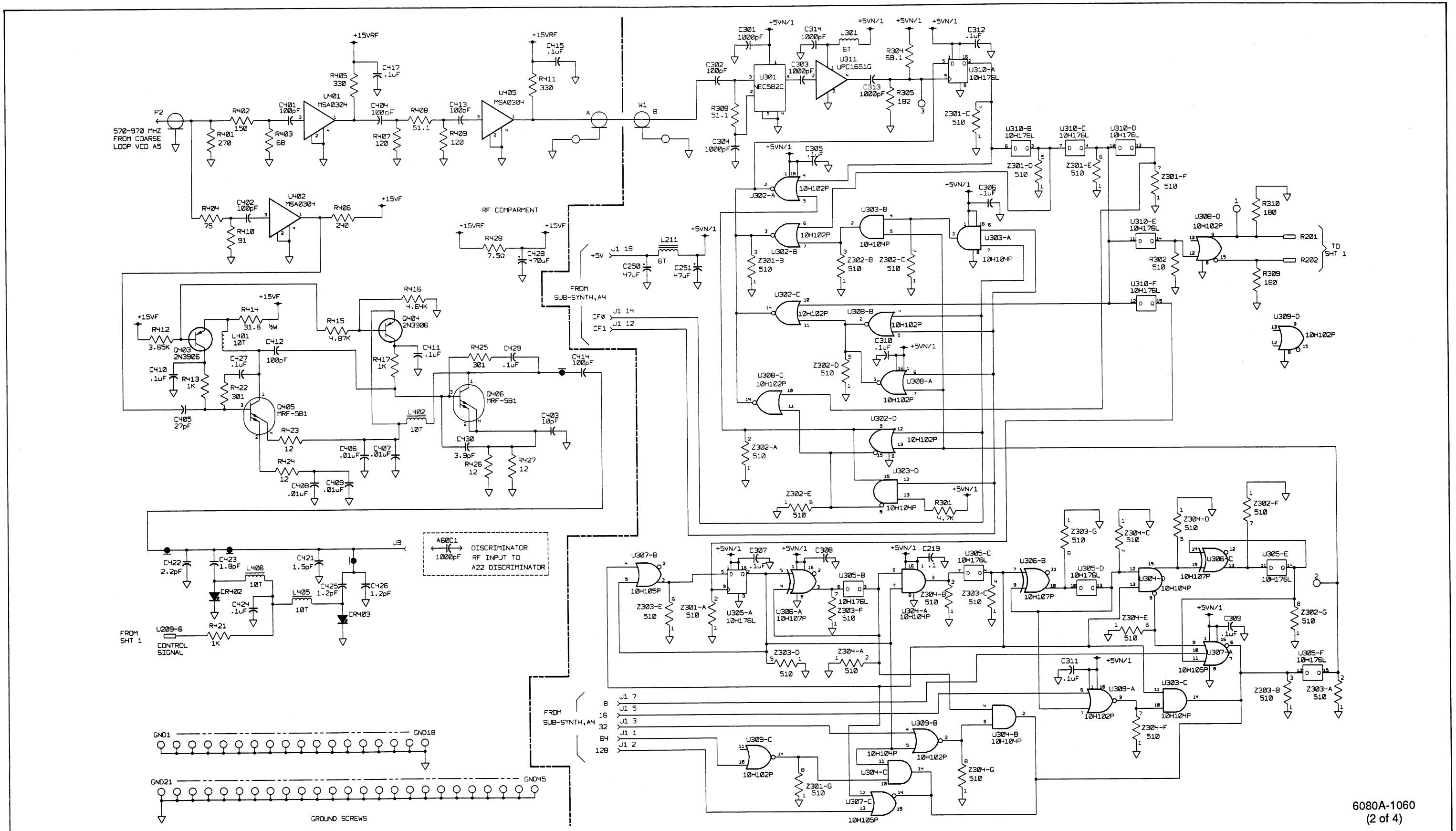
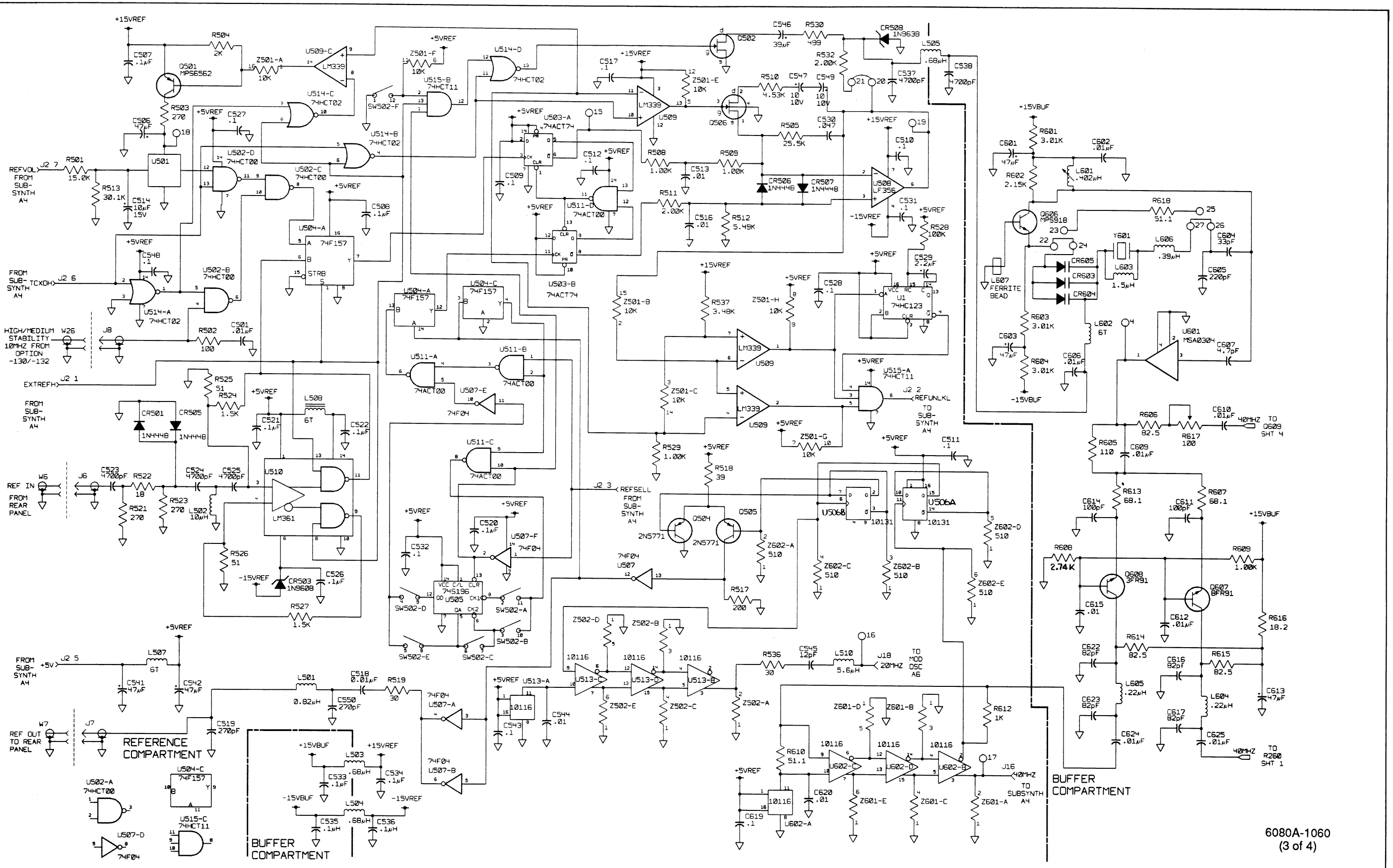


Figure 8-2. A2 Coarse Loop PCA (cont)



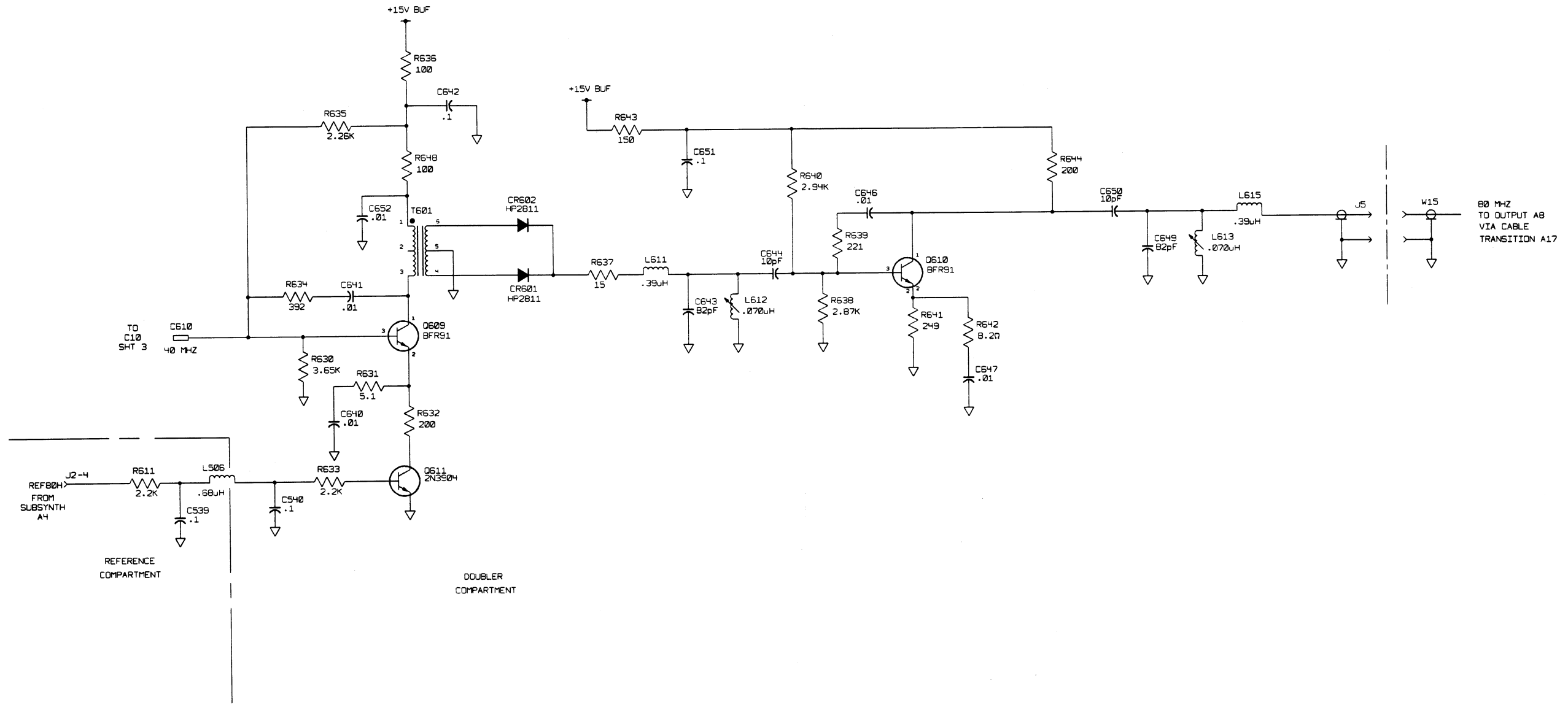
6080A-1060
(2 of 4)

Figure 8-2. A2 Coarse Loop PCA (cont)



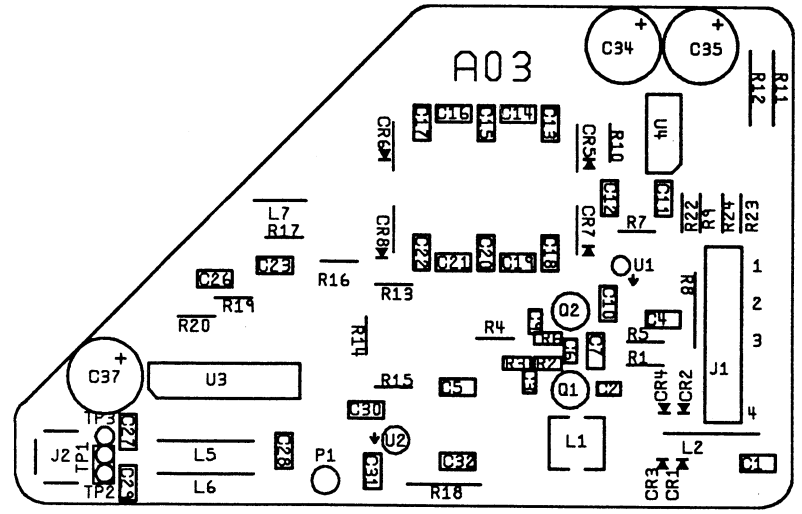
6080A-1060
(3 of 4)

Figure 8-2. A2 Coarse Loop PCA (cont)

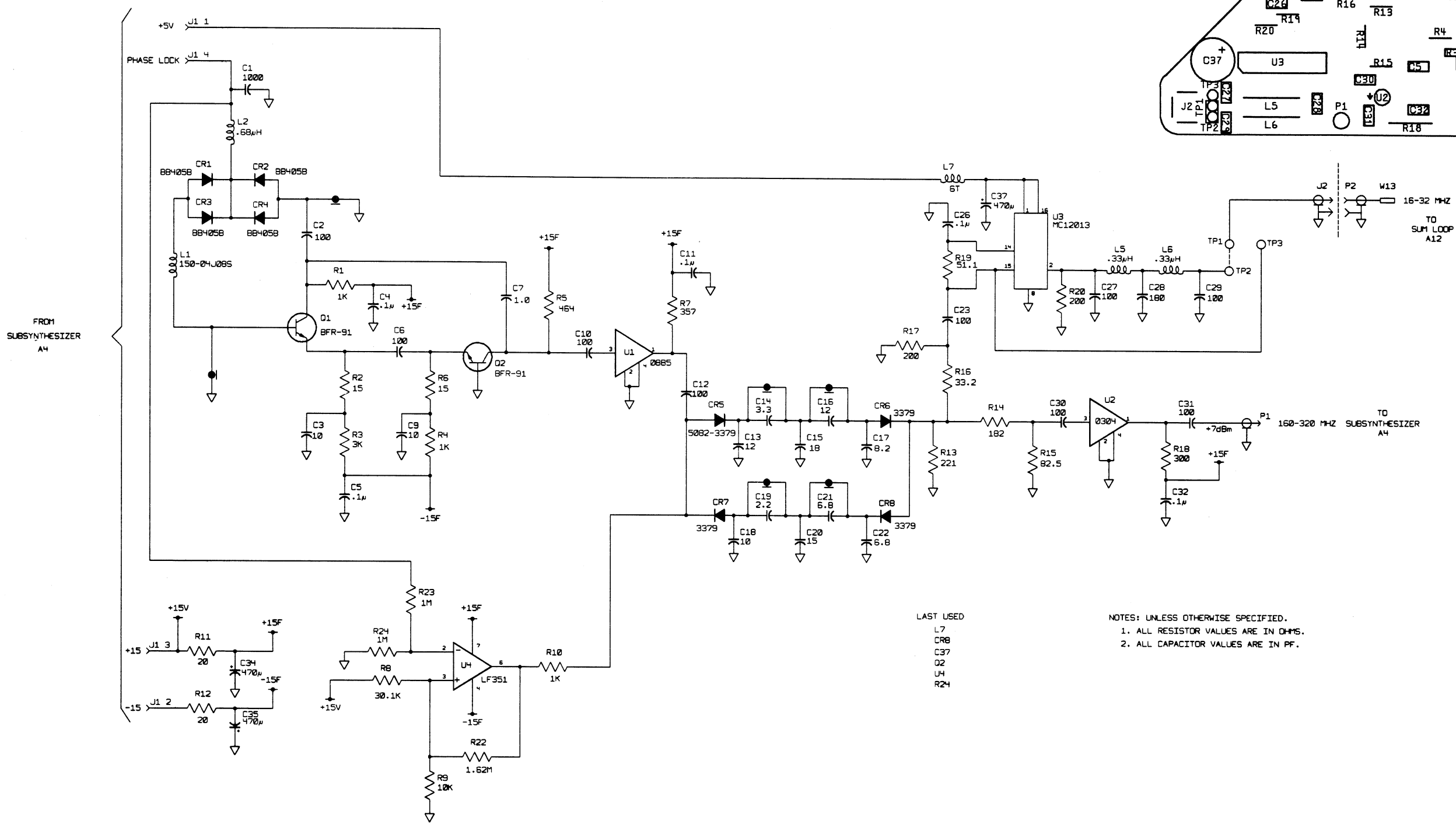


6080A-1060
(4 of 4)

Figure 8-2. A2 Coarse Loop PCA (cont)



6080A-1607



6080A-1061

Figure 8-3. A3 Sub-Synthesizer VCO PCA

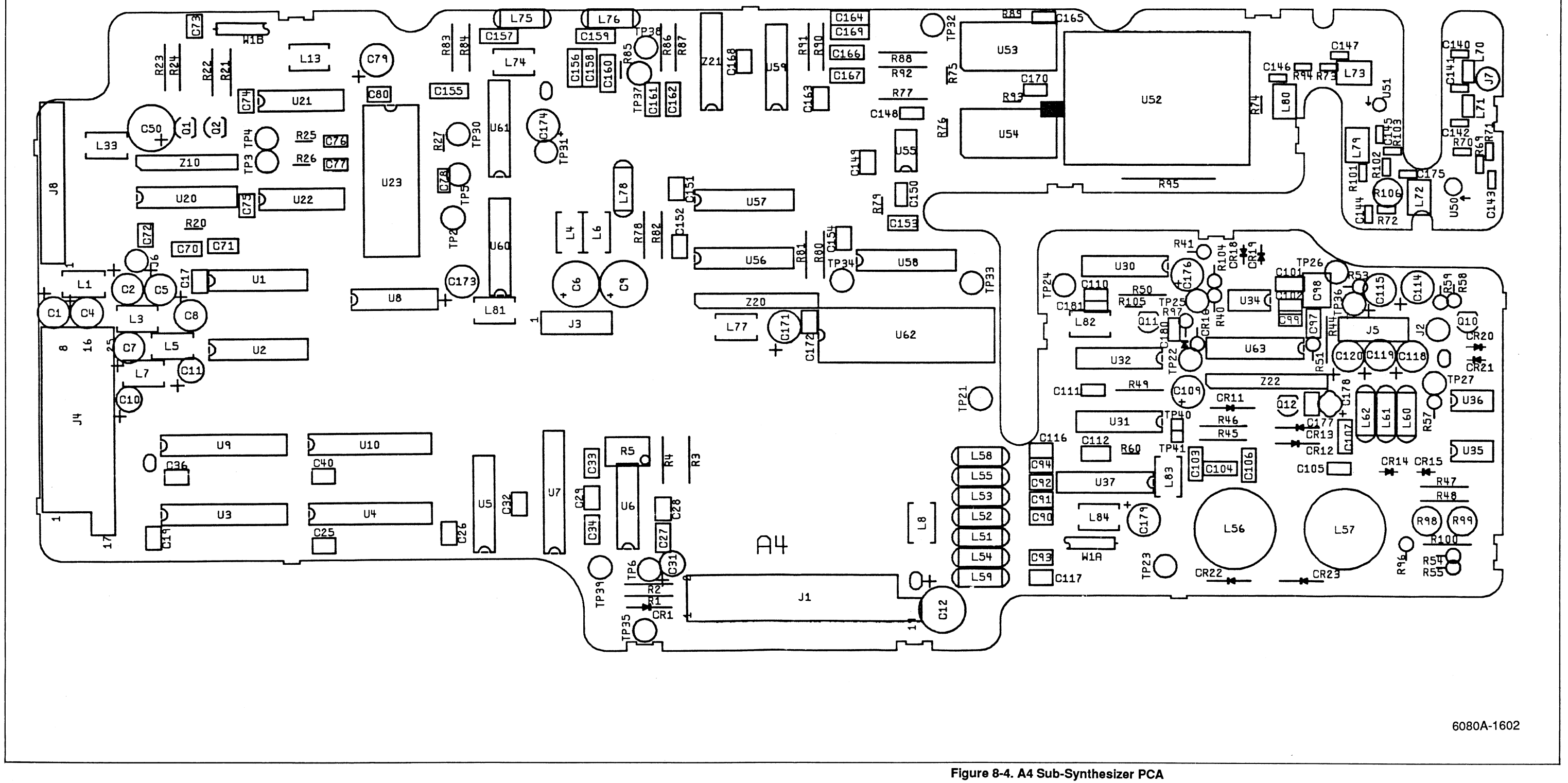
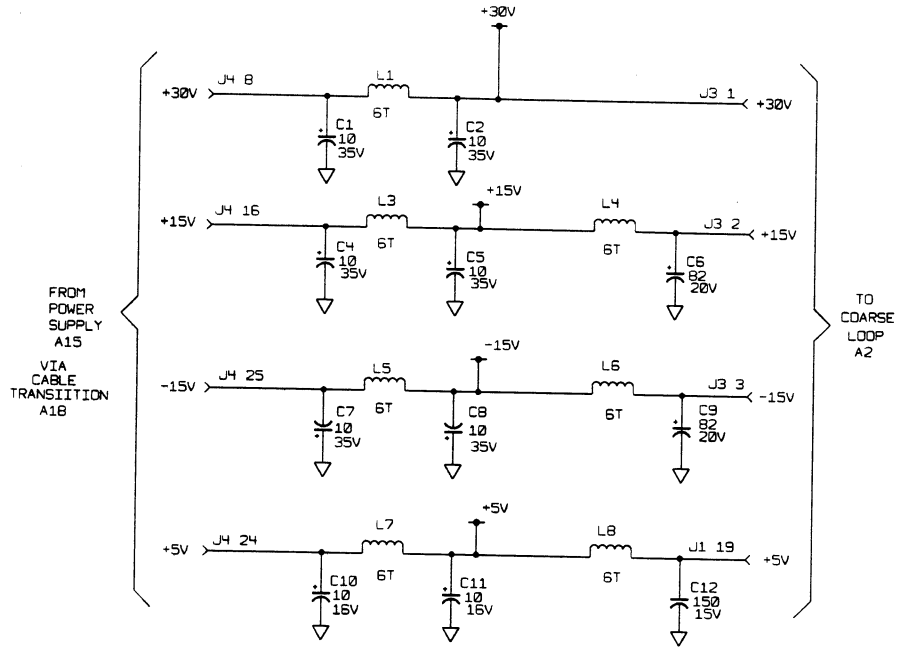
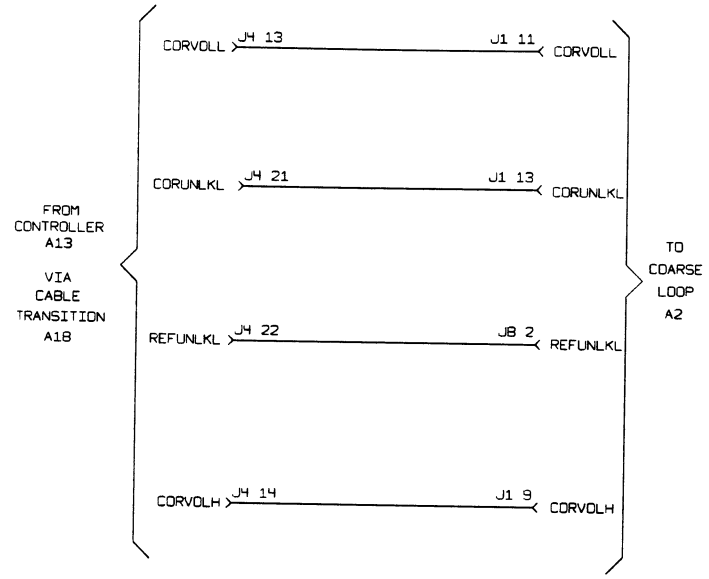
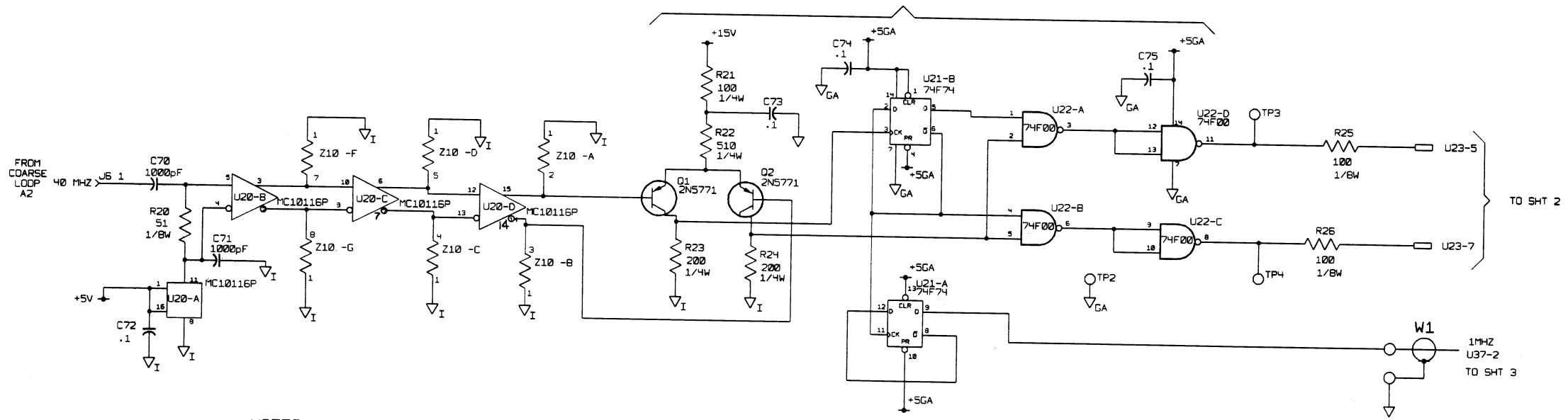


Figure 8-4. A4 Sub-Synthesizer PCA





2 PHASE 20 MHZ CLOCK GENERATOR



NOTES: UNLESS OTHERWISE SPECIFIED,
1. ALL RESISTORS ARE 1/4W, ± 5%.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS.
3. ALL RESISTOR VALUES ARE IN OHMS.
4. ALL INDUCTOR VALUES ARE IN MICROHENRIES.

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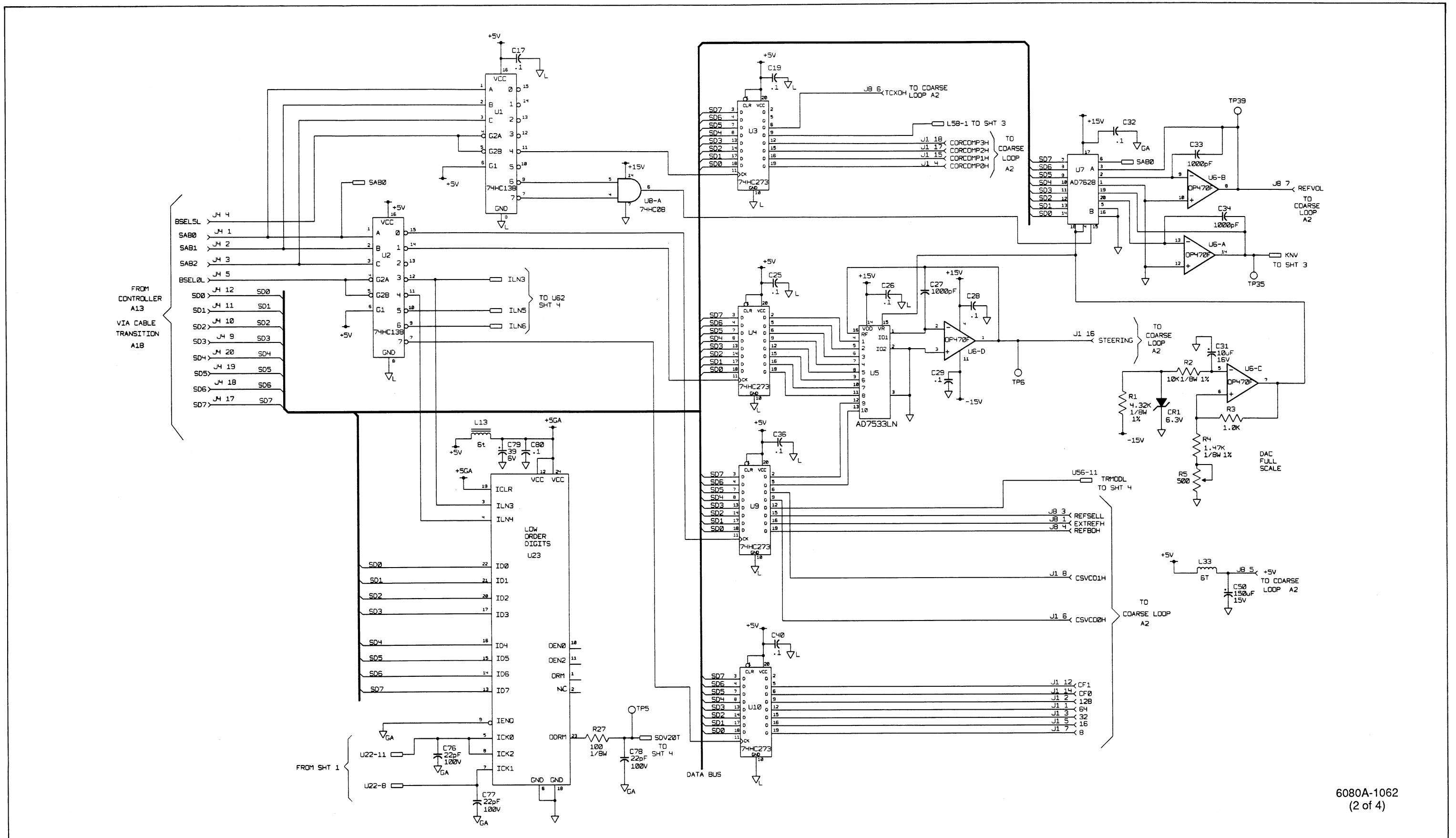
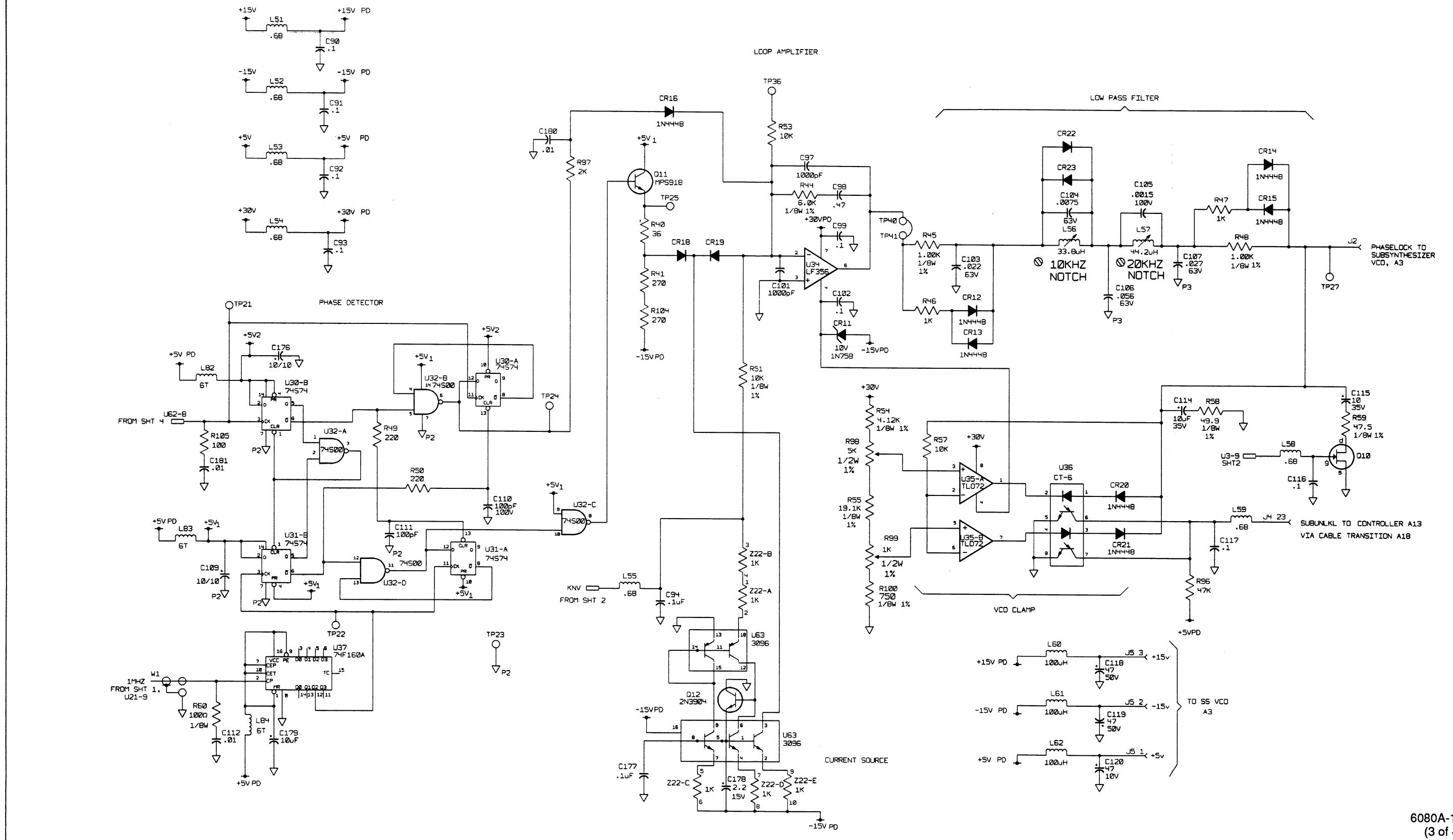
(1 of 4)

Figure 8-4. A4 Sub-Synthesizer PCA (cont)



6080A-1062
(2 of 4)

Figure 8-4. A4 Sub-Synthesizer PCA (cont)



6080A-1062
(3 of 4)

Figure 8-4. A4 Sub-Synthesizer PCA (cont)

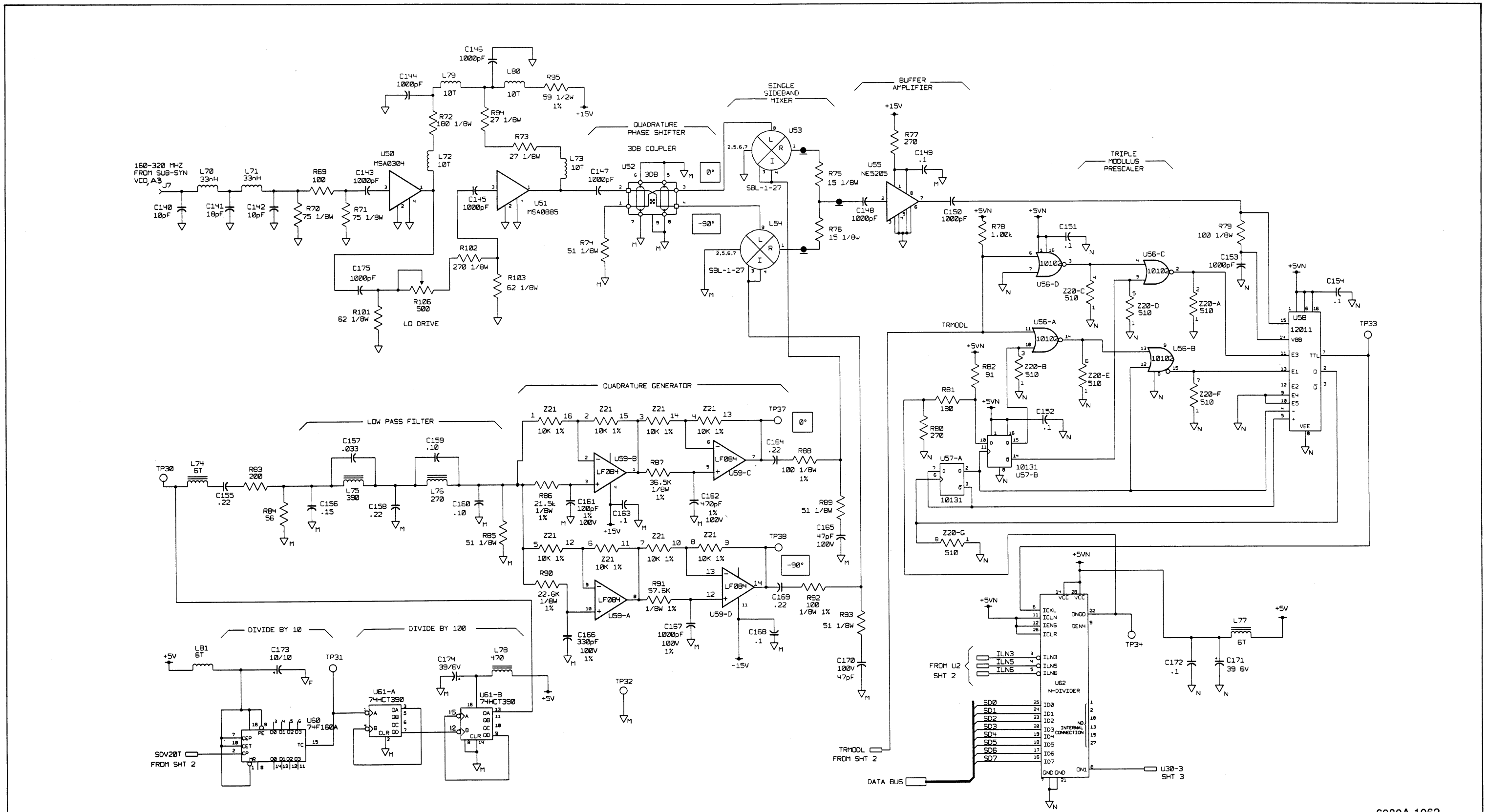
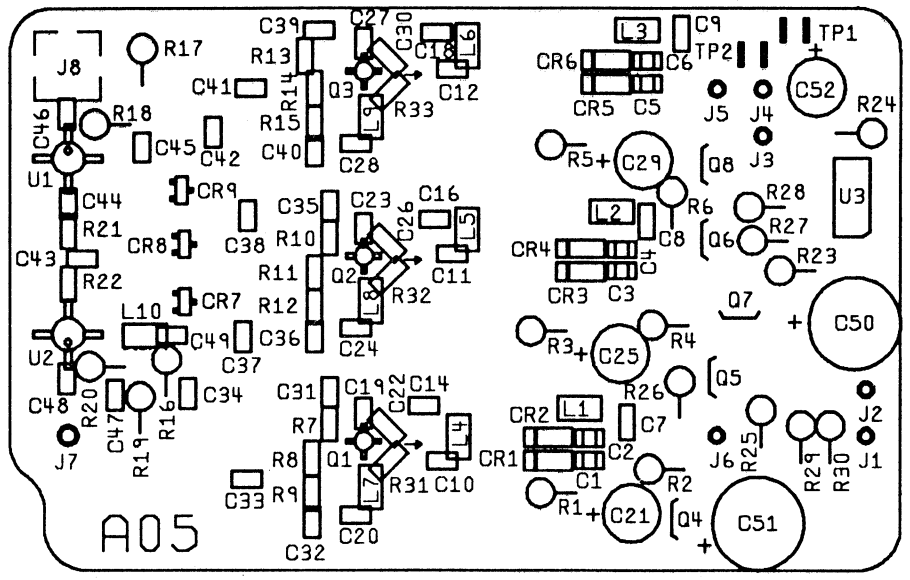
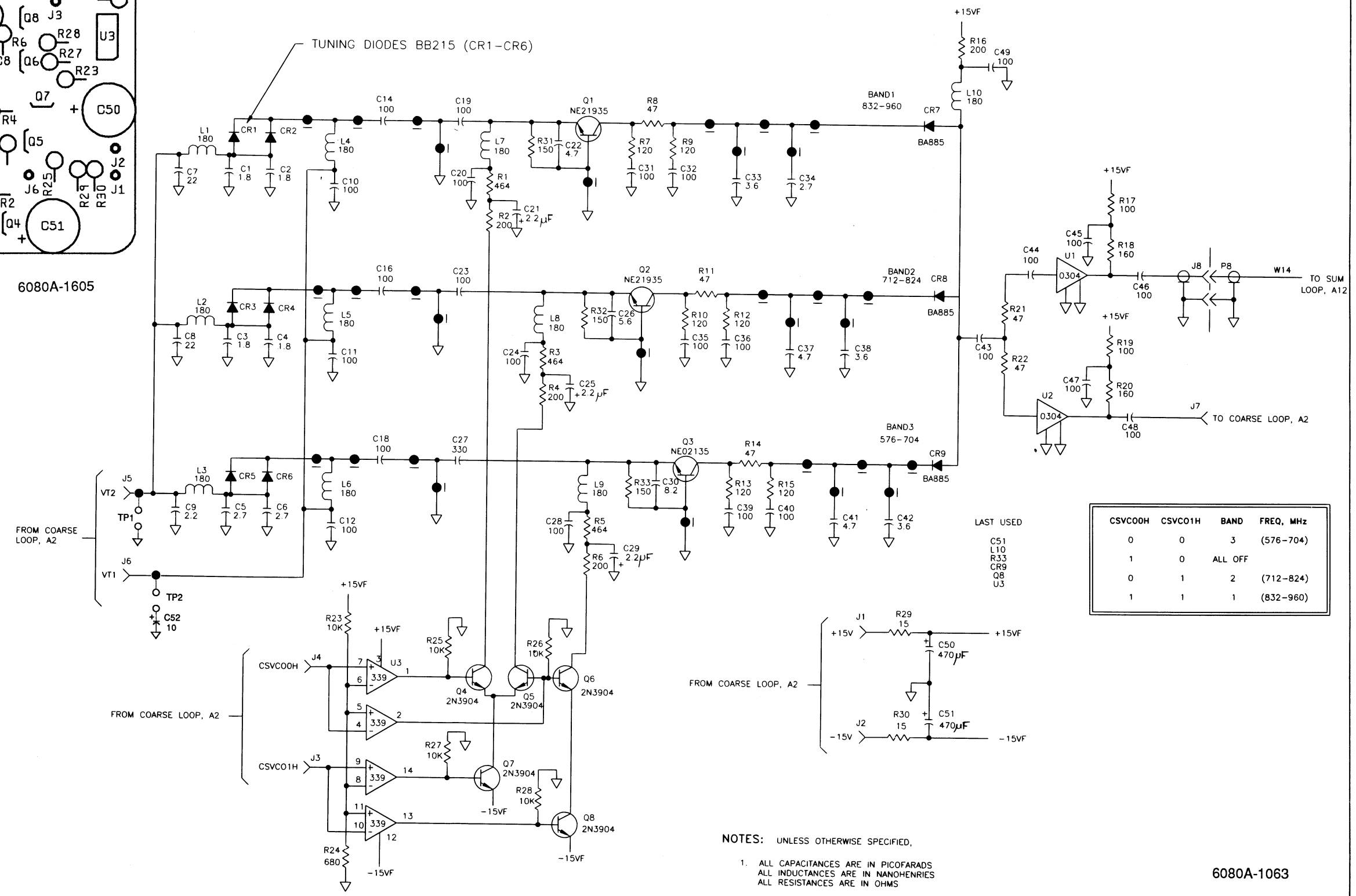


Figure 8-4. A4 Sub-Synthesizer PCA (cont)



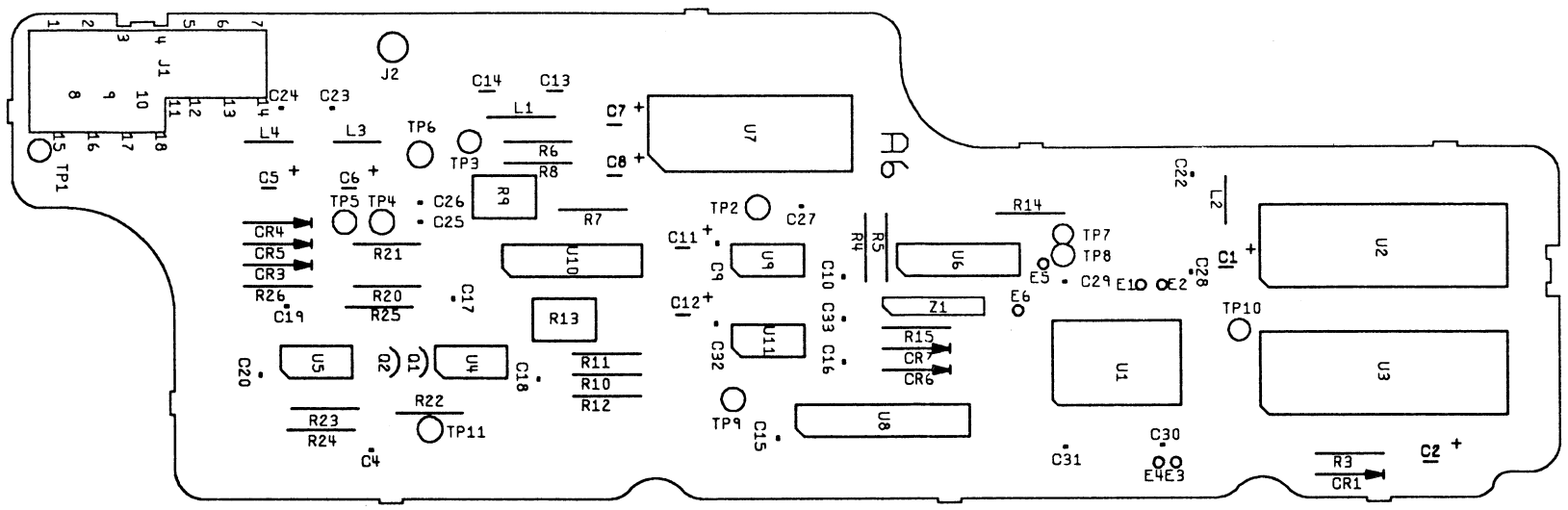
6080A-1605



CSVCO0H	CSVCO1H	BAND	FREQ, MHz
0	0	3	(576-704)
1	0	ALL OFF	
0	1	2	(712-824)
1	1	1	(832-960)

6080A-1063

Figure 8-5. A5 Coarse Loop VCO PCA



6080A-1602

REF.	Vcc	+15V	-15V	⏚	⏚	#PINS	TYPE
U1	2, 23, 37, 42, 63			3, 22, 33, 43, 62		80	65022 ARRAY
U2	1, 28			14		28	27256
U3	1, 28			14		28	27256
U4		7	4			8	LM6361
U5		7	4			8	LM6361
U6		3	12			14	LM339
U7		3	7	12	5	24	AD565A
U8		18		3	2	20	AD7548
U9		8	4			8	LF412A
U10		13	4		5	16	DG308
U11		8	4			8	LF412A

NOTE: (unless otherwise specified)

1) All capacitor values are in uF.

2) All resistor values are in Ohms.

Waveform selection table:

PB<6>	PB<5>	PB<4>	Waveform selected:
1	0	0	Sine wave
1	0	1	Triagular wave
1	1	0	square wave
1	1	1	gaussian noise
0	0	0	Sawtooth wave
0	0	1	4 step Staircase
0	1	0	option wave
0	1	1	option wave

PB <7>	PC <7>	MODE <1>	MODE <0>	S1	S2 S6	S3	S4	S5	Operation:
0	0	0	0	of	on	of	on	on	pulse generation
1	1	0	1	on	of	on	of	of	MOD OUT and INT MOD are on
1	1	1	0	on	of	on	of	of	MOD OUT and INT MOD are FULL scale
1	1	1	1	on	of	on	of	of	MOD OUT and INT MOD are ZERO scale
0	1	0	1	of	on	on	of	of	MOD OUT is on
1	0	0	1	on	of	of	on	of	INT MOD is on
0	1	1	0	of	on	on	of	of	MOD OUT is on

Sn- refers to switches on the PWB.

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(1 of 2)

Figure 8-6. A6 Mod Oscillator PCA

PULSE DRIVERS

6080A-1067
(2 of 2)

S6
1VPTP DRIVER
LM6361
R23 1.0K 1%
C19 0.1UF
+15V
R24 5.11K 1%
-15V

S5
LOGIC LEVEL DRIVER
EXT. PULSE
R21 51
CR4
+15V
-15V
CR5
R20 10K
3 Q1
C18 0.1UF
C17 0.1UF
U4
LM6361
TP11 PULSE

COMPARATORS
U6C
U6D
U6A
U6B
LM339
R15 33K
R14 33K
+5.1V
CR7
PC7
PB7
CR6
Z1 22K
+15V
-15V

LEVEL CONTROL

S4
S3
D6308
1/4 U10
C35 150PF
R13 500 GAIN
R12 3.48K 1%
R11 8.87K 1%
R10 600
C25 150PF
8V PTP into 600 ohms
TP5
U11A
LF412A
U11B
LF412A
C33 0.1UF
C32 0.1UF
C15 15PF
TP9
4.995 4.77V PTP
U8
AD7548
DGND
AGND
IOUT1
IOUT2
RFB
VREF
VDD
CTRL
DF
+5.1V
D0 D1 D2 D3 D4 D5 D6 D7
WR* CS* LDAC* CSLSB* CSMSB*
C16 0.1UF

WAVE RECONSTRUCTION

3 POLE BUTTERWORTH LOWPASS

U9A
LF412A
U9B
LF412A
S1
S2
C26 150PF
C34 150PF
R9 100
R8 374 1%
C14 680PF
C13 680PF
L1 1000UH
R6 1K 1%
R7 1K 1%
TP4 2VPP
TP3 4.77V PTP
TP2 10V PTP
TP7
TP6 Analog GND
C27 22PF
C9 0.1UF
C12 10uF/20V
C11 10uF/20V
C10 0.1UF
C7 10uF/20V
C8 10uF/20V
AD565A
DAC OUT
OFFSET
VREF OUT
VREF IN
AN GND
DGND
VEE
VCC
R4 50 1%
R5 50 1%
10V
PLATE GND
B1 B2 B3 B4 B5 B6 B7 B8 B9 B10 B11 B12
MSB
TP8 MSB
U7
+15V
-15V

L.S.TABLE
M.S.TABLE
U3
U2
27C256
VPP
A14/PGM*
VCC
GND
OE*
CE*
A0 A1 A2 A3 A4 A5 A6 A7 A8 A9 A10 A11 A12 A13
D0 D1 D2 D3 D4 D5 D6 D7
LSB
MSB
R3 33K
TP10

MODIC
VSS
RS* WRO* AO*
DRO DR1 DR2 DR3 DR4 DR5 DR6 DR7 DR8 DR9 DR10 DR11 DR12 DR13
GRO GR1 GR2 GR3 GR4 GR5 GR6 GR7 GR8 GR9 GR10 GR11 GR12 GR13
TS0 TS1 TS2
XT1* XT2
OSCEN
WR*
A10 A11 A12 A13
MEN* DCLKO PLS
D10 D11 D12 D13 D14 D15 D16 D17
PB7 PB6 PB5 PB4 PB3 PB2 PB1 PB0 PC7
VDD
C28-C31 0.1UF
C4 0.1UF
VCC
12

FROM CONTROLLER, A13 VIA CABLE TRANS, A18

J1-7 +5.1V L2 6 TURN C22 0.1UF C1 22uF/10V C4 C28-C31 0.1UF Vcc

U1 MODIC

J1-2 SAB2
J1-3 SAB1
J1-10 SAB0
J1-8 BSEL1*
J1-4 BSEL5*
J2-1 20MHZ FROM COARSE LOOP, A2

TP1 R1 51 E1 E2 E3 E4 E5 E6 CR1 R3 33K C2 10uF/25V

TP10

M.S. TABLE U2 27C256 MSB

L.S.TABLE U3 27C256 LSB

12

U7 AD565A

TP8 MSB

+15V C8 10uf/20V C9 0.1UF C12 10uf C27 22PF U9B LF412 C10 0.1UF C11 10uf/20V C7 10uf/20V -15V

R4 50 1% R5 50 1% 10V PLATE GND

OFFSET VREF OUT VREF IN AN GND GND VEE DAC OUT

LEVE

U8 AD7548

C16 0.1UF C32 0.1UF C15 15PF RFB IOUT AGND DGND

+5.1V CTRL DF

FROM CONTROLLER A13, VIA CABLE TRANS, A18

J1-12 SD7
J1-11 SD6
J1-13 SD5
J1-18 SD4
J1-17 SD3
J1-14 SD2
J1-9 SD1
J1-1 SD0

COMPARATORS

U6B U6A U6D U6C LM339

PB7 PC7

R14 33K R15 33K

Z1 22K

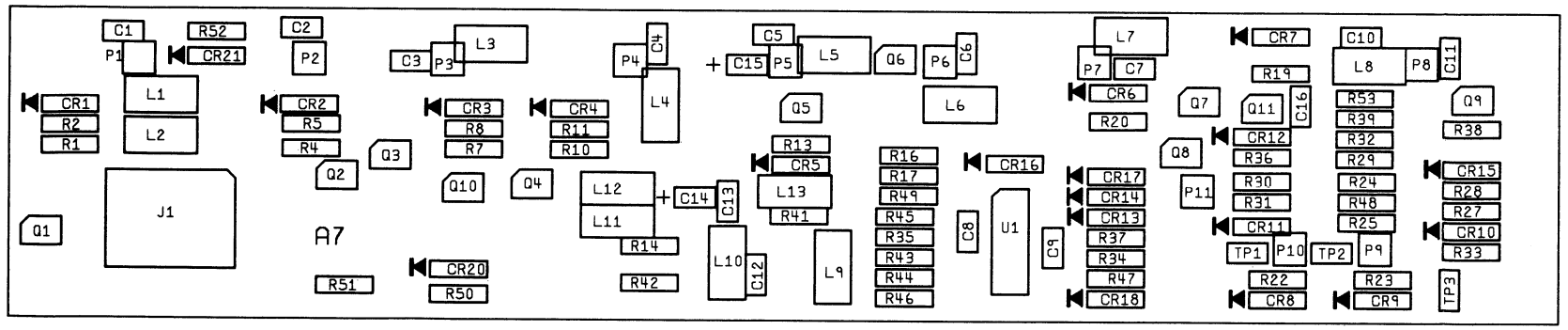
CR6 CR7

TP11 PULSE

FROM POWER SUPPLY A15, VIA CABLE TRANS, A18

J1-5 L4 6 TURN -15V C24 0.1UF C5 10uf/20V

J1-6 L3 6 TURN +15V C23 0.1UF C6 10uf/20V



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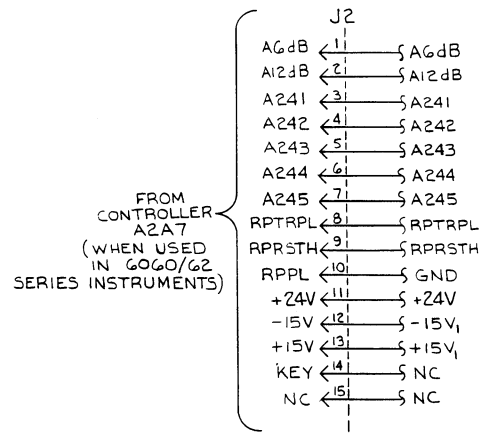

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. ALL RESISTORS ARE 1/4W, 5%.
   ALL RESISTOR VALUES ARE IN OHMS.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS.

REFERENCE DESIGNATIONS	
LAST USED	NOT USED
U1	
Q11	
L13	
C16	
CR21	
R53	R26
TP3	
J1	
P11	

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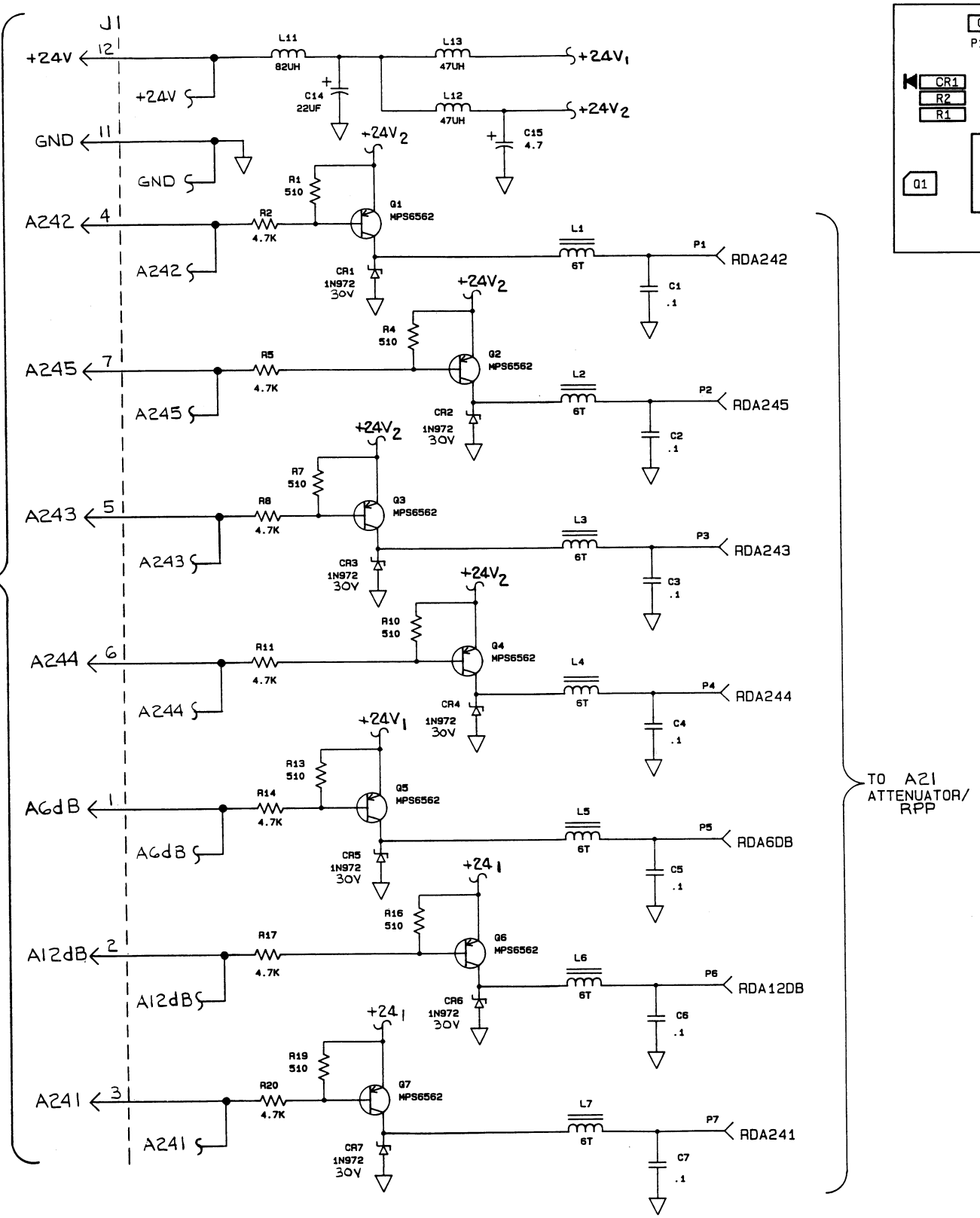
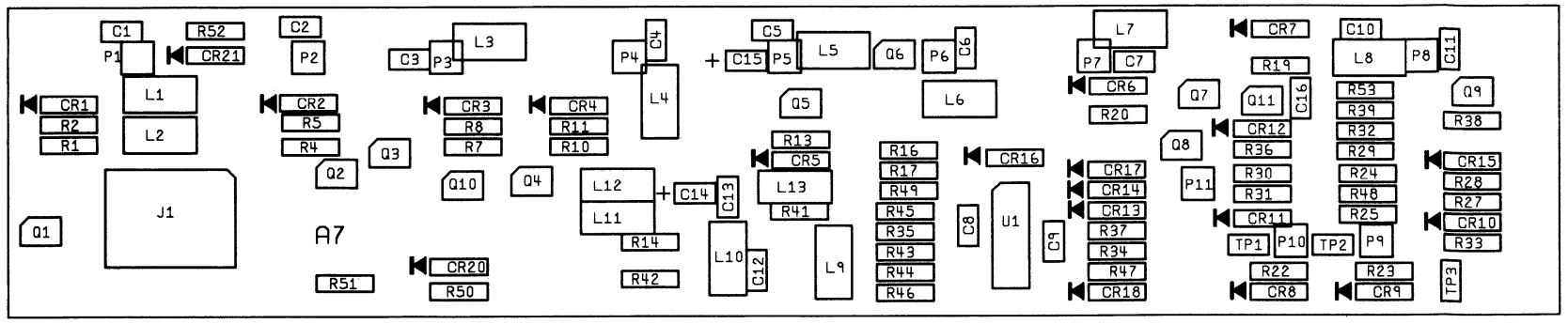
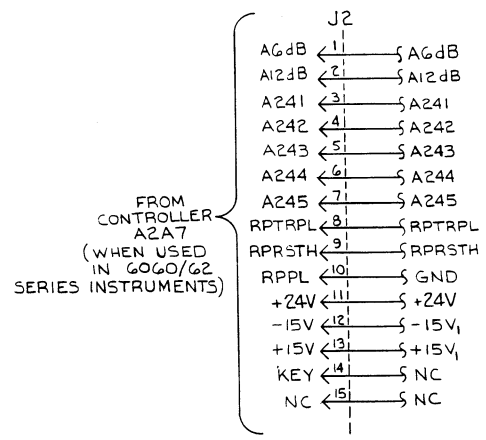
(1 of 2)

Figure 8-7. A7 Relay Driver PCA





6080A-1604



REFERENCE DESIGNATIONS	
LAST USED	NOT USED
U1	
Q11	
L13	
C16	
CR21	
R53	R26
TP3	
J1	
P11	

NOTES: (UNLESS OTHERWISE SPECIFIED)

1. ALL RESISTORS ARE 1/4W, 5%. ALL RESISTOR VALUES ARE IN OHMS.
2. ALL CAPACITOR VALUES ARE IN MICROFARADS.

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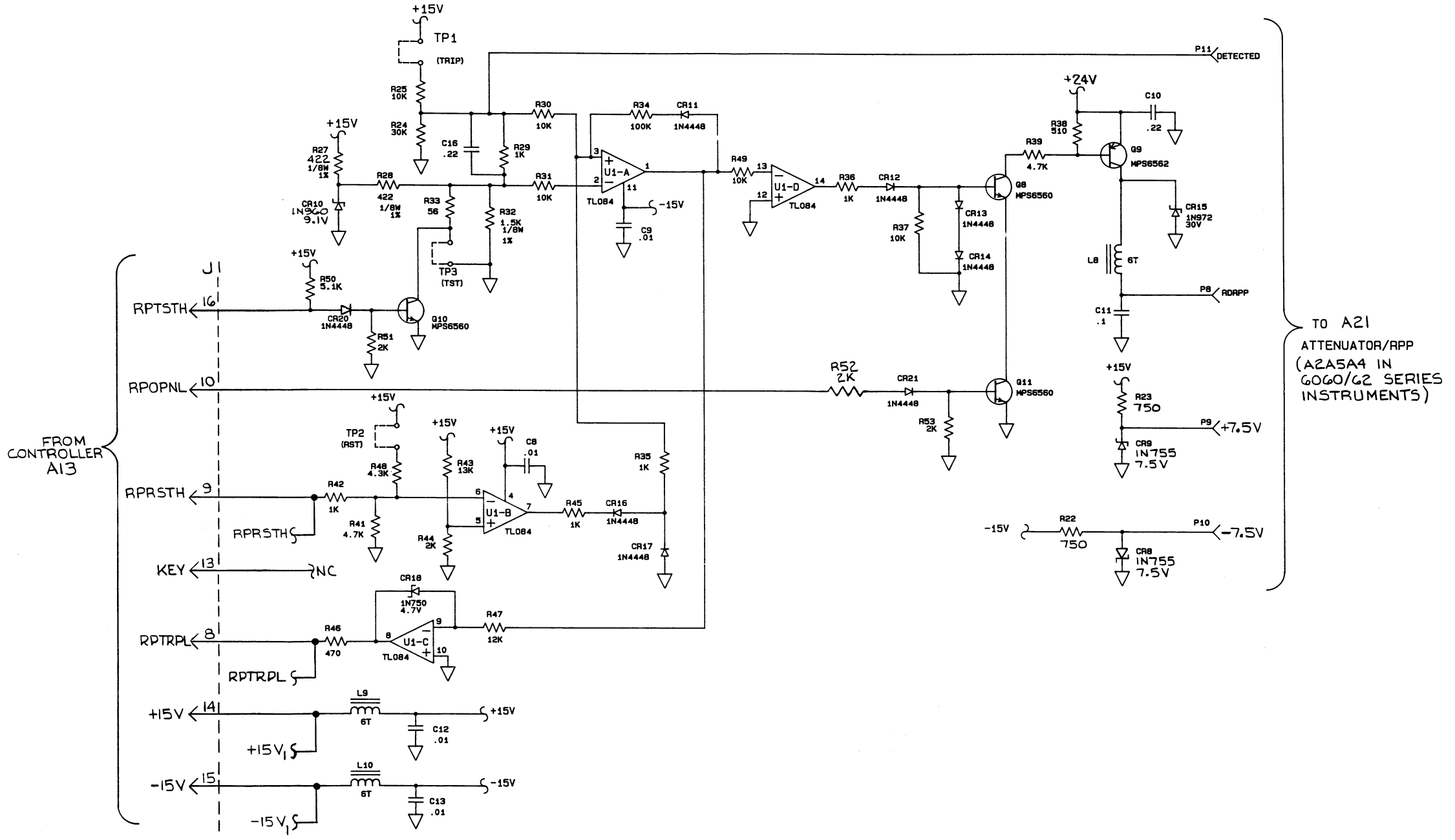
(1 of 2)



6080A-1032
(2 of 2)

Figure 8-7. A7 Relay Driver PCA (cont)

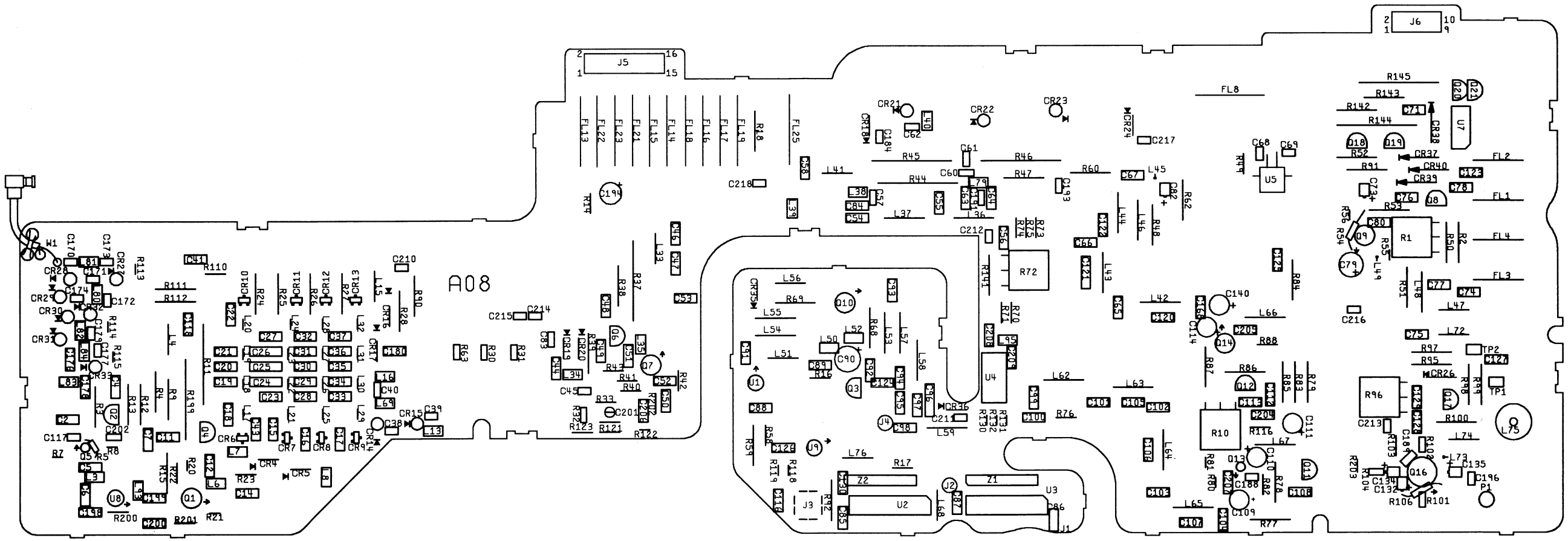
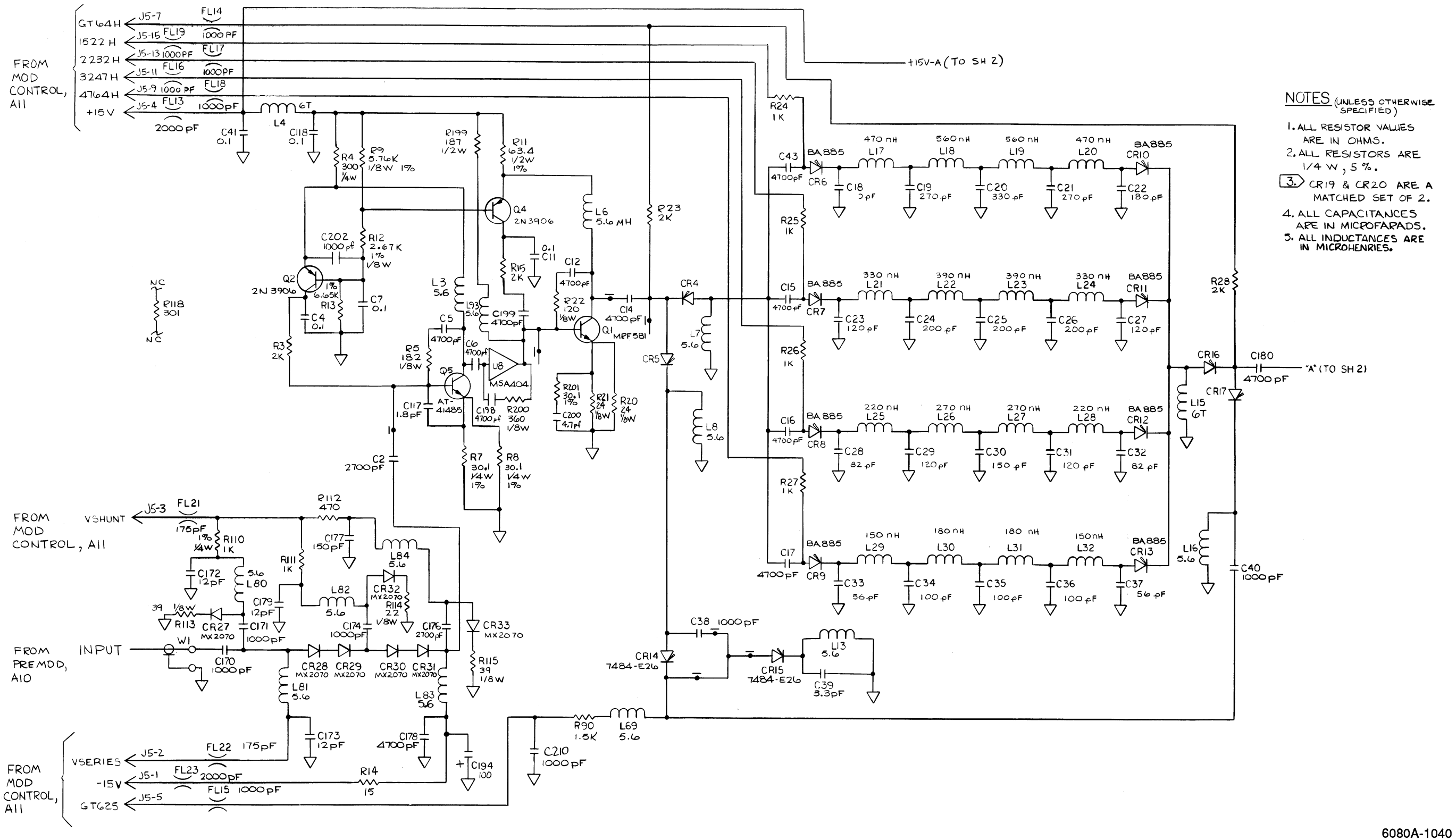


Figure 8-8. A8 Output PCA



NOTES (UNLESS OTHERWISE SPECIFIED)

1. ALL RESISTOR VALUES ARE IN OHMS.
2. ALL RESISTORS ARE 1/4 W, 5 %.
3. CR19 & CR20 ARE A MATCHED SET OF 2.
4. ALL CAPACITANCES ARE IN MICROFARADS.
5. ALL INDUCTANCES ARE IN MICROHENRIES.

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(1 of 3)

Figure 8-8. A8 Output PCA (cont)

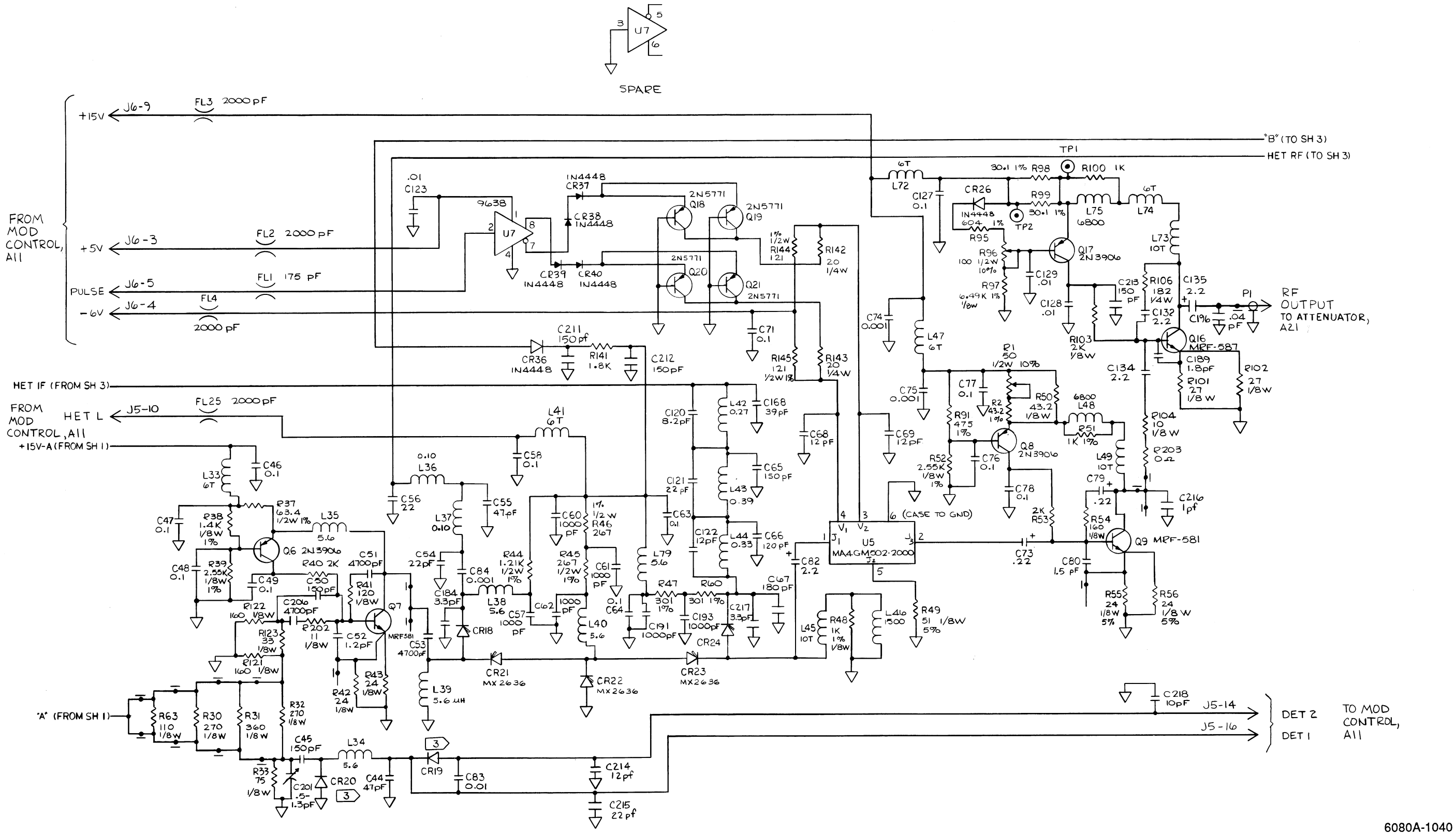
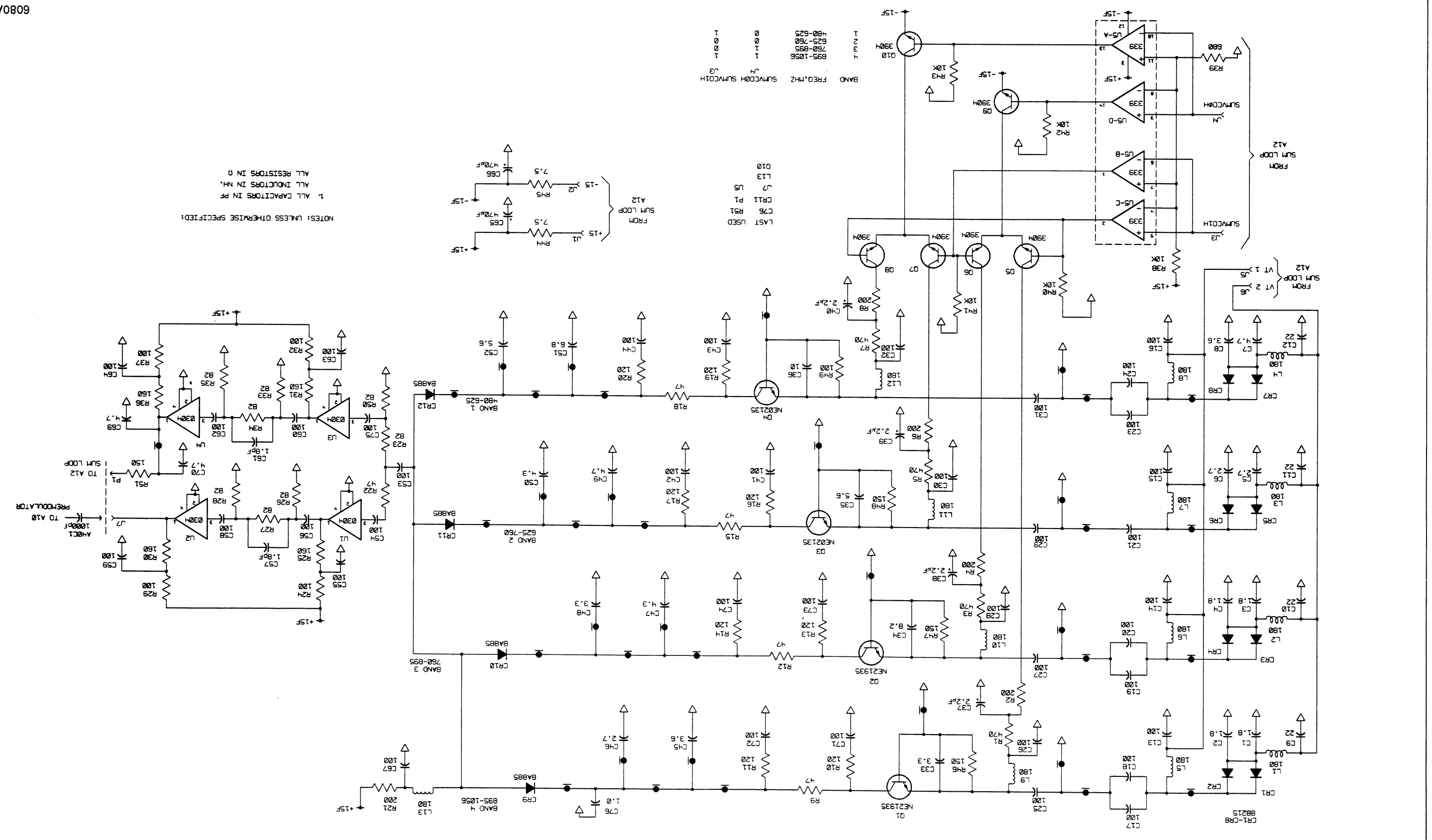


Figure 8-8. A8 Output PCA (cont)

Figure 8-9. A9 Sum Loop VCO PCA (cont)



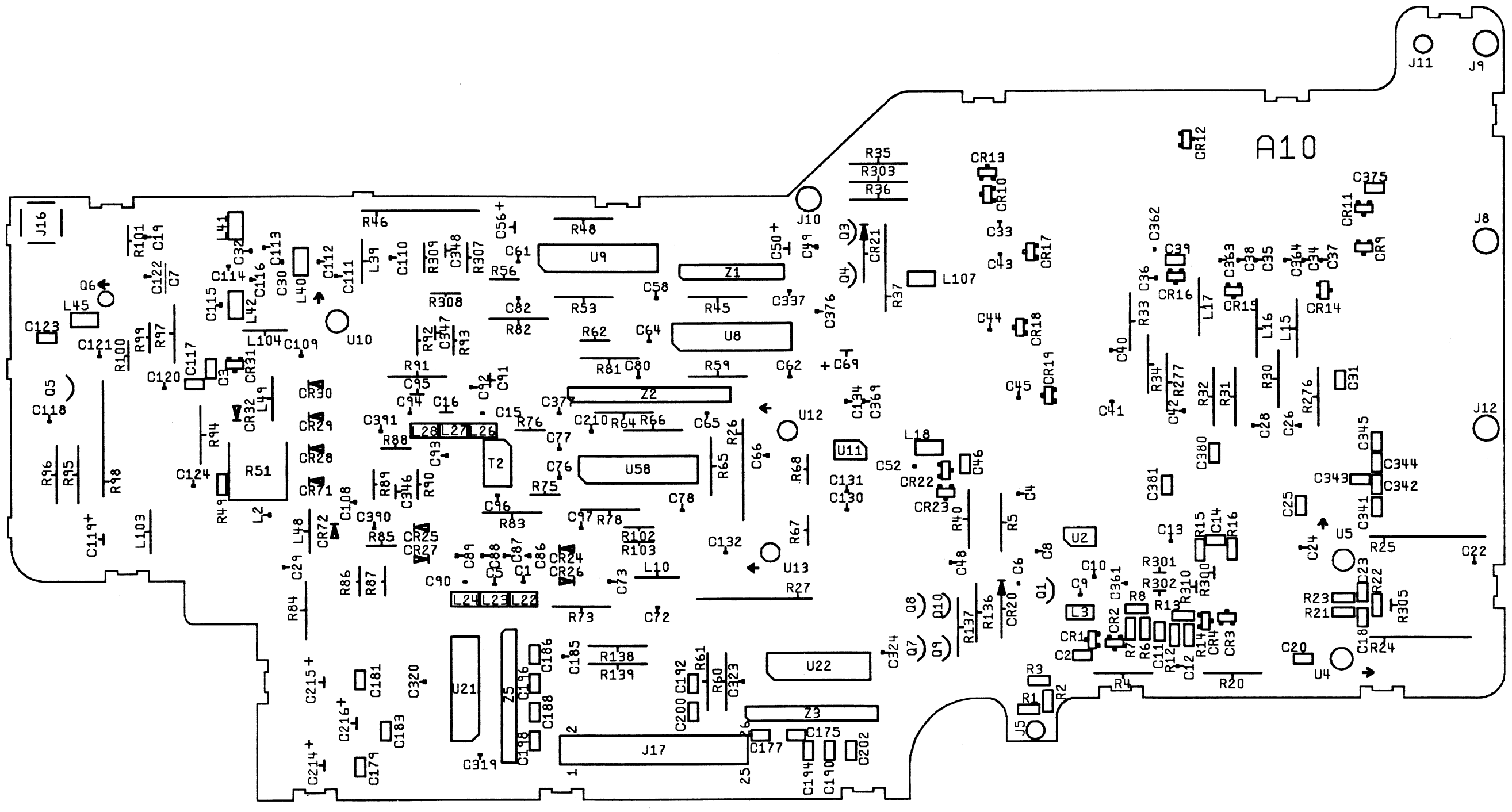


Figure 8-10. A10 Premodulator PCA

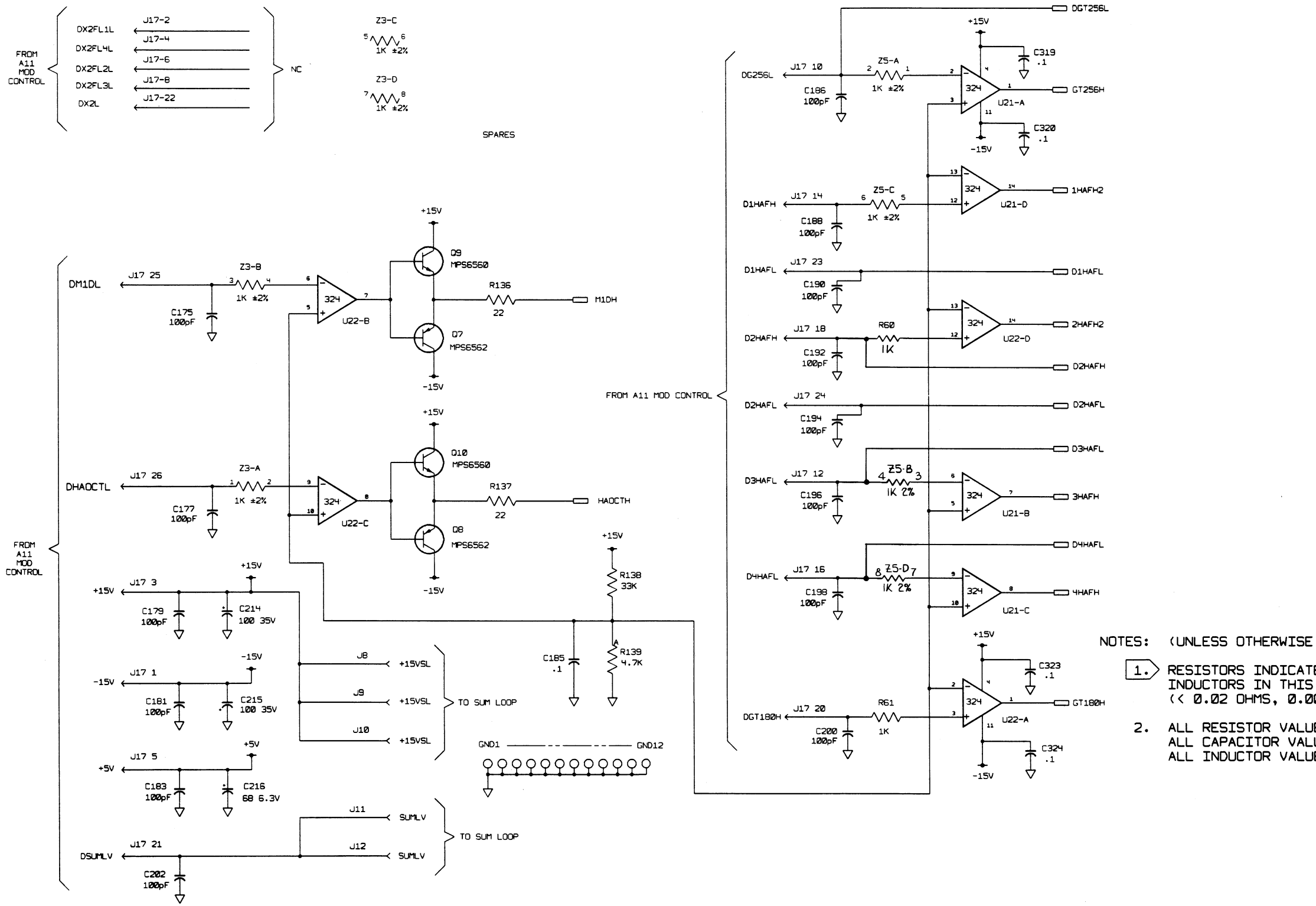
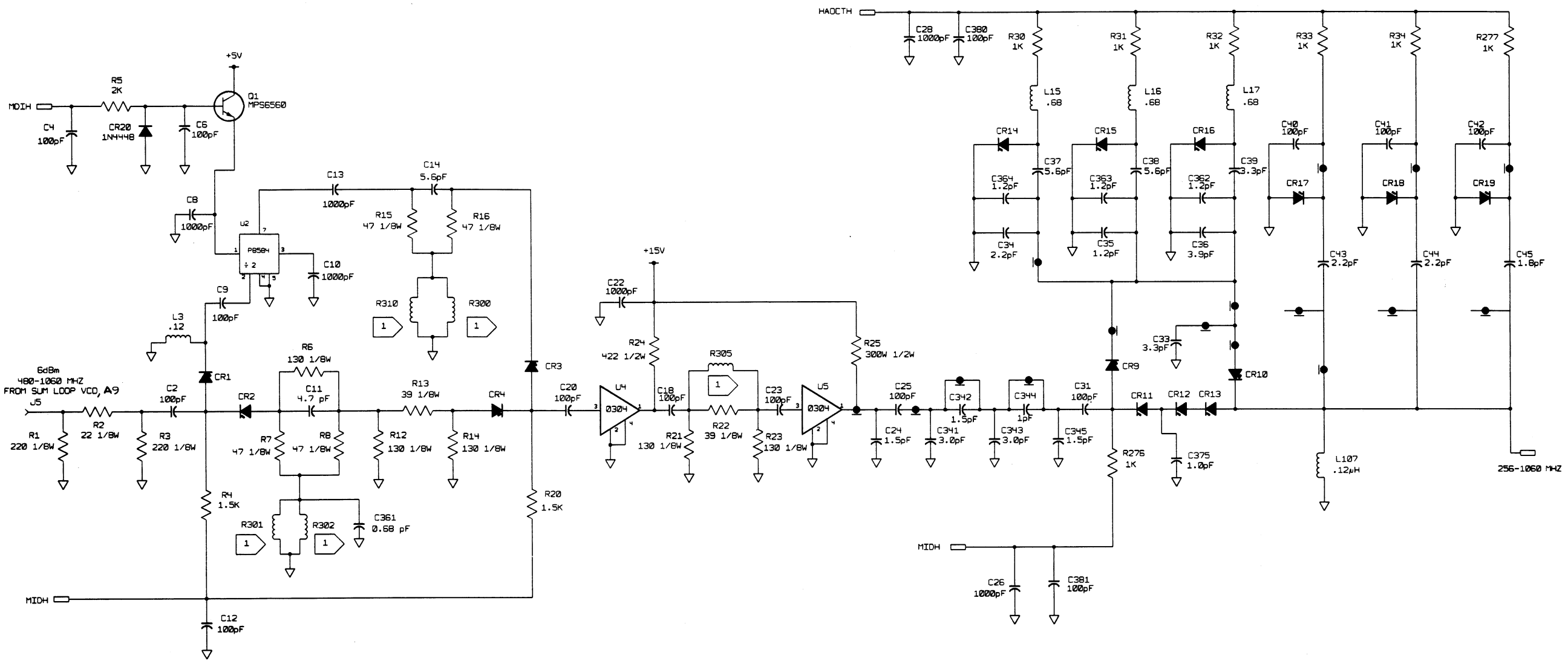


Figure 8-10. A10 Premodulator PCA (cont)



FREQ	.01 - 258-	256+ - 350-	350+ - 512-	512+ - 730-	730+ - 1056
MIDTH	+12V	+12V	+12V	-13V	-13V
HADCTH	-13V	+12V	-13V	-13V	+12V

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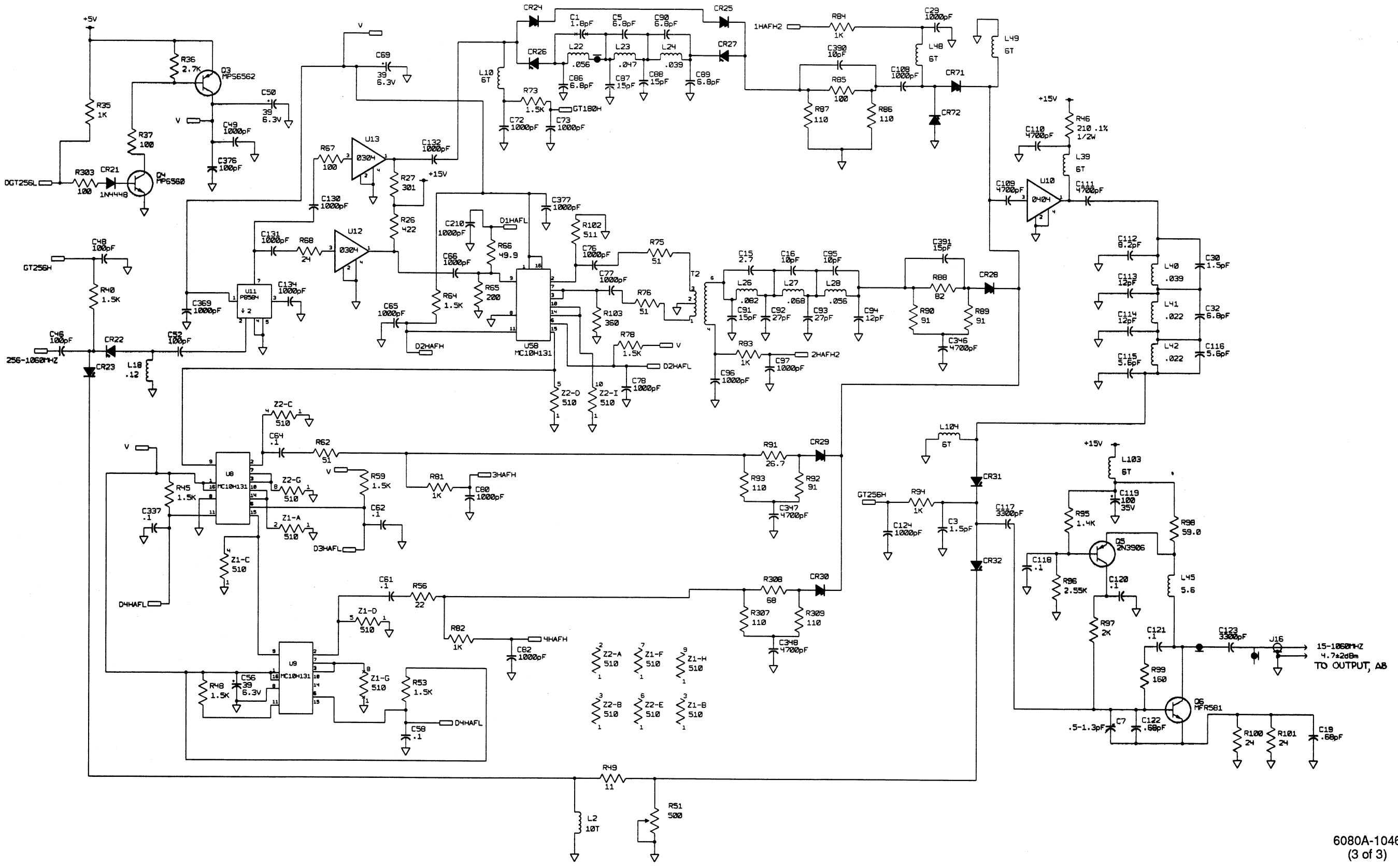
(2 of 3)

Figure 8-10. A10 Premodulator PCA (cont)



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(3 of 3)

Figure 8-10. A10 Premodulator PCA (cont)

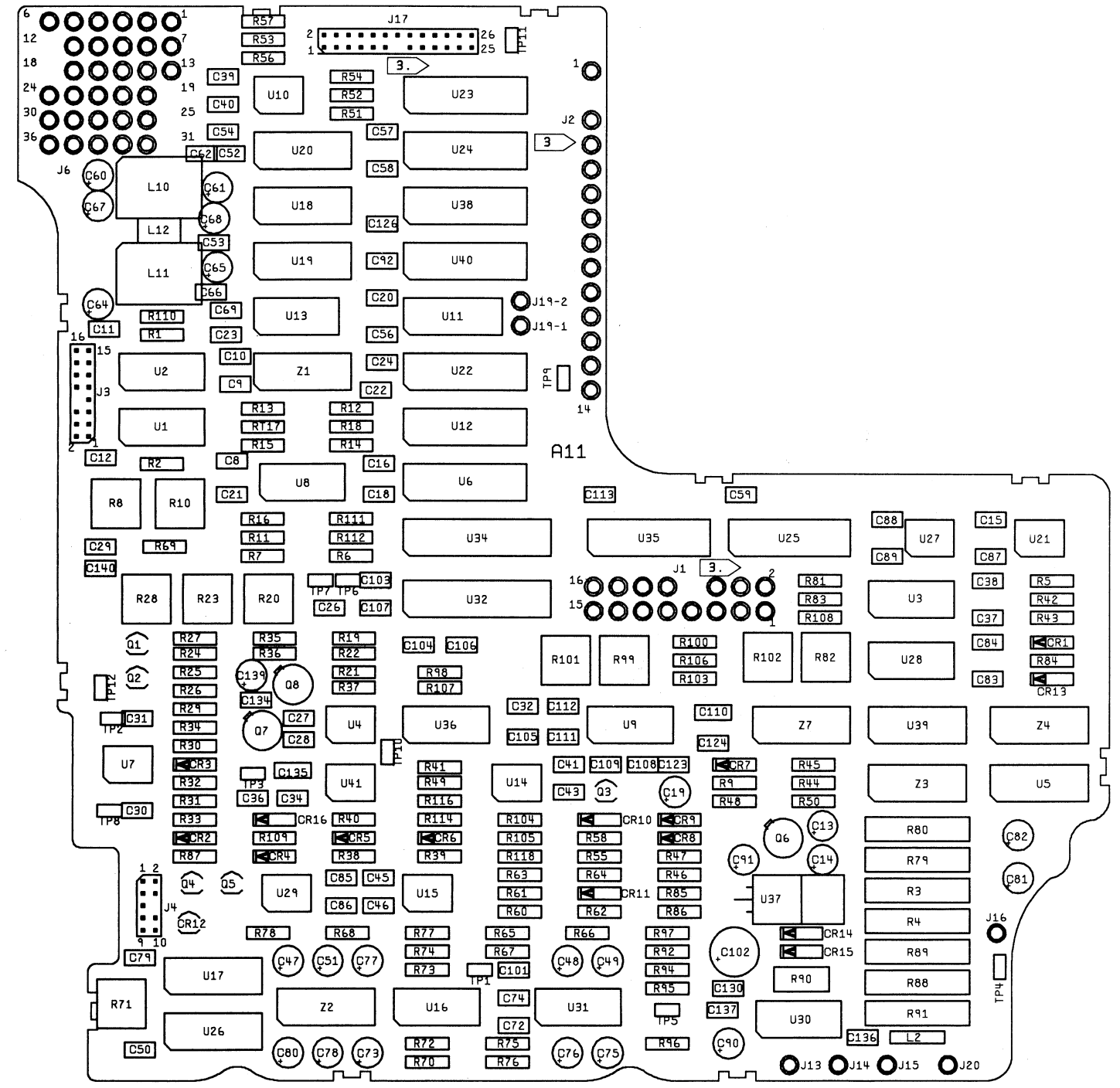
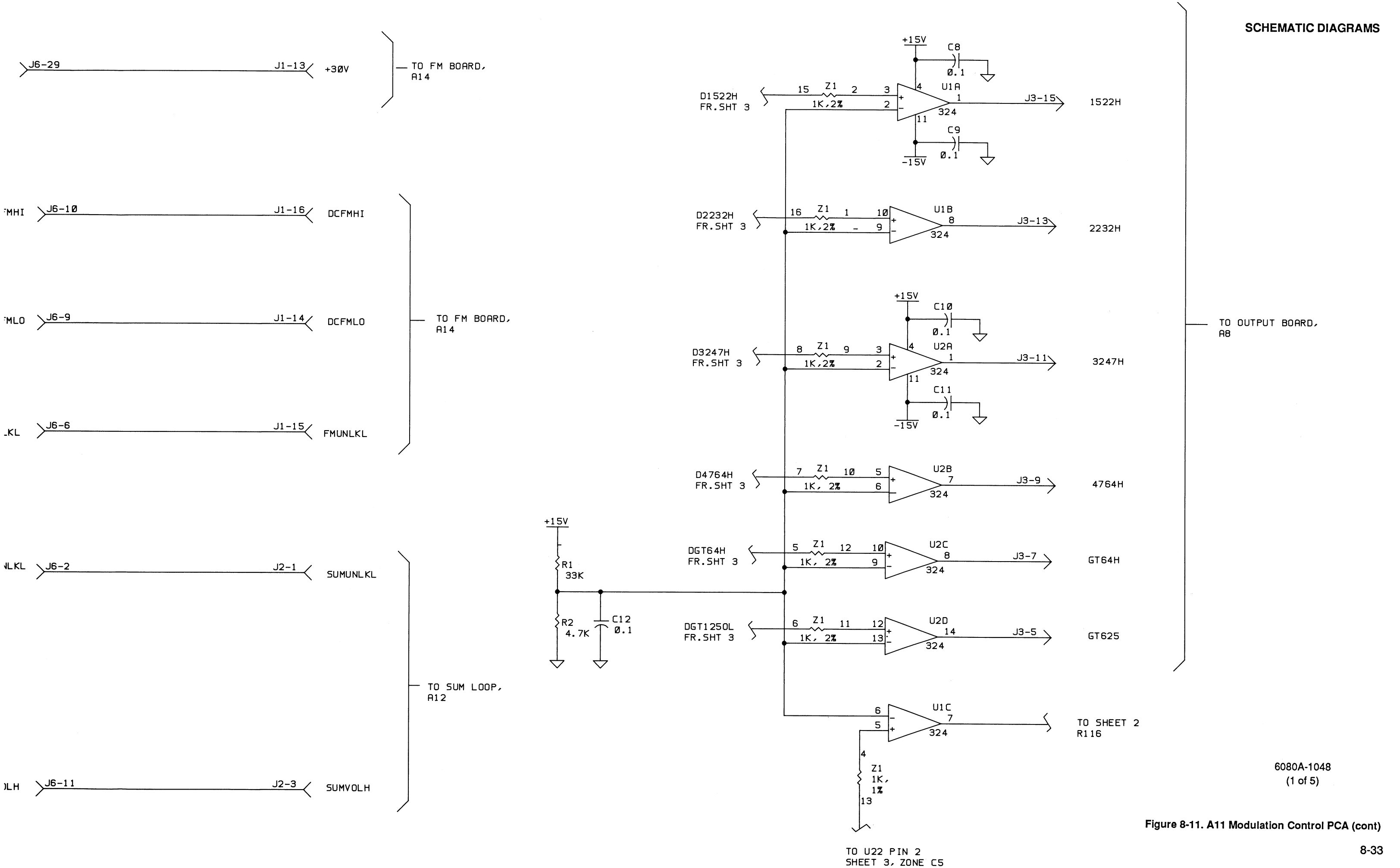


Figure 8-11. A11 Modulation Control PCA



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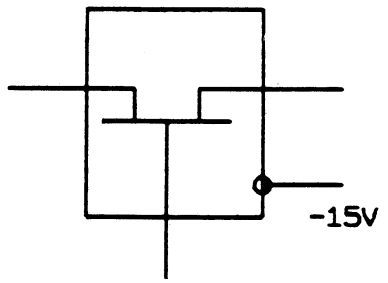
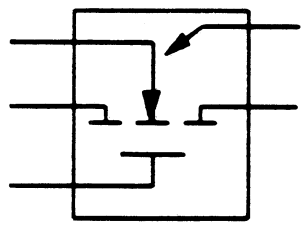
(1 of 5)

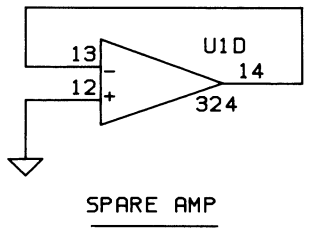
Figure 8-11. A11 Modulation Control PCA (cont)

NOTE:
SD5002'S WHICH
ARE SHOWN AS:



ARE ACTUALLY
CONSTRUCTED:





SPARE AMP

FROM CONTROLLER, A13 — +30V — J6-29 — J1-13 — +30V — TO FM BOARD, A14

TO CONTROLLER, A13

DCFMHI	J6-10	J1-16	DCFMHI	TO FM BOARD, A14
DCFMLO	J6-9	J1-14	DCFMLO	
FMUNLKL	J6-6	J1-15	FMUNLKL	

TO CONTROLLER, A13

SUMUNLKL	J6-2	J2-1	SUMUNLKL	TO SUM LOOP, A12
SUMVOLH	J6-11	J2-3	SUMVOLH	

LAST USED:

C140, CR16, L12, Q8, R118, TP12, U41, Z7

NOT USED:

C1-C7, C17, C25, C33, C35, C42, C44, C55, C63, C70-C71, C93-C100, C114, C122, C125, C127-C129, C131-C133, C138, L1, L3-L9, R59, R113, R115, R117, U33, Z5-Z6

D1522H FR.SHT 3 — 15 Z — 1K,

D2232H FR.SHT 3 — 16 Z1 — 1K,2%

D3247H FR.SHT 3 — 8 Z1 — 1K,2%

D4764H FR.SHT 3 — 7 Z1 — 1K,

DGT64H FR.SHT 3 — 5 Z1 — 1K, 2

DGT1250L FR.SHT 3 — 6 Z1 — 1K, 2

+15V

R1 33K

R2 4.7K

C12 0.1

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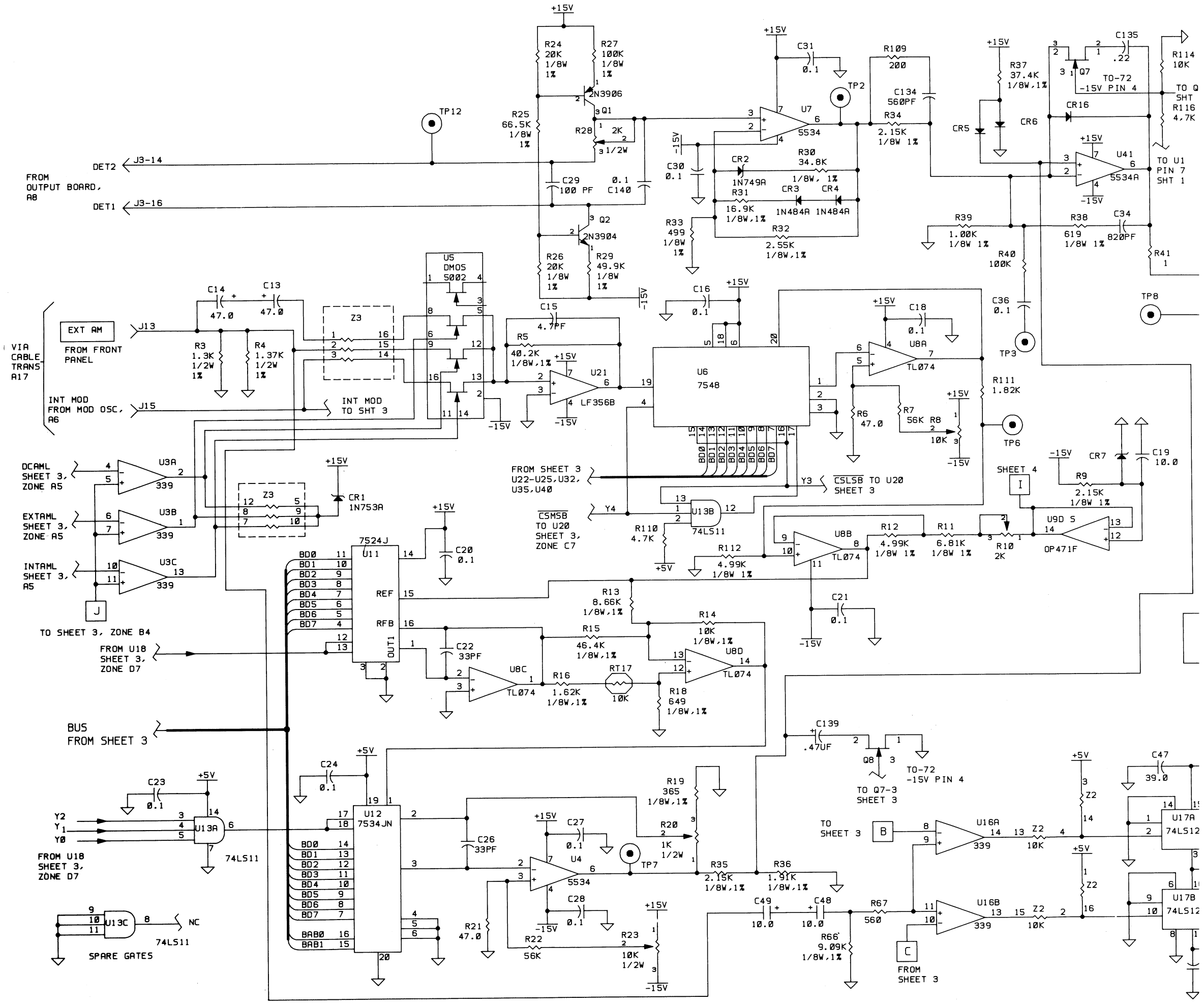
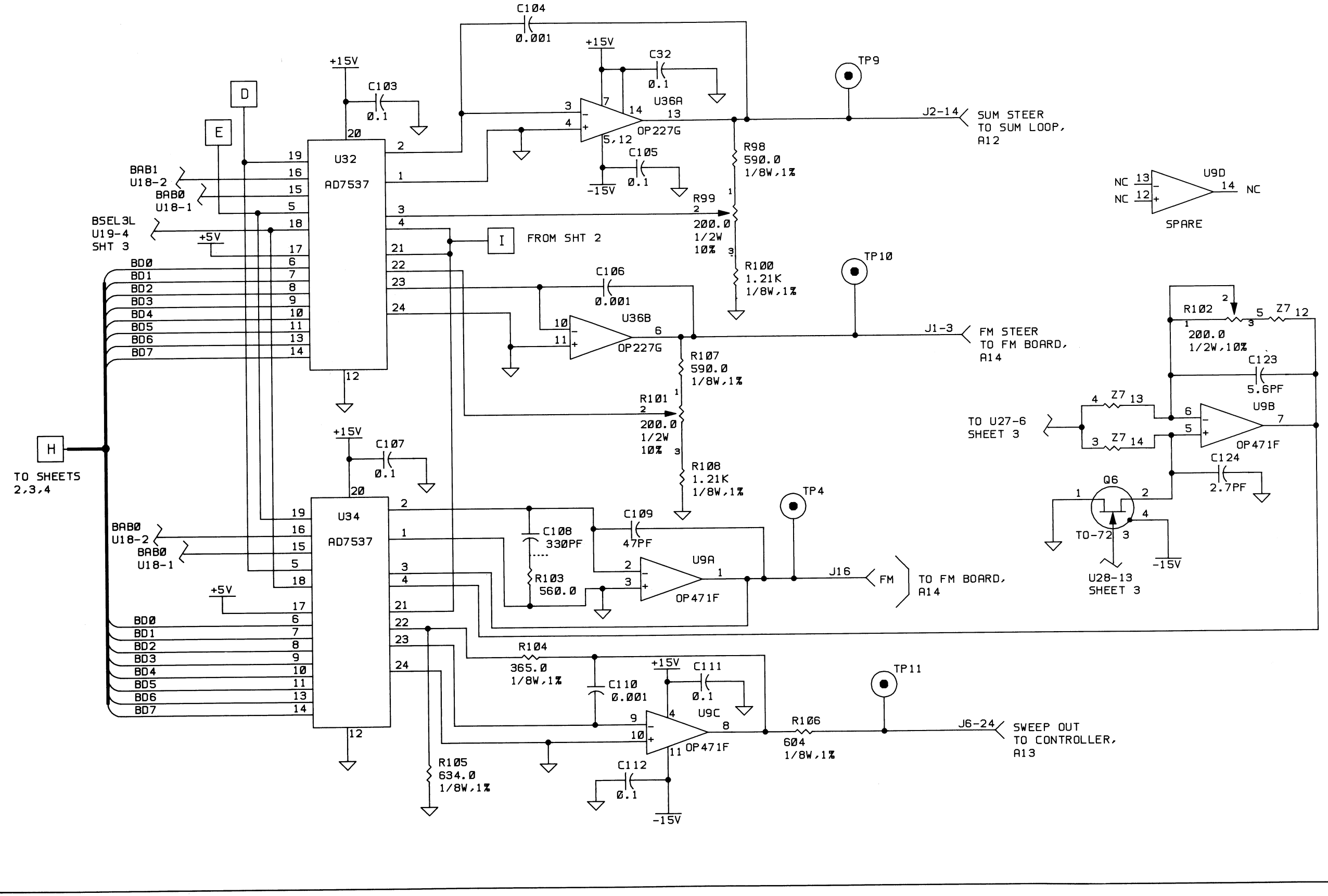
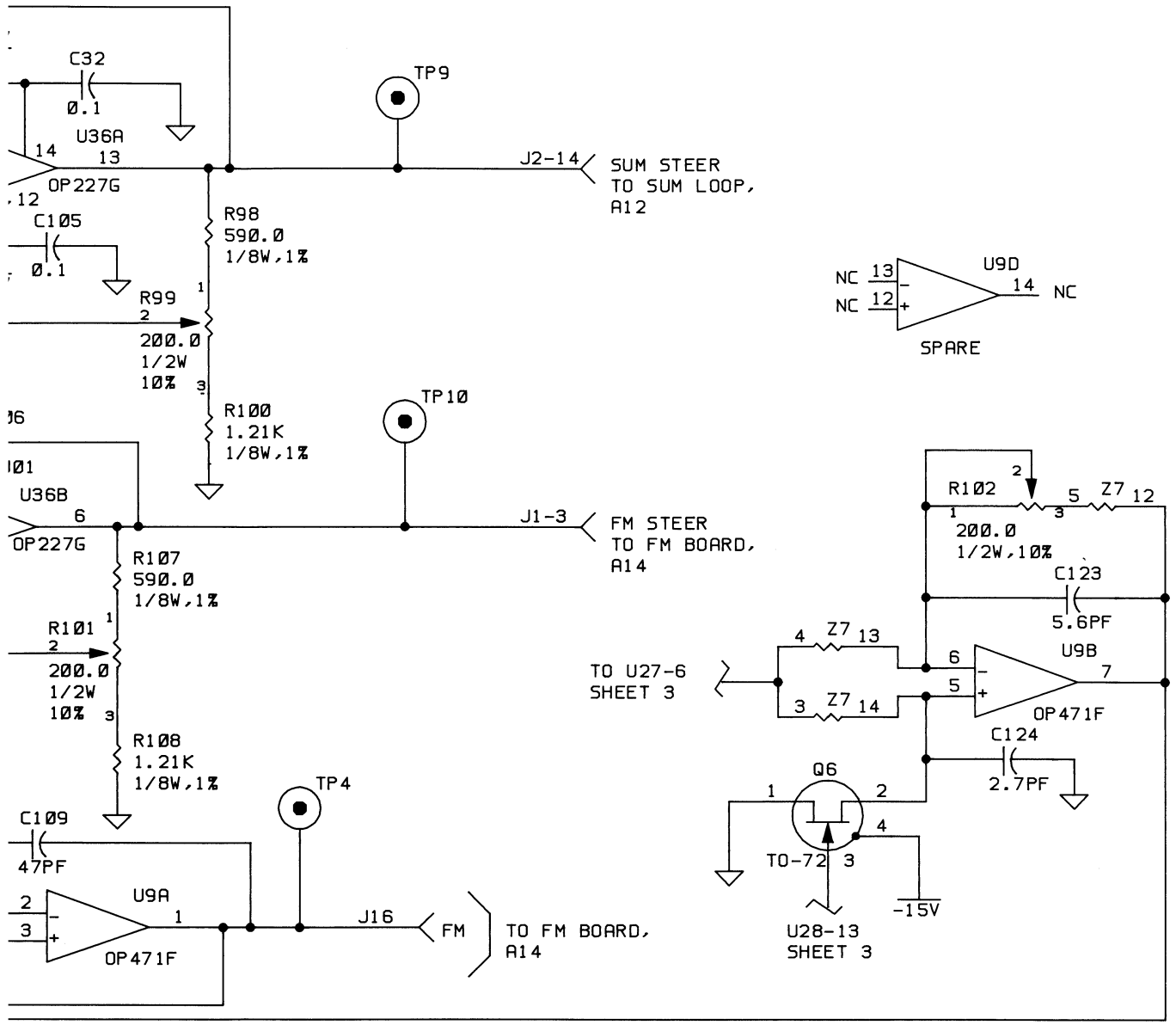
Figure 8-11. A11 Modulation Control PCA (cont)


+15V
R24 20K 1/8W 1%
R27 100K 1/8W 1%
2N3906
Q1
R25 66.5K 1/8W 1%
R28 2K 1/2W
TP12
DET2
J3-14
FROM OUTPUT BOARD, A8
DET1
J3-16
C29 100 PF
0.1 C140
Q2
2N3904
R26 20K 1/8W 1%
R29 49.9K 1/8W 1%
-15V
C31 0.1
TP2
U7 5534
C30 0.1
CR2 1N749A
R30 34.8K 1/8W, 1%
R31 16.9K 1/8W,1%
CR3 CR4 1N484A 1N484A
R33 499 1/8W 1%
R32 2.55K 1/8W,1%
R109 200
C134 560PF
R34 2.15K 1/8W 1%
R37 37.4K 1/8W,1%
C135 .22
Q7 TO-72 -15V PIN 4
CR5 CR6 CR16
TO Q SHT R116 4,7K
U41 5534A
TO U1 PIN 7 SHT 1
R39 1.00K 1/8W 1%
R38 619 1/8W 1%
C34 820PF
R40 100K
C36 0.1
R41 1
TP3
TP8
U5 DMOS 5002
C14 47.0
C13 47.0
Z3
EXT AM
J13
VIA CABLE TRANS A17
FROM FRONT PANEL
R3 1.3K 1/2W 1%
R4 1.37K 1/2W 1%
INT MOD FROM MOD OSC, A6
J15
INT MOD TO SHT 3
C15 4.7PF
R5 40.2K 1/8W,1%
U21 LF356B
C16 0.1
U6 7548
C18 0.1
U8A TL074
R111 1.82K
TP6
R6 47.0
R7 56K R8 10K
SHEET 4
I
C19 10.0
R9 2.15K 1/8W 1%
U9D S
OP471F
R114 10K
DCAML SHEET 3, ZONE A5
U3A 339
EXTAML SHEET 3, ZONE A5
U3B 339
INTAML SHEET 3, A5
U3C 339
J
TO SHEET 3, ZONE B4
CR1 1N753A
Z3
FROM SHEET 3 U22-U25,U32, U35,U40
Y3
CSLSB TO U20 SHEET 3
Y4
CSMSB TO U20 SHEET 3, ZONE C7
U13B 74LS11
R110 4.7K
R112 4.99K 1/8W 1%
U8B TL074
R12 4.99K 1/8W 1%
R11 6.81K 1/8W 1%
R10 2K
BD0 BD1 BD2 BD3 BD4 BD5 BD6 BD7
7524J U11
REF
RFB
OUT1
C20 0.1
C22 33PF
R13 8.66K 1/8W,1%
R15 46.4K 1/8W,1%
R14 10K 1/8W,1%
U8C TL074
R16 1.62K 1/8W,1%
RT17 10K
U8D TL074
R18 649 1/8W,1%
C21 0.1
FROM U18 SHEET 3, ZONE D7
BUS FROM SHEET 3
C24 0.1
U12 7534JN
BAB0 BAB1
C23 0.1
Y2 Y1 Y0
U13A 74LS11
U13C 74LS11
NC
SPARE GATES
C26 33PF
C27 0.1
C28 0.1
U4 5534
TP7
R19 365 1/8W,1%
R20 1K 1/2W
R21 47.0
R22 56K
R23 10K 1/2W
R35 2.15K 1/8W,1%
R36 1.91K 1/8W,1%
C139 .47UF
Q8 TO-72 -15V PIN 4
TO Q7-3 SHEET 3
TO SHEET 3
B
U16A 339
U16B 339
C49 10.0
C48 10.0
R67 560
R66 9.09K 1/8W,1%
C
FROM SHEET 3
C47 39.0
U17A 74LS12
U17B 74LS12
Z2 10K


C104
0.001
+15V
C32
0.1
U36A
OP227G
TP9
J2-14
SUM STEER
TO SUM LOOP,
A12
C103
0.1
D
E
U32
AD7537
BAB1
U18-2
BAB0
U18-1
BSEL3L
U19-4
SHT 3
+5V
BD0
BD1
BD2
BD3
BD4
BD5
BD6
BD7
C105
0.1
-15V
R98
590.0
1/8W,1%
R99
200.0
1/2W
10%
I
FROM SHT 2
R100
1.21K
1/8W,1%
TP10
C106
0.001
U36B
OP227G
J1-3
FM STEER
TO FM BOARD,
A14
R107
590.0
1/8W,1%
R101
200.0
1/2W
10%
R108
1.21K
1/8W,1%
H
TO SHEETS
2,3,4
C107
0.1
U34
AD7537
C108
330PF
C109
47PF
R103
560.0
U9A
OP471F
TP4
J16
FM
TO FM BOARD,
A14
R104
365.0
1/8W,1%
C110
0.001
C111
0.1
U9C
OP471F
TP11
R106
604
1/8W,1%
J6-24
SWEEP OUT
TO CONTROLLER,
A13
R105
634.0
1/8W,1%
C112
0.1
U9D
NC
SPARE
R102
200.0
1/2W,1%
C123
5.6PF
Z7
U9B
OP471F
TO U27-6
SHEET 3
C124
2.7PF
Q6
TO-72
U28-13
SHEET 3
TO SHEETS 2,3,4
C113
0.1
U35
74HCT273
G
SHEET 3,
ZONE B7
TO SHEETS
2,3,4
F
SHEET 3,
ZONE B7



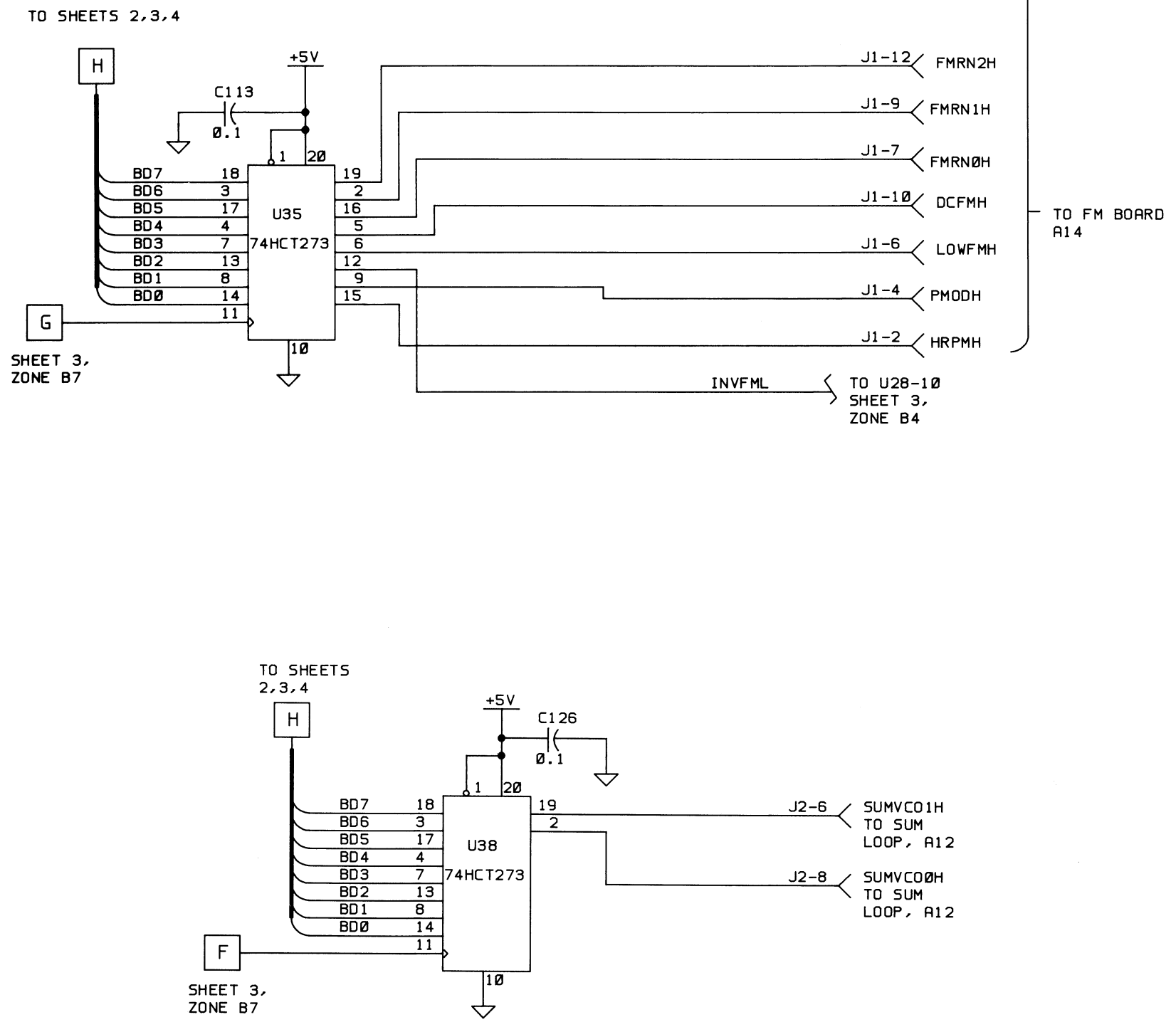


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Figure 8-11. A11 Modulation Control PCA (cont)

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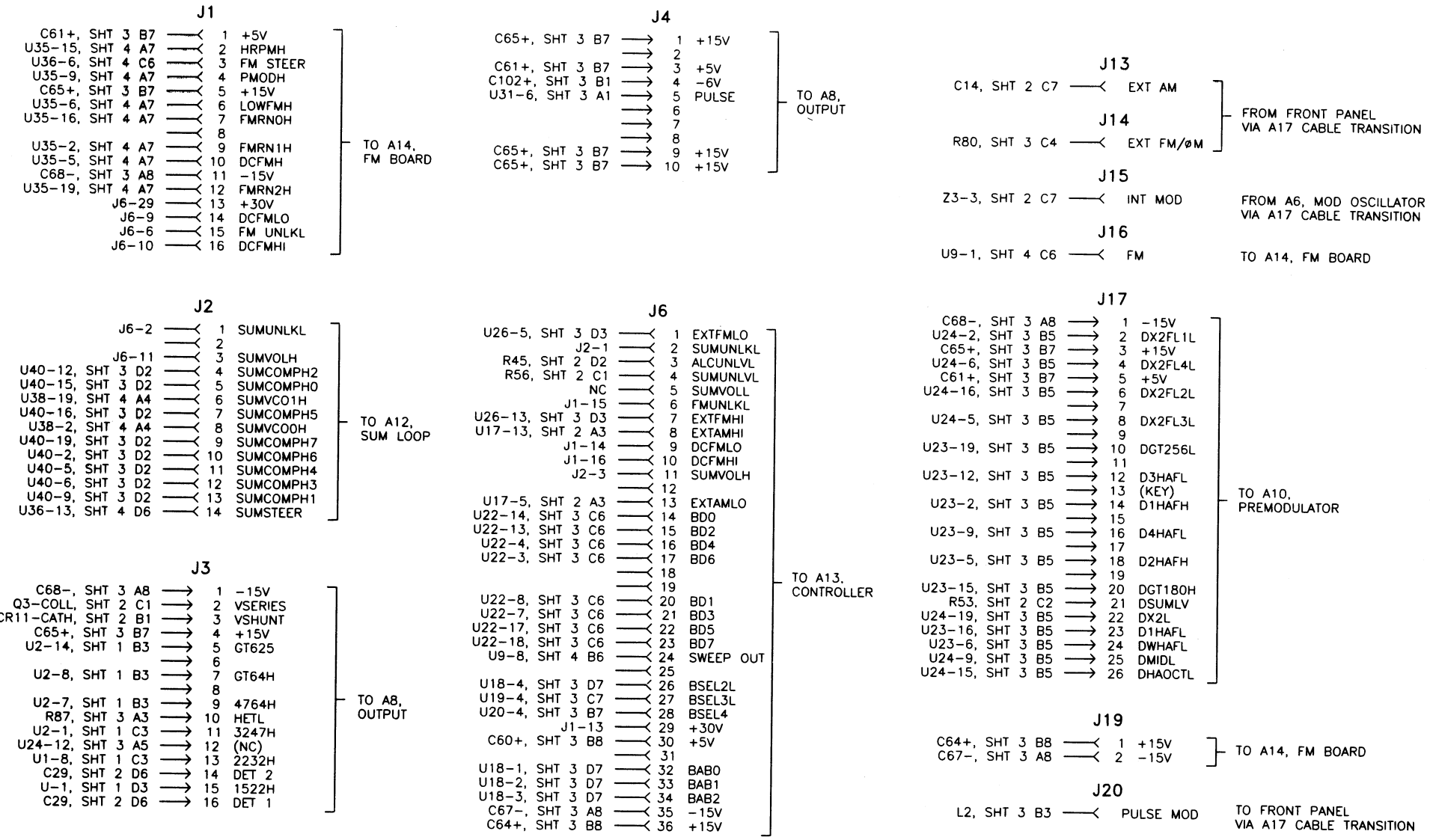
Figure 8-11. A11 Modulation Control PCA (cont)

FROM CONTROLLER, A13
BAB2
BAB1
BAB0
BSEL2L
J6-32
J6-33
J6-34
J6-26
FROM SHT 1
+5V
C52
0.1
U18
74HC138
Y1 TO U13-4
Y2 TO U13-3
Y0 TO U13-5
TO U11 PIN 13 SHT 2, ZN B8
C53
U19
74HC138
D
E
BSEL3L
J6-27
BSEL3L TO U32-18 SHEET 4
TO U6 SHT 2
C54
U20
74HC138
CSL5B
CSM5B
TO U6 SHEET 2, ZN B6
ZZ
F
G
BSEL4L
J6-28
TO CONTROLLER, A13
BD7
BD6
BD5
BD4
BD3
BD2
BD1
BD0
J6-23
J6-17
J6-22
J6-16
J6-21
J6-15
J6-20
J6-14
TO SHEET 2, ZONE A8
BD0 - BD7 BUS TO SHEET 2,4
H
C56
U22
74HCT273
D1522H
D2232H
D3247H
D4764H
DGT64H
DGT1250L
TO Z1-13, SHEET 1 ZONE A4
TO SHT 1
C57
U23
74HCT273
J17-10 DGT256L
J17-14 D1HAFH
J17-23 D1HAFL
J17-18 D2HAFH
J17-24 D2HAFL
J17-12 D3HAFL
J17-16 D4HAFL
J17-20 DGT180H
C58
U24
74HCT273
J17-22 DX2L
J17-2 DX2FL1L
J17-6 DX2FL2L
J17-8 DX2FL3L
J17-4 DX2FL4L
J17-25 DMIDL
J17-26 DHA0CTL
R69
1K
C59
U25
74HCT273
DCAML
EXTPLH
INTPLH
EXTAML
INTAML
EXTFML
INTFML
DCPFM
U3 SHT 2, ZN C8
U3 SHT 2, ZN B8
U3 SHT 2, ZN B8
TO U28
TO PRE MOD, A10
+5V
J6-30
L10
125 UH
C60 100
C61 100
C62 100PF
J4-3
J17-5
J1-1
TO OUTPUT BOARD, A8
TO PRE MOD, BOARD, A10
TO FM BOARD, A14
FROM CONTROLLER, A13
+15V
J6-36
L11
125 UH
C64 100
C65 100
C66 100PF
J19-1
J1-5
J3-4
J4-10
J4-9
TO FM BOARD, A14
TO OUTPUT BOARD, A8
C67 15.0
C68 15.0
C69 100PF
J17-3
J4-1
TO PRE MOD, A10
TO OUTPUT BOARD, A8
-15V
J6-35
L12
J3-1
J17-1
J1-11
J19-2
TO OUTPUT BOARD, A8
TO PRE MOD BOARD, A10
TO FM BOARD, A14
TO SHEET 2
B
C
R70 31.6K 1/8W 1%
R71 5K
R72 8.06K 1/8W,1%
CR12 385
C73 10.0
R73 2K 1/8W 1%
R74 48.7K 1/8,1%
C72 0.1
C74 0.1
U16C
339
Z2 10K
TP1
C75 10.0
C76 10.0
R75 560.0
R76 9.09K 1/8W,1%
C77 10.0
U16D
R79 1.37K 1/8,1%
R80 1.37K 1/2,1%
C81 10.0
C82 10.0
Z7
U39C
5002
U39D
INTMOD SHEET 2
EXTFM/0M
J14
FROM FRONT PANEL VIA CABLE TRANSITION, A17
FROM FRONT PANEL
C83 0.1
C84 0.1
C85 0.1
C86 0.1
U28A
U28B
U28C
U28D
FROM U25 EXTFML
FROM U25 DCPFM
FROM U25 INTFML
TO SHT 2
J
R85 1.5K
R86 3.3K
INVFML TO U35-12 SHEET 4
U29
LF351
Q4 MPS6560
Q5 MPS6562



CONNECTOR SUMMARY

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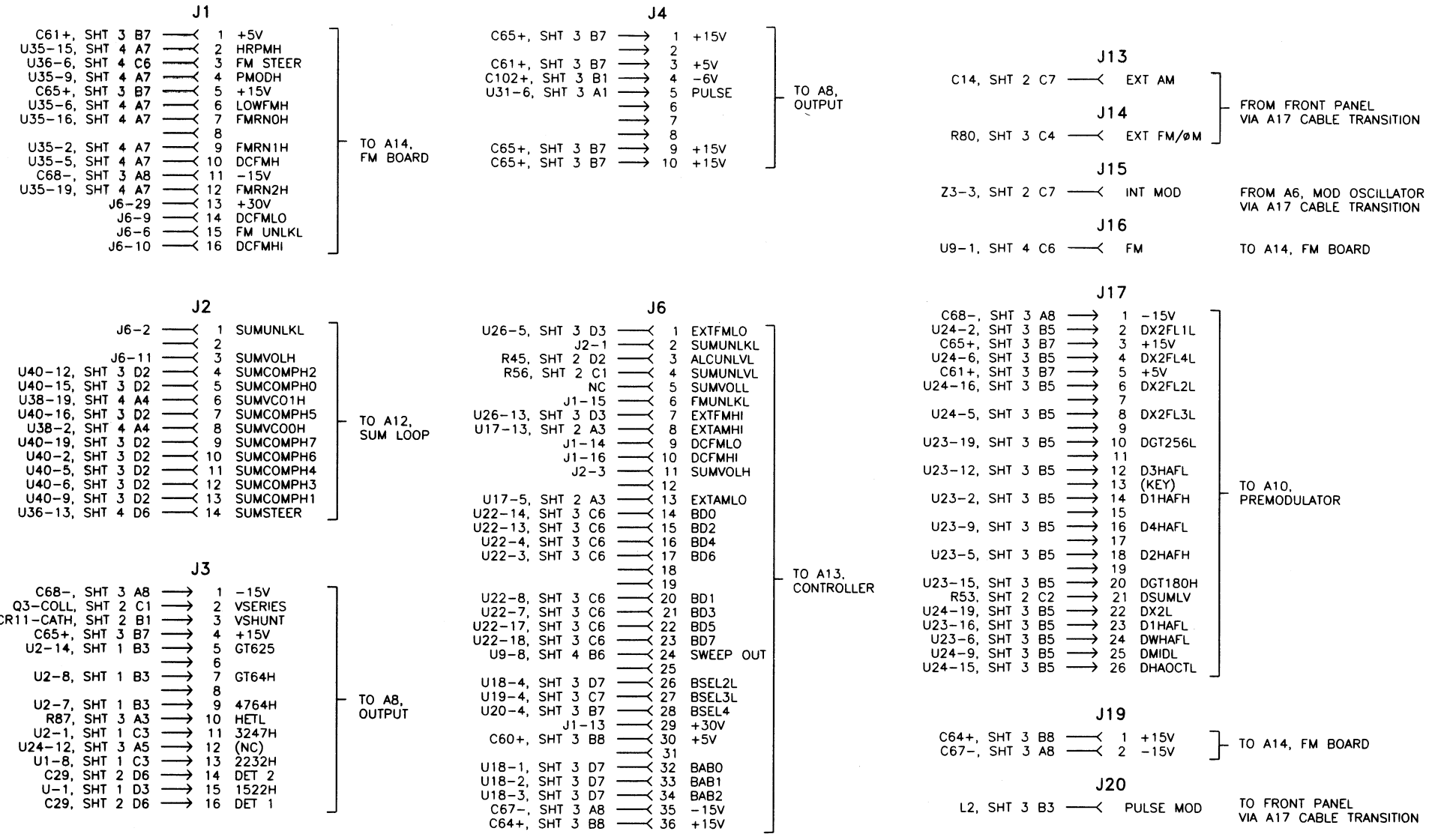
Figure 8-11. A11 Modulation Control PCA (cont)



CONNECTOR SUMMARY

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(5 of 5)

Figure 8-11. A11 Modulation Control PCA (cont)

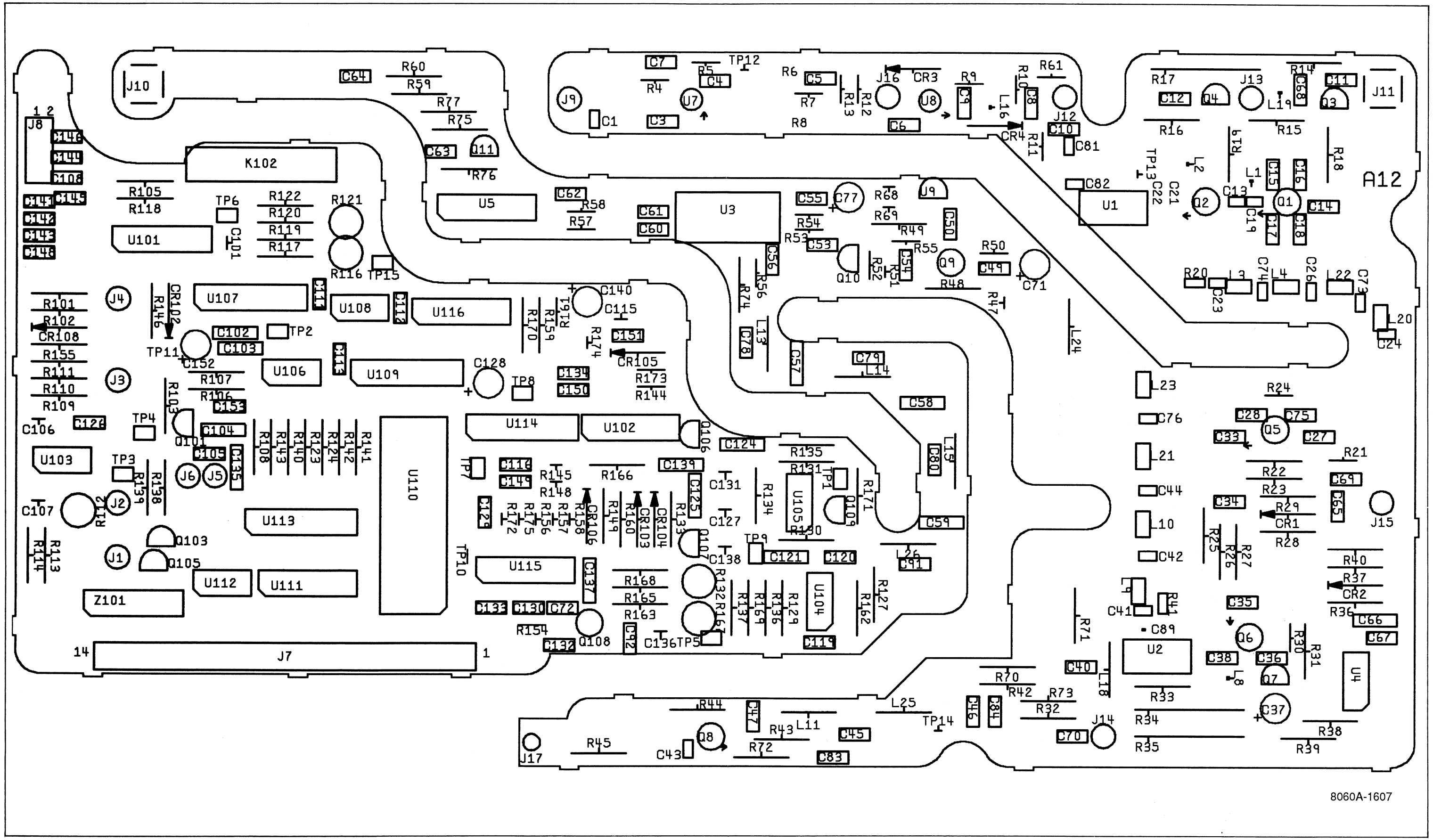

Figure 8-12. A12 Sum Loop PCA

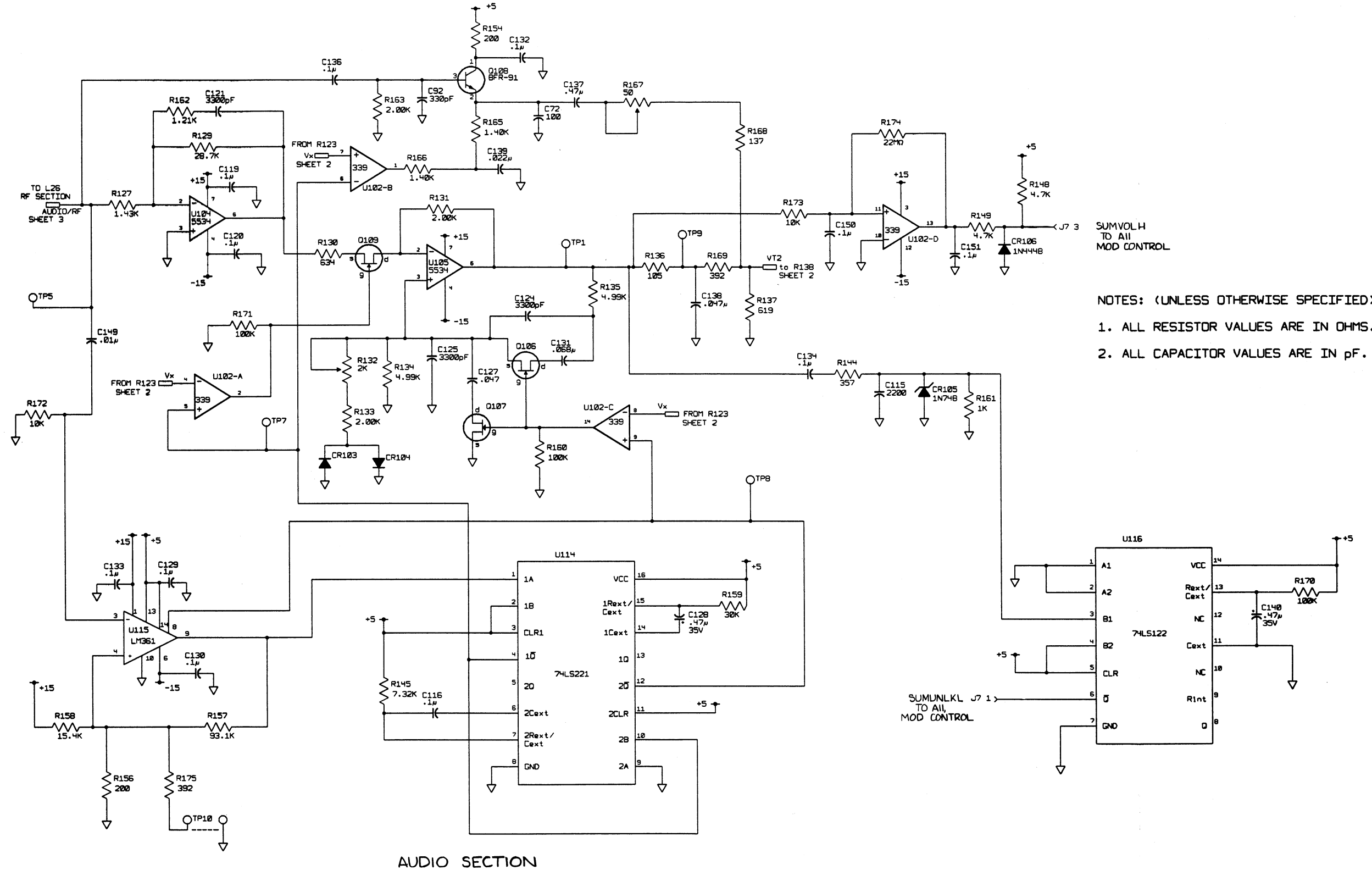

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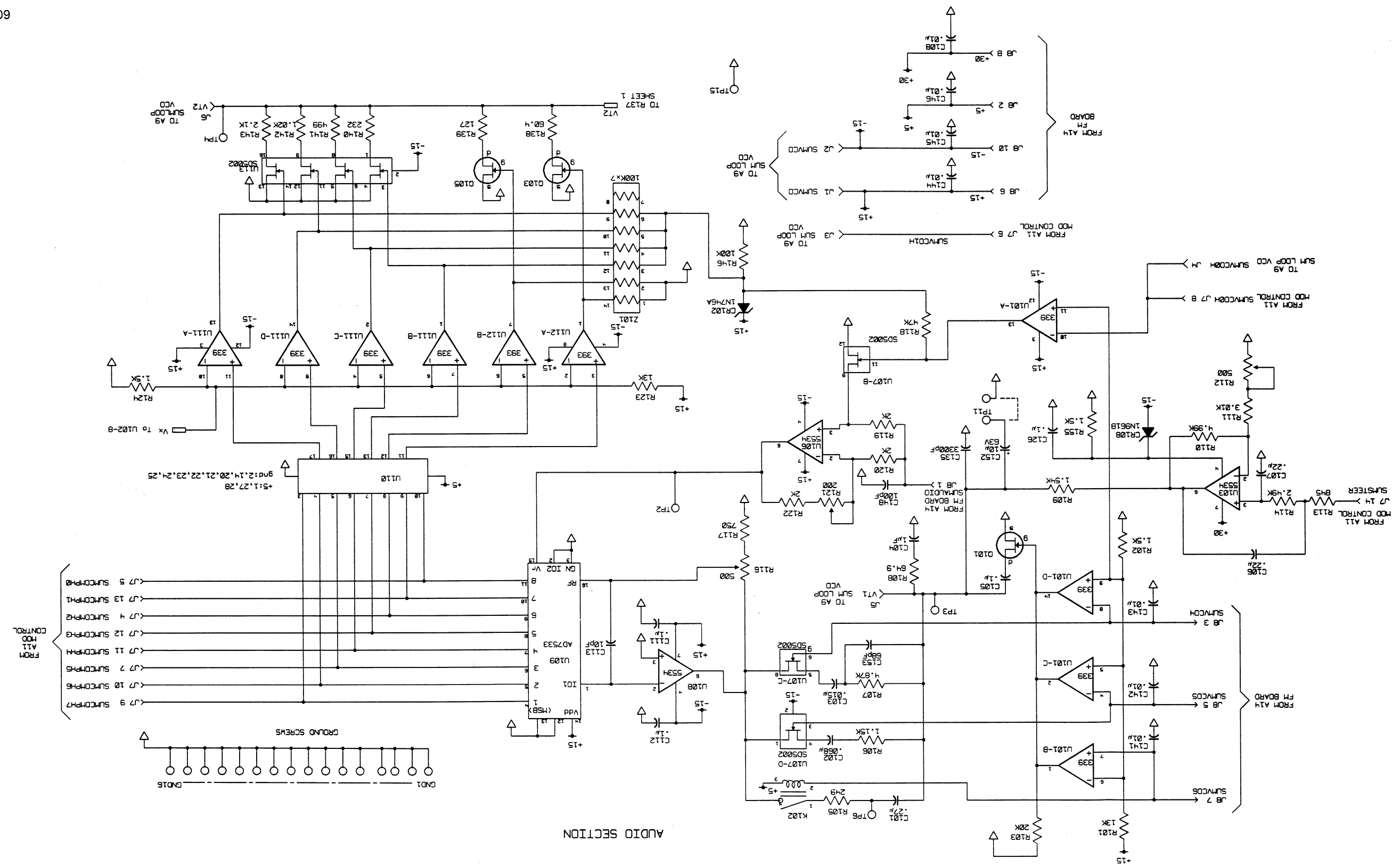
Figure 8-12. A12 Sum Loop PCA (cont)

Figure 8-12. A12 Sum Loop PCA (cont)



RF SECTION

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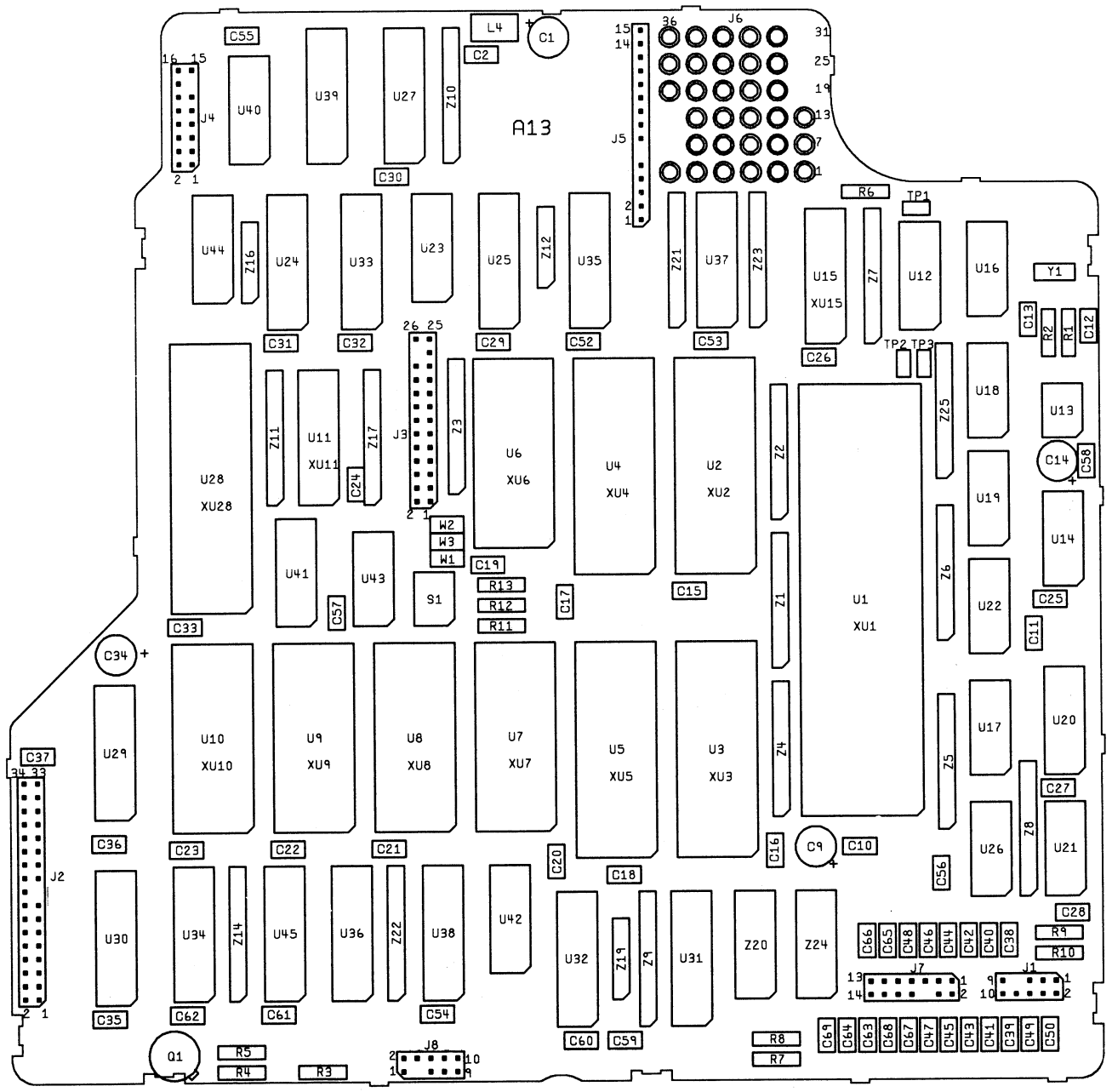
Figure 8-12. A12 Sum Loop PCA (cont)



6080A-1601

Figure 8-13. A13 Controller PCA

NOTES: UNLESS OTHERWISE SPECIFIED,
1. ALL CAPACITOR VALUES ARE IN MICROFARADS.
2. ALL RESISTOR VALUES ARE IN OHMS, ±5%, 1/4W.
3. FOR ASSEMBLY DRAWING SEE 6080A-4701.
4. FOR REF DES DRAWING SEE 6080A-1601.

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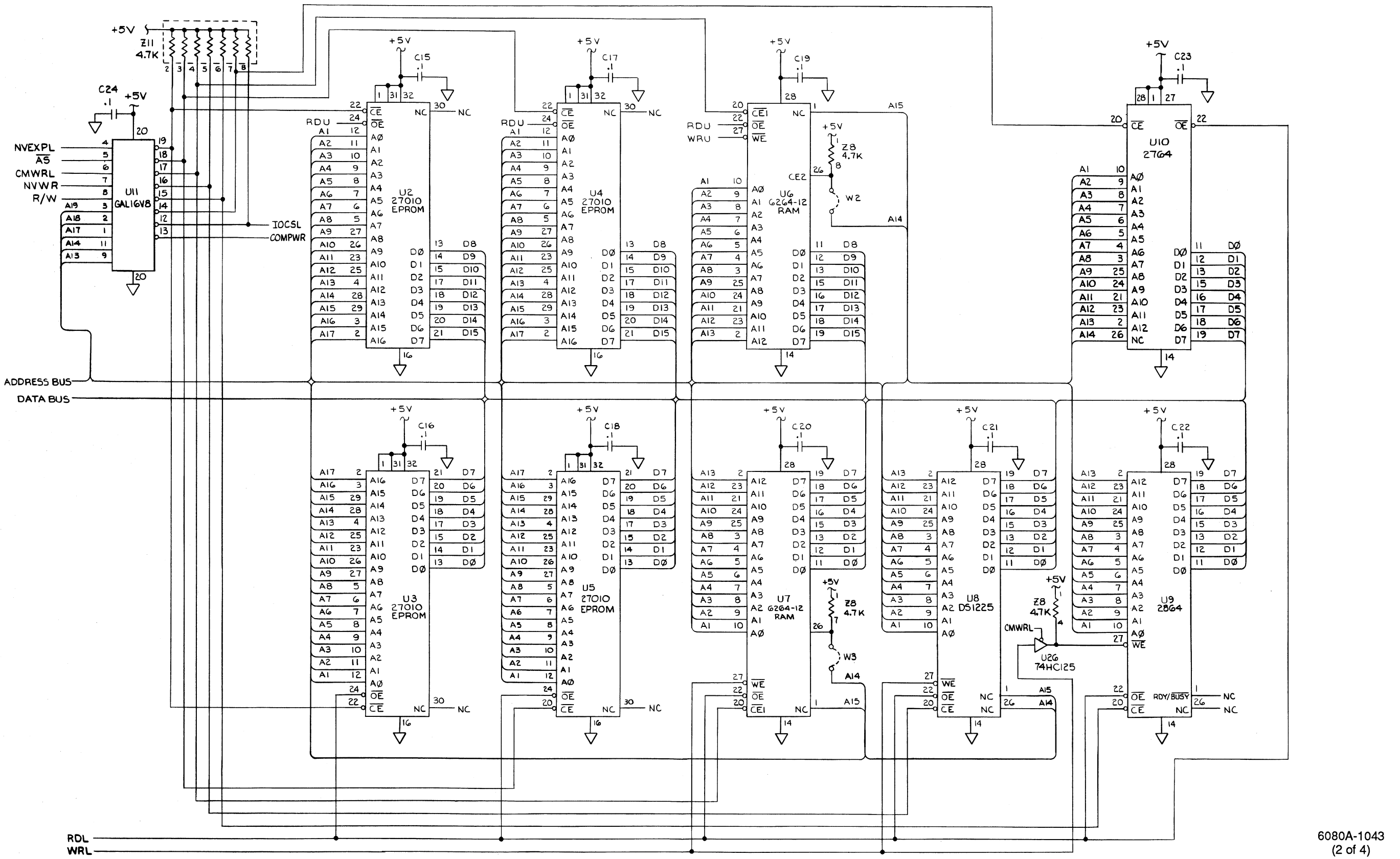
(1 of 4)

Figure 8-13. A13 Controller PCA (cont)



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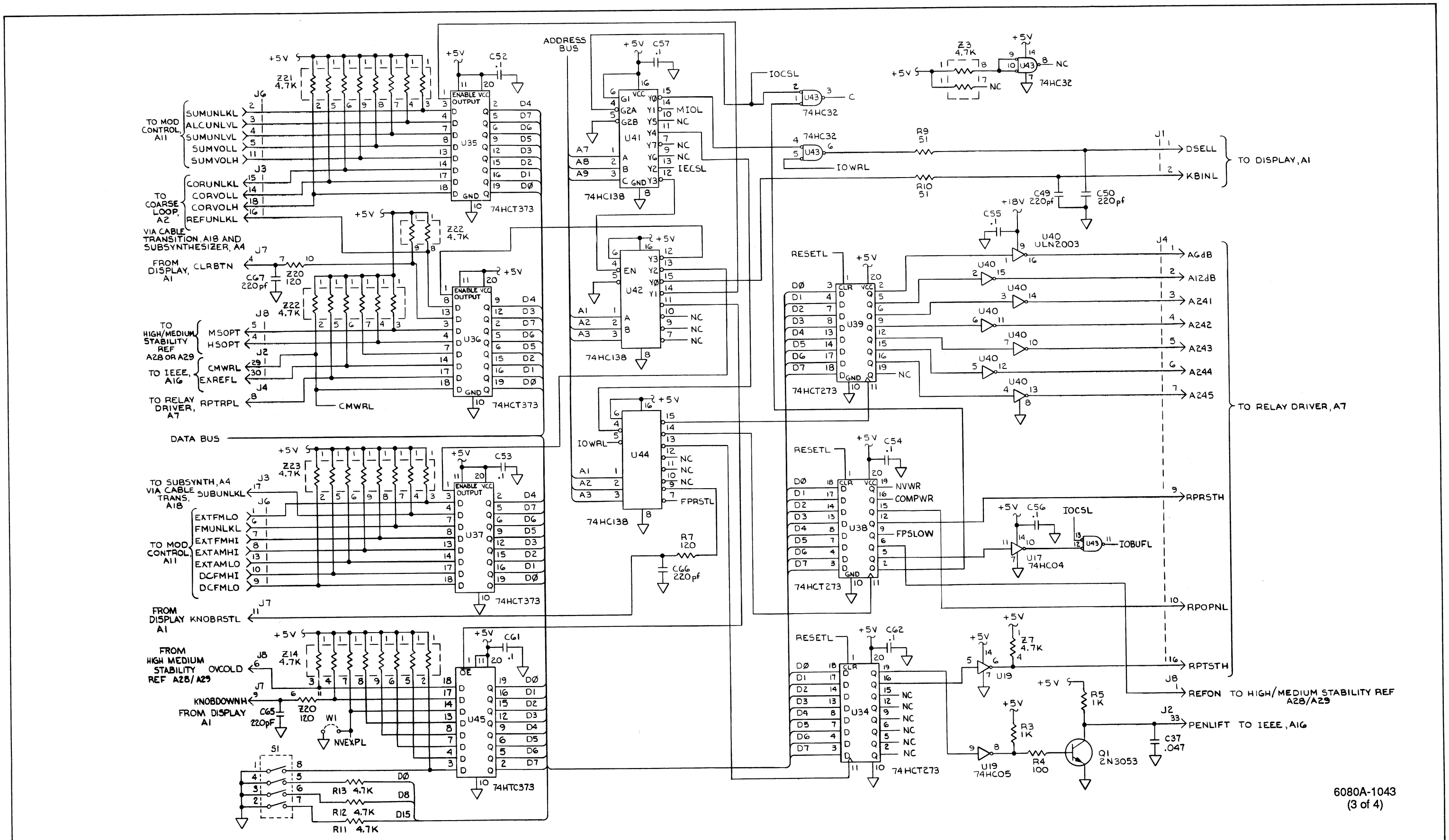
(2 of 4)

Figure 8-13. A13 Controller PCA (cont)



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(3 of 4)

Figure 8-13. A13 Controller PCA (cont)

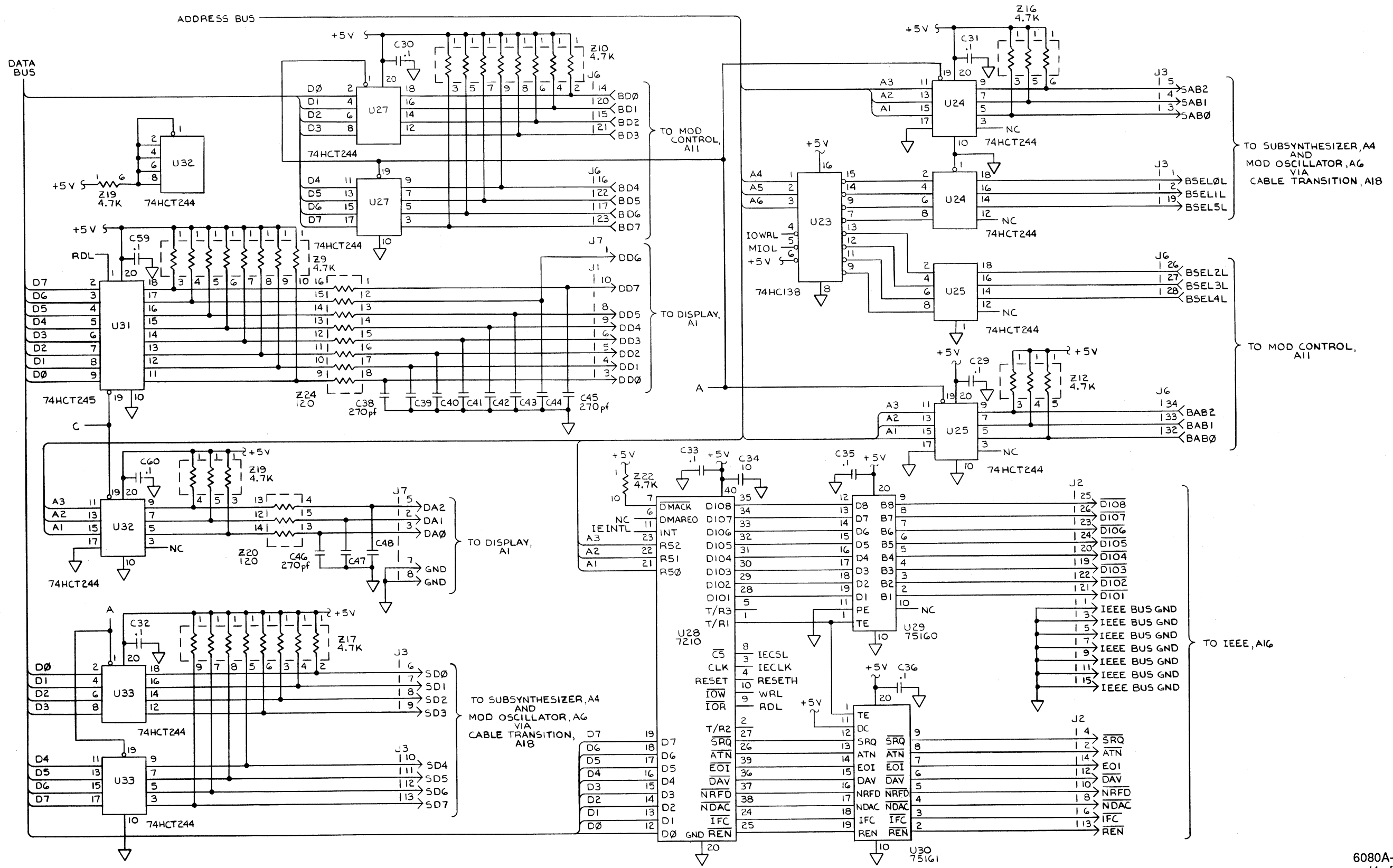


Figure 8-13. A13 Controller PCA (cont)

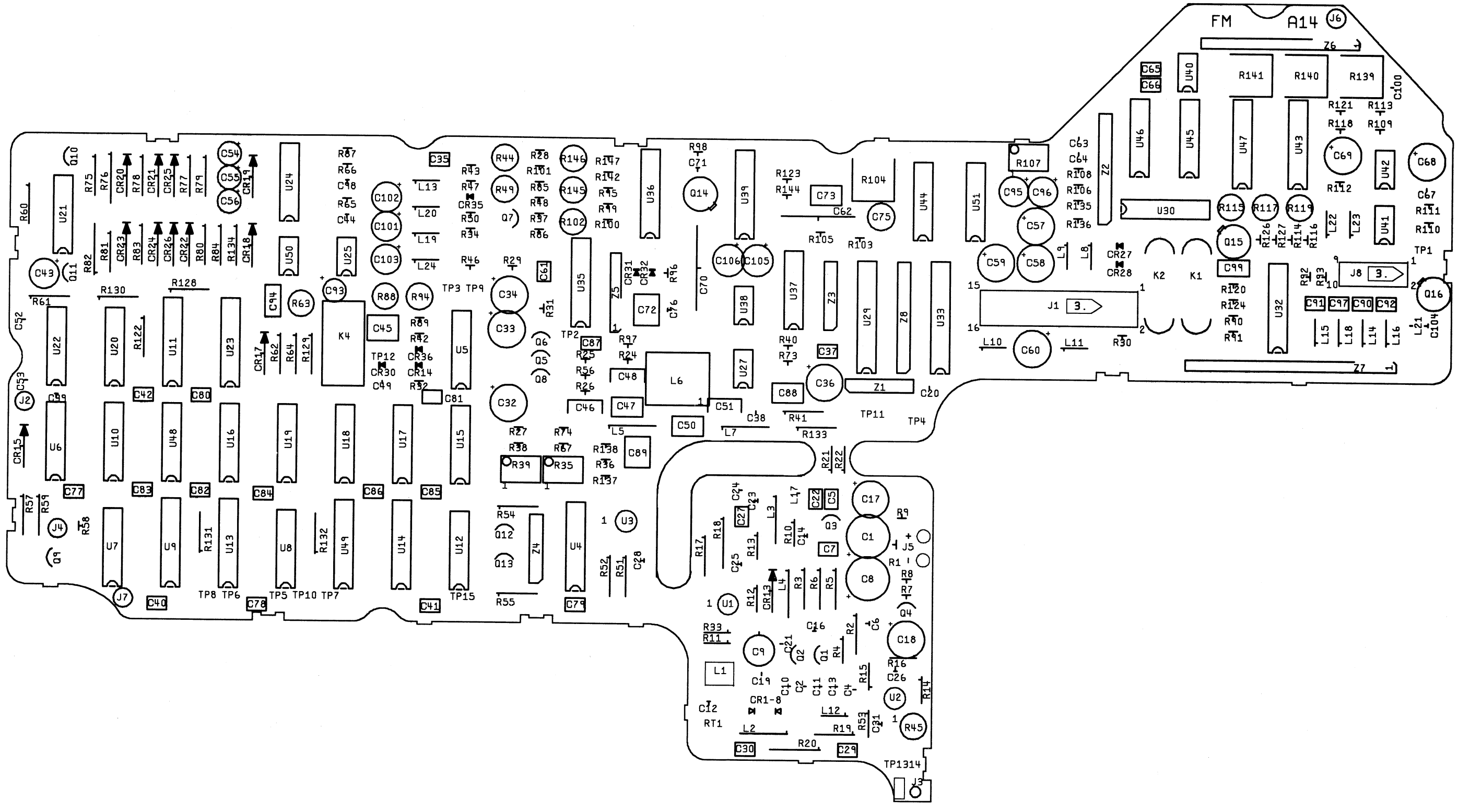


Figure 8-14. A14 FM PCA

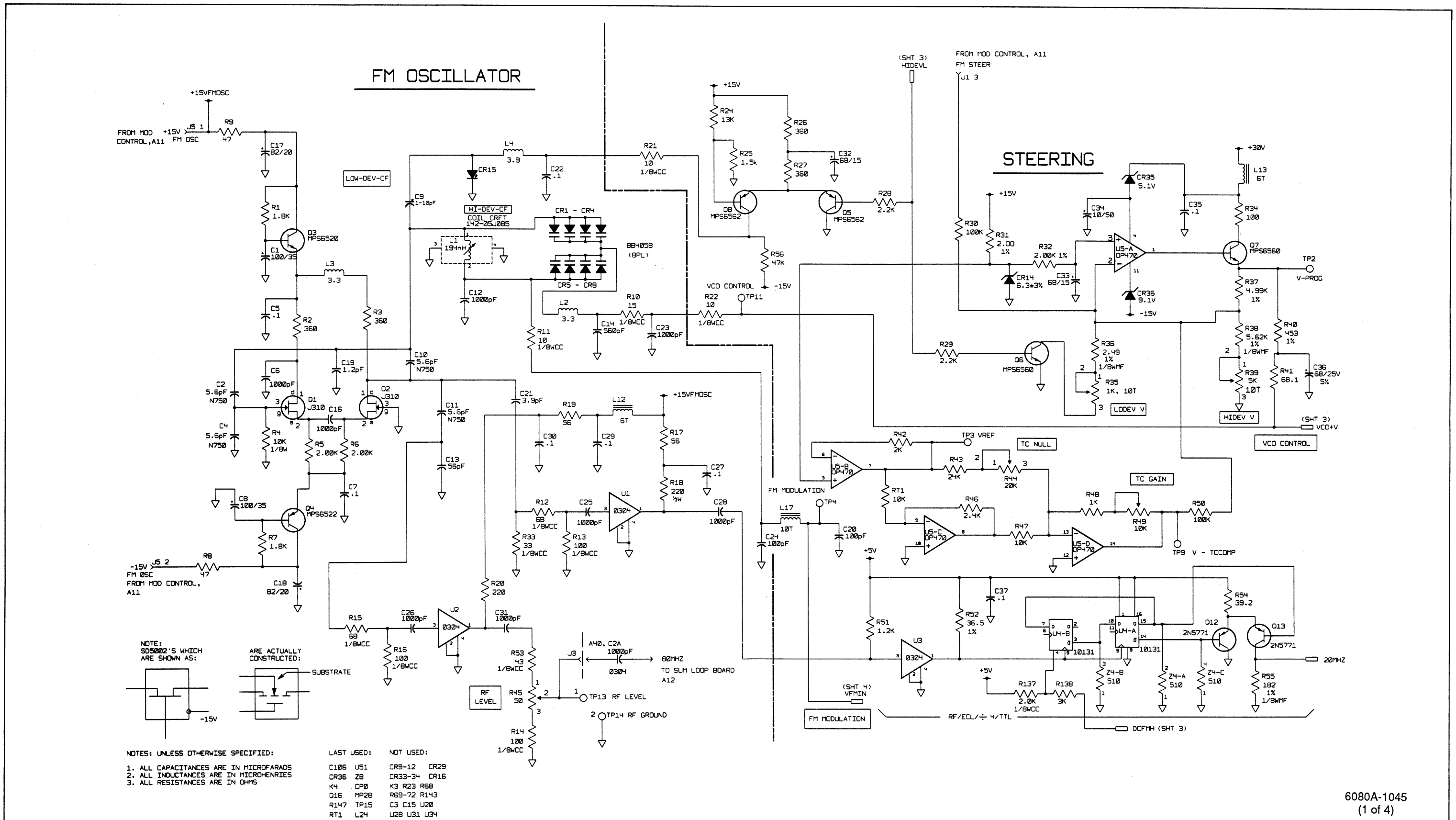


Figure 8-14. A14 FM PCA (cont)

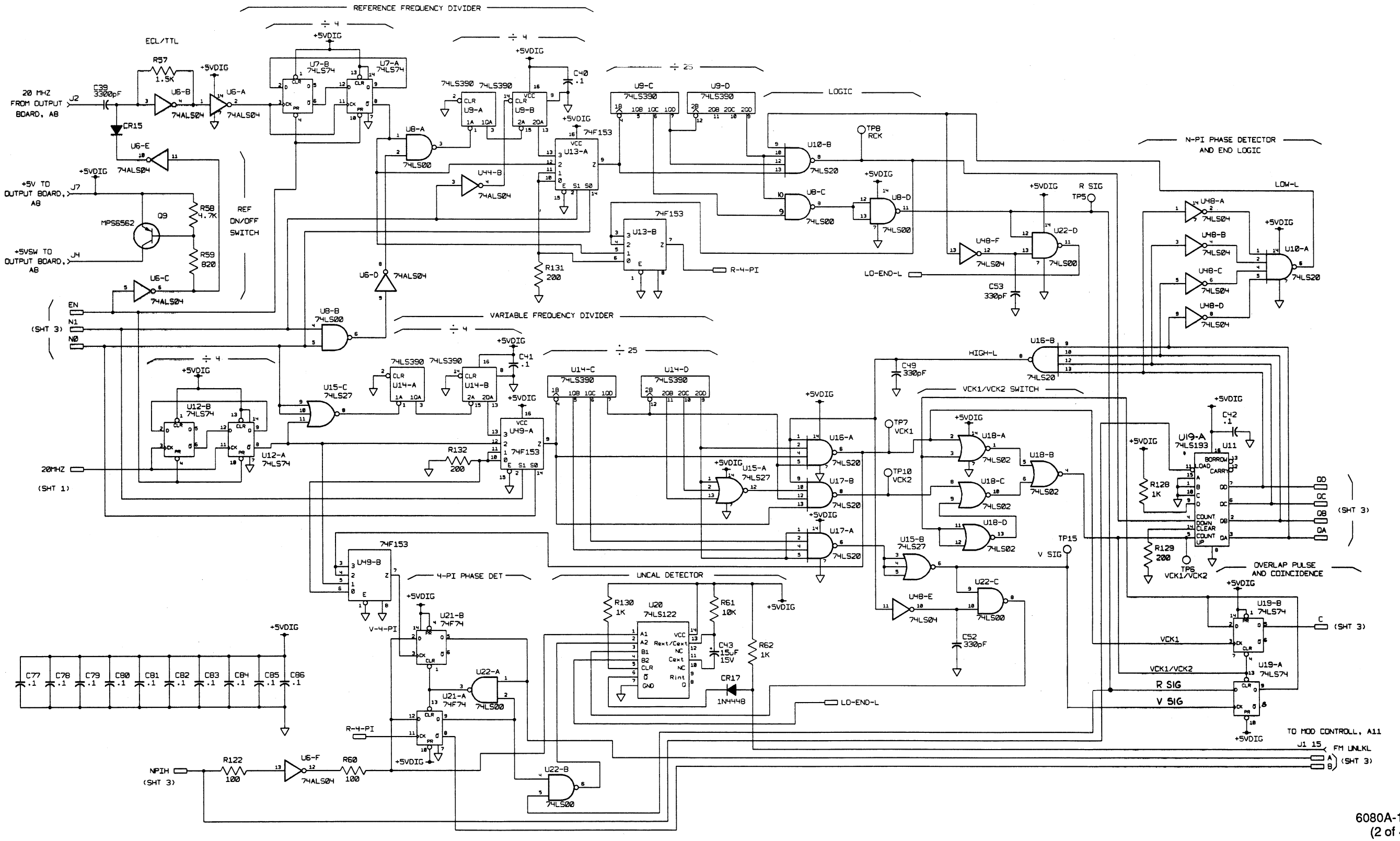


Figure 8-14. A14 FM PCA (cont)

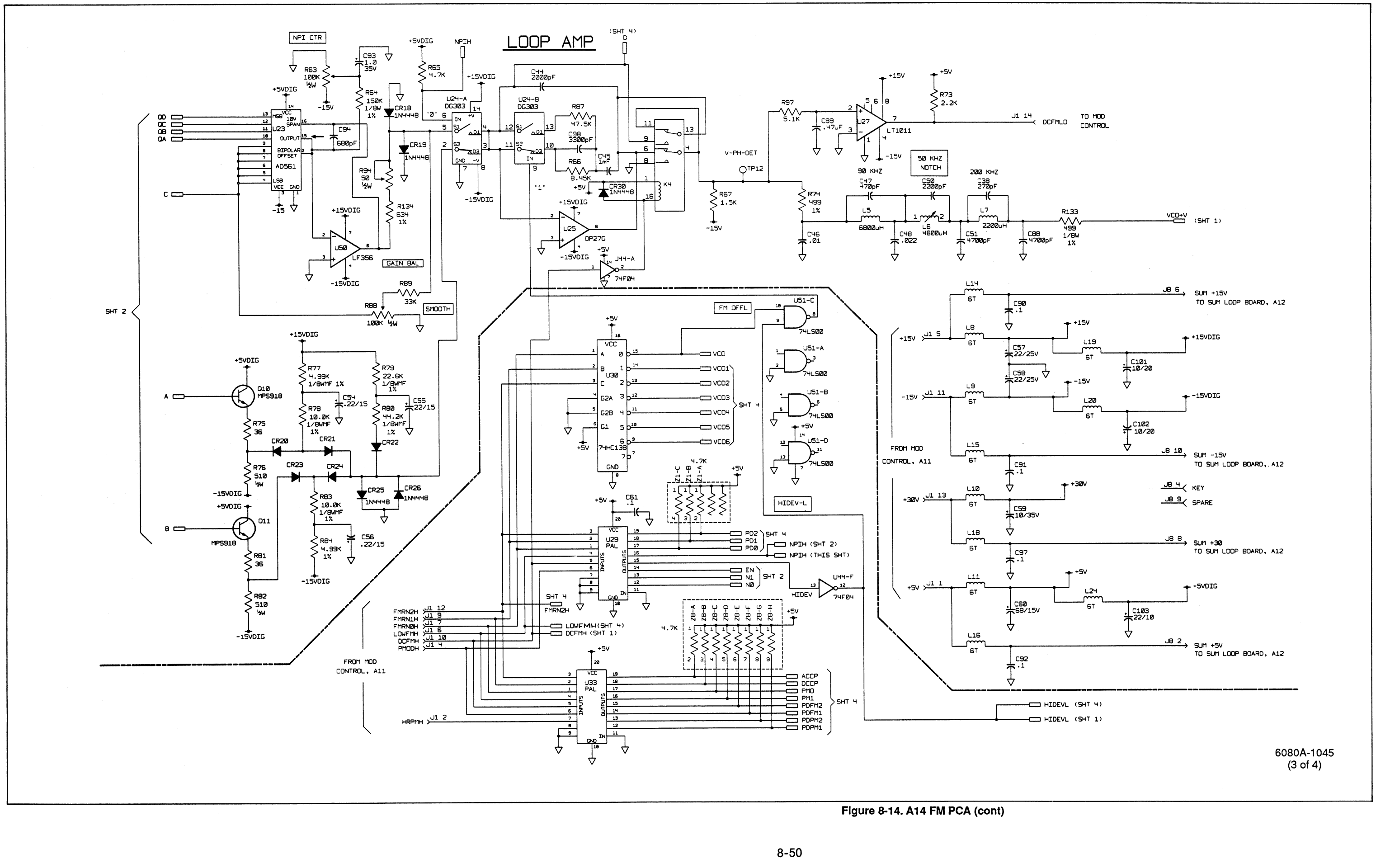


Figure 8-14. A14 FM PCA (cont)

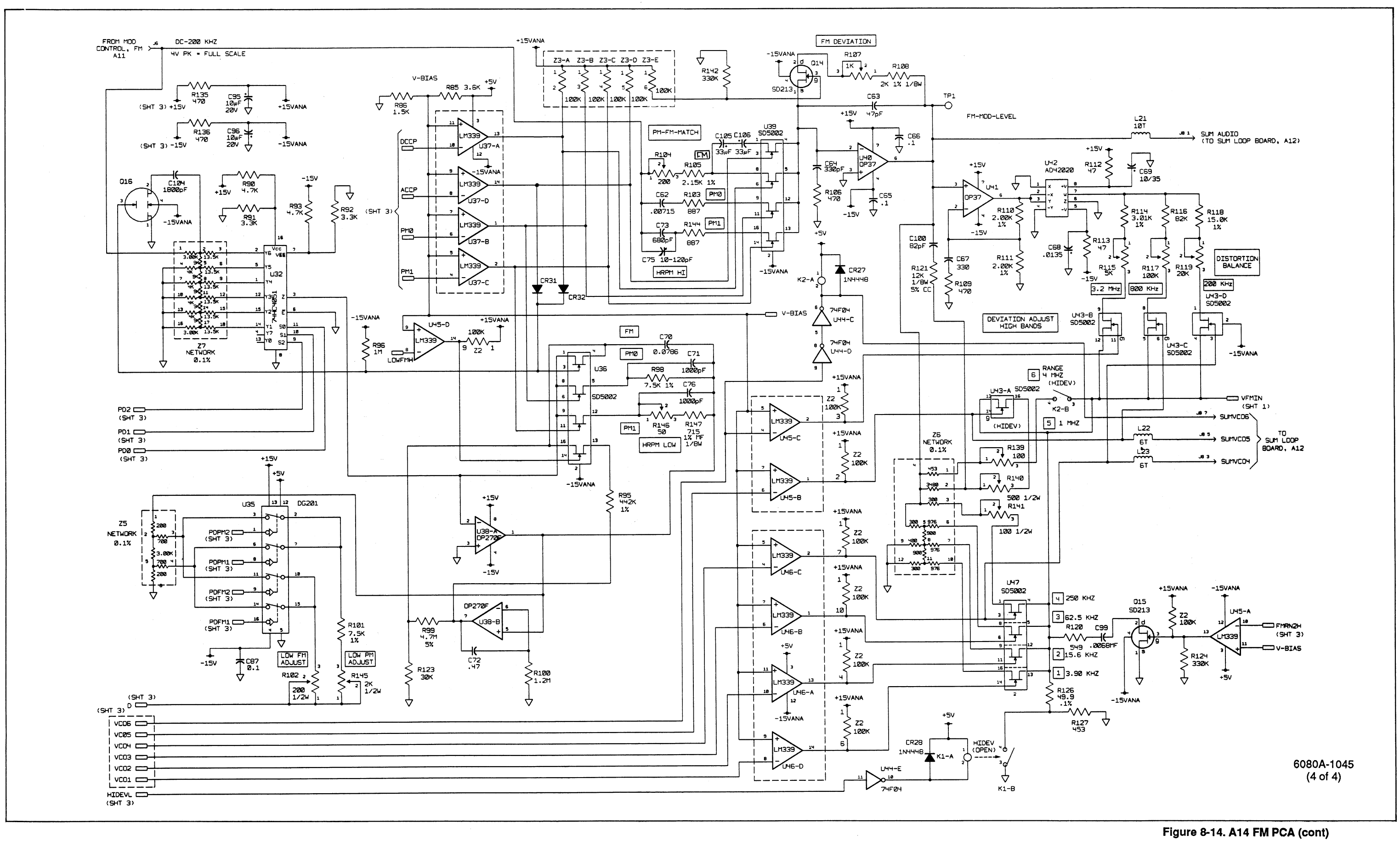
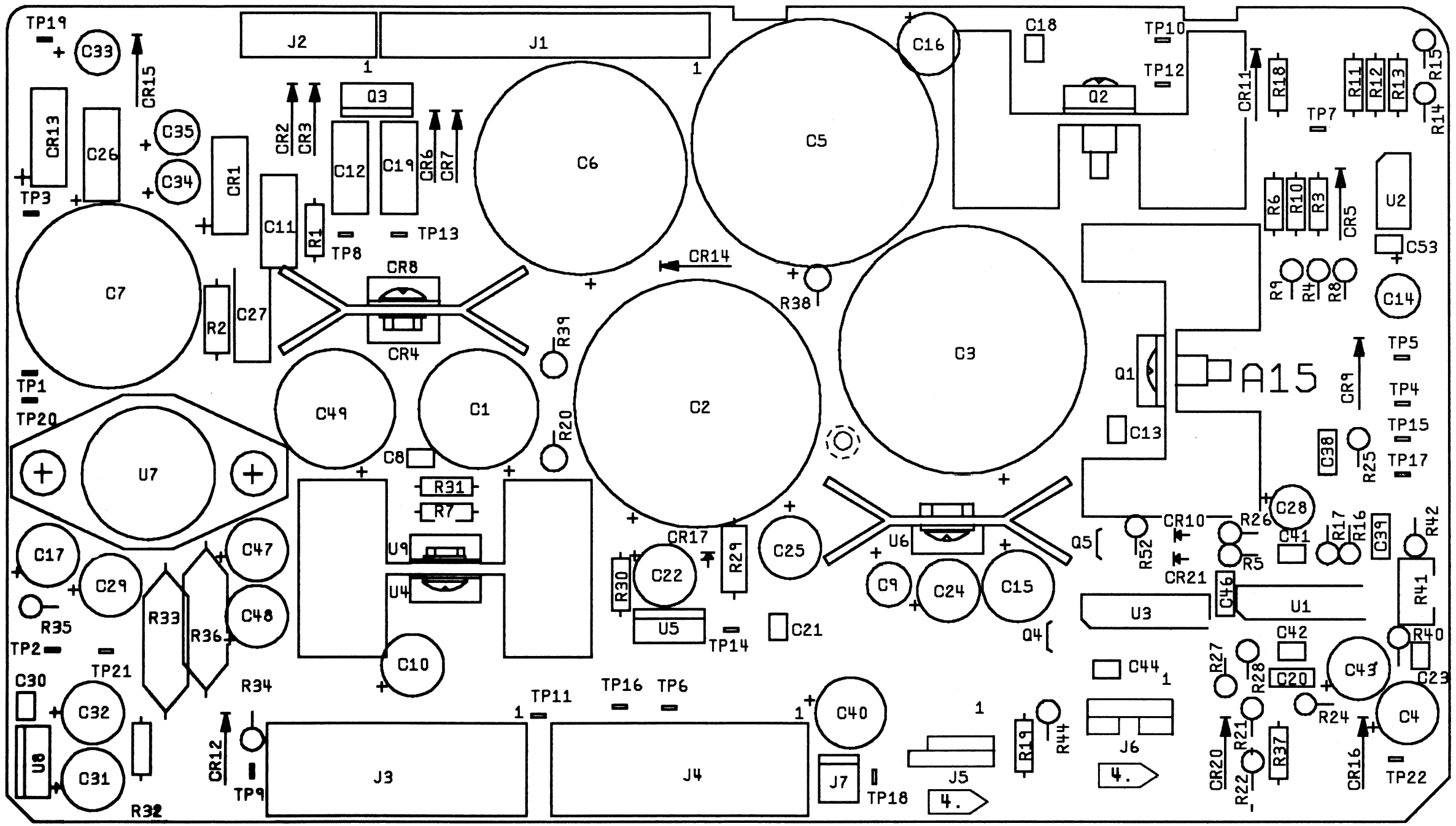


Figure 8-14. A14 FM PCA (cont)



6080A-1606

Figure 8-15. A15 Power Supply PCA

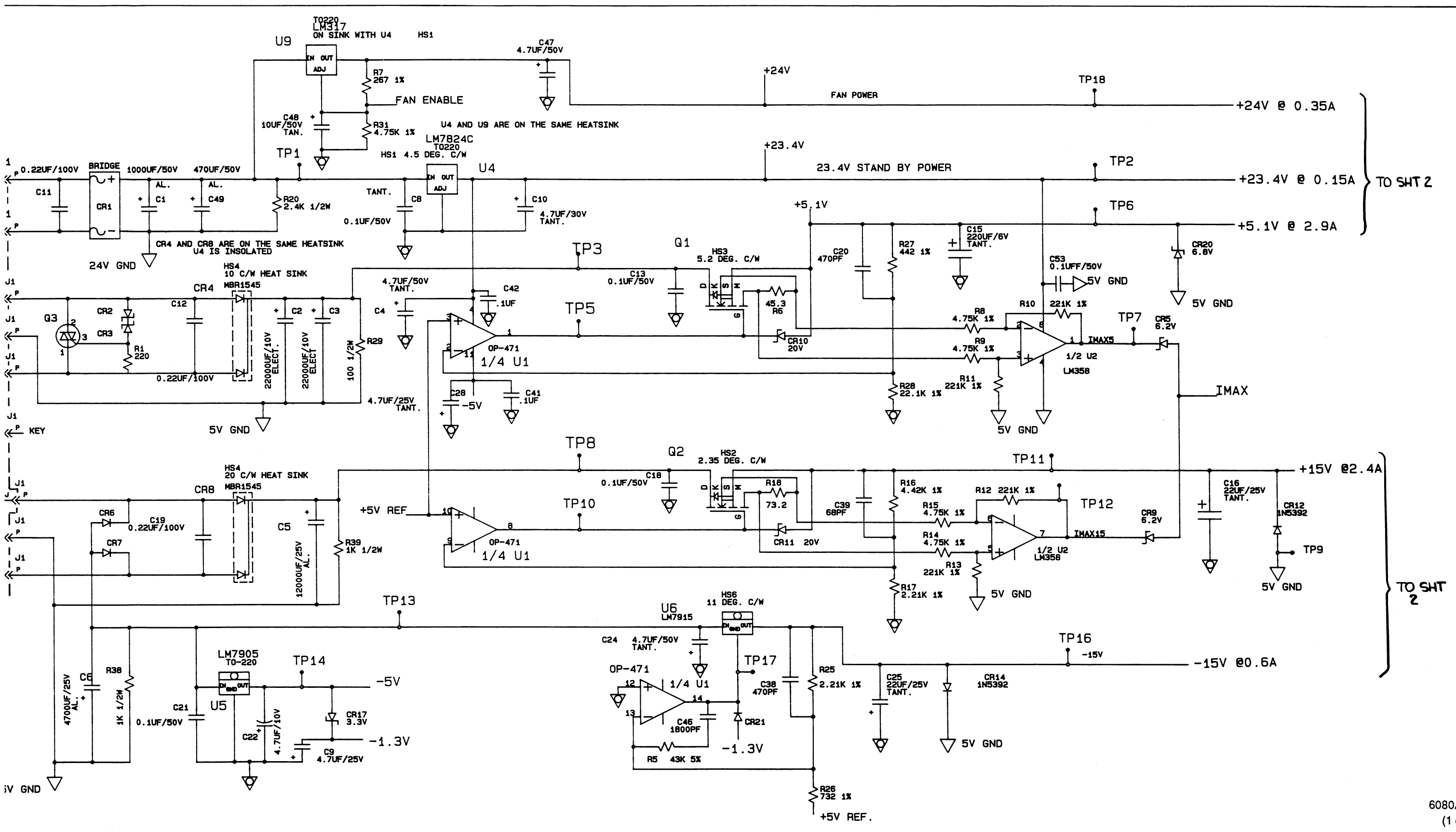


Figure 8-15. A15 Power Supply PCA (cont)

T1 IS CONTINUED ON SHT 2

6080A/AN TRANSFORMER

LINE CONNECTOR

J12 P12

F1 2A FOR 115V AND 1A FOR 230V OPERATION.

115V

230V

N

GND

L

F1

FL1

N.C.

P1-1

P1-2

TP

J1 P

KEY

26V AC

6V AC

14V AC

BRIDGE

0.22UF/400V

1000UF/50V

470UF/50V

AL.

C1

C49

CR1

C11

R20 2.4K 1/2W

24V GND

CR4 AND CR8 ARE ON THE SAME HEATSINK

U4 IS INSOLATED

MBR1545

CR8

HS4

20 C/W HEAT SINK

0.22UF/100V

C19

CR7

CR6

C12

CR2

CR3

R1 220

Q3

0.1UF/50V

C21

R38 1K 1/2M

4700UF/25V

AL.

C6

LM7905

TO-220

U5

4.7UF/10V

C22

3.3V

CR17

C9 4.7UF/25V

-1.3V

-5V

TP14

TP13

15V GND

22000UF/10V ELECT.

100 1/2M

R29

4.7UF/25V TANT.

5V GND

C28

.1UF

C41

-5V

LM7824C

TO220

U9

ON SINK WITH U4

HS1

R31 4.75K 1%

10UF/50V TAN.

C48

R7 267 1%

FAN ENABLE

4.7UF/50V

C47

+24V

FAN POWER

U4 AND U9 ARE ON THE SAME HEATSINK

TP1

HS1 4.5 DEG. C/W

TO220

LM7824C

U4

ADJ

IN OUT

C8

0.1UF/50V

TANT.

C10 4.7UF/30V TANT.

+5.1V

+23.4V

23.4V STAND BY P

TP3

TP5

TP8

TP10

+5V REF

Q1

HS3

5.2 DEG. C/W

Q2

HS2

2.35 DEG. C/W

C13 0.1UF/50V

C18 0.1UF/50V

R6 45.3

R18 73.2

CR10 20V

CR11 20V

C20 470PF

C39 68PF

R27 442 1

R16 4.42K

R17 2.21K

R28 22.1K

C42 .1UF

C4 4.7UF/50V TANT.

CR4 MBR1545

HS4

10 C/W HEAT SINK

R39 1K 1/2W

12000UF/25V

AL.

C5

CR8

C24 4.7UF/50V TANT.

LM7915

U6

HS6

11 DEG. C/W

OP-471

1/4 U1

C46 1800PF

CR21

R5 43K 5%

-1.3V

R26 732 1%

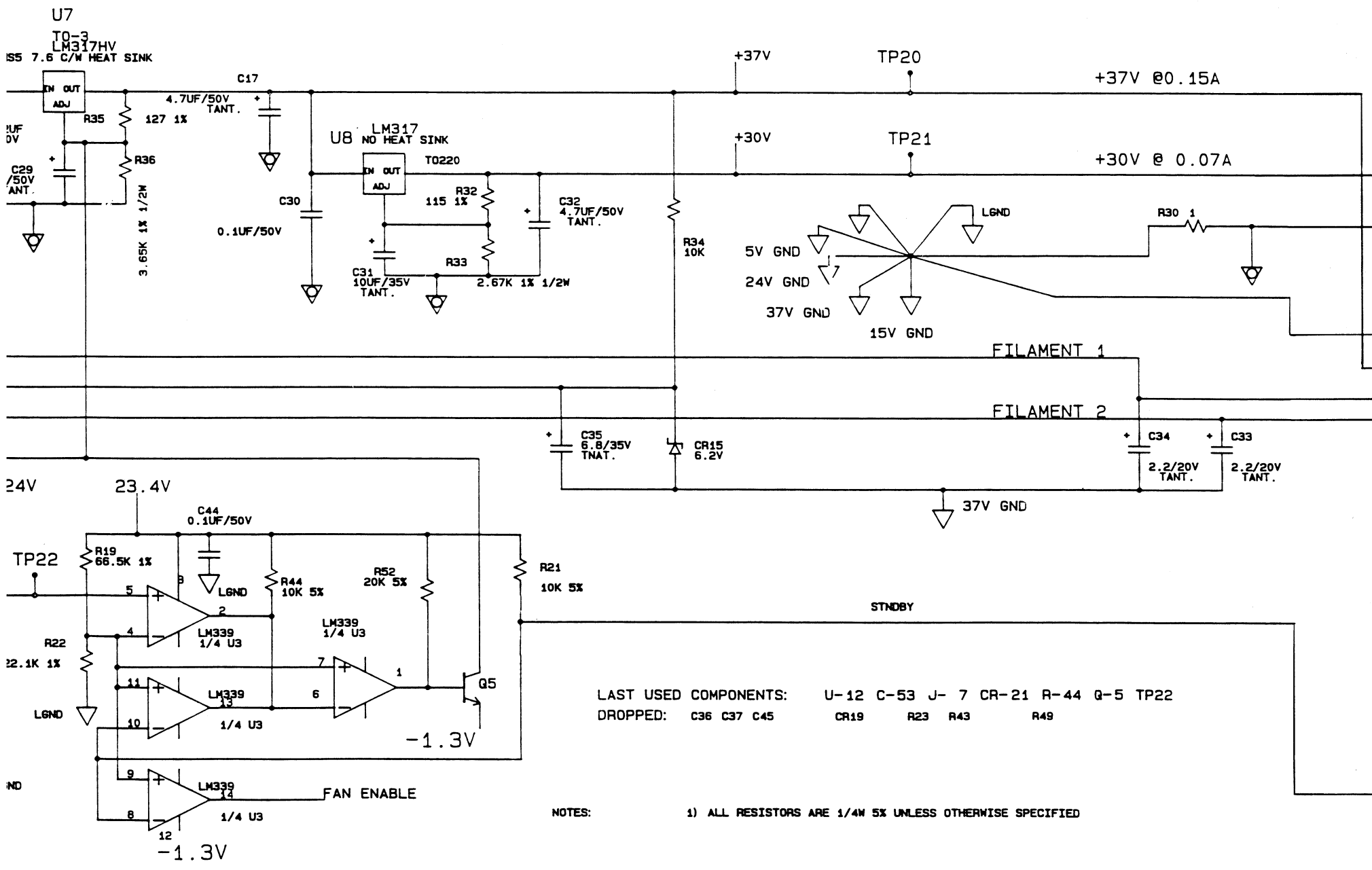
C25 22UF/25 TANT.

R25 2.21K 1%

C38 470PF

TP17

+5V REF.



LAST USED COMPONENTS: U-12 C-53 J- 7 CR-21 R-44 Q-5 TP22
DROPPED: C36 C37 C45 CR19 R23 R43 R49

6080A-1070
(2 of 2)

NOTES: 1) ALL RESISTORS ARE 1/4W 5% UNLESS OTHERWISE SPECIFIED

Figure 8-15. A15 Power Supply PCA (cont)

FROM S

T1 (CONTINUED FROM SHT 1)

J1
11 J P
12 J P
37V AC
C26 0.22UF/100V
BRIDGE
CR13
C7 470UF/80V AL.
R2 6.8K 1/2W
37V GND

TP19

U7
TO-3
LM317HV
HS5 7.6 C/W HEAT SINK
IN OUT ADJ
C27 0.22UF 100V
C29 4.7UF/50V TANT.
R35 127 1%
R36 3.65K 1% 1/2W
C17 4.7UF/50V TANT.

+37V
TP20
+37V @0.15A

U8 LM317
NO HEAT SINK
TO220
IN OUT ADJ
C30 0.1UF/50V
R32 115 1%
R33 2.67K 1% 1/2W
C31 10UF/35V TANT.
C32 4.7UF/50V TANT.
R34 10K

+30V
TP21
+30V @ 0.07A

5V GND
24V GND
37V GND
15V GND
LGND
R30 1

J2
2 J P 3.0 VAC
3 J P 6.2 VDC 0 VAC
4 J P 3.0 VAC

FILAMENT 1
FILAMENT 2

C35 6.8/35V TNAT.
CR15 6.2V
C34 2.2/20V TANT.
C33 2.2/20V TANT.
37V GND

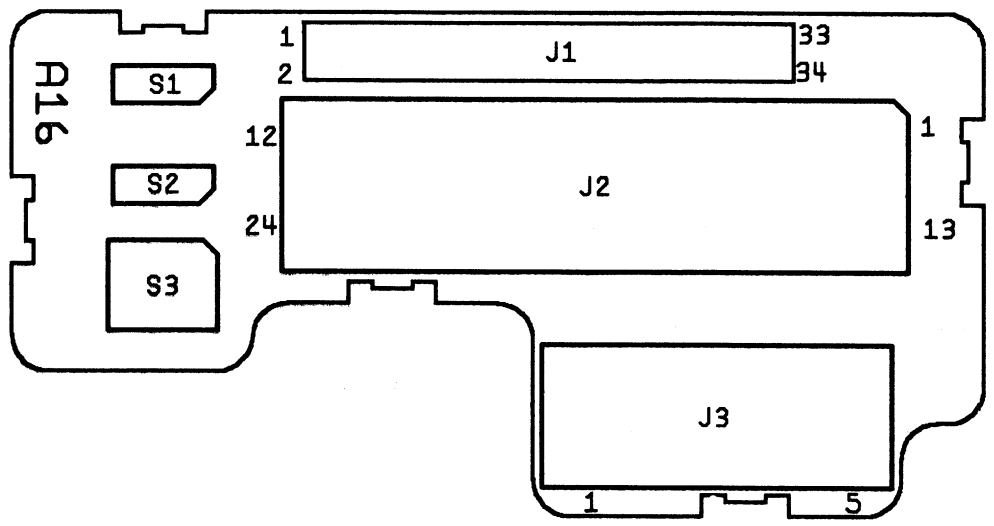
+30V
R24 3K
R40 4.02K 1%
CW
R41 5K
C43 TANT. 4.7UF/10V
CR16 6.3V
C23 0.1UF/50V
TP4
R42 22.1K 1%
REFFERENCE

1/4 U1
TP15
+5V REF
OP-471

+24V
23.4V
R37 2.4K
TP22
C44 0.1UF/50V
R19 66.5K 1%
R44 10K 5%
R52 20K 5%
R21 10K 5%
LGND
LM339 1/4 U3
R22 22.1K 1%
IMAX
R3 820
Q4
22K R4
C14 220/35 TANT.
5V GND
LGND
-1.3V
FAN ENABLE
Q5
STNDBY

LAST USED COMPONENTS: U-12 C-53 J- 7 CR-21 R-44 Q-5 TP22
DROPPED: C36 C37 C45 CR19 R23 R43 R49

NOTES: 1) ALL RESISTORS ARE 1/4W 5% UNLESS OTHERWISE SPECIFIED



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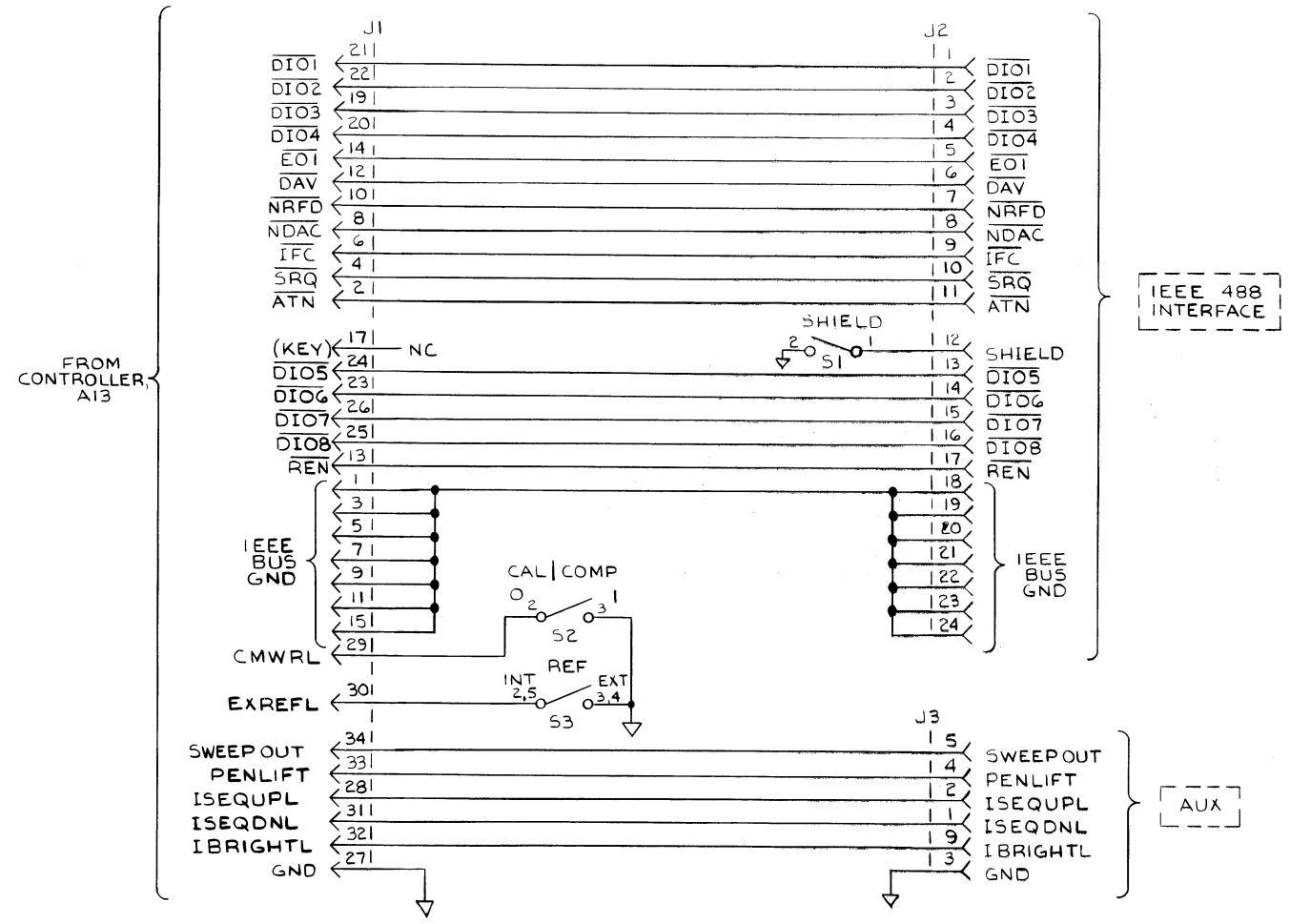

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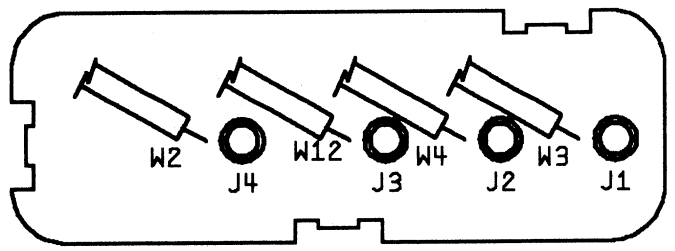
Figure 8-16. A16 IEEE Connector PCA



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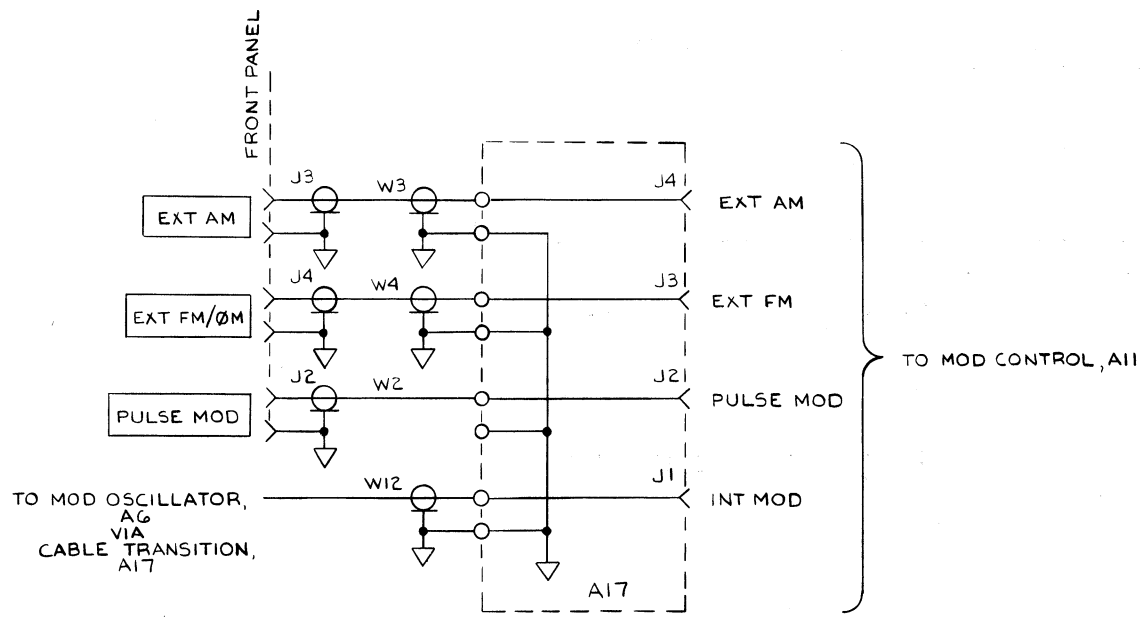

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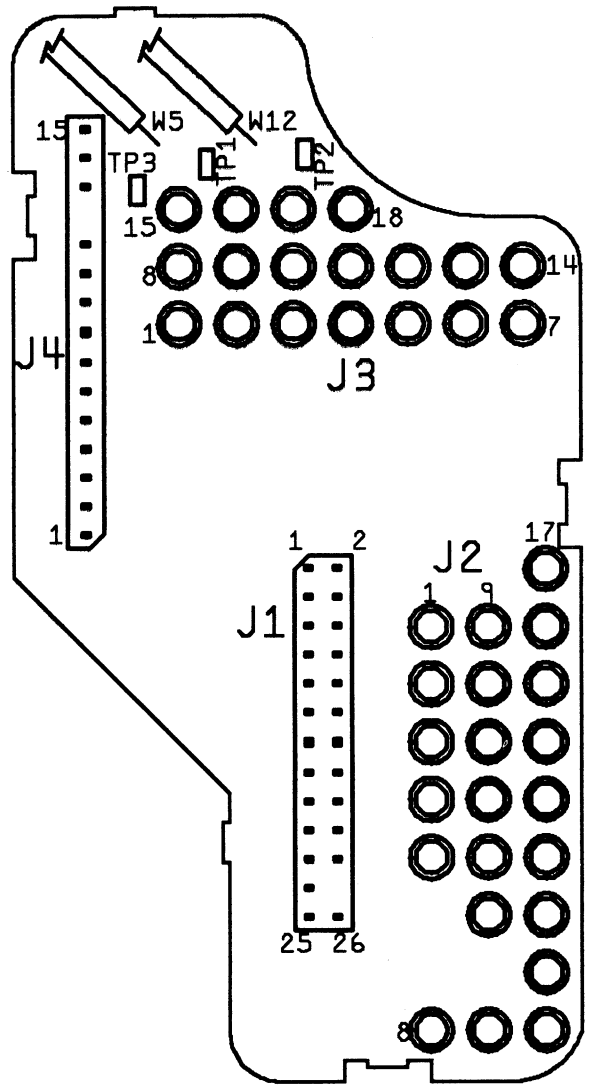
Figure 8-17. A17 Cable Transition PCA



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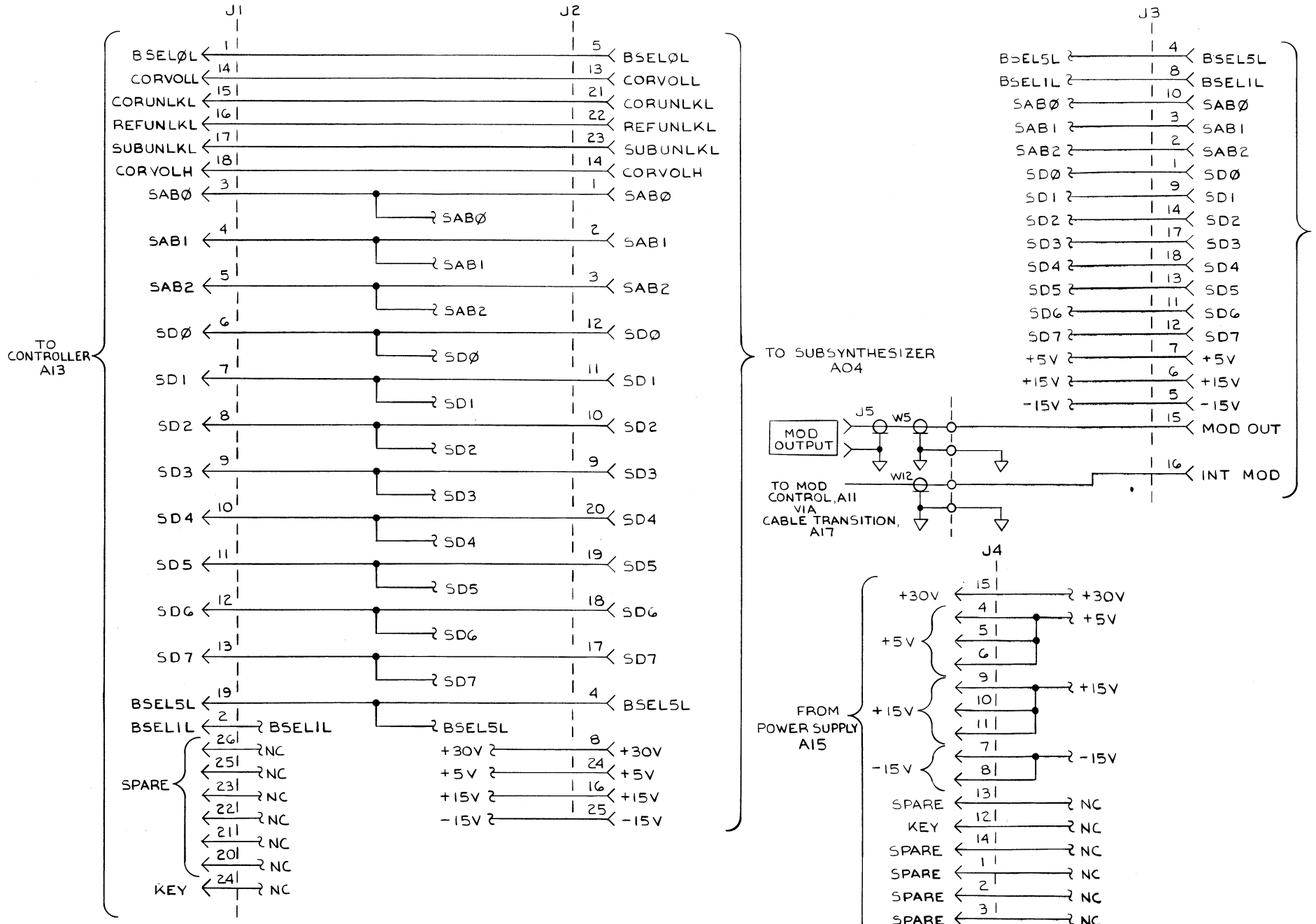

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Figure 8-18. A18 Cable Transition PCA

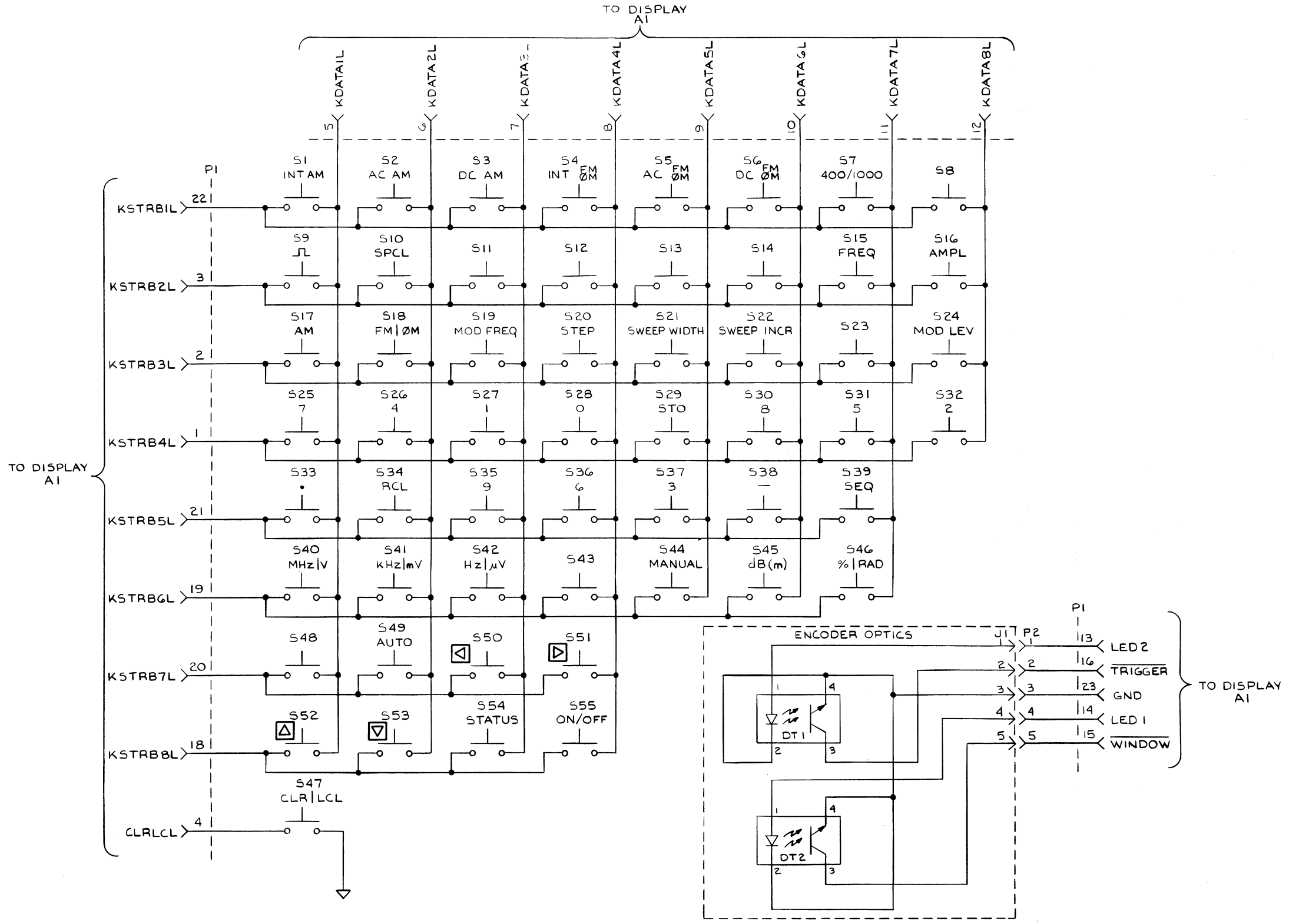

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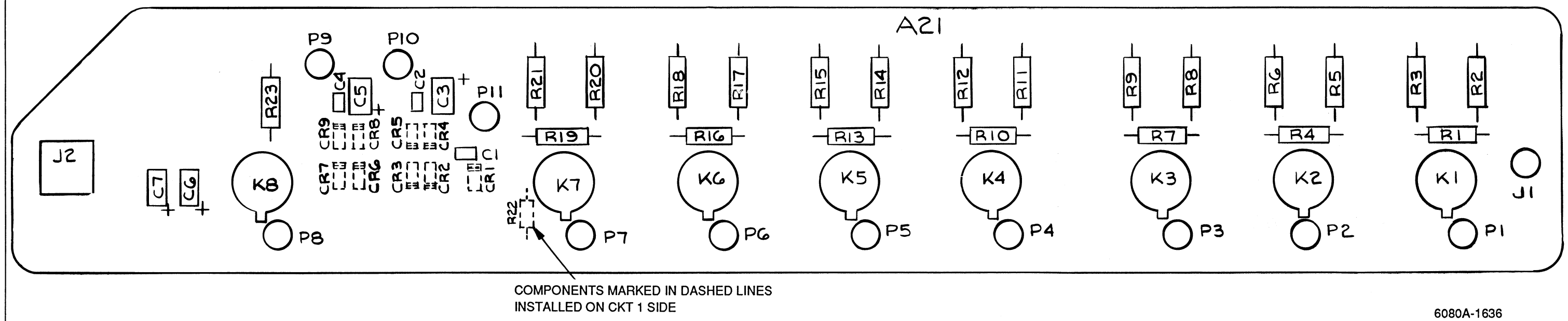
Figure 8-19. A19 Switch PCA



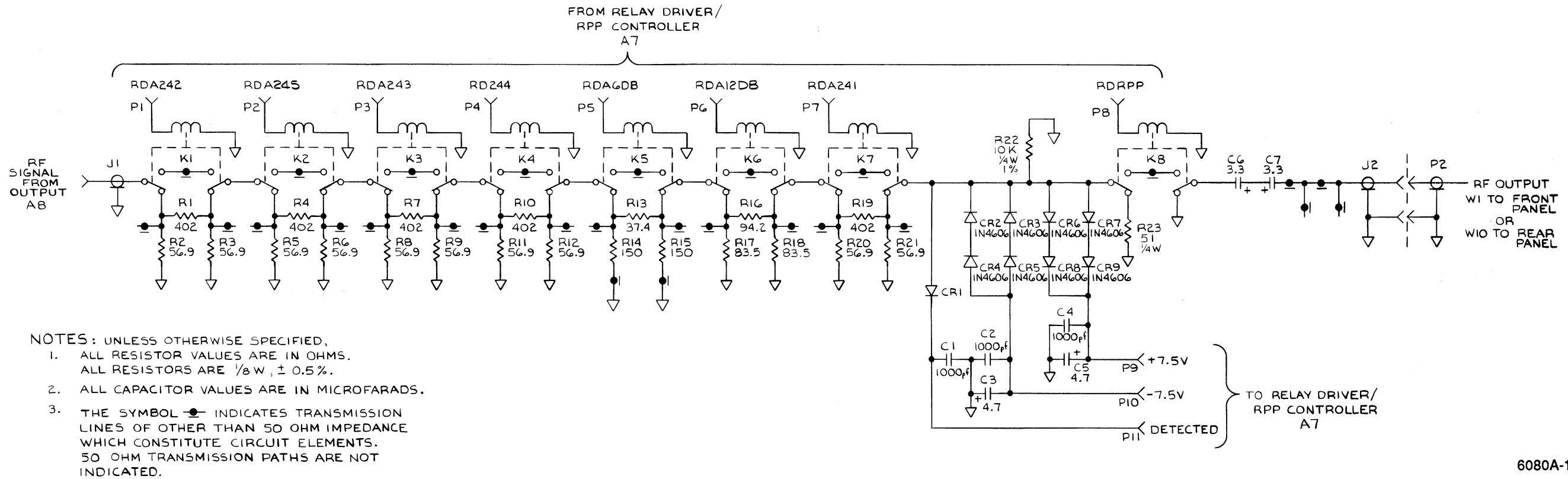
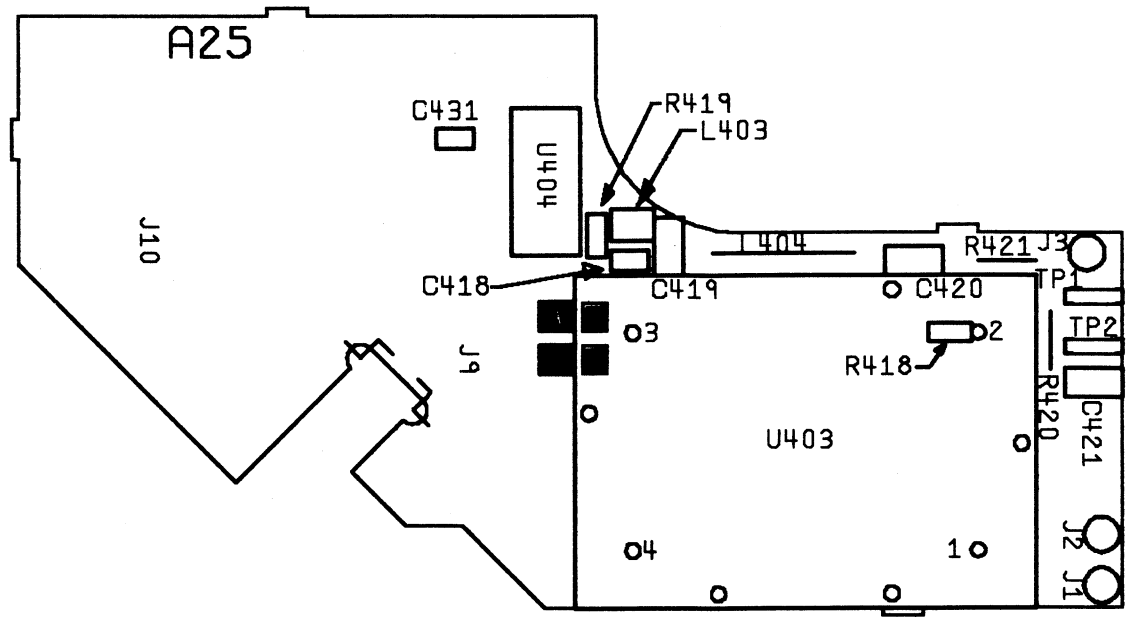
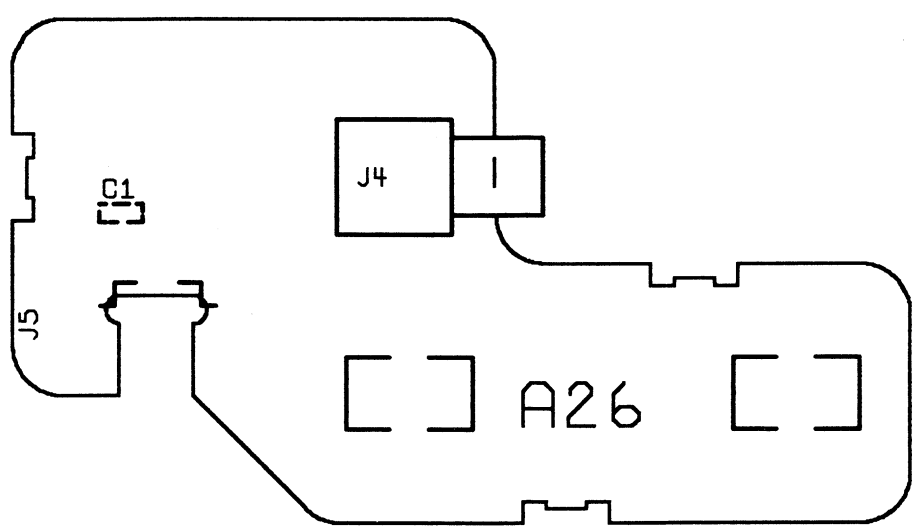


Figure 8-20. A21 Attenuator PCA





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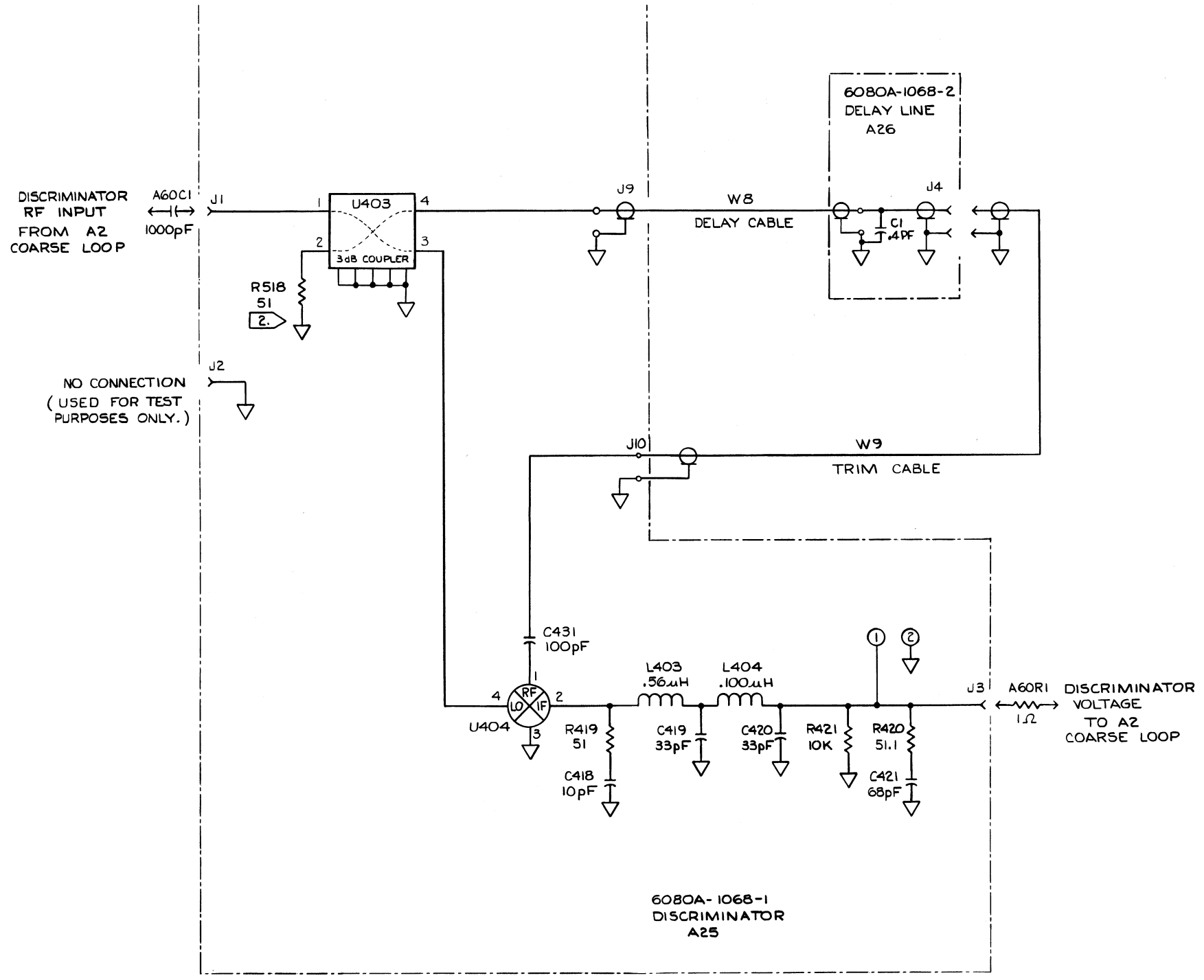

NOTES: (UNLESS OTHERWISE SPECIFIED.)

1. ALL RESISTOR VALUES ARE IN OHMS.
2. PARTS INDICATED ARE MOUNTED ON TOP OF THE 3dB COUPLER.
3. "A22" REFERS TO THE ENTIRE DELAY CABLE ASSEMBLY. (BOTH BOARDS AND BOTH CABLES.)

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Figure 8-21. A22, A25, and A26 Delay Line/Discriminator PCA