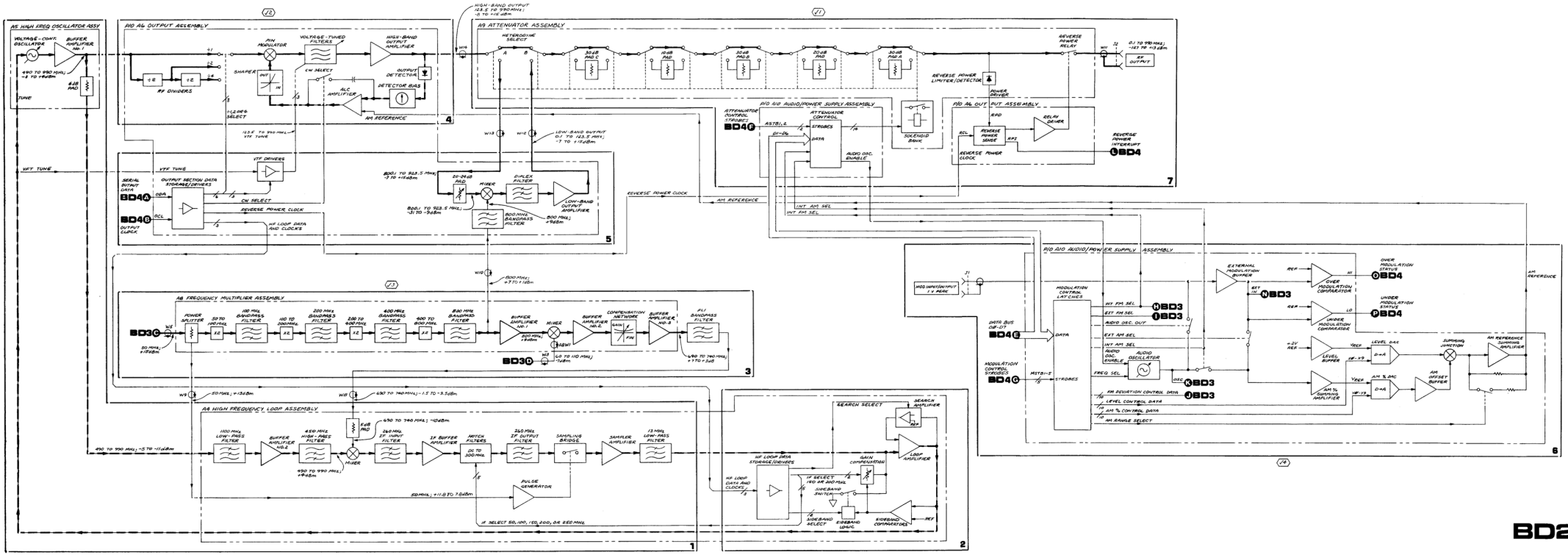


Figure 8-33. Overall Block Diagram



BD2

Figure 8-34. High Frequency and Output Section Block Diagram

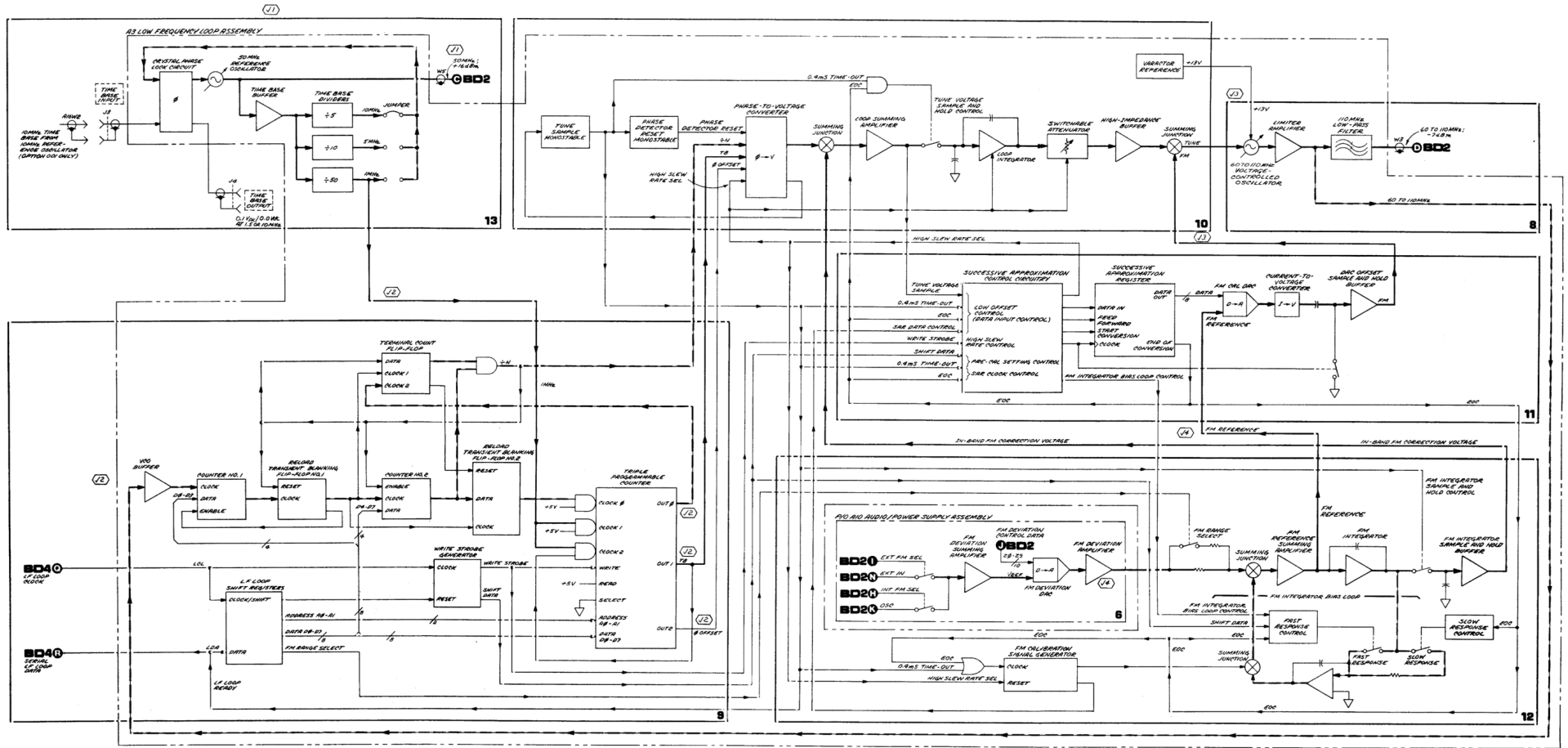
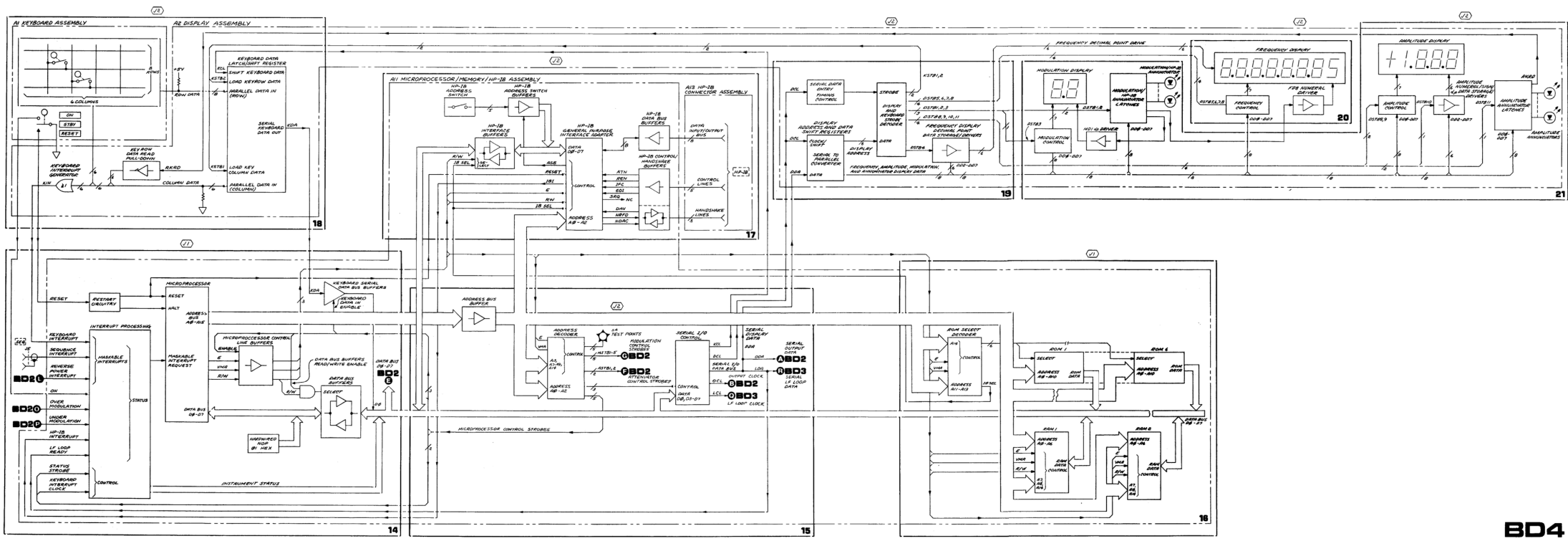


Figure 8-35. Low Frequency and FM Section Block Diagram



BD4

Figure 8-36. Microprocessor, Keyboard and Display Section Block Diagram

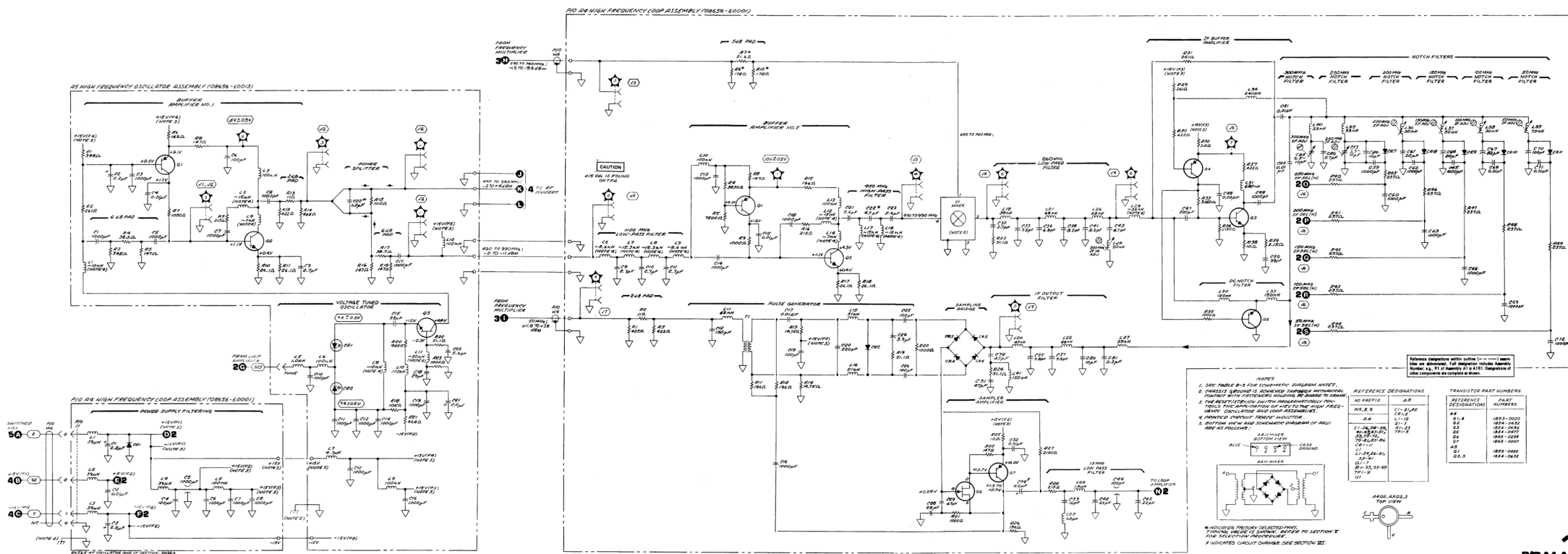


Figure 8-40. High Frequency Oscillator and IF Section Schematic Diagram

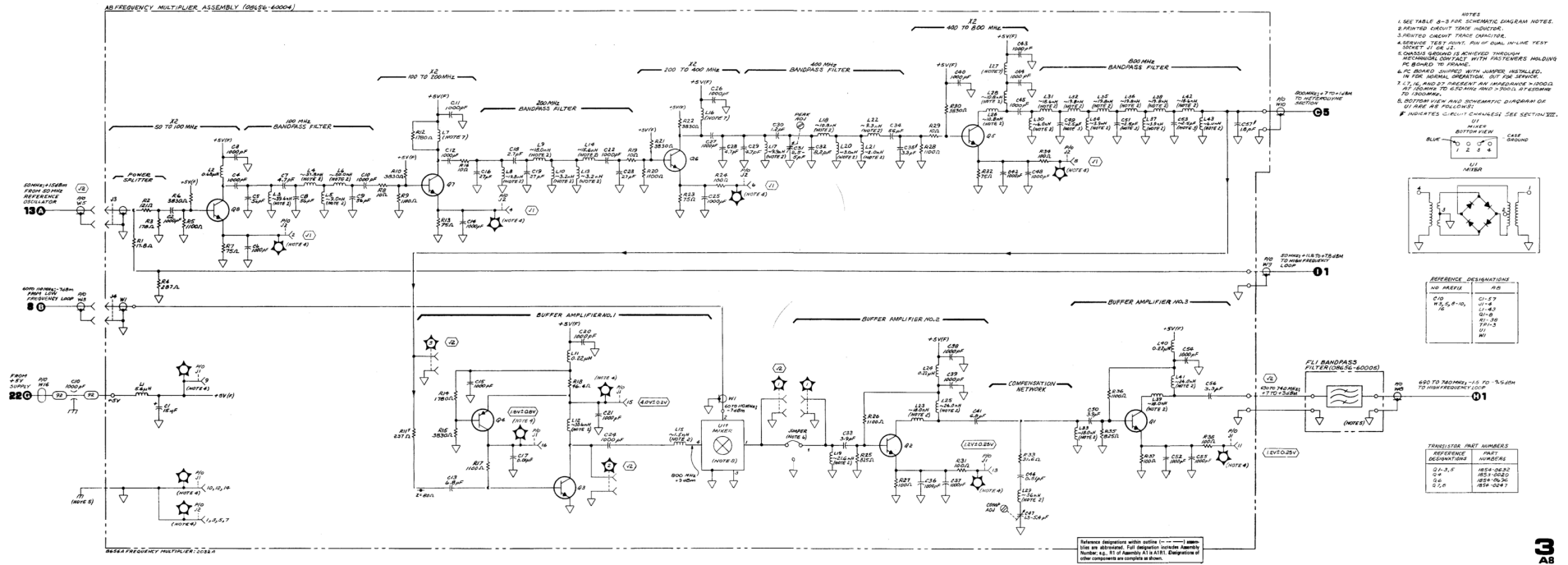


Figure 8-46. Frequency Multiplier Schematic Diagram

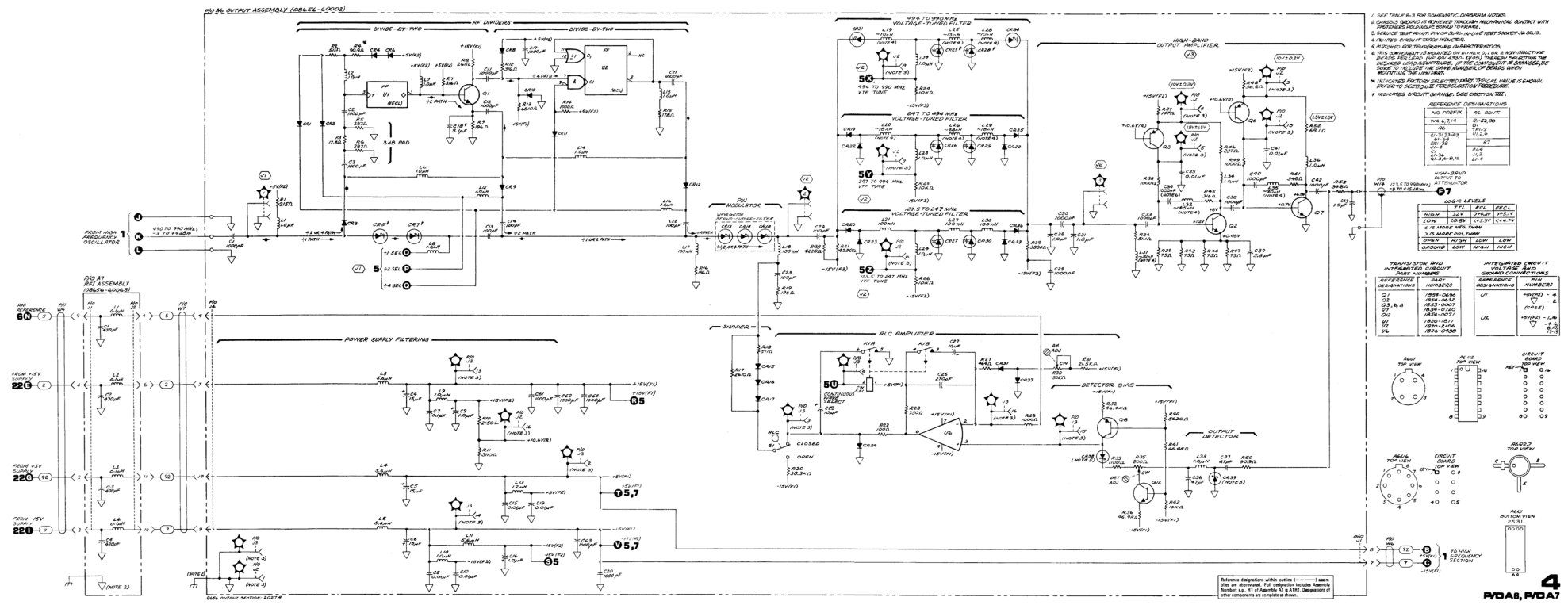
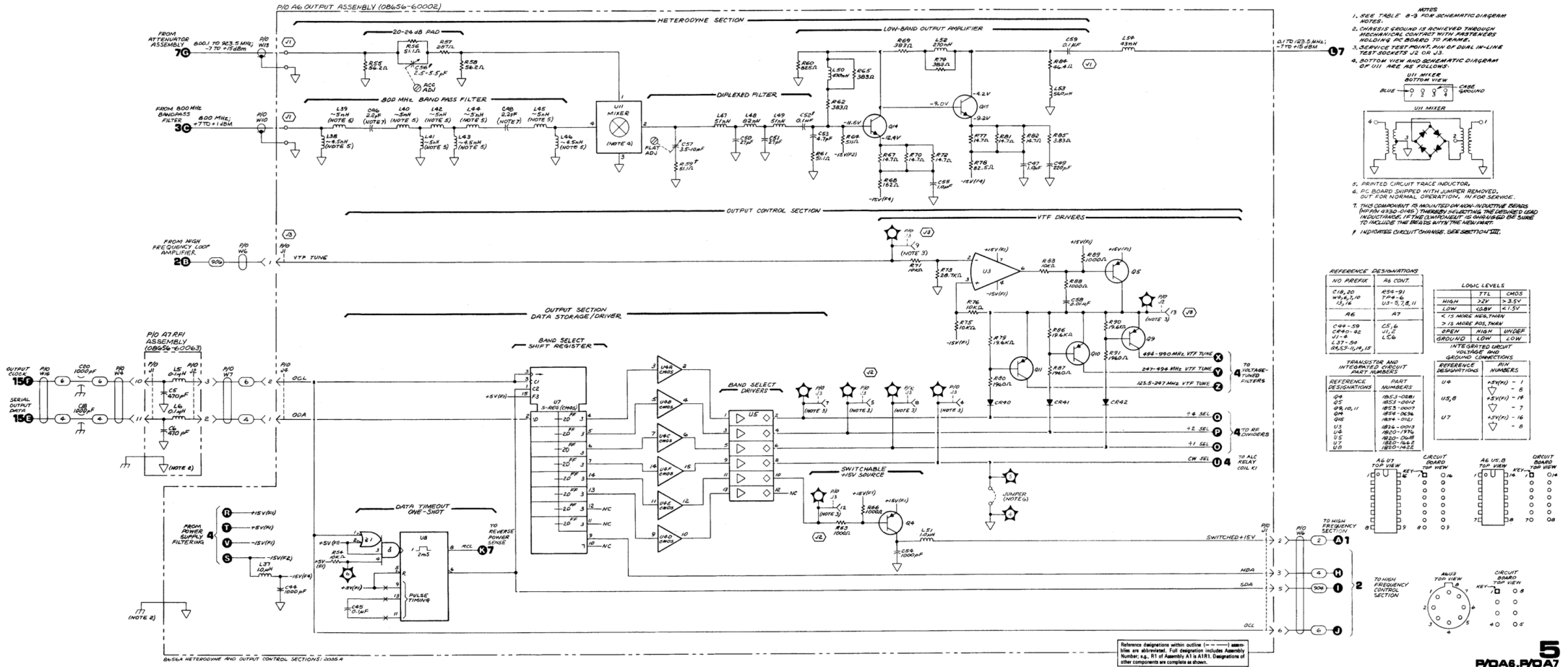


Figure 8-50. Output Section Schematic Diagram



NOTES

- SEE TABLE 8-3 FOR SCHEMATIC DIAGRAM NOTES.
- CHARACTERISTICS ARE ACHIEVED THROUGH MECHANICAL TUNING WITH ADJUSTERS HOLDING IN POSITION TO FRAME.
- SERVICE TEST POINT PIN OF DUAL IN-LINE DEVICES IS 1/2 IN US.
- BOTTOM VIEW AND SCHEMATIC DIAGRAM OF U11 ARE AS FOLLOWS:

U11 MIXER BOTTOM VIEW

4 CASE GROUND

1 2 3 4

5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100

5. PRINTED CIRCUIT TRACE INDUCTOR.

6. PCB BOARD SUPPLIED WITH LAMINAR REMOVED, OUT FOR NORMAL OPERATION, IN FOR SERVICE.

7. THIS COMPONENT IS MOUNTED ON A SUBMOUNT BOARD (PART NO. 830-018) THROUGH SELECTING THE DESIRED LOW INDUCTOR. IF THE LOW INDUCTOR IS DESIRED BE SURE TO INCLUDE THE RESISTOR WITH THE NEW PART.

8. INDICATES CIRCUIT CHANGE; SEE SECTION III.

NO PREFIX	A6 CONT.
C18, 20	659-91
W1, 10, 16	774-6
Q1, 11	US-5, 7, 8, 11
A6	A7

LOGIC LEVELS	TRTL	CMDS
HIGH	25V	>3.5V
LOW	0.5V	<1.5V
* IS MORE POS. THAN		

REFERENCE DESIGNATIONS	PART NUMBERS
Q4	883-0281
Q5	883-0282
Q6	883-0283
Q7	883-0284
Q8	883-0285
Q9	883-0286
Q10	883-0287
Q11	883-0288
Q12	883-0289
Q13	883-0290
Q14	883-0291
Q15	883-0292
Q16	883-0293
Q17	883-0294
Q18	883-0295
Q19	883-0296
Q20	883-0297
Q21	883-0298
Q22	883-0299
Q23	883-0300
Q24	883-0301
Q25	883-0302
Q26	883-0303
Q27	883-0304
Q28	883-0305
Q29	883-0306
Q30	883-0307
Q31	883-0308
Q32	883-0309
Q33	883-0310
Q34	883-0311
Q35	883-0312
Q36	883-0313
Q37	883-0314
Q38	883-0315
Q39	883-0316
Q40	883-0317
Q41	883-0318
Q42	883-0319
Q43	883-0320
Q44	883-0321
Q45	883-0322
Q46	883-0323
Q47	883-0324
Q48	883-0325
Q49	883-0326
Q50	883-0327
Q51	883-0328
Q52	883-0329
Q53	883-0330
Q54	883-0331
Q55	883-0332
Q56	883-0333
Q57	883-0334
Q58	883-0335
Q59	883-0336
Q60	883-0337
Q61	883-0338
Q62	883-0339
Q63	883-0340
Q64	883-0341
Q65	883-0342
Q66	883-0343
Q67	883-0344
Q68	883-0345
Q69	883-0346
Q70	883-0347
Q71	883-0348
Q72	883-0349
Q73	883-0350
Q74	883-0351
Q75	883-0352
Q76	883-0353
Q77	883-0354
Q78	883-0355
Q79	883-0356
Q80	883-0357
Q81	883-0358
Q82	883-0359
Q83	883-0360
Q84	883-0361
Q85	883-0362
Q86	883-0363
Q87	883-0364
Q88	883-0365
Q89	883-0366
Q90	883-0367
Q91	883-0368
Q92	883-0369
Q93	883-0370
Q94	883-0371
Q95	883-0372
Q96	883-0373
Q97	883-0374
Q98	883-0375
Q99	883-0376
Q100	883-0377

Figure 8-54. Heterodyne and Output Control Schematic Diagram

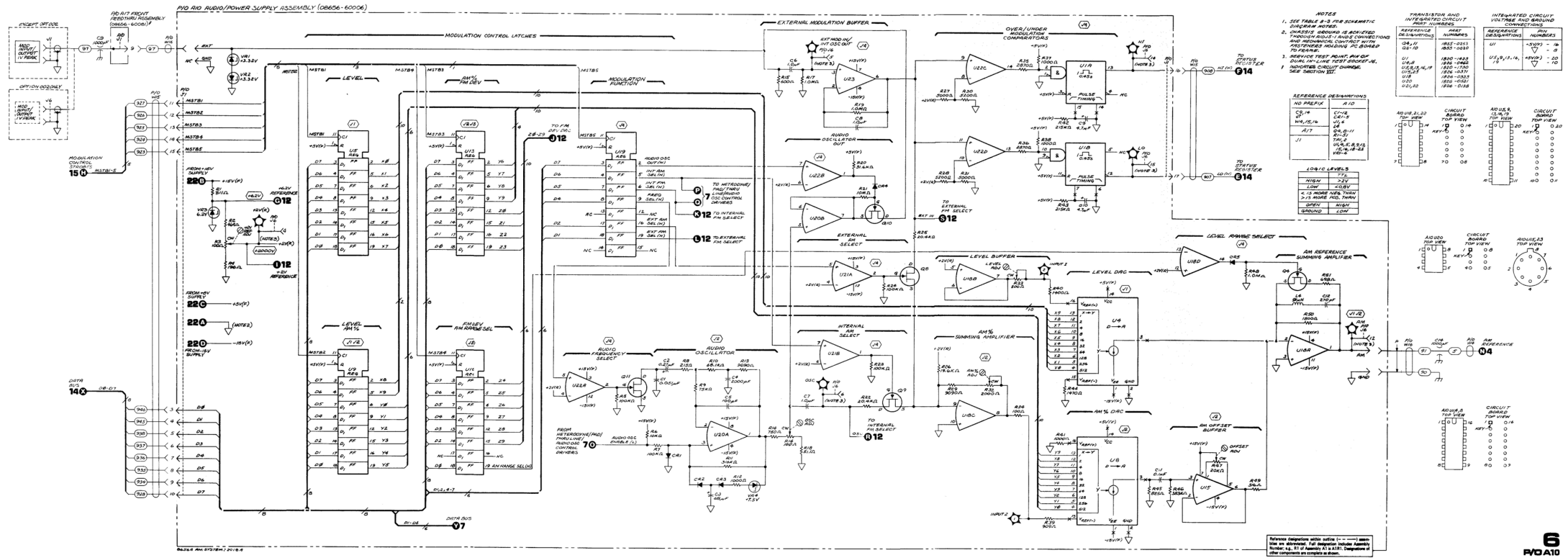


Figure 8-57. Modulation and RF Amplitude Control Schematic Diagram

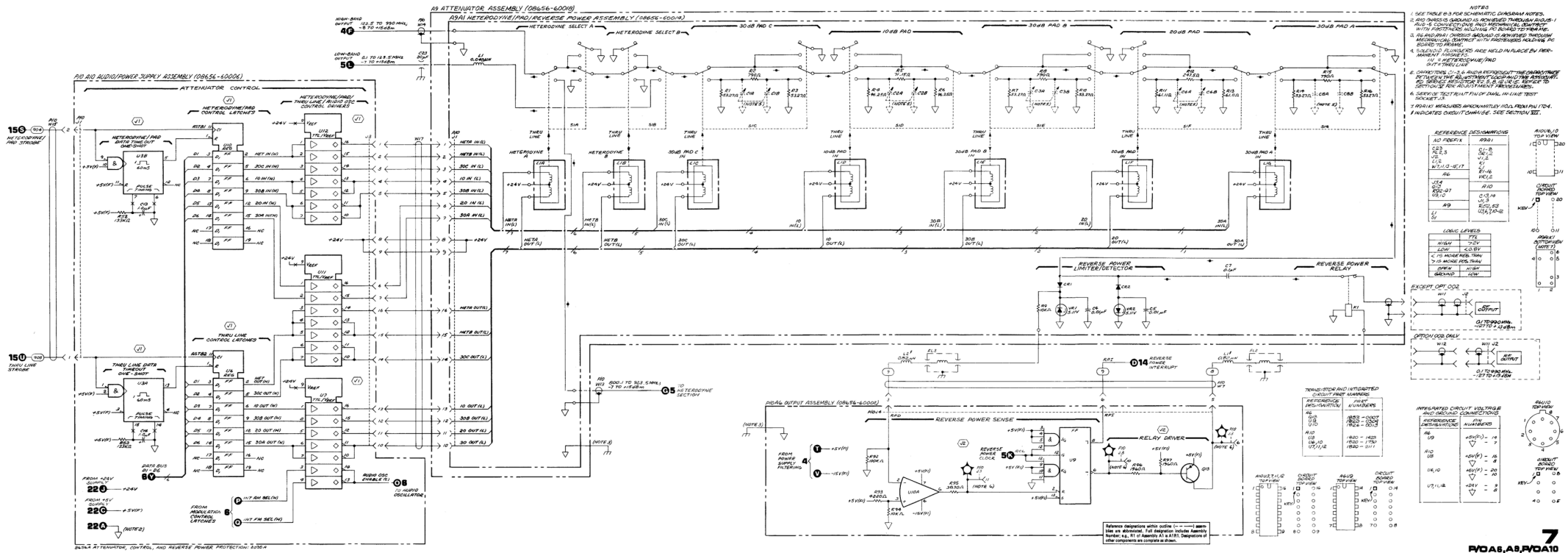
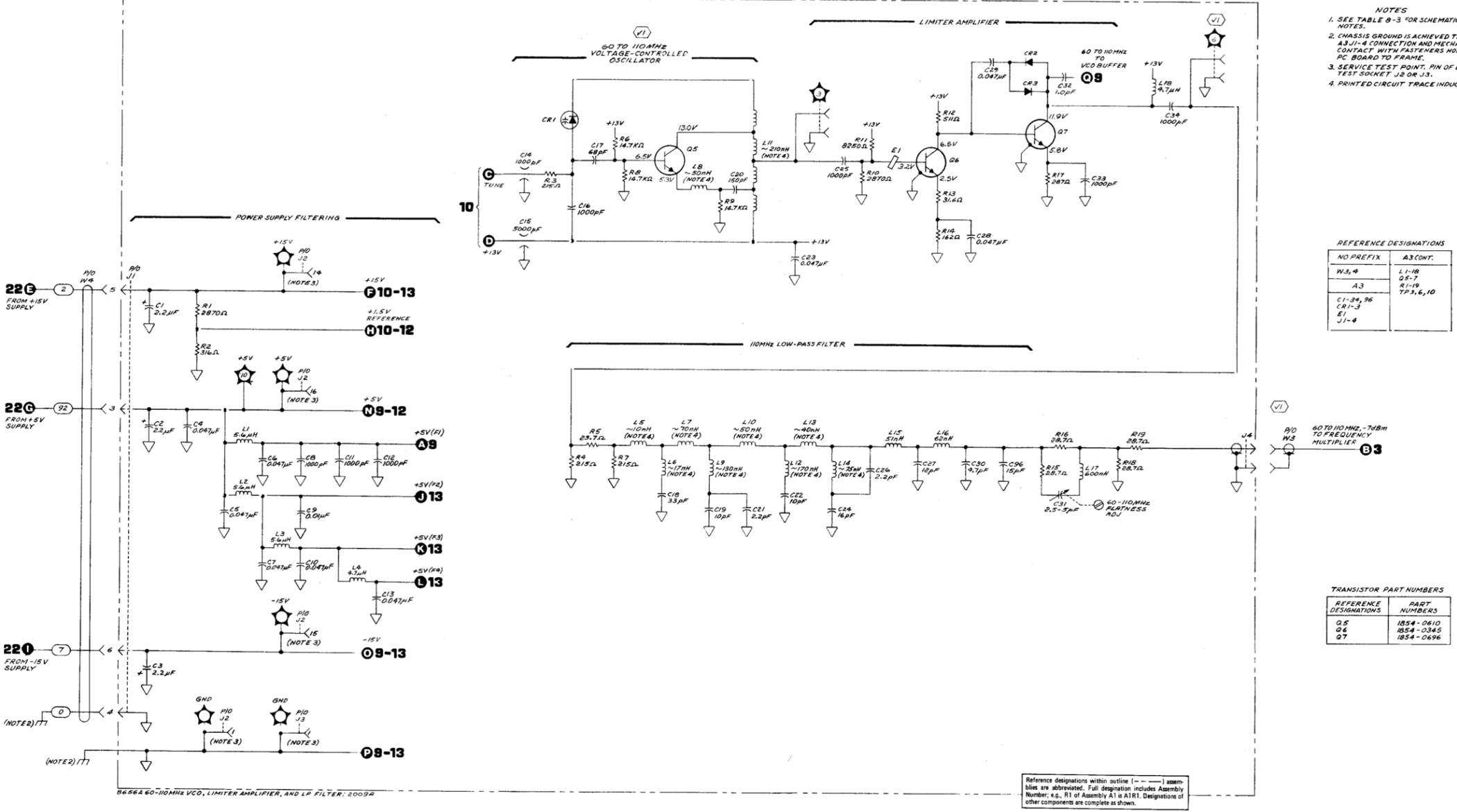


Figure 8-63. Attenuator, Attenuator Control and Reverse Power Protection Schematic Diagram

P10 A3 LOW FREQUENCY LOOP ASSEMBLY (08656-60003)



- NOTES
1. SEE TABLE 8-3 FOR SCHEMATIC DIAGRAM NOTES.
 2. CHASSIS GROUND IS ACHIEVED THROUGH A3 J1-4 CONNECTION AND MECHANICAL CONTACT WITH FASTENERS HOLDING PC BOARD TO FRAME.
 3. SERVICE TEST POINT: PIN OF DUAL IN-LINE TEST SOCKET J2 OR J3.
 4. PRINTED CIRCUIT TRACE INDUCTOR.

REFERENCE DESIGNATIONS

NO PREFIX	A3 CONT.
W3-4	L1-18
A3	Q5-7
C1-34, 96	R1-19
C1-3	TP3, 6, 10
E1	
J1-4	

TRANSISTOR PART NUMBERS

REFERENCE DESIGNATIONS	PART NUMBERS
Q5	1854-0610
Q6	1854-0345
Q7	1854-0696

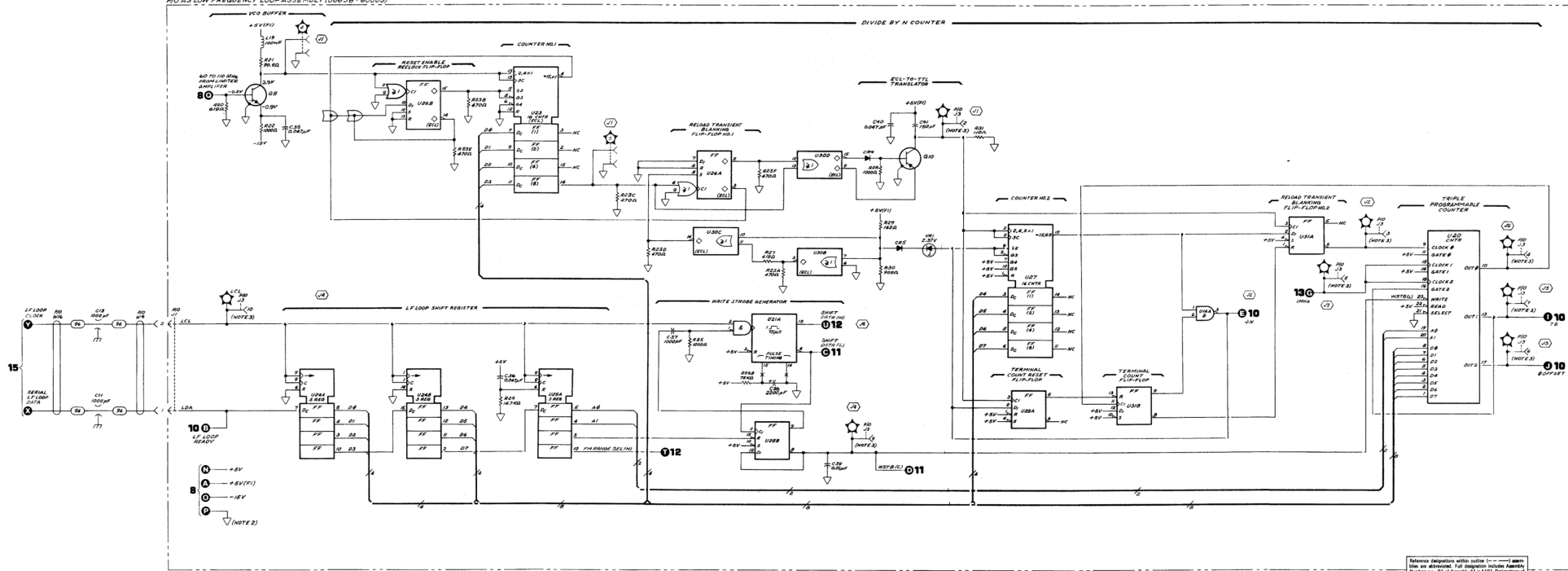
Reference designations within outline (---) assemblies are abbreviated. Full designation includes Assembly Number; e.g., R1 of Assembly A1 is R1R1. Designations of other components are complete as shown.

8666A 60-110MHZ VCO, LIMITER AMPLIFIER, AND LP FILTER: 200524



Figure 8-66. LF Loop VCO Schematic Diagram

PD A3 LOW FREQUENCY LOOP ASSEMBLY (08656-80003)



REFER TO U14 AND TIMING CHARTS, 7009A

NOTES
 1. SEE TABLE 8-9 FOR SCHEMATIC DIAGRAM NOTES.
 2. COUNTER 1 IS BRUNN 1; KNEEVEK THROUGH A-J; 4 CONNECTION AND MECHANICAL CONTACT WITH CENTER CONTACT HOLDING BRUNN TO FRAME.
 3. SERVICE TEST POINT AND/OR DUAL IN-LINE TEST SOCKET U-3.

REFERENCE DESIGNATIONS

IC PREFIX	AS CONT.
C11-1	E 10
W1-1	B 10
A-3	F 10
C15-11	D 20,21,22
C15-1	F 10
U1-3	U 10

LOGIC LEVELS

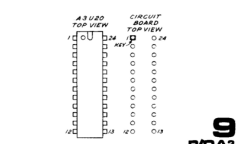
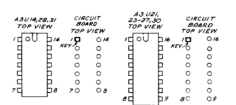
NAME	TTL	ECL
HIGH	2.7V	1.7V
LOW	0.5V	1.0V
* IS NAME NOT MORE THAN 2% INKLE MORE THAN SPEC. 1.0V TO 1.5V		
BRUNN	LOW	HIGH

TRANSITION AND INTEGRATED CIRCUIT NUMBER

REFERENCE DESIGNATION	TRANSITION NUMBER	INTEGRATED CIRCUIT NUMBER	GROUND CONNECTIONS	PIN NUMBER
U1	1854-0394	U1854.31	+5V-14	-
U2	1863-0010	U1863.31	+5V-24	7
U3	1851-0001	U1851.31	000	-
U4	1821-0008	U1821.31	+5V-16	-
U5	1820-1023	U1820.31	+5V-18	-
U6	1820-1009	U1820.31	+5V-18	-
U7	1820-1020	U1820.31	+5V-18	-
U8	1851-0002	U1851.31	+5V-14	-
U9	1851-0002	U1851.31	+5V-14	-

A3 D20,26

COMMON	A	B	C	D	E	F	G
1	2	3	4	5	6	7	8

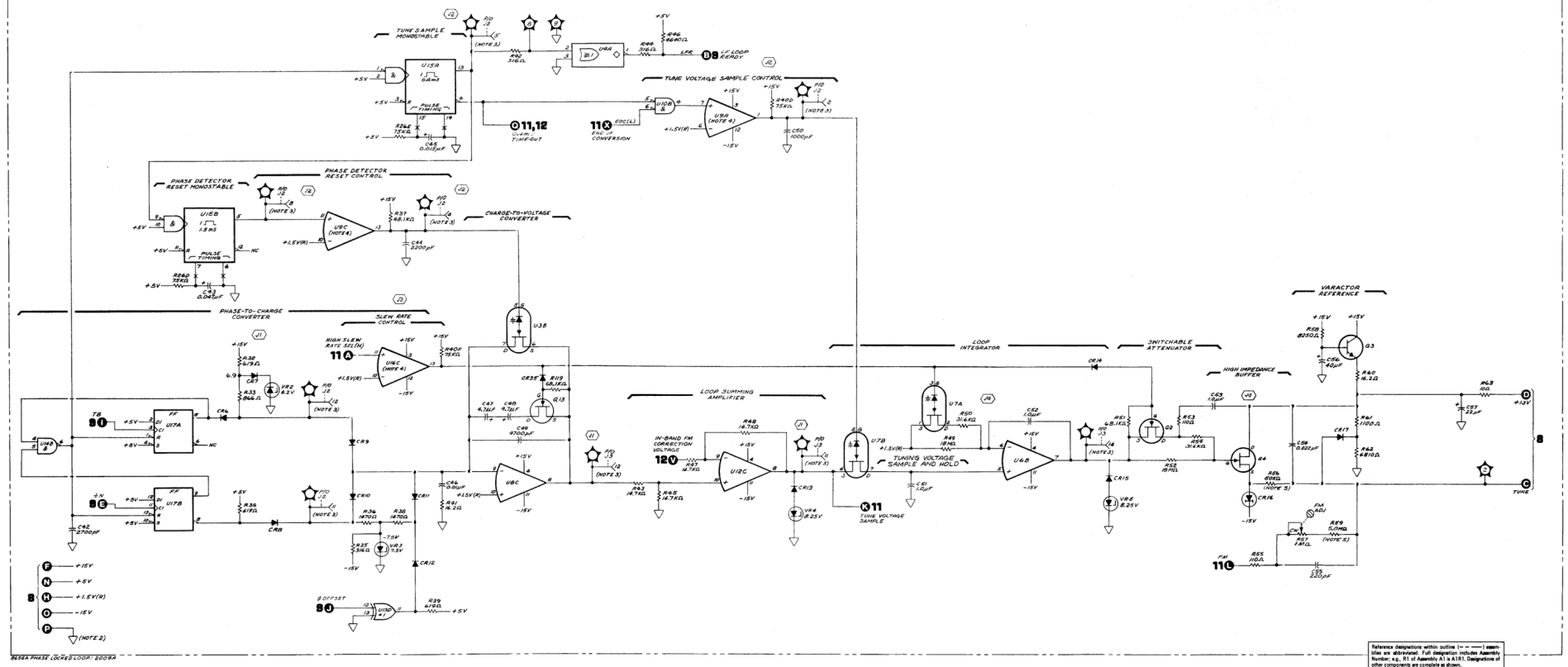


Reference designations within outline (---) mean that an alternative or duplicate outline number is in use. If designations include Assembly Number, it is of Assembly A1. Designations of other components are complete as shown.



Figure 8-69. LF Loop Data and Timing Control Schematic Diagram

90 A3 LOW FREQUENCY LOOP ASSEMBLY (08656 - 60003)



- NOTES
- SEE TABLE 8-3 FOR SCHEMATIC DIAGRAM NOTES.
 - CRISIS BEING IS SHOWN THROUGH 8311-4 CONNECTION AND MECHANICAL CONTACT WITH FASTENERS BEING REQUIRED TO PREVENT.
 - SERVICE TEST POINT PIN OF DUAL IN-LINE TEST SOCKET - 10 90 A3.
 - OPEN COLLECTOR DEVICE.
 - MATCHED FOR TEMPERATURE CHARACTERISTICS.

REFERENCE DESIGNATIONS

A3
C42-117
C43-15, 52
C44-3
C45-10, 18
C46-10, 18, 19
C47-10, 18, 19
C48-10, 18, 19
C49-10, 18, 19
C50-10, 18, 19

LOGIC LEVELS

VFL	> 2 V
LOW	< 0.8 V
< 1.5 MORE NEG THAN	> 1.5 MORE POS THAN
OPEN	HI-Z
GROUND	LOW

TRANSISTOR AND INTEGRATED CIRCUIT PART NUMBERS

REFERENCE DESIGNATION	PART NUMBER
Q1, Q2	1855-0414
Q3	1854-1007
Q4	1855-0288
Q5, Q7	1858-0086
Q6	1820-0725
Q8	1828-0524
Q9, Q6	1820-0148
Q10	1820-0148
Q11	1820-0148
Q12	1820-0148
Q13	1820-0148
Q14	1820-0148
Q15	1820-0148
Q16	1820-0148
Q17	1820-0148

INTEGRATED CIRCUIT PART NUMBERS AND GROUND CONNECTIONS

REFERENCE DESIGNATION	PART NUMBER	GROUND CONNECTION
U1, U2, U3, U4, U5, U6, U7, U8, U9, U10, U11, U12, U13, U14, U15, U16, U17, U18	110	14, 15, 16, 17, 18
U19, U20, U21, U22, U23, U24, U25, U26, U27, U28, U29, U30, U31, U32, U33, U34, U35, U36, U37, U38, U39, U40, U41, U42, U43, U44, U45, U46, U47, U48, U49, U50, U51, U52, U53, U54, U55, U56, U57, U58, U59, U60, U61, U62, U63, U64, U65, U66, U67, U68, U69, U70, U71, U72, U73, U74, U75, U76, U77, U78, U79, U80, U81, U82, U83, U84, U85, U86, U87, U88, U89, U90, U91, U92, U93, U94, U95, U96, U97, U98, U99, U100	110	14, 15, 16, 17, 18

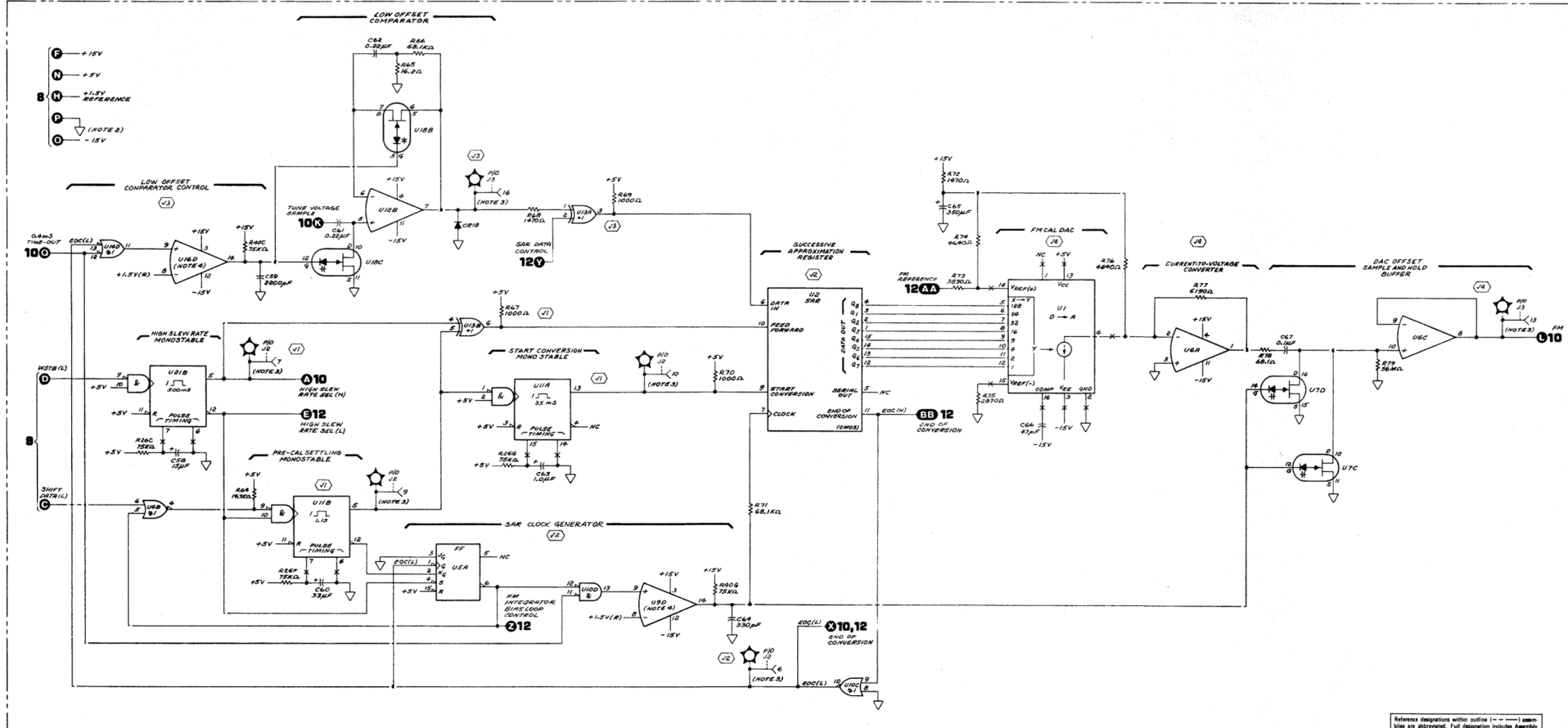
ASSEMBLY POINTS AND GROUND CONNECTIONS

ASSEMBLY POINT	CIRCUIT BOARD TOP VIEW	ASSEMBLY POINT	CIRCUIT BOARD TOP VIEW
1	0	14	0
2	0	15	0
3	0	16	0
4	0	17	0
5	0	18	0
6	0	19	0
7	0	20	0
8	0	21	0
9	0	22	0
10	0	23	0
11	0	24	0
12	0	25	0
13	0	26	0
14	0	27	0
15	0	28	0
16	0	29	0
17	0	30	0
18	0	31	0
19	0	32	0
20	0	33	0
21	0	34	0
22	0	35	0
23	0	36	0
24	0	37	0
25	0	38	0
26	0	39	0
27	0	40	0
28	0	41	0
29	0	42	0
30	0	43	0
31	0	44	0
32	0	45	0
33	0	46	0
34	0	47	0
35	0	48	0
36	0	49	0
37	0	50	0
38	0	51	0
39	0	52	0
40	0	53	0
41	0	54	0
42	0	55	0
43	0	56	0
44	0	57	0
45	0	58	0
46	0	59	0
47	0	60	0
48	0	61	0
49	0	62	0
50	0	63	0
51	0	64	0
52	0	65	0
53	0	66	0
54	0	67	0
55	0	68	0
56	0	69	0
57	0	70	0
58	0	71	0
59	0	72	0
60	0	73	0
61	0	74	0
62	0	75	0
63	0	76	0
64	0	77	0
65	0	78	0
66	0	79	0
67	0	80	0
68	0	81	0
69	0	82	0
70	0	83	0
71	0	84	0
72	0	85	0
73	0	86	0
74	0	87	0
75	0	88	0
76	0	89	0
77	0	90	0
78	0	91	0
79	0	92	0
80	0	93	0
81	0	94	0
82	0	95	0
83	0	96	0
84	0	97	0
85	0	98	0
86	0	99	0
87	0	100	0

Reference designations within outline (---) shall be as shown. Full designation includes Assembly Number (e.g. 81 of Assembly A1) & PART. Designations of other components are complete as shown.

Figure 8-72. LF Loop Phase Lock Circuits Schematic Diagram

PO A3 LOW FREQUENCY LOOP ASSEMBLY (08656-60003)



- NOTES**
- SEE TABLE 8-3 FOR SCHEMATIC DIAGRAM NOTES.
 - CHASSIS GROUND IS ACHIEVED THROUGH AS-1-A CONNECTION AND MECHANICAL CONTACT WITH FASTENERS HOLDING PC BOARD TO FRAME.
 - SERVICE TEST POINT, PIN OF DUAL IN-LINE TEST SOCKET U2 OR U3.
 - OPEN COLLECTOR DEVICE.

REFERENCE DESIGNATIONS

A3
C50-67
C58
U2,3
RES-40-44-79
U1,2,4,7,9,10,11,12

LOGIC LEVELS

HIGH	> 2V	< 0.5V
LOW	< 0.8V	< 1.5V

< IS MORE NEG. THAN POS. THAN

OPEN	HIGH	UNDEF
GROUND	LOW	LOW

INTEGRATED CIRCUIT PART NUMBERS

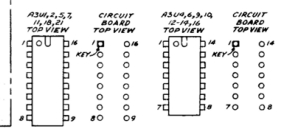
REFERENCE DESIGNATIONS	CIRCUIT PART NUMBERS
U1	1826-0168
U4	1820-1722
U6,12	1820-1812
U7,15	1828-0244
U10,11	1824-1074
U12	1820-1498
U13	1820-1823
U16	1820-1811

INTEGRATED CIRCUIT VOLTAGE AND GROUND CONNECTIONS

REFERENCE DESIGNATIONS	VOLTAGE	PIN
U2,5,12,1	+5V	-16
U1,10,15,19	+5V	-8
	+5V	-14
	-15V	-7

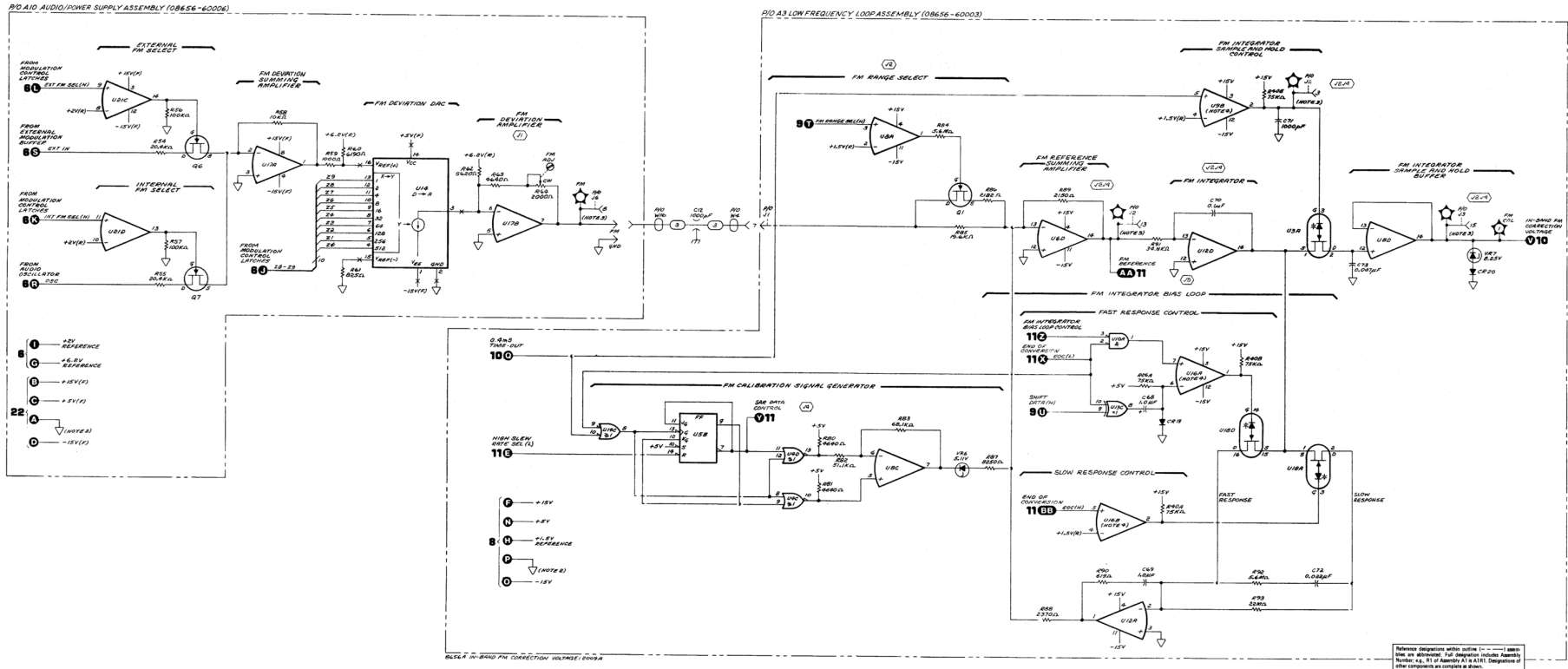
ASSEMBLY BOARD

BOARD	1	2	3	4	5	6	7	8
COMMON	A	B	C	D	E	F	G	H



Reference designations within outline (---) same as the abbreviated. Full designation includes Assembly Number, e.g., R1 of Assembly A1 is A1R1. Designations of other components are complete as shown.

Figure 8-75. LF Loop FM Calibrator Schematic Diagram



REFERENCE DESIGNATIONS

NO.	SYMBOL	A10
U10	U10	884-88
U11	U11	014/15/21
U12	U12	884-88
U13	U13	884-88
U14	U14	884-88
U15	U15	884-88
U16	U16	884-88
U17	U17	884-88
U18	U18	884-88
U19	U19	884-88
U20	U20	884-88
U21	U21	884-88
U22	U22	884-88
U23	U23	884-88
U24	U24	884-88

LOGIC LEVELS

LEVEL	LEVEL
HIGH	V _{CC}
LOW	V _{EE}
< 0.5 HOURS	V _{EE}
OPEN	HIGH
SECOND	LOW

TRANSISTOR AND INTEGRATED CIRCUIT PART DESIGNATIONS

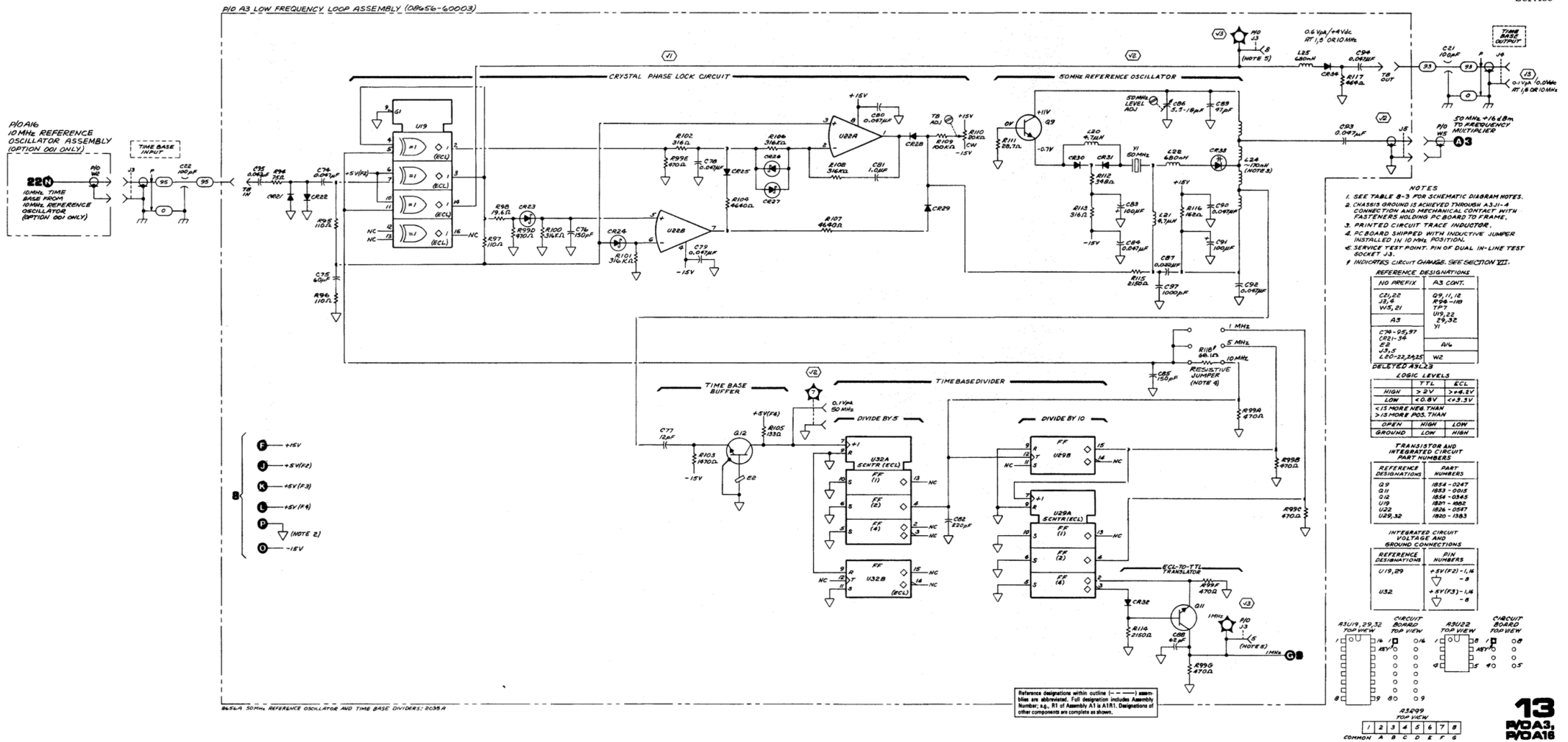
DESIGNATION	PART NUMBER	REFERENCE DESIGNATION	PC BOARD CONNECTION
A1	884-88	U10, U11, U12	+5V
A2	884-88	U13	+5V
A3	884-88	U14	+5V
A4	884-88	U15	+5V
A5	884-88	U16	+5V
A6	884-88	U17	+5V
A7	884-88	U18	+5V
A8	884-88	U19	+5V
A9	884-88	U20	+5V
A10	884-88	U21	+5V
A11	884-88	U22	+5V
A12	884-88	U23	+5V
A13	884-88	U24	+5V

A3 PCB NO.

TOP VIEW	LEFT VIEW	RIGHT VIEW	BACK VIEW
1	2	3	4
5	6	7	8
9	0	1	2
3	4	5	6
7	8	9	0

Reference designations with outline 1-1-10 are shown in abbreviated list. Designation includes Assembly Number: eg. U1 of Assembly A1 is U1A1. Designative of other components as complete as shown.

Figure 8-79. LF Loop FM System Control and Calibrator Schematic Diagram



- NOTES**
- SEE TABLE 8-3 FOR SCHEMATIC DIAGRAM NOTES.
 - CHASSIS GROUND IS ACHIEVED THROUGH A311-4 CONNECTION AND MECHANICAL CONTACT WITH FASTENERS HOLDING PC BOARD TO FRAME.
 - PRINTED CIRCUIT TRACE INDUCTOR.
 - PC BOARD SHIPPED WITH INDUCTIVE JUMPER INSTALLED IN 10 MHz POSITION.
 - SERVICE TEST POINT. PIN OF DUAL IN-LINE TEST SOCKET J-1.
 - INDICATES CIRCUIT CHANGE. SEE SECTION VII.
- | REFERENCE DESIGNATIONS | NO PREFIX | A3 CONT. |
|------------------------|------------|----------|
| C21,22 | Q9, 11, 12 | |
| J5, 6 | R99-100 | |
| W5, 21 | TY7 | |
| A3 | U19, 23 | |
| | 29, 32 | Y1 |
| C76-05, 97 | | |
| CR21-34 | | |
| S2 | | |
| U3, 5 | | |
| L23-32, 34, 35 | | |
| WE | | |
| DELETED | A3, 33 | |
- | LOGIC LEVELS | TTL | ECL |
|---------------------------------------|--------|----------|
| HIGH | > 2V | >> +1.5V |
| LOW | < 0.8V | << -1.3V |
| = 15 MORE HZ THAN 1/10 MORE POS. THAN | | |
| OPEN | HIGH | LOW |
| GROUND | LOW | HIGH |
- | TRANSISTOR AND INTEGRATED CIRCUIT PART NUMBERS | PART NUMBERS |
|--|--------------|
| Q | 1854-0247 |
| Q11 | 1853-0015 |
| Q12 | 1854-0345 |
| U19 | 1821-0882 |
| U22 | 1826-0287 |
| U29, 32 | 1820-1383 |
- | INTEGRATED CIRCUIT VOLTAGE AND GROUND CONNECTIONS | REFERENCE DESIGNATIONS | PIN NUMBERS |
|---|------------------------|-------------|
| U19, 29 | +5V (F2) - 1, 16 | |
| | -15V - 8 | |
| U32 | +5V (F3) - 1, 16 | |
| | -15V - 8 | |
- | CIRCUIT BOARD TOP VIEW | CIRCUIT BOARD TOP VIEW | CIRCUIT BOARD TOP VIEW |
|------------------------|------------------------|------------------------|
| A31/9, 29, 32 | A31/22 | A31/22 |
| 1 | 1 | 1 |
| 2 | 2 | 2 |
| 3 | 3 | 3 |
| 4 | 4 | 4 |
| 5 | 5 | 5 |
| 6 | 6 | 6 |
| 7 | 7 | 7 |
| 8 | 8 | 8 |
| 9 | 9 | 9 |
| 10 | 10 | 10 |
| 11 | 11 | 11 |
| 12 | 12 | 12 |
| 13 | 13 | 13 |
| 14 | 14 | 14 |
| 15 | 15 | 15 |
| 16 | 16 | 16 |
| 17 | 17 | 17 |
| 18 | 18 | 18 |
| 19 | 19 | 19 |
| 20 | 20 | 20 |
| 21 | 21 | 21 |
| 22 | 22 | 22 |
| 23 | 23 | 23 |
| 24 | 24 | 24 |
| 25 | 25 | 25 |
| 26 | 26 | 26 |
| 27 | 27 | 27 |
| 28 | 28 | 28 |
| 29 | 29 | 29 |
| 30 | 30 | 30 |
| 31 | 31 | 31 |
| 32 | 32 | 32 |
| 33 | 33 | 33 |
| 34 | 34 | 34 |
| 35 | 35 | 35 |
| 36 | 36 | 36 |
| 37 | 37 | 37 |
| 38 | 38 | 38 |
| 39 | 39 | 39 |
| 40 | 40 | 40 |
| 41 | 41 | 41 |
| 42 | 42 | 42 |
| 43 | 43 | 43 |
| 44 | 44 | 44 |
| 45 | 45 | 45 |
| 46 | 46 | 46 |
| 47 | 47 | 47 |
| 48 | 48 | 48 |
| 49 | 49 | 49 |
| 50 | 50 | 50 |
| 51 | 51 | 51 |
| 52 | 52 | 52 |
| 53 | 53 | 53 |
| 54 | 54 | 54 |
| 55 | 55 | 55 |
| 56 | 56 | 56 |
| 57 | 57 | 57 |
| 58 | 58 | 58 |
| 59 | 59 | 59 |
| 60 | 60 | 60 |
| 61 | 61 | 61 |
| 62 | 62 | 62 |
| 63 | 63 | 63 |
| 64 | 64 | 64 |
| 65 | 65 | 65 |
| 66 | 66 | 66 |
| 67 | 67 | 67 |
| 68 | 68 | 68 |
| 69 | 69 | 69 |
| 70 | 70 | 70 |
| 71 | 71 | 71 |
| 72 | 72 | 72 |
| 73 | 73 | 73 |
| 74 | 74 | 74 |
| 75 | 75 | 75 |
| 76 | 76 | 76 |
| 77 | 77 | 77 |
| 78 | 78 | 78 |
| 79 | 79 | 79 |
| 80 | 80 | 80 |
| 81 | 81 | 81 |
| 82 | 82 | 82 |
| 83 | 83 | 83 |
| 84 | 84 | 84 |
| 85 | 85 | 85 |
| 86 | 86 | 86 |
| 87 | 87 | 87 |
| 88 | 88 | 88 |
| 89 | 89 | 89 |
| 90 | 90 | 90 |
| 91 | 91 | 91 |
| 92 | 92 | 92 |
| 93 | 93 | 93 |
| 94 | 94 | 94 |
| 95 | 95 | 95 |
| 96 | 96 | 96 |
| 97 | 97 | 97 |
| 98 | 98 | 98 |
| 99 | 99 | 99 |
| 100 | 100 | 100 |

Figure 8-82. Reference Oscillators and Phase Lock Loop Schematic Diagram

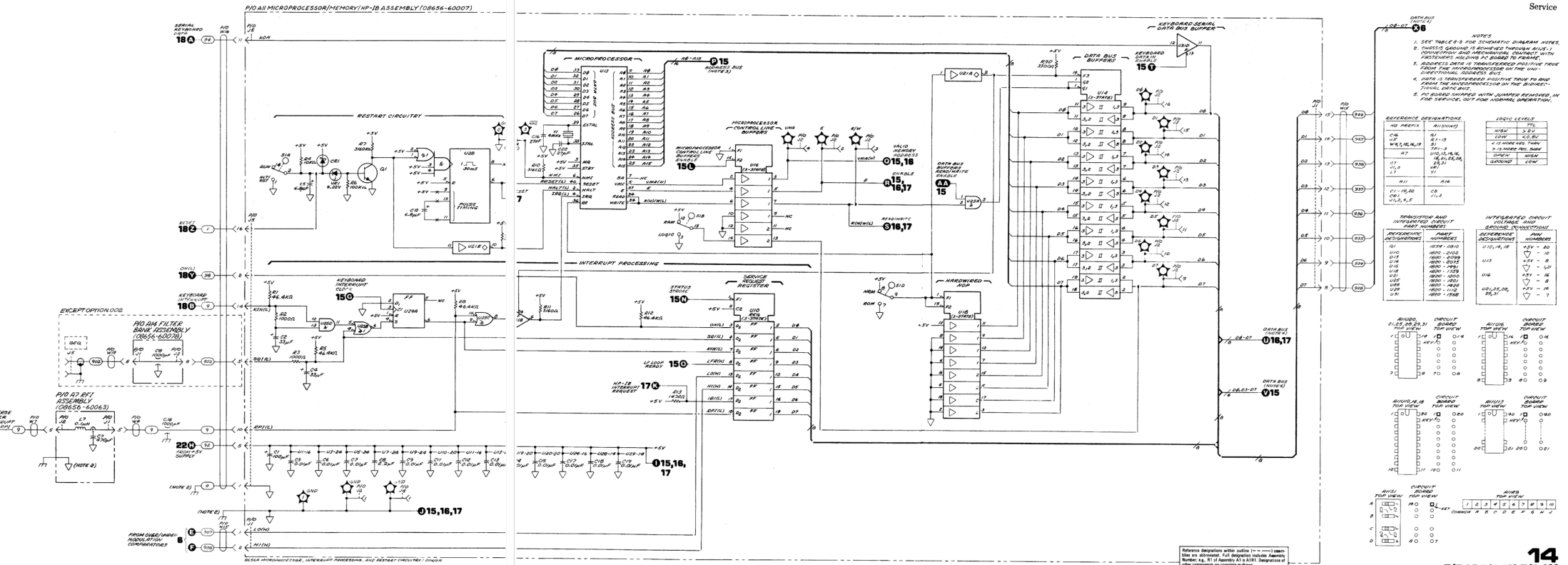


Figure 8-86. Microprocessor, Interrupt Processing and Restart Schematic Diagram

P10 A11 MICROPROCESSOR/MEMORY/HP-IB ASSEMBLY (08656-60007)†

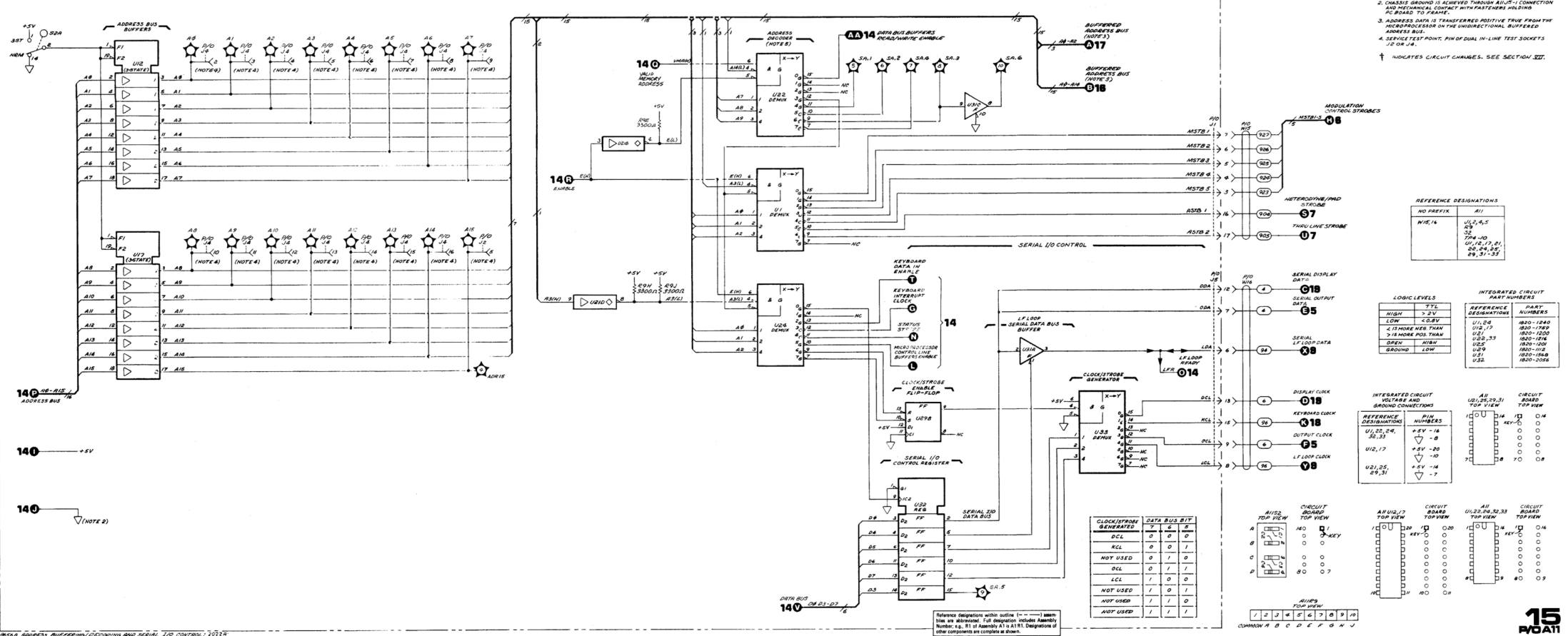
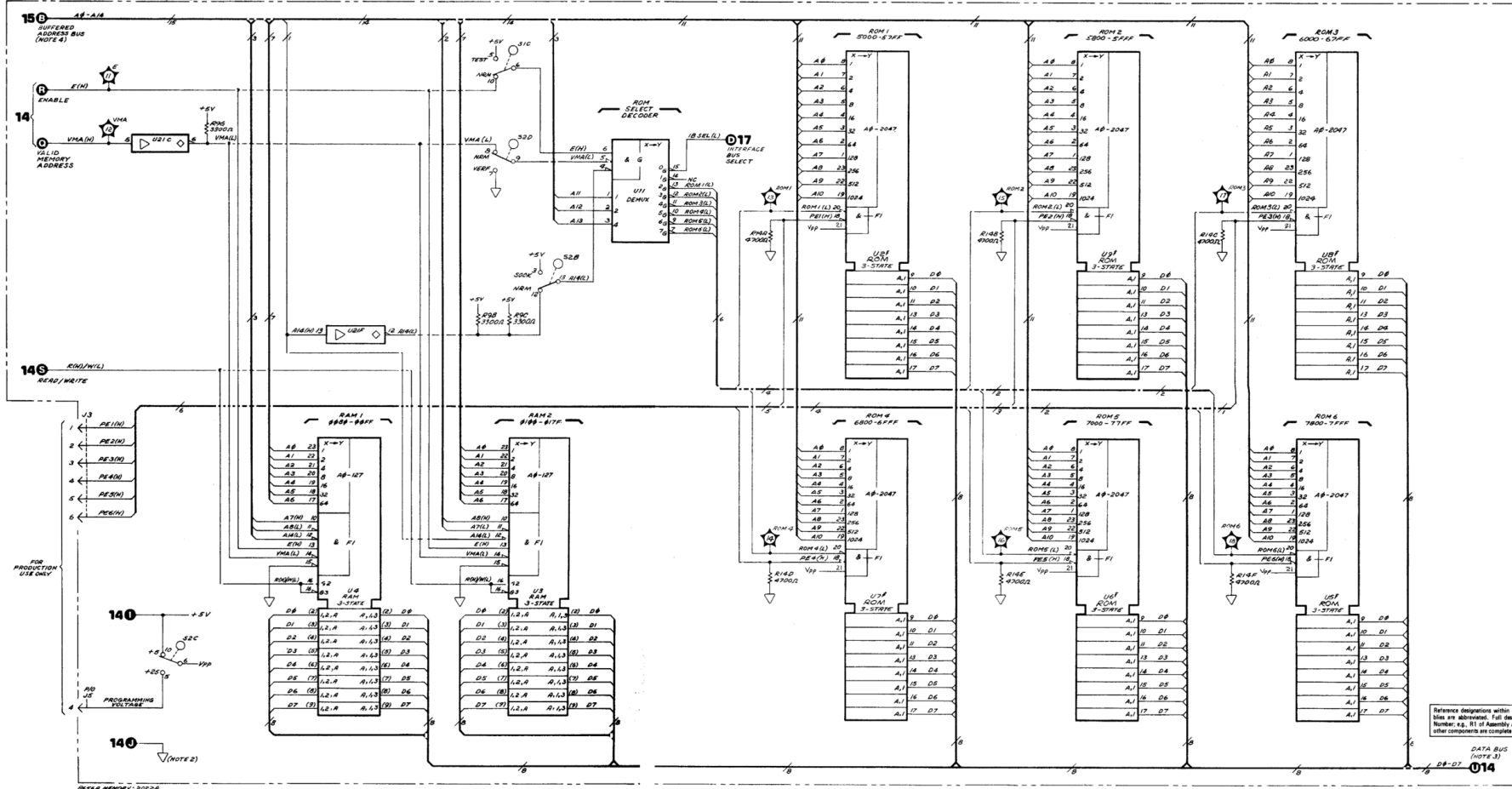


Figure 8-89. Address Buffering and Decoding, Serial I/O and Control Schematic Diagram

PD A1 MICROPROCESSOR/MEMORY/HP-1B ASSEMBLY (08656-60007)



- NOTES
1. SEE TABLE 8-3 FOR SYMBOLIC DIAGRAM NOTES.
 2. CHASSIS GROUND IS ACHIEVED THROUGH ALL 05-1 CONNECTIONS AND MECHANICAL CONTACT WITH FASTENERS HOLDING PC BOARD TO FRAME.
 3. DATA IS TRANSFERRED POSITIVE TRUE FROM ROM OR RAM MEMORY TO THE MICROPROCESSOR ON THE DATA BUS (D_B - D₇).
 4. ADDRESS DATA IS TRANSFERRED POSITIVE TRUE FROM THE MICROPROCESSOR ON THE BUFFERED ADDRESS BUS (A_B - A₁₄).
- INDICATES CIRCUIT CHANGE: SEE SECTION VIII.

REFERENCE DESIGNATIONS	LOGIC LEVELS
A11	HIGH TTL
U3, 5	LOW > 2.5V
U4, 8	LOW < 0.8V
U12, 16	< 1.5V MORE NEG. THAN 3.5V MORE POS. THAN 3.5V
U2, 9, 11, 21	OPEN HIGH
	GROUND LOW

REFERENCE DESIGNATIONS	PART NUMBERS
U2	1618 - 1200
U2, 4	1618 - 630V
U5	1618 - 1200
U6	1618 - 1200
U7	1618 - 1200
U8	1618 - 1200
U11	1618 - 1200
U12	1618 - 1200

REFERENCE DESIGNATIONS	PIN NUMBERS
U2, 5, 9	- 12
U3, 4	+5V - 24
	- 1
U11	+5V - 16
	- 8
	+5V - 14
U21	- 7

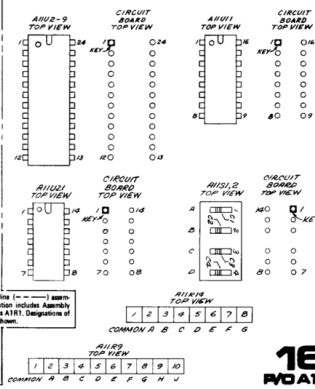
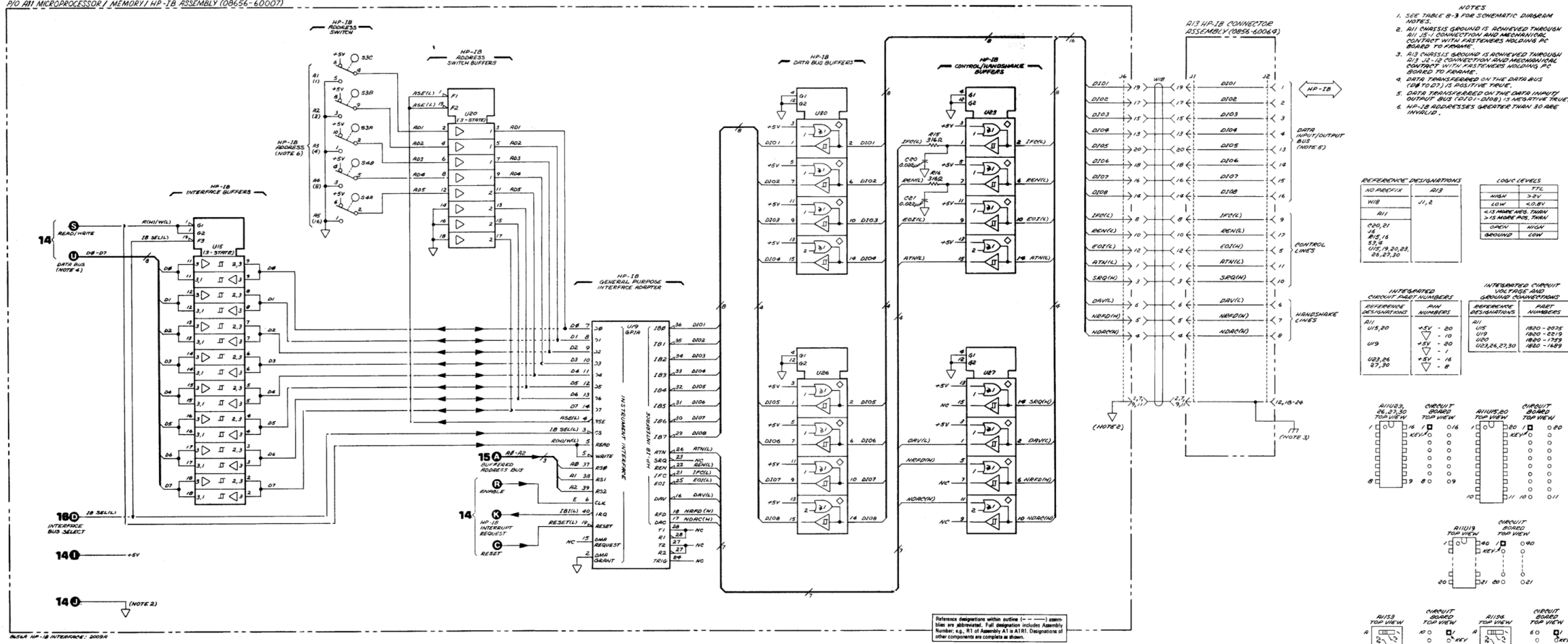


Figure 8-92. Memory Schematic Diagram

P10.001 MICROPROCESSOR / MEMORY / HP-IB ASSEMBLY (08656-60007)



HP-IB INTERFACED: 20091

Reference designations within outline (---) assembly are addressed. Full designation includes Assembly Number, e.g., R1 of Assembly A1 is A1R1. Designations of other components are complete as shown.

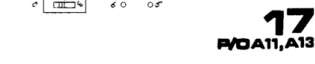
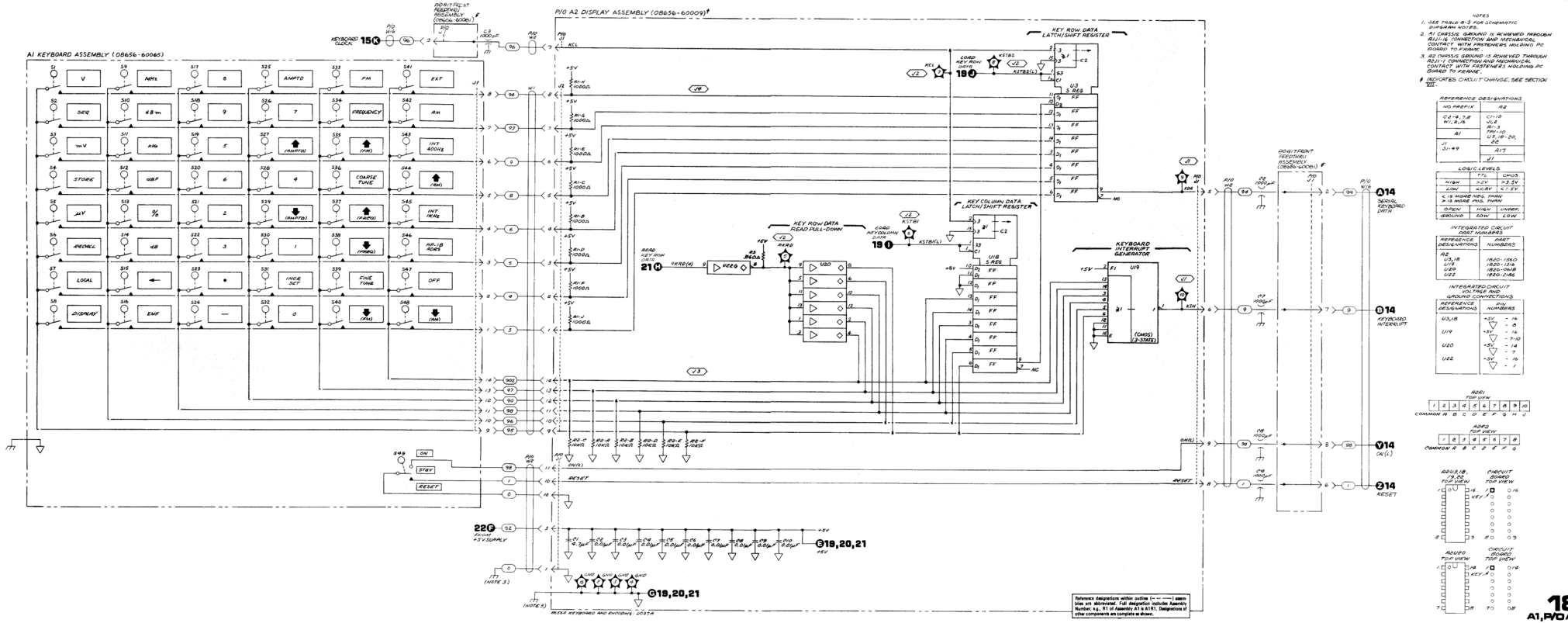


Figure 8-96. HP-IB Interface Schematic Diagram



- NOTES
1. SEE TABLE 3 FOR COMPONENT IDENTIFICATION.
 2. ALL CABLES SHOWN IN DRAWING PRESENTED AS A CONCEPTUAL AND MECHANICAL ONLY. WITH PARTS LISTED AND BOUND TO DRAWING.
 3. ALL CABLES SHOWN IN DRAWING PRESENTED AS A CONCEPTUAL AND MECHANICAL ONLY. WITH PARTS LISTED AND BOUND TO DRAWING.
 4. INCORPORATED CIRCUIT CHANGE, SEE SECTION VII.
- | REFERENCE DESIGNATION | VALUE |
|-----------------------|--------|
| IC1 | 74LS16 |
| IC2 | 74LS16 |
| IC3 | 74LS16 |
| IC4 | 74LS16 |
| IC5 | 74LS16 |
| IC6 | 74LS16 |
| IC7 | 74LS16 |
| IC8 | 74LS16 |
| IC9 | 74LS16 |
| IC10 | 74LS16 |
| IC11 | 74LS16 |
| IC12 | 74LS16 |
| IC13 | 74LS16 |
| IC14 | 74LS16 |
| IC15 | 74LS16 |
| IC16 | 74LS16 |
| IC17 | 74LS16 |
| IC18 | 74LS16 |
| IC19 | 74LS16 |
| IC20 | 74LS16 |
| IC21 | 74LS16 |
| IC22 | 74LS16 |
| IC23 | 74LS16 |
| IC24 | 74LS16 |
| IC25 | 74LS16 |
| IC26 | 74LS16 |
| IC27 | 74LS16 |
| IC28 | 74LS16 |
| IC29 | 74LS16 |
| IC30 | 74LS16 |
| IC31 | 74LS16 |
| IC32 | 74LS16 |
| IC33 | 74LS16 |
| IC34 | 74LS16 |
| IC35 | 74LS16 |
| IC36 | 74LS16 |
| IC37 | 74LS16 |
| IC38 | 74LS16 |
| IC39 | 74LS16 |
| IC40 | 74LS16 |
| IC41 | 74LS16 |
| IC42 | 74LS16 |
| IC43 | 74LS16 |
| IC44 | 74LS16 |
| IC45 | 74LS16 |
| IC46 | 74LS16 |
| IC47 | 74LS16 |
| IC48 | 74LS16 |
| IC49 | 74LS16 |
| IC50 | 74LS16 |
| IC51 | 74LS16 |
| IC52 | 74LS16 |
| IC53 | 74LS16 |
| IC54 | 74LS16 |
| IC55 | 74LS16 |
| IC56 | 74LS16 |
| IC57 | 74LS16 |
| IC58 | 74LS16 |
| IC59 | 74LS16 |
| IC60 | 74LS16 |
| IC61 | 74LS16 |
| IC62 | 74LS16 |
| IC63 | 74LS16 |
| IC64 | 74LS16 |
| IC65 | 74LS16 |
| IC66 | 74LS16 |
| IC67 | 74LS16 |
| IC68 | 74LS16 |
| IC69 | 74LS16 |
| IC70 | 74LS16 |
| IC71 | 74LS16 |
| IC72 | 74LS16 |
| IC73 | 74LS16 |
| IC74 | 74LS16 |
| IC75 | 74LS16 |
| IC76 | 74LS16 |
| IC77 | 74LS16 |
| IC78 | 74LS16 |
| IC79 | 74LS16 |
| IC80 | 74LS16 |
| IC81 | 74LS16 |
| IC82 | 74LS16 |
| IC83 | 74LS16 |
| IC84 | 74LS16 |
| IC85 | 74LS16 |
| IC86 | 74LS16 |
| IC87 | 74LS16 |
| IC88 | 74LS16 |
| IC89 | 74LS16 |
| IC90 | 74LS16 |
| IC91 | 74LS16 |
| IC92 | 74LS16 |
| IC93 | 74LS16 |
| IC94 | 74LS16 |
| IC95 | 74LS16 |
| IC96 | 74LS16 |
| IC97 | 74LS16 |
| IC98 | 74LS16 |
| IC99 | 74LS16 |
| IC100 | 74LS16 |
- KEYBOARD INTERFACER
 REFERENCE DESIGNATION: U1, U2, U3, U4, U5, U6, U7, U8, U9, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U20, U21, U22, U23, U24, U25, U26, U27, U28, U29, U30, U31, U32, U33, U34, U35, U36, U37, U38, U39, U40, U41, U42, U43, U44, U45, U46, U47, U48, U49, U50, U51, U52, U53, U54, U55, U56, U57, U58, U59, U60, U61, U62, U63, U64, U65, U66, U67, U68, U69, U70, U71, U72, U73, U74, U75, U76, U77, U78, U79, U80, U81, U82, U83, U84, U85, U86, U87, U88, U89, U90, U91, U92, U93, U94, U95, U96, U97, U98, U99, U100
- INTEGRATED CIRCUIT PART NUMBERS
- | REFERENCE DESIGNATION | PART NUMBER |
|-----------------------|-------------|
| U1 | 74LS16 |
| U2 | 74LS16 |
| U3 | 74LS16 |
| U4 | 74LS16 |
| U5 | 74LS16 |
| U6 | 74LS16 |
| U7 | 74LS16 |
| U8 | 74LS16 |
| U9 | 74LS16 |
| U10 | 74LS16 |
| U11 | 74LS16 |
| U12 | 74LS16 |
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| U14 | 74LS16 |
| U15 | 74LS16 |
| U16 | 74LS16 |
| U17 | 74LS16 |
| U18 | 74LS16 |
| U19 | 74LS16 |
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| U68 | 74LS16 |
| U69 | 74LS16 |
| U70 | 74LS16 |
| U71 | 74LS16 |
| U72 | 74LS16 |
| U73 | 74LS16 |
| U74 | 74LS16 |
| U75 | 74LS16 |
| U76 | 74LS16 |
| U77 | 74LS16 |
| U78 | 74LS16 |
| U79 | 74LS16 |
| U80 | 74LS16 |
| U81 | 74LS16 |
| U82 | 74LS16 |
| U83 | 74LS16 |
| U84 | 74LS16 |
| U85 | 74LS16 |
| U86 | 74LS16 |
| U87 | 74LS16 |
| U88 | 74LS16 |
| U89 | 74LS16 |
| U90 | 74LS16 |
| U91 | 74LS16 |
| U92 | 74LS16 |
| U93 | 74LS16 |
| U94 | 74LS16 |
| U95 | 74LS16 |
| U96 | 74LS16 |
| U97 | 74LS16 |
| U98 | 74LS16 |
| U99 | 74LS16 |
| U100 | 74LS16 |
- KEYBOARD INTERFACER
 REFERENCE DESIGNATION: U1, U2, U3, U4, U5, U6, U7, U8, U9, U10, U11, U12, U13, U14, U15, U16, U17, U18, U19, U20, U21, U22, U23, U24, U25, U26, U27, U28, U29, U30, U31, U32, U33, U34, U35, U36, U37, U38, U39, U40, U41, U42, U43, U44, U45, U46, U47, U48, U49, U50, U51, U52, U53, U54, U55, U56, U57, U58, U59, U60, U61, U62, U63, U64, U65, U66, U67, U68, U69, U70, U71, U72, U73, U74, U75, U76, U77, U78, U79, U80, U81, U82, U83, U84, U85, U86, U87, U88, U89, U90, U91, U92, U93, U94, U95, U96, U97, U98, U99, U100
- INTEGRATED CIRCUIT PART NUMBERS
- | REFERENCE DESIGNATION | PART NUMBER |
|-----------------------|-------------|
| U1 | 74LS16 |
| U2 | 74LS16 |
| U3 | 74LS16 |
| U4 | 74LS16 |
| U5 | 74LS16 |
| U6 | 74LS16 |
| U7 | 74LS16 |
| U8 | 74LS16 |
| U9 | 74LS16 |
| U10 | 74LS16 |
| U11 | 74LS16 |
| U12 | 74LS16 |
| U13 | 74LS16 |
| U14 | 74LS16 |
| U15 | 74LS16 |
| U16 | 74LS16 |
| U17 | 74LS16 |
| U18 | 74LS16 |
| U19 | 74LS16 |
| U20 | 74LS16 |
| U21 | 74LS16 |
| U22 | 74LS16 |
| U23 | 74LS16 |
| U24 | 74LS16 |
| U25 | 74LS16 |
| U26 | 74LS16 |
| U27 | 74LS16 |
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| U31 | 74LS16 |
| U32 | 74LS16 |
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| U36 | 74LS16 |
| U37 | 74LS16 |
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| U41 | 74LS16 |
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| U96 | 74LS16 |
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| U98 | 74LS16 |
| U99 | 74LS16 |
| U100 | 74LS16 |

Figure 8-100. Keyboard and Encoder Schematic Diagram



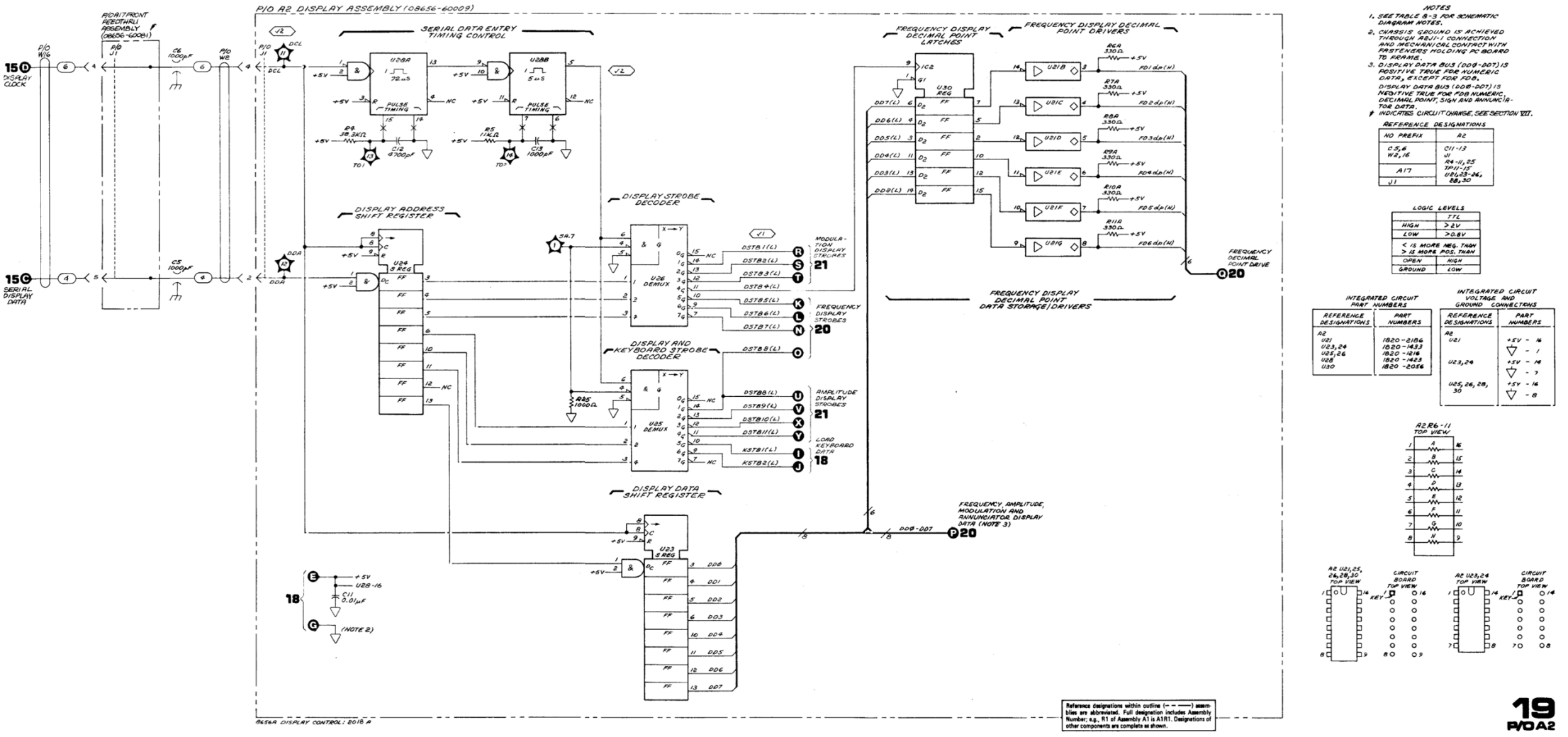


Figure 8-103. Display Control Schematic Diagram

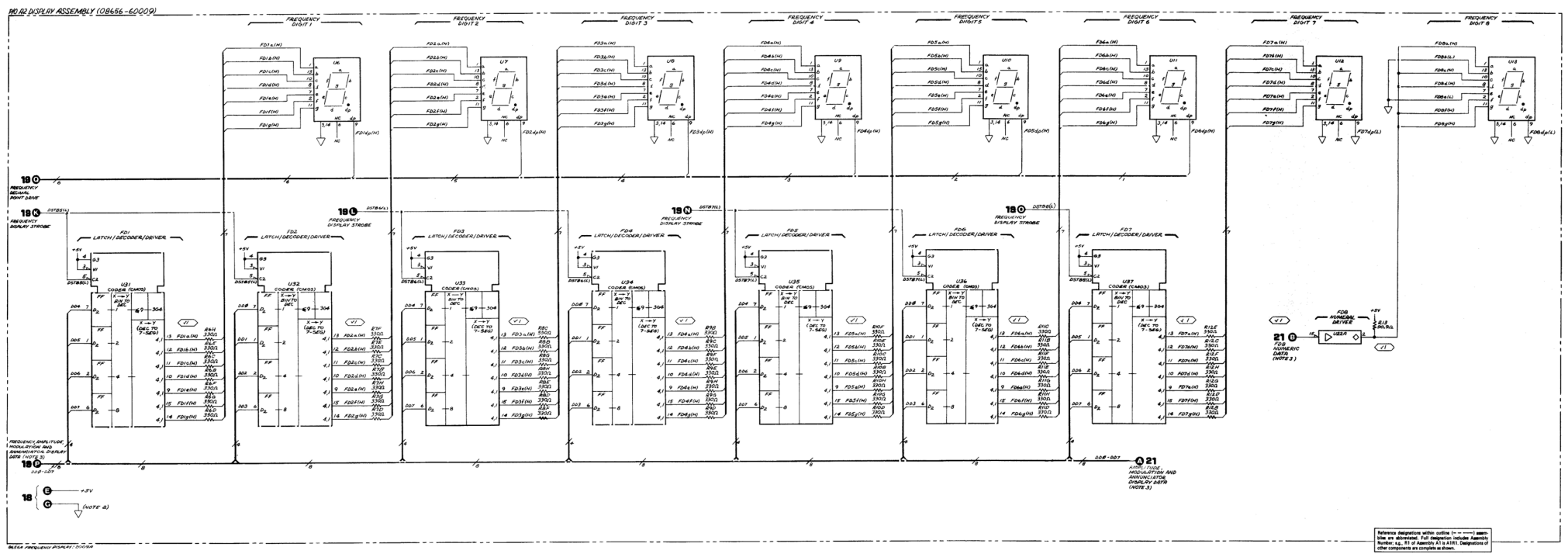


Figure 8-106. Frequency Displays Schematic Diagram

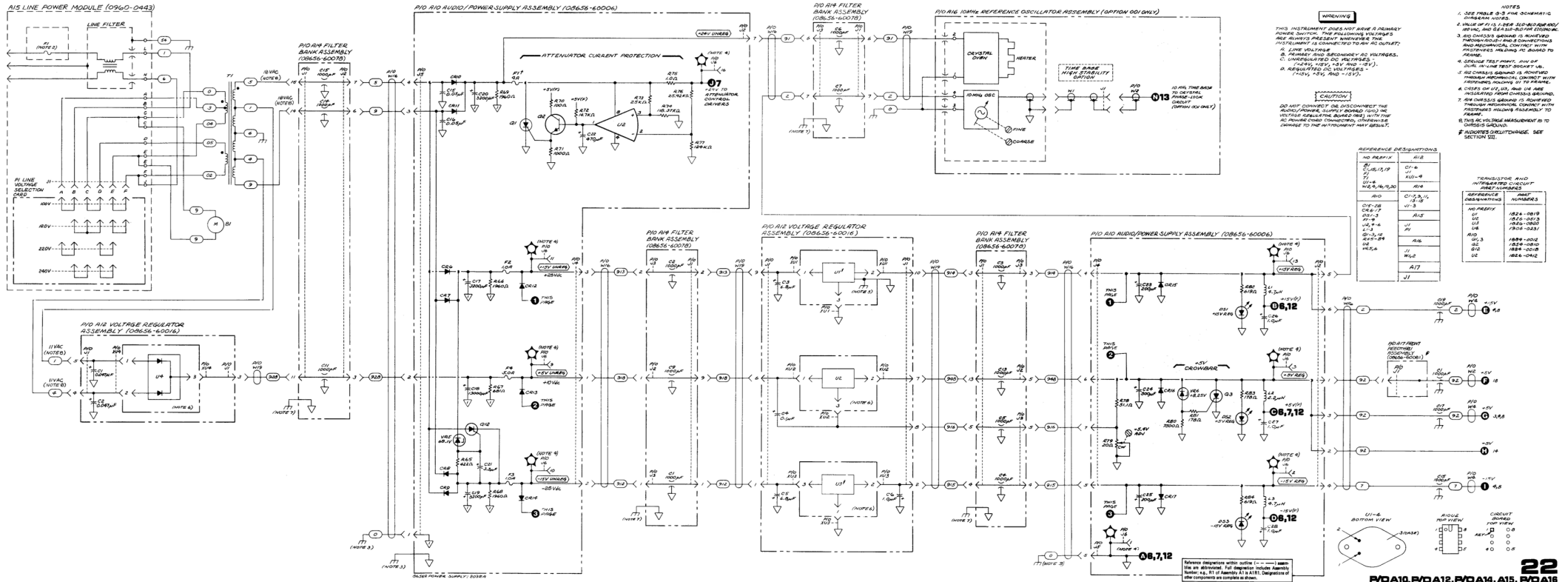


Figure 8-113. Power Supply Schematic Diagram