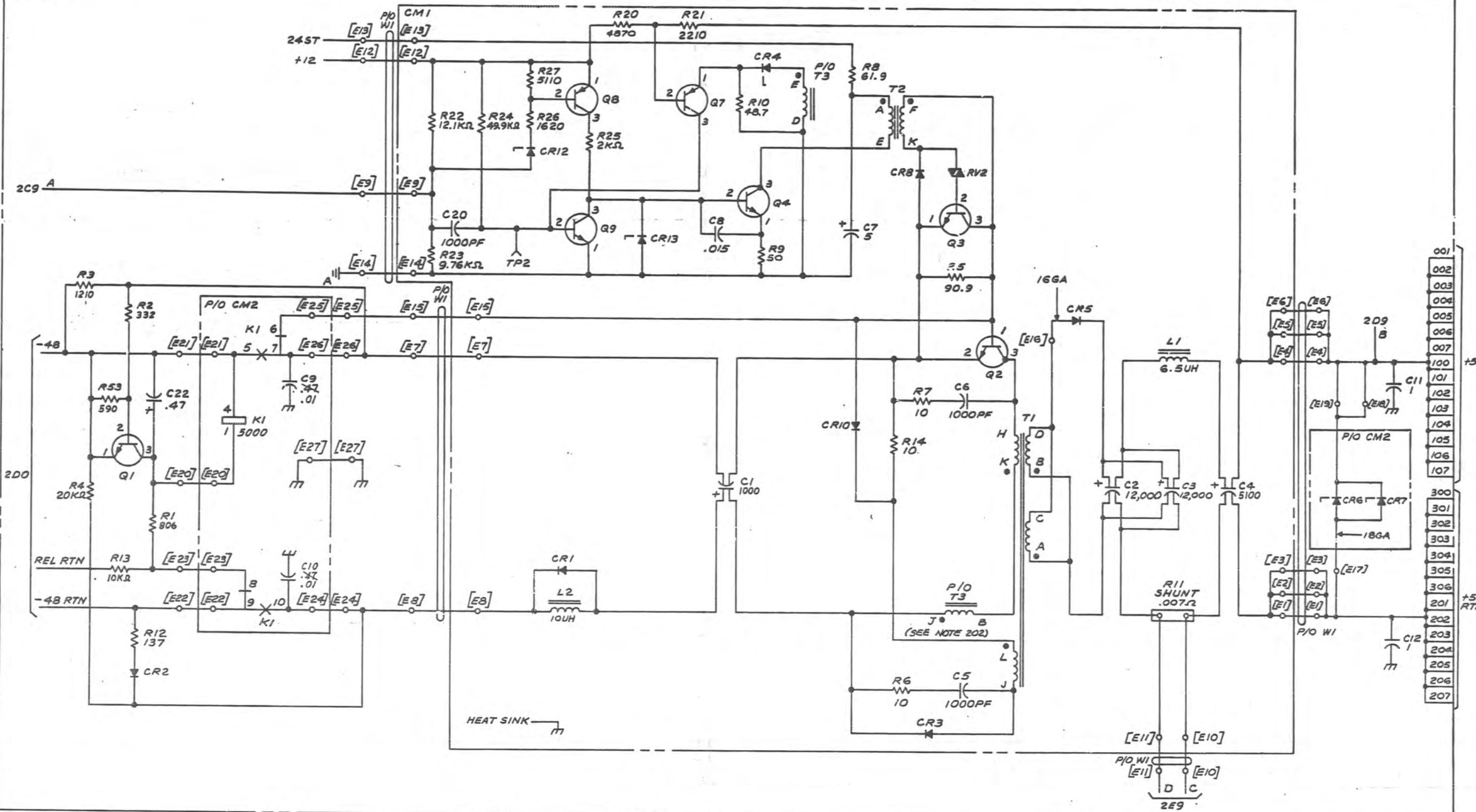
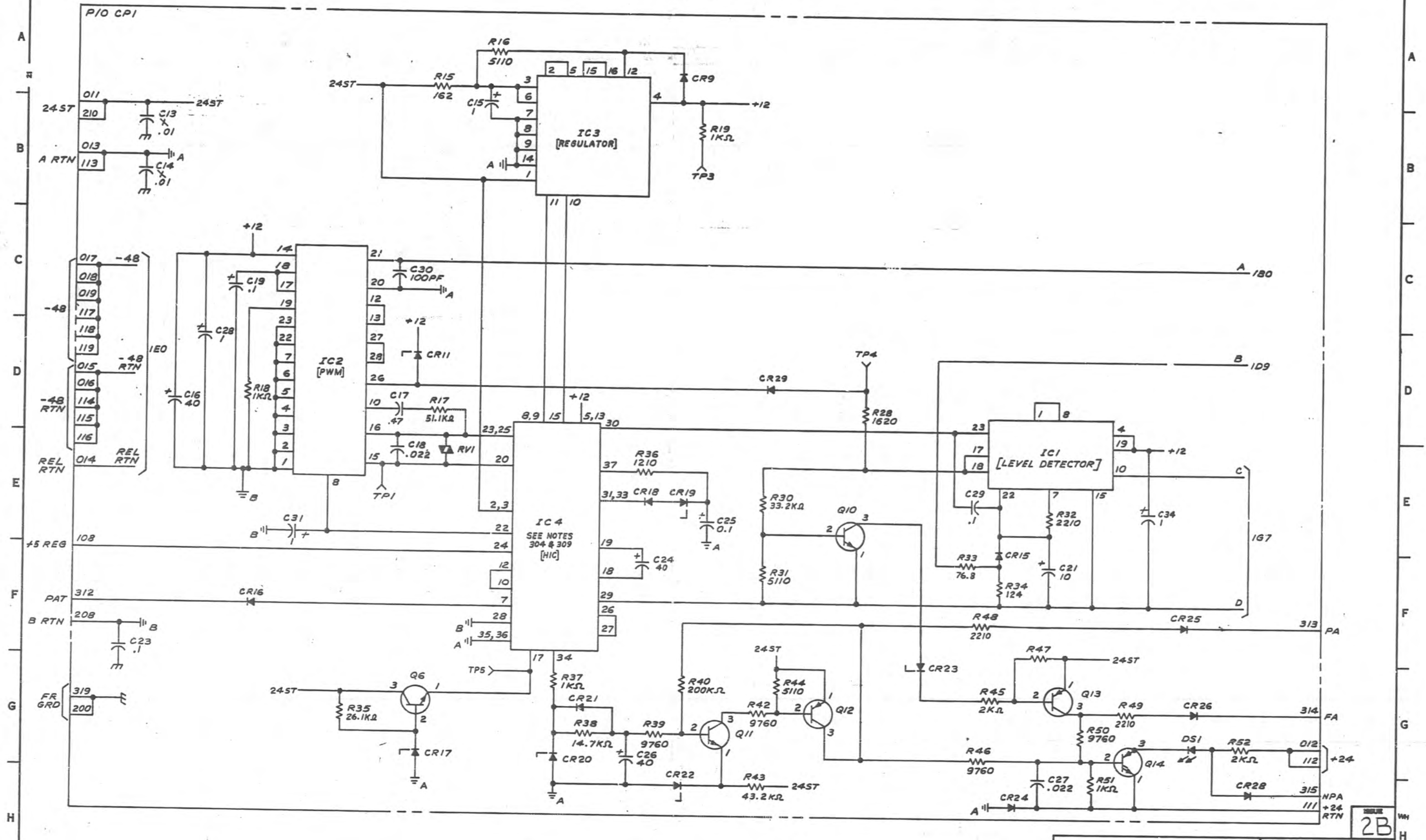


PART OF FSI

P/O CPI



PART OF FS1



PART OF APP. FIG. 1

CIRCUIT PACK

DESIG LOC CODE
CP1 1A0, 2A0 ED-82713

E/H

CABLE
DESIG LOC CODE
W1 1A2, 1C2, 1F2, 1G7 FST-42A-15
ANSLEY ELECTRONICS
(SEE NOTE 203)CONNECTOR ON FRAME
SEE NOTE 303DIODE
DESIG LOC CODE
CR2 1F0 458A
CR9 2A4 458C
CR11 2D2 459AACR15 2F7 458D
CR16 2F1 458C
CR17 2G2 459AA
CR18 2E4 458CCR19 2E4 459B
CR20 2G3 459J
CR21 2G3 458C
CR22 2H4 459BCR23 2G6 459AC
CR24 2H7 458C
CR25 2F8 458C
CR26 2G8 458CCR28 2H9 458C
CR29 2D5 449A

DS1 2G8 541G(LED)

INTEGRATED CIRCUIT
DESIG LOC CODE
IC1 2E7 555A (SEE NOTE 1)
IC2 2D2 526A (SEE NOTE 2)
IC3 2B3 535A
IC4 2E3 567AM (SEE NOTE 309)RESISTOR
DESIG LOC CODE
R1 1C1 G1, 806±1%, DALE (SEE NOTE 4)
R2 1C0 KS-20616, L1A, 332
R3 1C0 KS-20616, L1A, 1210
R4 1E0 KS-20616, L1A, 20KΩR12 1F0 KS-20616, L1A, 137
R13 1E0 KS-20616, L1A, 10KΩ
R15 2A2 KS-20616, L1A, 162
R16 2A3 KS-20616, L1A, 5110R17 2D2 KS-20616, L1A, 51.1KΩ
R18 2D1 KS-20616, L1A, 1KΩ
R19 2B4 KS-20616, L1A, 1KΩ
R20 2D6 KS-20616, L1A, 1620R30 2E5 KS-20616, L1A, 53.2KΩ
R31 2F5 KS-20616, L1A, 5110
R32 2E7 KS-20616, L1A, 2210
R33 2F6 KS-16312, L4E, 75.8R34 2F7 KS-16312, L4F, 124
R35 2G2 KS-20616, L1A, 26.1KΩ
R36 2E4 KS-20616, L1A, 1210
R37 2G3 KS-20616, L1A, 1KΩR38 2G4 KS-20616, L1A, 14.7KΩ
R39 2G4 KS-20616, L1A, 9760
R40 2G4 KS-20616, L1A, 200KΩR42 2G5 KS-20616, L1A, 9760
R43 2H5 KS-20616, L1A, 43.2KΩ
R44 2G5 KS-20616, L1A, 5110
R45 2G7 KS-20616, L1A, 2KΩR46 2G7 KS-20616, L1A, 9760
R47 2F7 KS-20616, L1A, 5110
R48 2F7 KS-20616, L1A, 2210
R49 2G8 KS-20616, L1A, 2210R50 2G7 KS-20616, L1A, 9760
R51 2H7 KS-20616, L1A, 1KΩ
R52 2G8 KS-20616, L1A, 2KΩ
R53 100 KS-20616, L1A, 590

NOTES:

- ONLY 555A INTEGRATED CIRCUITS DATE CODED 1174 OR LATER MAY BE USED WITH THIS CONVERTER.
- ONLY 526A INTEGRATED CIRCUITS DATE CODED 1Q74 OR LATER MAY BE USED WITH THIS CONVERTER.
- EARLY PRODUCTION UNITS MAY BE EQUIPPED WITH THE FOLLOWING SPRAGUE CAPACITORS:
604D209 FOR C1
604D214 FOR C2 AND C3
604D211 FOR C4
- RESISTOR 250-SB-806, ±1% BY NYTRONICS MAY BE USED FOR (R1).
- EARLY PRODUCTION UNITS MAY HAVE THE FOLLOWING CODE FOR CR6 AND CR7: CR6 AND CR7, IN4555BR. IN THIS CASE THE RELAY BOARD IS PER AML-841628704 ISSUE 2.
- EARLY PRODUCTION UNITS MAY BE EQUIPPED WITH THE FOLLOWING RESISTOR SHUNT: SPR-676-18_00733 DALE.

CAPACITOR

DESIG LOC CODE
C11 1D9 KS-20736, L8, 1
C12 1F9 KS-20736, L1, 1
C13 2B0 KS-20736, L1, 1
C14 2B0 KS-20480, L1, .01
KS-20480, L1, .01C15 2B3 KS-20736, L1, 1, 650B, 1
C16 2D1 602A, 40
C17 2D2 KS-19774, L5, .47
C18 2E2 KS-19774, L5, .022C19 2C1 KS-20736, L1, 1, 650C, .1
C21 2F7 601B, 10
C22 1D1 KS-19774, L5, .47, 650J, .47
C23 2F0 KS-20736, L1, .1C24 2F4 602A, 40
C25 2E5 KS-20736, L1, 1, 650C, .1
C26 2G4 602A, 40
C27 2H7 KS-19774, L5, .022C28 2D1 KS-20736, L1, 1, 650B, 1
C29 2E6 KS-20736, L1, .1
C30 2C2 KS-19774, L2, 100PF
C31 2E1 KS-20736, L1, 1, 650B, 1

C34 2E8 KS-20736, L1, 1, 650B, 1

VARISTOR

DESIG LOC CODE
RV1 2E3 100A

2B

DC TO DC CONVERTER

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PART OF APP FIG. 1

CP1 (CONTINUED)

E/M

CIRCUIT MODULE

DESIG	LOC	CODE
CM1	1A2	ED-82715-()
E/M		

CAPACITOR

DESIG	LOC	CODE
C1	1E4	KS-21190, L9, 1000
C2	1E7	KS-21190, L14, 12, 000
C3	1E7	KS-21190, L14, 12, 000 (SEE NOTE 3)
C4	1E8	KS-21190, L11, 5100
C5	1F6	KS-19708, L3M, 1000PF
C6	1D6	KS-19708, L3M, 1000PF
C7	1C5	601A, 5
C8	1C4	KS-19774, L5, .015
C20	1C2	KS-20676, L3, 1000PF

DIODE

DESIG	LOC	CODE
CR1	1E3	746A, 533F
CR3	1G6	426L
CR4	1A5	459B
CR5	1C7	KS-21021, L2
CR8	1B6	746A, 533G
CR10	1D5	746A, 533G
CR12	1B3	459F
CR13	1C4	746G, 808CF

INDUCTOR

DESIG	LOC	CODE
L1	1D7	DELEVAN BP2929, 6.5UH
L2	1F3	HYTRONICS RFC-M-10, 10UH

RESISTOR

DESIG	LOC	CODE
R5	1C6	KS-20616, L1A, 90.9
R6	1F6	KS-20616, L1A, 10
R7	1D6	KS-20616, L1A, 10
R8	1A5	KS-20289, L6C, 61.9
R9	1C5	KS-20289, L6C, 50
R10	1B5	KS-16312, L4D, 48.7
R14	1D6	KS-20616, L1A, 10
R20	1B4	KS-16312, L4F, 4870
R21	1B4	KS-16312, L4F, 2210
R22	1B2	KS-20616, L1A, 12.1KΩ
R23	1C2	KS-20616, L1A, 9760
R24	1B3	KS-20616, L1A, 49.9KΩ
R25	1B3	KS-20616, L1A, 2KΩ
R26	1B3	KS-20616, L1A, 1620
R27	1B3	KS-20616, L1A, 5110

RESISTOR SHUNT

DESIG	LOC	CODE
R11	1F7	KS-21592, L10, (SEE NOTE 6)

TRANSFORMER

DESIG	LOC	CODE
T1	1D6	3002S
T2	1B5	3000E
T3	1B5, 1F6	3000T (SEE NOTE 202)

TRANSISTOR

DESIG	LOC	CODE
Q2	1D6	KS-20837, L2
Q3	1C6	46C
Q4	1C5	20L, 108A
Q7	1B4	51C
Q8	1B3	51A
Q9	1C3	66J

VARISTOR

DESIG	LOC	CODE
RV2	1B6	100J

CIRCUIT MODULE

DESIG	LOC	CODE
CM2	1C1, 1D9	ED-82762-()
E/M		

RELAY

DESIG	LOC	CODE
K1		ALLIED CONTROL T154X1096
OPTION		
CONT ARR	LOC	
8, 9, 10	EMB	1F1
5, 6, 7	EMB	1D1
3	-	
2	-	
1, 4	COIL	1D1

RELAY NOT ADJUSTABLE,
REPLACE IN EVENT OF MALFUNCTION

CAPACITOR

DESIG	LOC	CODE
C9	1D1	8131-100-651-474M, .47, ER16
C10	1F1	KS-20480, L1, .01

DIODE

DESIG	LOC	CODE
CR6	1E9	485AY
CR7	1E9	485AY (SEE NOTE 5)

2B

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CIRCUIT NOTES:

DESIG	FUSE AMP	POTENTIAL	QUANTITY

FEATURE OR OPTION	PROVIDE		
	APP FIG.	APP OR WRG	QUANTITY
DC TO DC CONVERTER	1		1 PER CKT

RECORD OF APP FIGURES, WIRING AND APPARATUS CHANGES						
CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT		
				STD	A&M	MD
28			204			

CIRCUIT NOTES (CONT):

104. THE LEAD BETWEEN THE ANODE OF (CR5) AND TERMINAL E16 SHALL BE DRESSED ALONG THE BODY OF (CR5).
105. THE CONVERTER OUTPUT IS NOT INTERNALLY GROUNDED. THE NEGATIVE (-) CONVERTER OUTPUT LEAD MUST BE CONNECTED AT THE LOAD TO A GROUND COMMON TO THE 24V INPUT.
106. CONVERTER INPUT CURRENT IS A FUNCTION OF OUTPUT CURRENT AND INPUT VOLTAGE. LIST 1 DRAIN (FOR SIZING BATTERY PLANT, STANDBY AC PLANTS AND AIR CONDITIONING EQUIPMENT) AND LIST 2 DRAIN (FOR SIZING FEEDERS AND PROTECTION DEVICES) MAY BE CALCULATED FROM THE FORMULA BELOW. APPROPRIATE VALUES OF LOAD CURRENT AND INPUT VOLTAGE SHALL BE OBTAINED FROM THE ASSOCIATED SYSTEM APPLICATION SCHEMATIC AND INPUT DISTRIBUTION CIRCUIT, RESPECTIVELY.

FOR THE 48V BATTERY:

$$I_{IN} = \frac{6.2}{E_{IN}} \times I_L$$

WHERE: I_{IN} = CONVERTER INPUT CURRENT IN AMPERES
 I_L = CONVERTER OUTPUT (LOAD) CURRENT IN AMPERES
 E_{IN} = CONVERTER INPUT VOLTAGE AT THE CONVERTER INPUT TERMINALS

FOR THE 24V INPUT:

I_{IN} = APPROXIMATELY .065 AMPERES FOR NORMAL OPERATION AND APPROXIMATELY .080 AMPERES FOR ALARM CONDITIONS

107. THE 5 VOLT OUTPUT OF THE CONVERTER IS REGULATED AT THE FRAME SIDE OF THE TERMINAL STRIP (CONNECTOR). FOR PROPER OPERATION THE TERMINAL STRIP IN THE FRAME HAS TO BE WIRED AS SHOWN ON SHEET G1.
108. ALL WIRING BETWEEN THE CONTROL BOARD AND THE POWER BOARD SHALL BE AT LEAST 22GA.
109. ALL STRAPS ON THE CONTROL BOARD AND ON THE POWER BOARD SHALL BE 22GA.
110. WIRE BETWEEN (CR6) AND (CR7) AND THE CONTROL BOARD SHALL BE 18GA

EQUIPMENT NOTES:

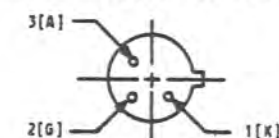
201. WIRE BETWEEN (CR5) AND THE POWER BOARD SHALL BE KS-19195, L1, 16GA SOLID. UNLESS OTHERWISE SPECIFIED ALL OTHER GAUGES OF WIRE TO BE KS-19195, L1, SOLID OR APPROVED EQUIVALENT.
202. THE 3000T TRANSFORMER MUST BE USED WITH PWB (AM-841631427 ISSUE 1). IF THE 3000L TRANSFORMER IS USED, IT CAN ONLY BE USED WITH PWB (AM-841628688 ISSUE 3).
203. CONNECTIONS MADE BETWEEN CM1 AND CP1 ARE MADE BY MEANS OF FLEX JUMPER W1. W1(FST-424-15) ANSLEY ELECTRONICS.
204. ON ISSUE 28, IN APP FIG. 1 CODES OF CR1, CR8, CR10, CR13, Q4, C9, C10, C13, C14, C15, C19, C22, C25, C28, C31 AND C34 REVISED AS SHOWN:

INFORMATION NOTES:

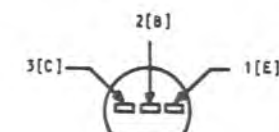
301. UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS. CAPACITANCE VALUES ARE IN MICROFARADS. VALUES PRECEDED BY THE SYMBOL +(PLUS) OR -(MINUS) ARE IN VOLTS.
302. INFORMATION SHOWN IN [] IS FOR REFERENCE ONLY.
303. CONNECTOR ON FRAME IS 947A.
304. TERMINALS 1, 4, 5, 6, 9, 14, 16, 21, 25, 26, 32, 38 OF (IC4) HIC HAVE NO INTERNAL CONNECTIONS. TERMINALS 1 AND 38 HAVE BEEN USED TO FACILITATE CIRCUIT CONNECTIONS EXTERNAL TO THE HIC.
305. THE TERMINAL NUMBER ASSIGNMENT OF THE KS-20837, L2 TRANSISTOR IS:



306. THE TERMINAL NUMBER ASSIGNMENT OF THE 27A THYRISTOR IS:

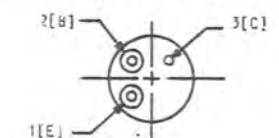


307. THE TERMINAL NUMBER ASSIGNMENT OF THE 51A, 51C, 66J AND 66U TRANSISTORS IS:

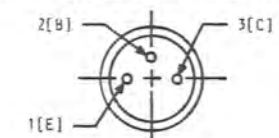


HIGHEST CAP., DIODE, RES, TRANSISTOR USED ON THIS DRAWING			
C34	CR29	R53	Q14
NOT USED			
C32, C33	CR14, CR27	R29, R41	Q5

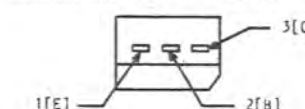
309. SEE SD-82327-01-02.
310. THE TERMINAL ASSIGNMENT OF THE 20L TRANSISTOR IS:



311. THE TERMINAL ASSIGNMENT OF THE 46C TRANSISTOR IS:



312. THE TERMINAL ASSIGNMENT OF THE 108A TRANSISTOR IS:



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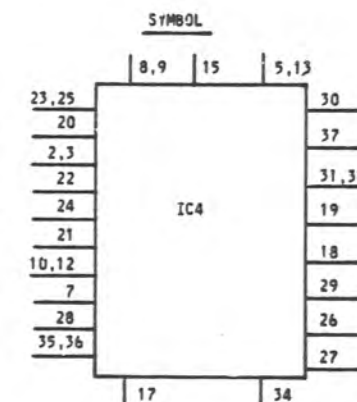
65

2B

309. 567AM HYBRID INTEGRATED CIRCUIT



1. SD-32316-01 IS THE CONTROLLING DRAWING FOR THE 567AM HIC.
2. END OF LIFE (EOL) TOLERANCE INCLUDING TEMPERATURE VARIATION BETWEEN 10° C AND 80° C.



REF DESIG	VALUE (OHMS)	TOLERANCE		RATIO TOLERANCE		MAX POWER (W)	
		INITIAL	EOL*	INITIAL	EOL*		
R1	10,185	±5%	±6%	$\frac{R1}{R2} = 1.5397 \pm .2\%$	±.3%	3	
R2	6615					2	
R3	8400					2	
R4	16,800			$\frac{R3}{R4} = 0.5000 \pm .8\%$	± 1%	4	
P7	5754					2	
R8	11,046			$\frac{R7}{R8} = 0.5209 \pm .4\%$	±.6%	3	
R9	6762					2	
R10	9934			$\frac{R9}{R10} = 0.6807 \pm .4\%$	±.6%	3	
R12	1667					7	
R13	1111			$\frac{R12}{R13} = 1.5005 \pm .2\%$	±.3 %	5	
R5	3900						1
R6	20,000				1		
R11	5600				1		
	CODE						
IC1	500F						
IC2	500F						
IC3	500L						

*SEE NOTE 2

DC TO DC CONVERTER

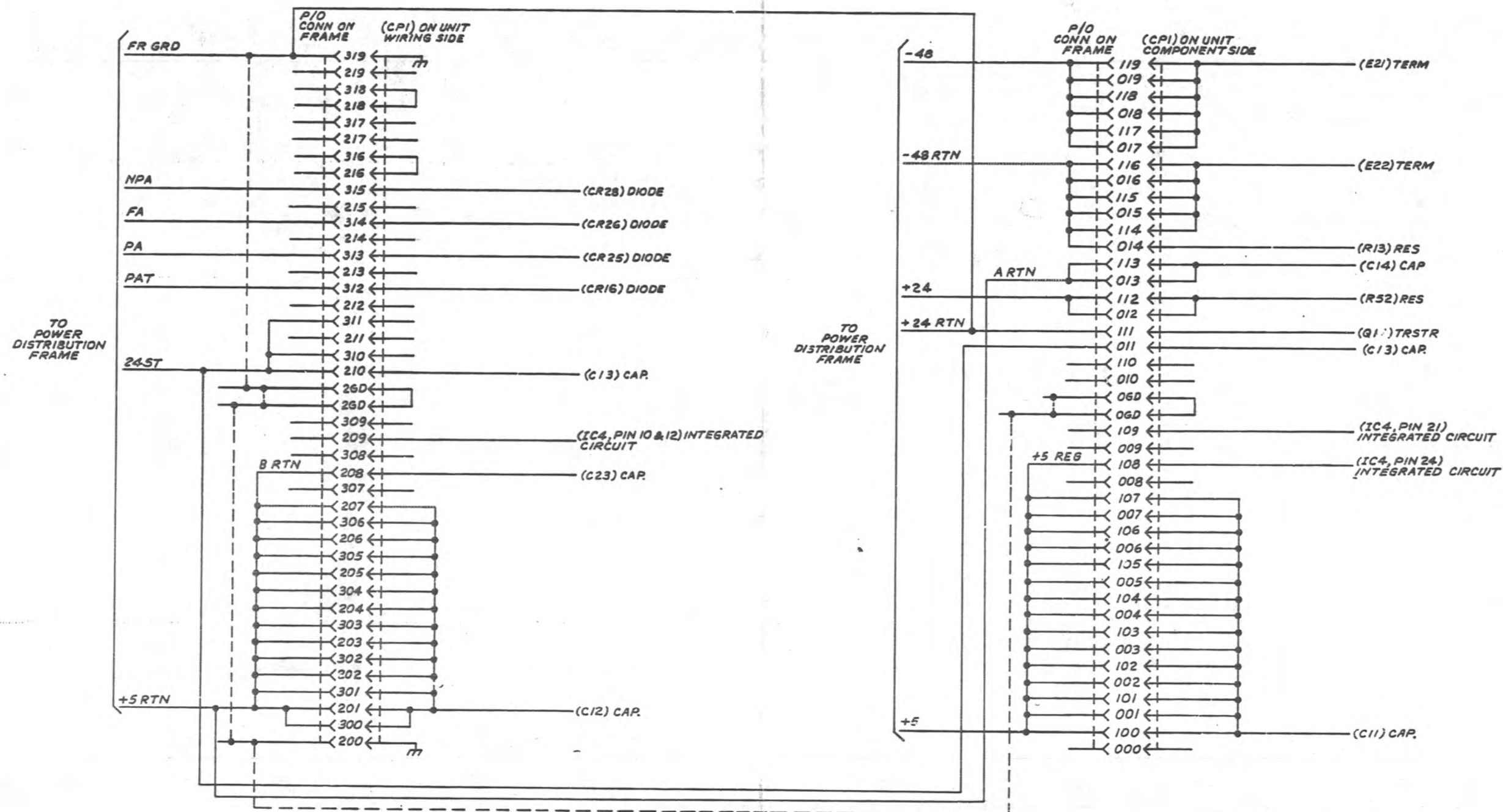
SD-82327-01 -D2

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CAD 1



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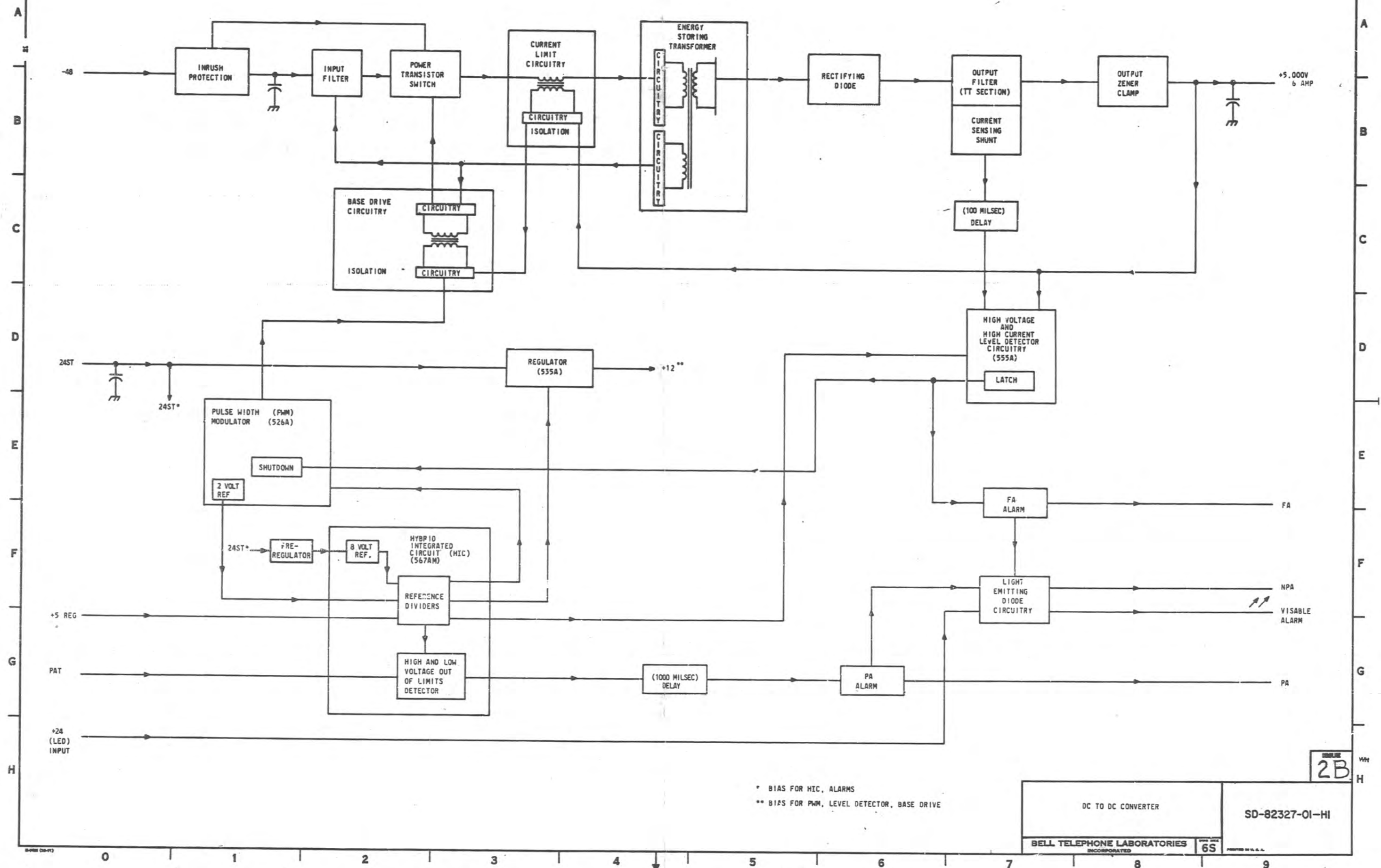
SD-82327-01-GI

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BD 1



* BIAS FOR HIC, ALARMS
 ** BIAS FOR PWM, LEVEL DETECTOR, BASE DRIVE