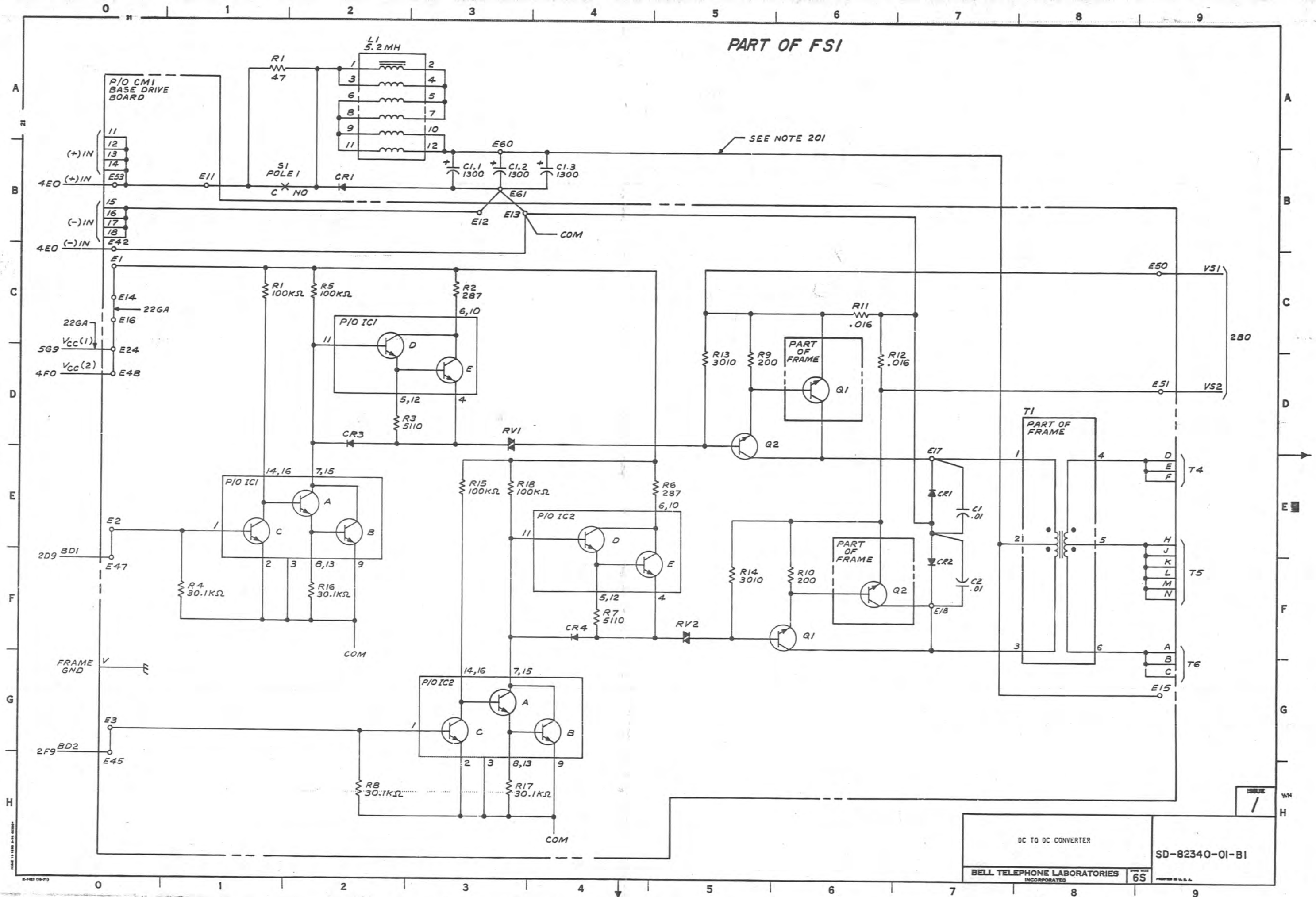
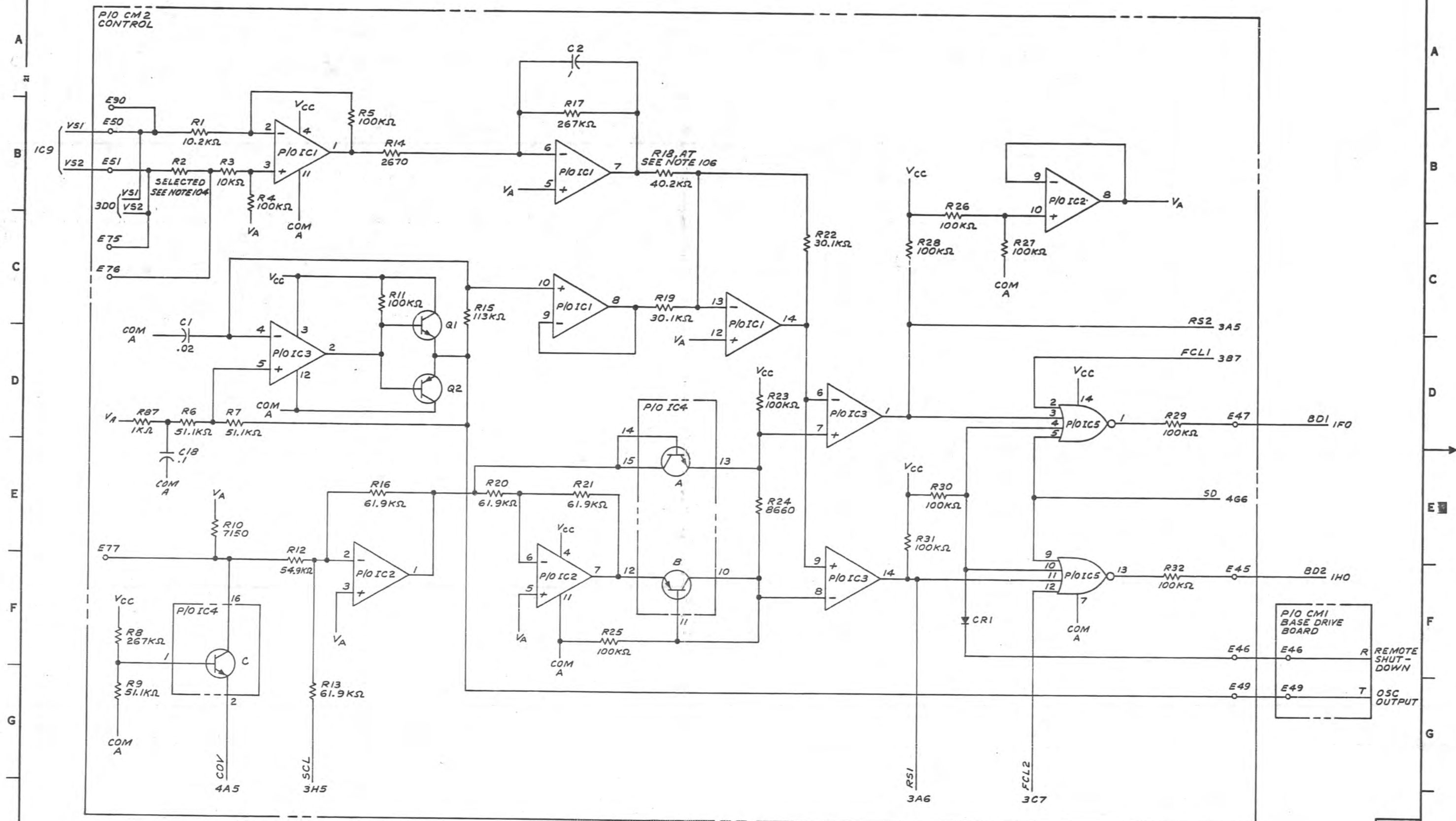




PART OF FSI



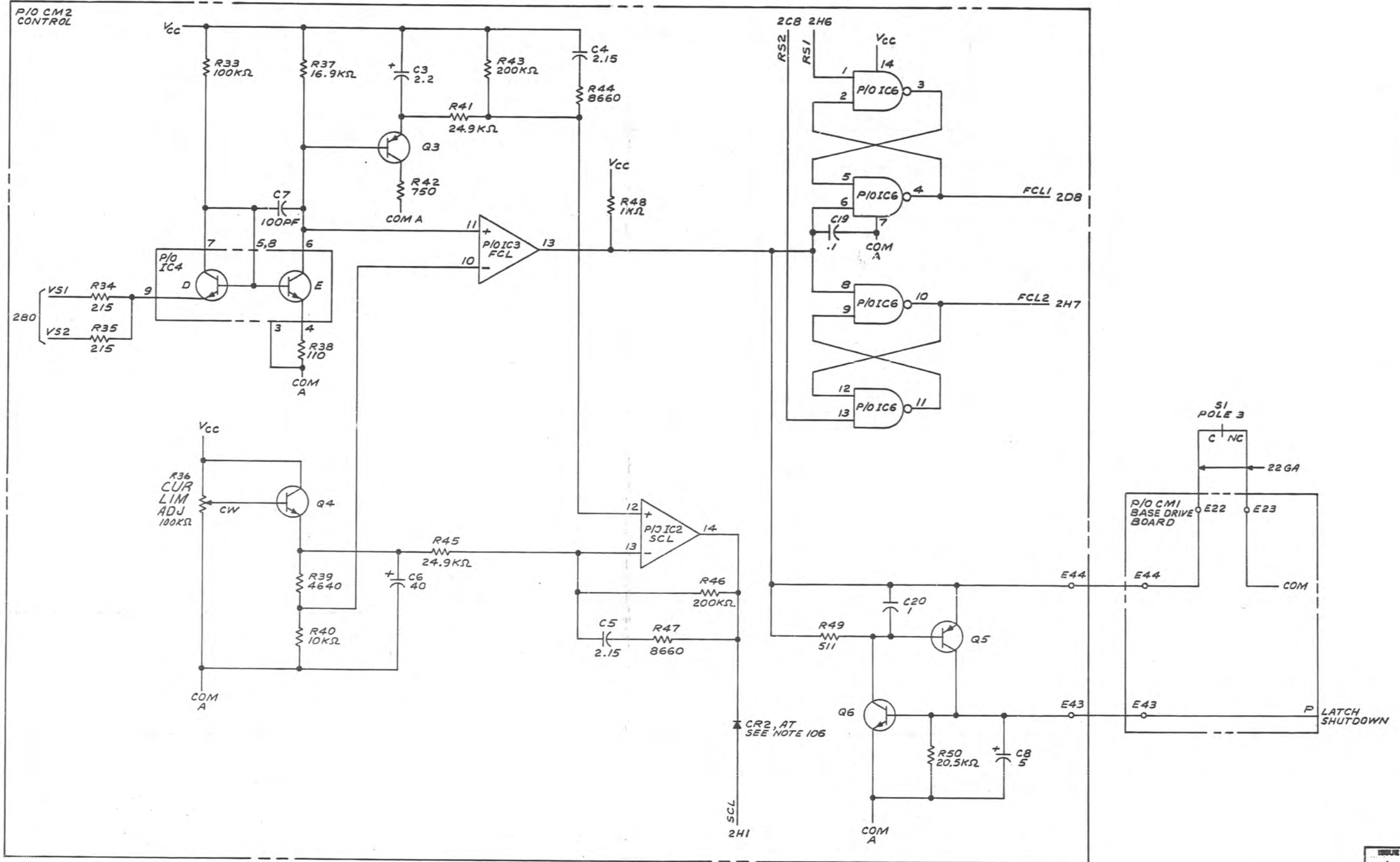
DC TO DC CONVERTER

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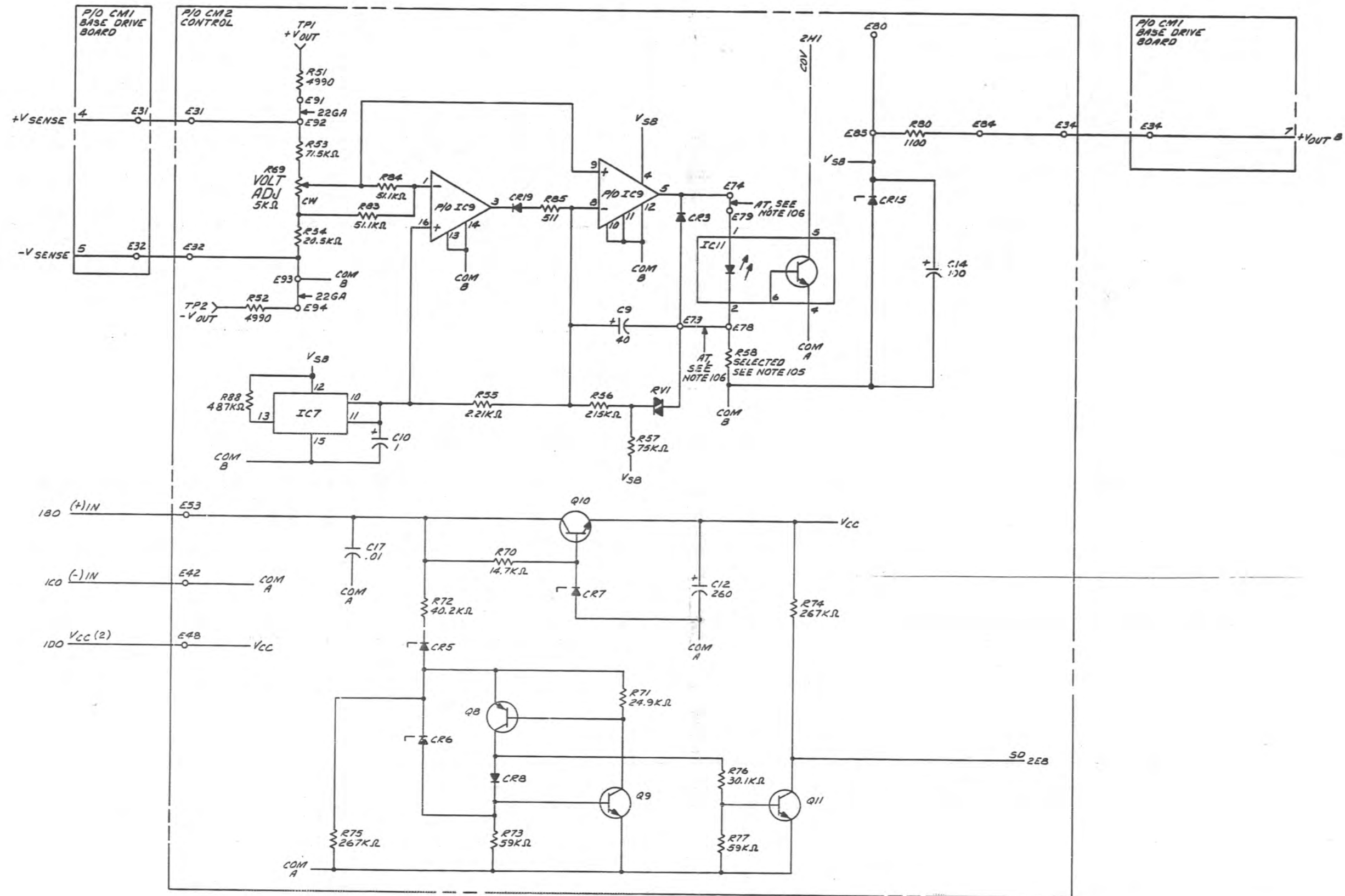
SD-82340-01-B2

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PART OF FSI



PART OF FS 1



DC TO DC CONVERTER

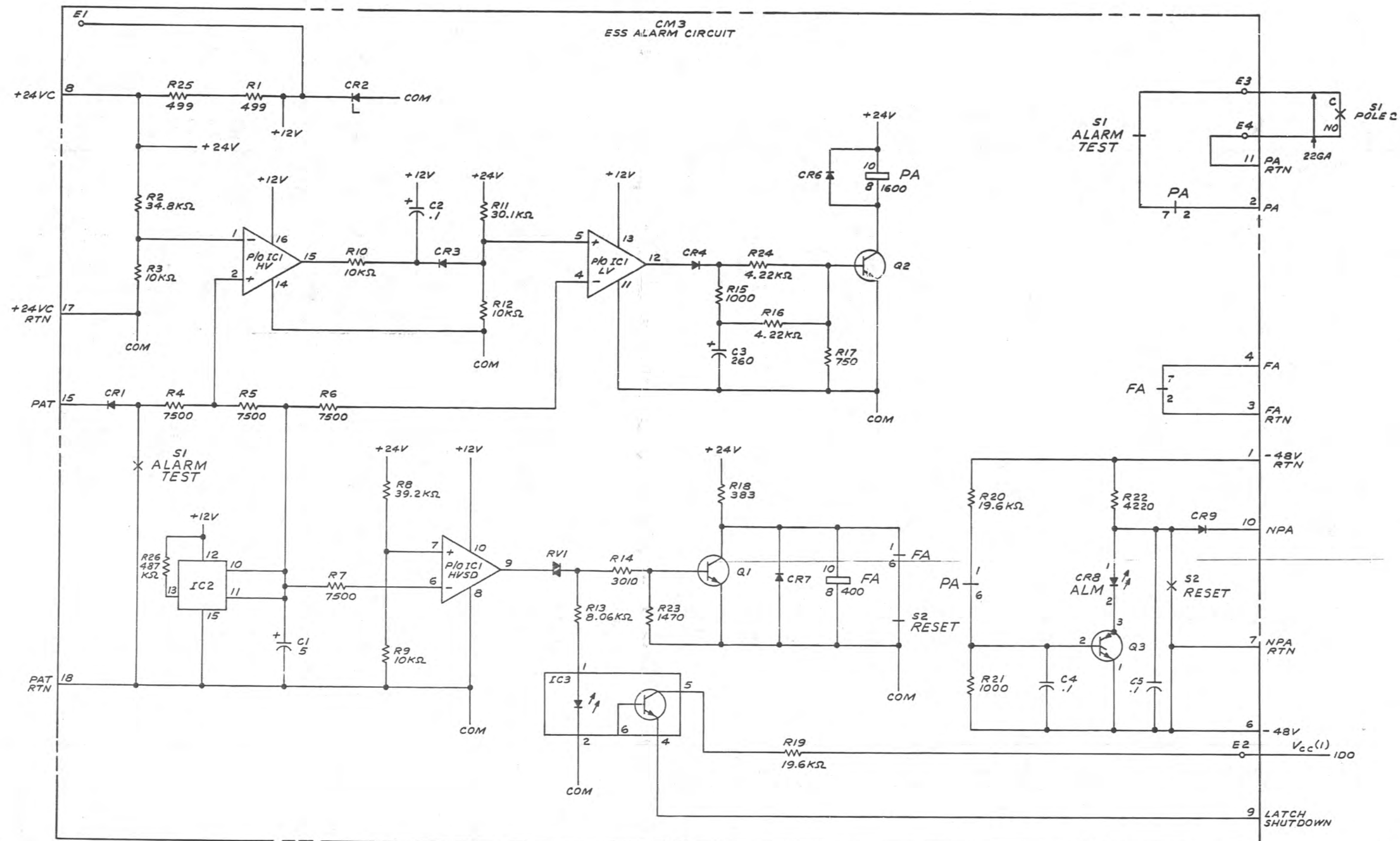
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65

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PART OF FSI



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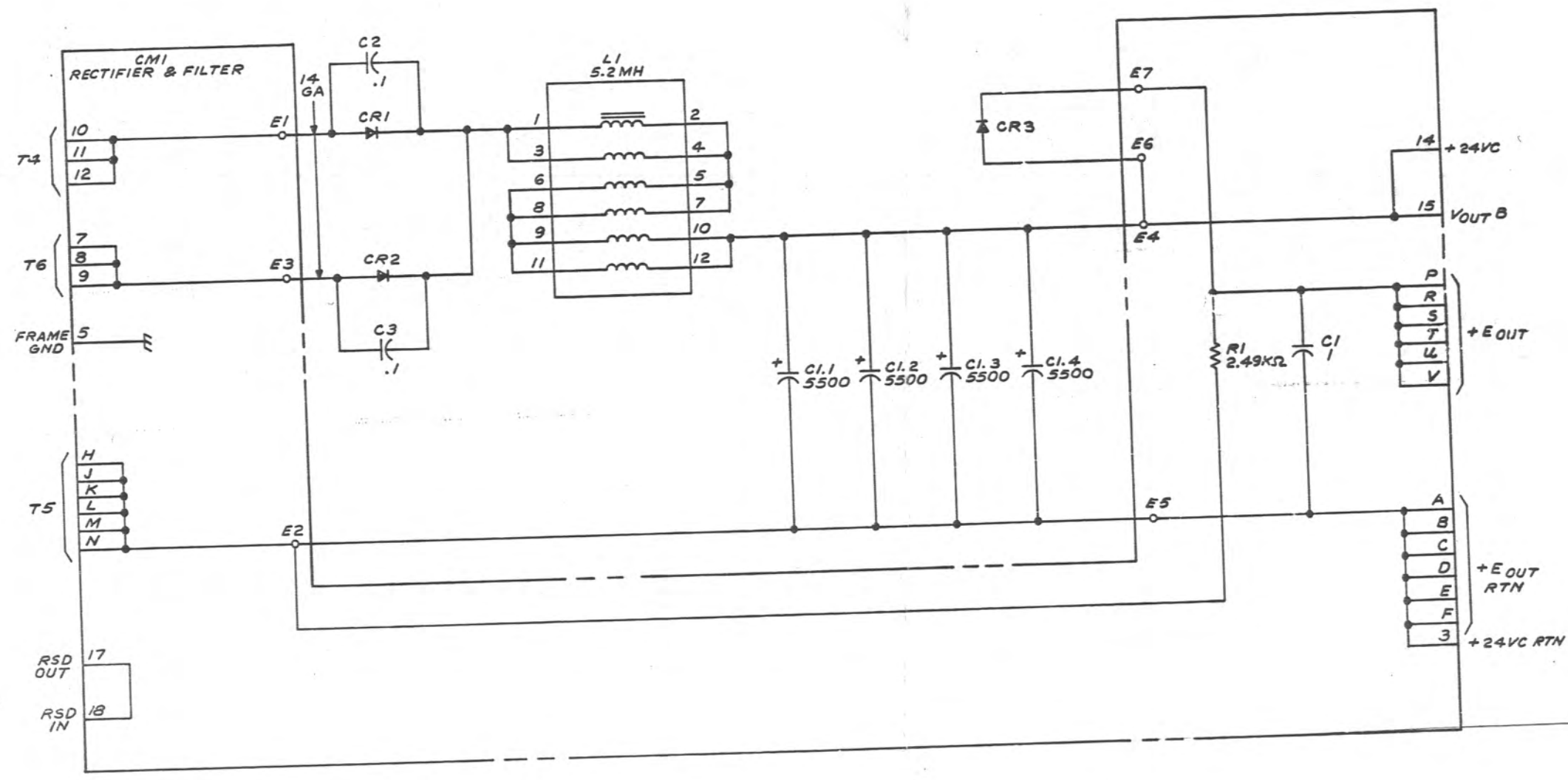
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FS 2



PART OF APP FIG.1

CAPACITOR

DESIG	LOC	CODE
C1.1	1B3	601D138G060JP4,1300
C1.2	1B3	601D138G060JP4,1300
C1.3	1B4	601D138G060JP4,1300

SPRAGUE

CONNECTOR ON FRAME

SEE NOTE 303

DIODE

DESIG	LOC	CODE	DESIG	LOC	CODE
CR1	1B2	426A	L1	1A2	1180A,5.2MH

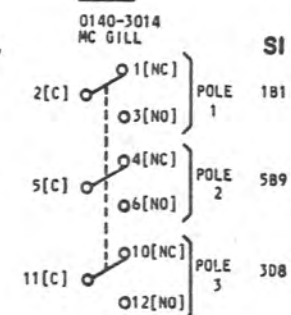
INDUCTOR

RESISTOR

DESIG	LOC	CODE
R1	1A1	383E47R00J,47

SPRAGUE

SWITCH



SI

TRANSFORMER

DESIG	LOC	CODE
T1	108	3188A

TRANSISTOR

DESIG	LOC	CODE
Q1	106	2N3773
Q2	1F6	2N3773

CIRCUIT MODULE

DESIG	LOC	CODE
CM1	1A0,2F9	841058233

3E8,4A0,4A7

E/H

CAPACITOR

DESIG	LOC	CODE
C1	1E7	KS-16048,L4,.01
C2	1F7	KS-16048,L4,.01

INTEGRATED CIRCUIT

DESIG	LOC	CODE
IC1	1C2,1E1	502G
IC2	1E4,1G3	502G

RESISTOR

DESIG	LOC	CODE
R1	1C1	KS-20616,L1A,100KΩ
R2	1C3	KS-20289,L6C,287
R3	1D2	KS-20616,L1A,5110
R4	1F1	KS-20616,L1A,30.1KΩ
R5	1C2	KS-20616,L1A,100KΩ
R6	1E5	KS-20289,L6C,287
R7	1F4	KS-20616,L1A,5110
R8	1H2	KS-20616,L1A,30.1KΩ
R9	1D5	KS-20616,L1A,200
R10	1F6	KS-20616,L1A,200
R11	1C6	SPR-676-12,.016 DALE
R12	1D6	SPR-676-12,.016 ELECTRONICS
R13	1D5	KS-20616,L1A,3010
R14	1F5	KS-20616,L1A,3010
R15	1E3	KS-20616,L1A,100KΩ
R16	1F2	KS-20616,L1A,30.1KΩ
R17	1H3	KS-20616,L1A,30.1KΩ
R18	1E3	KS-20616,L1A,100KΩ

TRANSISTOR

DESIG	LOC	CODE
Q1	1F6	KS-20838,L1
Q2	1D5	KS-20838,L1

VARISTOR

DESIG	LOC	CODE
RV1	1D3	100A
RV2	1F5	100A

DIODE

DESIG	LOC	CODE
CR1	1E7	426A
CR2	1F7	426A
CR3	1D2	458A
CR4	1F4	458A

CIRCUIT MODULE

DESIG	LOC	CODE
P/D CM2	2A1,3A0,4A1	841058258

E/H

CAPACITOR

DESIG	LOC	CODE
C1	2D1	577A,.02
C2	2A3	KS-20736,L1,1
C3	3A3	605G,2.2
C4	3A4	701C,2.15
C5	3F4	701C,2.15
C6	3F3	602A,40
C7	3B2	KS-20676,L1,100PF
C8	3G7	601A,5
C9	4C4	602A,40
C10	4D2	600A,1
C12	4F4	KS-16390,L25,260
C14	4C6	KS-20362,L2,100
C17	4E2	KS-19774,L1,.01
C18	2E0	KS-20736,L1,.1
C19	3C6	KS-20736,L1,.1
C20	3F6	KS-20736,L1,1

DIODE

DESIG	LOC	CODE
CR1	2F6	458A
CR2	3G5	458A
CR3	4C4	458A
CR5	4F2	459AJ
CR6	4G2	459B
CR7	4E3	459AA
CR8	4G3	458A
CR15	4B5	426P
CR19	4B3	458A

INTEGRATED CIRCUIT

DESIG	LOC	CODE
IC1	2B1,2B3,2C3,2C5	LM324N
IC2	2B7,2F2,2F3,3E4	LM324N
IC3	2D1,2D5,2F5,3C3	LM339N
IC4	2D4,2F1,3C1	502E
IC5	2D7,2F7	CD4002AE
IC6	3B6,3C6,3D6	CD4011AE
IC7	4D2	502BP
IC9	4B3,4B4	502F
IC11	4C4	TIL-111

NATIONAL SEMICONDUCTOR

RCA

TEXAS INSTRUMENT

POTENTIOMETER

DESIG	LOC	CODE
R36	3E1	KS-19646,L3A,100KΩ
R69	4B1	KS-19055,L10,5KΩ

JACK (TEST POINT)

DESIG	LOC	CODE
TP1	4A1	026-4006-000-2019
TP2	4C1	026-4006-000-2019

SEAELECTRO

ISSUE

1

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PART OF APP FIG.1

CIRCUIT MODULE (CONT)

DESIG LOC CODE
P/O CM2 2A1, 3A0, 4A1 841058258

E/W

RESISTOR

DESIG	LOC	CODE
R1	2B1	KS-20616, L1A, 10.2K Ω
R2	2B0	KS-20616, L1A, SEE NOTE 104
R3	2B1	KS-20616, L1A, 10K Ω
R4	2B1	KS-20616, L1A, 100K Ω
R5	2B2	KS-20616, L1A, 100K Ω
R6	2D1	KS-20616, L1A, 51.1K Ω
R7	2D1	KS-20616, L1A, 51.1K Ω
R8	2F0	KS-20616, L1A, 267K Ω
R9	2G0	KS-20616, L1A, 51.1K Ω
R10	2E1	KS-20616, L1A, 715 Ω
R11	2C2	KS-20616, L1A, 100K Ω
R12	2E1	KS-20616, L1A, 54.9K Ω
R13	2G2	KS-20616, L1A, 61.9K Ω
R14	2B2	KS-20616, L1A, 267 Ω
R15	2C3	KS-20616, L1A, 113K Ω
R16	2E2	KS-20616, L1A, 61.9K Ω
R17	2B3	KS-20616, L1A, 267K Ω
R18	2B4	KS-20616, L1A, 40.2K Ω
R19	2C4	KS-20616, L1A, 30.1K Ω
R20	2E3	KS-20616, L1A, 61.9K Ω
R21	2E3	KS-20616, L1A, 61.9K Ω
R22	2C5	KS-20616, L1A, 30.1K Ω
R23	2D5	KS-20616, L1A, 100K Ω
R24	2E5	KS-20616, L1A, 8.66K Ω
R25	2F4	KS-20616, L1A, 100K Ω
R26	2B6	KS-20616, L1A, 100K Ω
R27	2C7	KS-20616, L1A, 100K Ω
R28	2C6	KS-20616, L1A, 100K Ω
R29	2D8	KS-20616, L1A, 100K Ω
R30	2E6	KS-20616, L1A, 100K Ω
R31	2E6	KS-20616, L1A, 100K Ω
R32	2F8	KS-20616, L1A, 100K Ω
R33	3A1	KS-20616, L1A, 100K Ω
R34	3C1	KS-20616, L1A, 215
R35	3D1	KS-20616, L1A, 215
R37	3A2	KS-20616, L1A, 16.9K Ω
R38	3D2	KS-20616, L1A, 110
R39	3F2	KS-20616, L1A, 464 Ω
R40	3F2	KS-20616, L1A, 10K Ω

RESISTOR (CONT)

DESIG	LOC	CODE
R41	3B3	KS-20616, L1A, 24.9K Ω
R42	3B3	KS-20616, L1A, 75 Ω
R43	3A3	KS-20616, L1A, 200K Ω
R44	3B4	KS-20616, L1A, 866 Ω
R45	3E3	KS-20616, L1A, 24.9K Ω
R46	3F5	KS-20616, L1A, 200K Ω
R47	3F5	KS-20616, L1A, 866 Ω
R48	3C4	KS-20616, L1A, 1K Ω
R49	3F6	KS-20616, L1A, 511
R50	3G6	KS-20616, L1A, 20.5K Ω
R51	4A2	KS-20616, L1A, 499 Ω
R52	4C1	KS-20616, L1A, 499 Ω
R53	4B2	KS-20616, L1A, 71.5 K Ω
R54	4C2	KS-20616, L1A, 20.5K Ω
R55	4D3	KS-20616, L1A, 2.21K Ω
R56	4D4	KS-20616, L1A, 215K Ω
R57	4D4	KS-20616, L1A, 75K Ω
R58	4D4	KS-20616, L1A, SEE NOTE 105
R70	4E3	KS-20616, L1A, 14.7K Ω
R71	4F4	KS-20616, L1A, 24.9K Ω
R72	4F2	KS-20616, L1A, 40.2K Ω
R73	4G3	KS-20616, L1A, 59K Ω
R74	4F5	KS-20616, L1A, 267K Ω
R75	4G2	KS-20616, L1A, 267K Ω
R76	4G4	KS-20616, L1A, 30.1K Ω
R77	4G4	KS-20616, L1A, 59K Ω
R80	4B6	KS-20616, L1A, 1100
R83	4B2	KS-20616, L1A, 51.1K Ω
R84	4B2	KS-20616, L1A, 51.1K Ω
R85	4B3	KS-20616, L1A, 511
R87	2D0	KS-20616, L1A, 1000
R88	4D1	KS-20616, L1A, 487K Ω

TRANSISTOR

DESIG	LOC	CODE
Q1	2C2	66J
Q2	2D2	51A
Q3	3B3	51A
Q4	3E2	66J
Q5	3F7	51A
Q6	3G6	66J
Q8	4F3	51A
Q9	4G3	66R
Q10	4E3	KS-20838, L1
Q11	4G5	66R

VARISTOR

DESIG	LOC	CODE
RV1	4D4	108A

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PART OF APP FIG.1

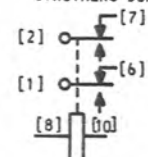
CIRCUIT MODULE

DESIG	LOC	CODE
CM3	5A4	841058274

E/W

RELAY

STRUTHERS-DUNN



FA

MRRK2B101

508

5E6

5F6

5F6

5F6

5F6

PA

MRRK2B100

588

5F6

5F6

5F6

5F6

5F6

CAPACITOR

DESIG

LOC

CODE

C1

5F2

601A,5

C2

5B3

KS-20736,L1,.1

C3

5D5

KS-16390,L25,260

C4

5G7

KS-20736,L1,.1

C5

5G8

KS-20736,L1,.1

DIODE

DESIG

LOC

CODE

CR1

5D0

458A

CR2

5A2

459J

CR3

5C3

458A

CR4

5C5

458A

CR6

5B5

458A

CR7

5F5

458A

CR8

5F7

531G(LED)

CR9

5E8

458A

INTEGRATED CIRCUIT

DESIG

LOC

CODE

IC1

5C1,5C4,

559A

IC2

5F1

502BP

IC3

5F4

1A

RESISTOR

DESIG

LOC

CODE

R1

5A1

KS-20616,L1A,499

R2

5B1

KS-16764,L1F,34.8KΩ

R3

5C1

KS-16764,L1F,10KΩ

R4

5D1

KS-20616,L1A,7500

R5

5D1

KS-20616,L1A,7500

R6

5D2

KS-20616,L1A,7500

R7

5F2

KS-20616,L1A,7500

R8

5E2

KS-16764,L1F,39.2KΩ

R9

5F2

KS-16764,L1F,10KΩ

R10

5C2

KS-20616,L1A,10KΩ

R11

5B3

KS-16764,L1F,30.1KΩ

R12

5C3

KS-16764,L1F,10KΩ

RESISTOR (CONT)

DESIG

LOC

CODE

R13

5F4

KS-20616,L1A,8.06KΩ

R14

5E4

KS-20616,L1A,3010

R15

5C5

KS-20616,L1A,1000

R16

5C5

KS-20616,L1A,4.22KΩ

R17

5D6

KS-20616,L1A,750

R18

5E5

KS-20289,L6C,383

R19

5G5

KS-20616,L1A,19.6KΩ

R20

5E7

KS-20616,L1A,19.6KΩ

R21

5F7

KS-20616,L1A,1000

R22

5E8

KS-20289,L6C,4220

R23

5F4

KS-20616,L1A,1470

R24

5C5

KS-20616,L1A,4.22KΩ

R25

5A1

KS-20616,L1A,499

R26

5F1

KS-20616,L1A,487KΩ

SWITCH

T8202

CONTROL

SWITCH

SWITCH

SWITCH

SWITCH

SWITCH

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TRANSISTOR

DESIG

LOC

CODE

Q1

5E5

66J

Q2

5C6

66R

Q3

5F8

27A

VARISTOR

DESIG

LOC

CODE

RV1

5E4

108A

APP FIG.2

CAPACITOR

DESIG

LOC

CODE

C1.1

6C4

100552U030A828,5500

C1.2

6C4

100552U030A828,5500

C1.3

6C5

100552U030A828,5500

C1.4

6C5

100552U030A828,5500

C2

6A2

KS-20300,L3,.1

C3

6C2

KS-20300,L3,.1

SANGAMO

CONNECTOR ON FRAME
SEE NOTE 303

DIODE

DESIG

LOC

CODE

CR1

6B2

485AB

CR2

6B2

485AB

CR3

6B5

KS-19226,L8

INDUCTOR

DESIG

LOC

CODE

L1

6A3

1180A,5.2MH

CIRCUIT MODULE

DESIG

LOC

CODE

CM1

6A0

841058290

E/W

CIRCUIT NOTES:

DESIG	FUSE AMP	POTENTIAL	QUANTITY
	10	-48	
BATTERY		VOLTAGE RANGE	
-48V		-42.75 TO -52.5	

FEATURE OR OPTION	PROVIDE		
	APP FIG	APP OR WRG	QUANTITY

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

CIRCUIT NOTES (CONT.):

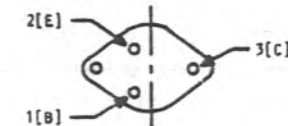
104. RESISTOR (R2) SELECTED AT TEST. OBTAIN THE FOLLOWING VALUES:
10.0, 19.6, 30.1, 40.2, 51.1, 60.4, 69.8, 80.6, 90.9, 100, 110, 121, 130, 140, 150, 162, 169, 182, 191, 200, 210, 221, 232, 243, 249, 261, 267, 280, 287, 301, 309, 324, 332, 340, 348, 357, 374, 383, 392, 402.
105. RESISTOR (R58) SELECTED AT TEST. OBTAIN THE FOLLOWING VALUES:
294, 432, 549, 768, 1270, 1780, 2490.
106. COMPONENTS AND STRAPS DESIGNATED "AT" ARE TO BE INSERTED AT TEST.
107. THE CURRENT DRAINS ARE:
LIST 1 = $0.13 + 30.2 \left(\frac{I_{OUT}}{48} \right)$
LIST 2 = $0.16 + 30.2 \left(\frac{I_{OUT}}{42.75} \right)$
(I_{OUT} AND LISTS 1 AND 2 ARE IN AMPERES)
108. RELAY (PA AND FA) CONTACTS ARE RATED AT: 500 MILLIAMPERES MAXIMUM, 200 VOLTS MAXIMUM, BUT, THE PRODUCT (VOLTS X AMPS) OF THE TWO MUST NOT EXCEED 10VA.

EQUIPMENT NOTES:

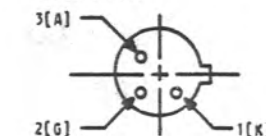
201. THE WIRE CONNECTING (+) C1.3 AND TERMINAL 2 OF T1 IS HARD WIRED TO THE CONNECTOR BLOCK ON T1.
202. UNLESS OTHERWISE SPECIFIED ALL WIRE SHALL BE KS-19195, L1, 12GA STRANDED.
203. CONNECTIONS MADE BETWEEN CM1 AND CM2 BY MEANS OF A FST-22A-24 PRINTED CIRCUIT BOARD JUMPER, MANUFACTURED BY ANSLEY MANUFACTURING CORP.
204. CONNECTOR STRAPPING SHOWN IN CAD 1 AND CAD 2 FOR INPUT ± BATTERY, OUTPUT, AND TRANSFORMER INTERCONNECTIONS MUST BE EQUIVALENT TO NO.14 AWG. ALL OTHER STRAPPING MUST BE NO.18 AWG.

INFORMATION NOTES:

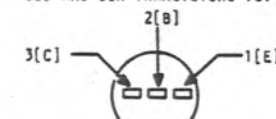
301. UNLESS OTHERWISE SPECIFIED: RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN MICROFARADS, VALUES PRECEDED BY THE SYMBOL + (PLUS) OR - (MINUS) ARE IN VOLTS.
302. INFORMATION SHOWN IN [] IS FOR REFERENCE ONLY.
303. CONNECTOR ON FRAME IS KS-21244, L1
304. THE TERMINAL NUMBER ASSIGNMENT OF THE KS-20838, L1 TRANSISTOR IS:



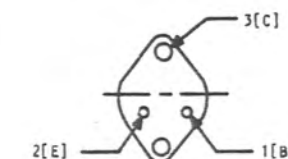
305. THE TERMINAL NUMBER ASSIGNMENT OF THE 27A THYRISTOR IS:



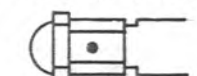
306. THE TERMINAL NUMBER ASSIGNMENT OF THE 51A, 66J AND 66R TRANSISTORS IS:



307. THE TERMINAL NUMBER ASSIGNMENT OF THE 2N3773 TRANSISTOR IS:



308. THE TERMINAL ARRANGEMENT OF THE 5310(LED) DIODE IS:



309.

HIGHEST CAP., DIODE, RES, TRANSISTOR USED ON THIS DRAWING									
FRAME MOUNTED	APP FIG. 1				APP FIG. 2				
	C1.3	CR1	R1	Q2	C3	CR3			
	NOT USED				NOT USED				
CM1	C2	CR4	R18	Q2	C1	R1			
	NOT USED				NOT USED				
CM2	C20	CR19	R87	Q11					
	NOT USED				NOT USED				
	C11, C13, C15	CR4, CR9-	R59-68, R78-	Q7					
	C16	CR14, CR16-18	R9, R81, 82, R86						
CM3	C5	CR9	R25	Q3					
	NOT USED								
	CR5								

DC TO DC CONVERTER

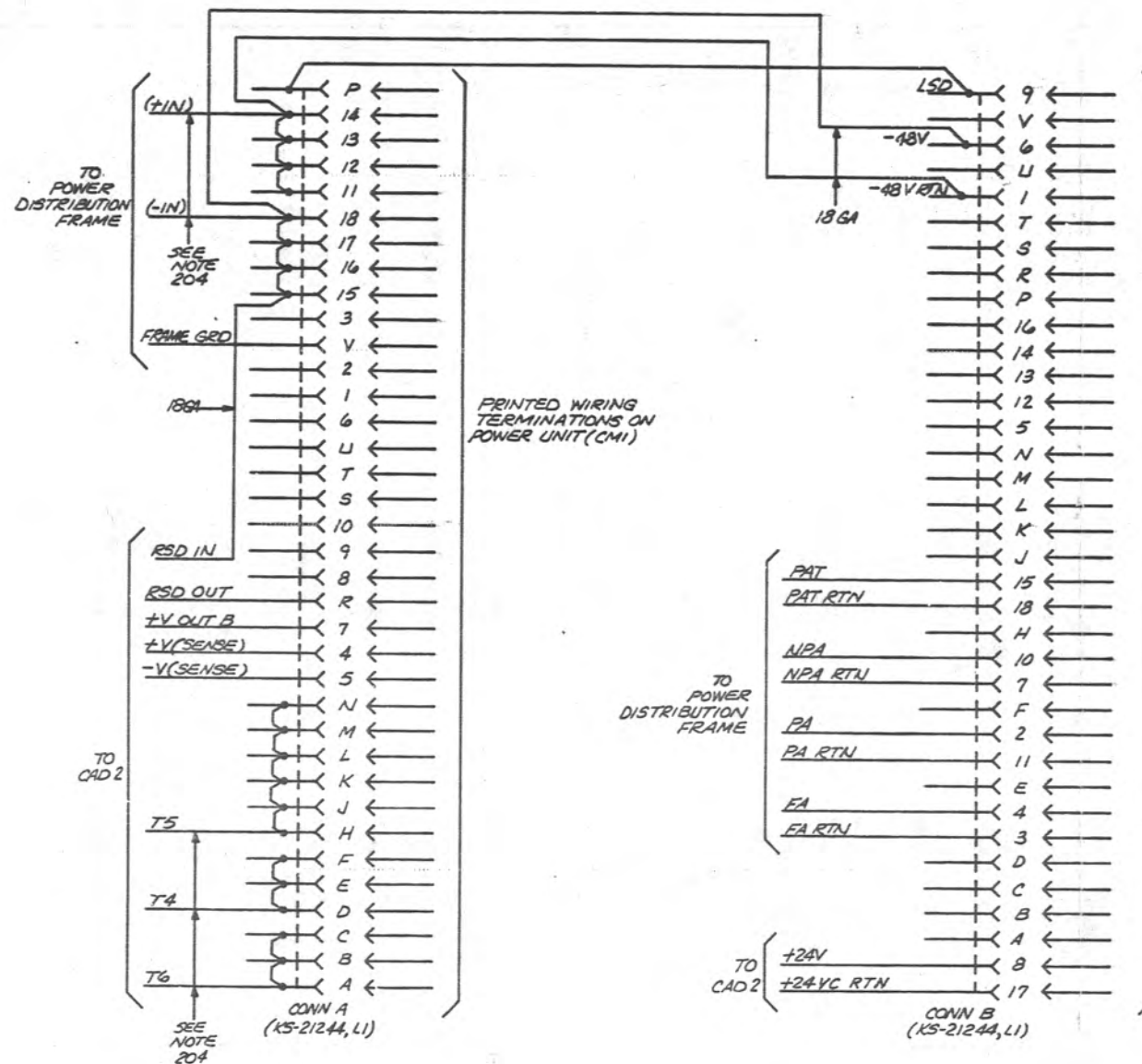
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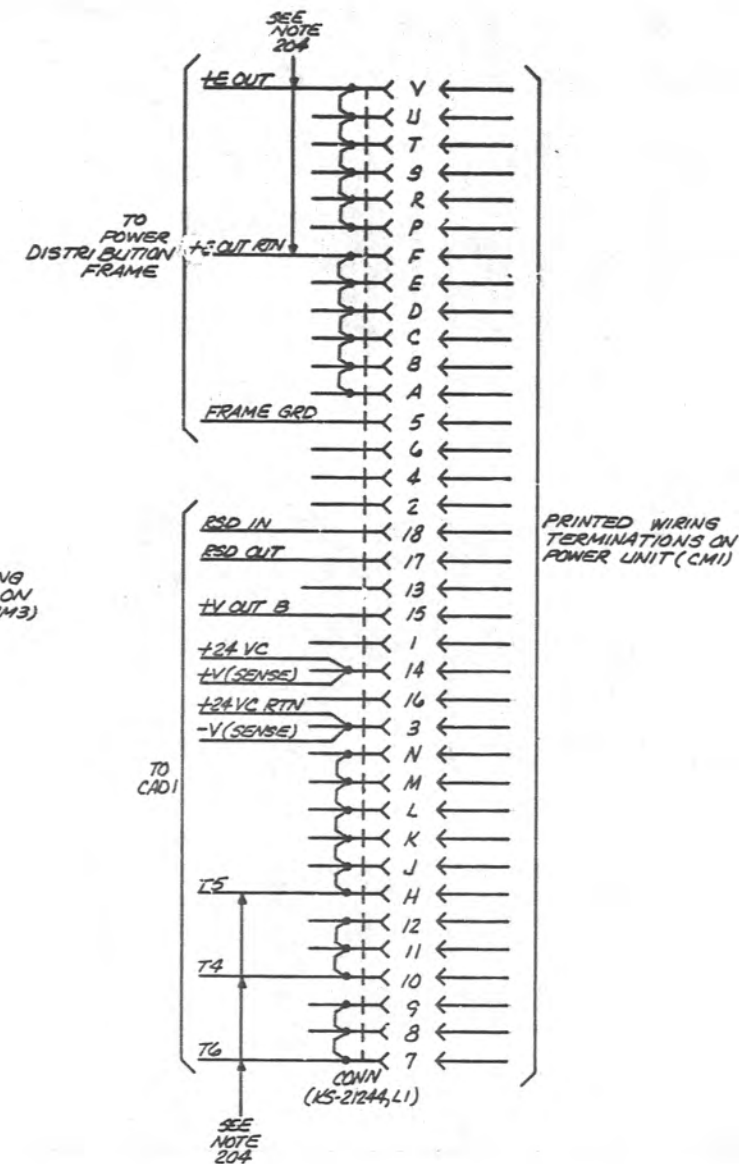
6S

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CAD 1
(FOR APP FIG. 1)



CAD 2
(FOR APP FIG. 2)



DC TO DC CONVERTER

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ISSUE
/

BD 1

