

SHEET INDEX - SD DWG & T DWG SHEET ISSUES ARE IN AGREEMENT AS FOLLOWS

SCHEMATIC		ISSUE												
SD- 82605-01	1	1A	2	3	4	5	6	7	8	9	10	11	12	13
WIRING DIAGRAM														
AUTO CHG														
IKYI	H	A1	1	2	3	4	5	6	7	8	9	10	11	12
AH		B1	1	1	3	4	4	6	6	8	8	8	8	
		B2	1	2	3	4	5	6	6	8	8	8	11	
		B3	1	1	3	4	4	4	7	8	8	8	9	
		B4	1	2	3	4	5	6	6	8	8	10	10	
		B5	1	2	3	4	5	6	6	8	8	8	6	
		B6	1	2	3	4	5	6	6	8	8	8	6	
		B7	1	2	3	4	5	6	6	8	8	8	6	
		B8	1	2	3	4	5	6	6	8	8	8	6	
		B9	1	1	3	4	5	5	5	8	8	8	8	
		D1	1	1	3	4	4	6	6	8	8	8	11	

ENGINEERING NOTES

51. SEE SHEET INDEX

52. CONNECTING DRAWINGS
 CHARGE & DISCHARGE CKT T-82603-30
 T-82104-30
 PLANT CONTROL CKT T-82588-30
 REMOTE ACCESS CKT SD-82645-01

53. EQUIPMENT ARRANGEMENT
 J895038-1

54. SPECIFY FIGURES & OPTIONS AS FOLLOWS:

FIG 1 WITH

DC OUTPUT	OPTION	OUTPUT FILTER (STANDARD)	ADDITIONAL OUTPUT FILTER	POLARITY OF OUTPUT		DIGITAL VOLT METER
				NEGATIVE GROUND	POSITIVE GROUND	
24V	V	FIG D	FIG E	FIG H & FIG HA	FIG H & FIG HB	FIG 3
48V	M	FIG F	FIG G			

55. SPECIFY FIGURES & OPTIONS AS FOLLOWS:

60HZ INPUT VOLTAGE	FIG.	(FIG 1) OPTION
208	A	S
240	B	Q
480	C	T

56. IN FIG H1, AC WRG INPUT SHALL BE CALCULATED BY USING SD-82605-01, NOTES 308 & 313.

57. CO GROUNDING SHALL BE IN ACCORDANCE WITH SD-82605-01 NOTE 314.

58. SEE NOTES 12, 17 & 18.

59. SEE J895038-1, TABLE R FOR OPTIONS REQUIRED IN FIG 2.

60. THIS RECTIFIER CONNECTS TO VARIOUS CONTROLLERS VIA CABLE ASSEMBLIES PER H-285-224, (C) SHOWN ON INDIVIDUAL PLANT SCHEMATIC.

61. FOR THE DC OUTPUT LEADS, THE RECTIFIER IS EQUIPPED WITH CONNECTORS TO TERMINATE KS-20921 4/0 CABLE. IF ON A JOB BASIS ANOTHER TYPE OR SIZE OF CABLE IS SPECIFIED, THE ENGINEER IS TO PROVIDE THE PROPER TERMINALS FOR THE CABLE.

62. FURNISH YC OPTION FOR BATTERYLESS OPERATION.

63. IF 531A (DS1 & DS2) OR 531B (DS3) LED REQUIRES FIELD REPLACEMENT, ORDER WP-80384, LS (CONCODE 48547707) FOR DS1 & DS2 OR WP-80384, LS (CONCODE 485043864) FOR DS3. IT IS ALSO NECESSARY TO ORDER ONE KS-21320, L10 SLEEVE (CONCODE 486891439) FOR EACH DIODE BECAUSE THE OLD L.E.D. SOCKET KS-21320, L-101 CAN NOT ACCOMMODATE THE NEW L.E.D.

MANUFACTURING NOTES CONVENTIONS

CABLE

SHIELDED WIRE, BELDEN 9322, 22 GA.

TERMINAL LUG

DIVISION OF GENERAL WIRING VIBS

CONNECTION FURNISHED AS PART OF APPRATUS

SCREEN CONNECTION

LEADS NOT INCLUDED IN LOCAL CABLE BUT RUN BY SHIP.

- ALL WIRING TO BE OF SURFACE WIRING. 22 GAUGE STRANDED KS-22247, L-4 COLORED YELLOW AND PART OF WIRE KITS 845369032 UNLESS OTHERWISE SPECIFIED.
- LC A LCJ895038-1A WIRE ASSY LOCAL CABLE TO BE 22 GAUGE STRANDED KS-22247, L-4 UNLESS OTHERWISE SPECIFIED.
- LC B LCJ895038-1B WIRE ASSY, DC SEGREGATED LOCAL CABLE TO BE 22 GAUGE STRANDED, KS-22247, L-4 UNLESS OTHERWISE SPECIFIED.
- LC C LCJ895038-1C WIRE ASSY LOCAL CABLE TO BE 22 GAUGE STRANDED, KS-22247, L-4 UNLESS OTHERWISE SPECIFIED.
- LC D LCJ895038-1D WIRE ASSY LOCAL CABLE TO BE 22 GAUGE STRANDED KS-22247, L-4 UNLESS OTHERWISE SPECIFIED.
- B1 - TERMINAL NEAREST MOUNTING PANEL
- PT - LEADS FURNISHED WITH COMPONENT.
- LEADS SHOWN TERMINATED IN COMPONENTS WITHOUT TERMINALS ARE FURNISHED WITH COMPONENTS.
- P-PAIR
- P1-PAIR MADE BY TWISTING 2 SINGLE WIRES RESPECTIVELY TOGETHER NOT LESS THAN ONE TURN PER 1/4 INCH.
- P2-PAIR MADE BY TWISTING A MINIMUM OF 3 TWISTS PER LENGTH OF WIRE FROM (T1) & (T2) TRANS TO (L3) INDR.
- MATING OF PRINTED WIRING BOARD PLUGS AND CONNECTORS ON DOOR SHALL NOT BE MADE UNTIL COMPLETION OF SHOP WIRING AS TRANSIENT VOLTAGES MAY BE DEVELOPED WHICH WILL DAMAGE PWB COMPONENTS.
- NO WIRES OF THIS DRAWING ARE TO BE RUN BY THE INSTALLER EXCEPT WIRING ON SHEETS WITH PREFIX D.
- F-SEPARATE STITCH AT CABLE FORM.
- T-TRIPLE
- TAPE & STORE ALL UNCONNECTED WIRES.
- EARLY PRODUCTION UNITS MAY USE WP91362, L2AR OR 85#F20 FOR CR6 AND WP91362, L2A OR 85#F20 FOR CR7.
- PRIOR TO ISSUE 6 C.O. GRD WAS SHOWN AS 6 GA.
- LC E LCJ895038-1E WIRE ASSEMBLY LOCAL CABLE TO BE 22 GA. STRANDED KS22247, L4 UNLESS OTHERWISE SPECIFIED.

2-23-85 MOD895038J-2

PRIOR TO THIS ISSUE NO RECTIFIERS HAVE BEEN SHIPPED OF THIS CODE. ON SHEET AT NOTE 26 READ "SEE NOTE 13", NOTE 15 ADDED. ON SH B2, MANUFACTURER & CODE OF (X1) REL READ:

OPTION	GOULD INC. CODE
V, Q	2200E230BA-6-9
V, S	
V, O	2200E430BA-6-9
V, S	
V, T	2200E230VA-6-9
V, T	2200E430VA-6-9

ON SH B4 AT (CR2) TO (CR5) DIODES D100E CODE READ, "KS-19404, L-1" AT (Q1) & (Q2) THYRISTORS, THYRISTOR CODE READ "SC2690397" GE. AT (L1) & (L2) INDR AT "M" OPT "13738" READ "1373A". IN FIGS D, E, F, & G, R WIRE ON NEG SIDE OF (R5) SHUNT WAS WIRE TO LOAD OUTPUT BUS. ON SH B4 CODES OF (C5), (C7), (C14) & (C15) CAPS READ:

CAP	V OPT	W OPT
C5	97F3150	
C8	97F3156	97F3208
C7	97F3150	
C14	97F3156	

3-4-86 CLASS AD

EXTENSIVE CHANGES MADE, NO RECTIFIERS SHIPPED TO DATE.

1-7-87 CLASS M

CHANGES MADE PER SAMPLE REVIEW, NO RECTIFIERS SHIPPED TO DATE.

3-25-87 CLASS M

IN FIG 1 SHEET B2 AT (T3) TRANS, CODE AT "Q, S" OPT READ 3245C & AT "T" OPT READ 3245D. STRAPS IN FIGS A, B, & C USED AT (T3) TRANS CHANGED TO AGREE WITH NEW TRANS CODE. ON SHEET B4 AT (R1) RES, "M" OPT "L-138" READ "L-13A". AT (R2) RES LOCATION OF "S", & "T" OPTIONS INTERCHANGED. THE FOLLOWING IS PER DALLAS POINT ISSUE 4.1 ON SHEET B2 WIRES BETWEEN (R2) RES & (X1) REL WAS SHOWN AS 16GA & WAS NOT DESIG WIRE KIT 845801927. ON SHEET B4 AT (A) GRD, 3 BK WIRES TO (CA1) CPMT ASSY P6 & P12 TERMS & (B) GRD READ 16GA. ON SHEET B4 WIRES FROM (R1) RES & SHEETS B5 TO B8, FIGS D, E, F & G WAS SHOWN AS 16GA. ON SHEET B9 IN FIG K PT WIRES WERE DESIG, H-0 KS-22247, L-5 14GA. IN FIG L (E) GRD WIRE READ 16GA. AT (CA2) FILTER WIRES FROM TERMS P18, P19 & P20 READ 14GA & WAS NOT DESIG WIRE KIT 845369032.

POINT ISSUE 4.1

8-19-87 CLASS M

(CONTINUED)

ADDED: ON SH41, NOTES 18, 83 & 84. IN FIG L SH1, DESIG. KS-21320 L10 SLEEVES E/W 531A OR 531B DIODES AS OPT. "YD". KS21320 L10 SLEEVES E/W WP-80384, LS OR L6 DIODES AS OPT. "YE". IN FIG 1 SH4 DESIG. MAC25A-10 AS OPT "ZM" AND T252NR AS OPT "Y". IN FIG 1 SH2 & 83 DESIG. LC D AS OPT. "DS". ADD LC E OPT. "T". IN FIG 1 & C, SH2, LINED OUT 845369040 WIRE SET ADD LC E OPT. "T" 22 GA. KS-22247 L-4 S & Y. ON SH4, AT LOC 23, ADDED "KS22247 L-4 WIRE". POINT ISS. 7.1 AND 7.2 FOR J855038-1 ISS. DJ8 CLASS B

JCW JCW 8

CHANGED: ON SHEET B4, LOC. G4, LINED OUT "97F3150A6 CAPS 35MF" AND ADDED "97F3150 CAPS 35MF" LINED OUT "97F3151A6 CAPS 50MF" AND ADDED "97F3008 CAPS 50MF"

POI 96503088 CLASS MF 11-12-81

JCW 9

CHANGED: ON SHB4, LOC. G-H, LINED OUT "97F3205A6 CAPS", ADDED "226P4435M01A2 CAPS".

92E5D30339 CL MF 04-03-82

HMB 10

DELETED: T81 & ASSOCIATED WIRING

POI 9365030674 CL A

HMB 08-03-83 11

64. IF LOCAL CODES PERMIT AND THE CUSTOMER DESIRES TO CONNECT OVERHEAD AC RACEWAY TO THE RECTIFIER WITH FLEX STEEL CONDUIT, A FLEX STEEL CONDUIT KIT MAY BE ORDERED. FOR J855038-1 L2 & L4, ORDER KIT 8018277H WHICH CONSISTS OF 17 INCHES OF 1/4 INCHES FLEX STEEL CONDUIT, (2) KS20788 38 CONNECTORS & (2) KS20788 L17 INSULATING BUSHINGS. FOR J855038-1 L1, L3 & L5, L6, L7, ORDER KIT 8018277H WHICH CONSISTS OF 17 INCHES OF 3/4 INCH FLEX STEEL CONDUIT, (2) T&B 318 CONNECTORS, (2) T&B 3707 REDUCING WASHERS & (2) T&B 223 INSULATING BUSHINGS.

76. MODIFICATION OF SD-82605-01 CONSISTS OF ADDING CHANGES PER L01 ISSUE 6A.

35	YF	YF
	YE	YE
	YD	YD
	YC	YC
	YB	YB
	ZZ	ZZ
30	YA	YA
	ZX	ZX
	ZH	ZH
	ZV	ZV
	T	T
	S	S
	Q	Q
	W	W
	V	V
(CAD 3)	Z	HB
20	(CAD 3)	Y
(CAD 1, 2, 4)	HI	
	F, B	H
(1)	K, M	H
	Z	J
	Y	H
3	J	3
2	-	Z
4	E	L
10	X	K
16	M, ZA	G
15	M, A	F
16	V, ZA	E
15	V, A	D
5	T	C
	Q	B
	S	A
(CAD 2) 1	F, Z, Z	1
1	2, 11, 12, 21, 22, 24	1

(CONTINUATION)

NOTES 17 & 18 ADDED DESCRIBING OLD CODES. IN NOTE 50 REF TO NOTE 17 ADDED.

3-9-89 CLASS M

IN FIG 1 (SH B3) AT (CR2) CKT MODULE "YB" OPT WAS NOT SO DES AND "YC" OPT ADDED. NOTE 82 ADDED.

4-3-89 CLASS "M"

ISSUE NOTES (CONTINUED AT LEFT)

H, HA, HB		D1
2	R, V, W	B9
1	F, K, M, N	B9
1	YD	B1
3		B3
1		D1
2	L, J, K, L	B9
6	ZV, ZX	B9
F	ZV, ZX	B7
E	ZV, ZX	B6
D	ZV, ZX	B7
1	V, H, Q, S, T	B4
1	ZV, ZX	B4
M, N		
1	ZZ, YA	B2
1	Q, S, T	B2
1	YB, YC	B1, B3
FIG	OPT	SHEET

(CONTINUATION)

NOTE 76 ADDED. IN FIG 1 (RFA, DS1) (PMA, DS2) & (ON, DS3) SOCKETS & DIODES LINED OUT, NEW CODES ADDED. AT (R6) POT, ZZ OPT WAS NOT SO DESIG, YA OPT ADDED, AT (K1) REL, TELEMECHANICAL CODES ADDED. (R1) RES WAS NOT DESIG ZX OPT. AT (Q1) & (Q2) THYRISTORS, OLD CODE LINED OUT, NEW ADDED. (R4A) & (R4B) RES ADDED. IN FIG N AT (CBA1) & (CBA2) CKT BRONS WIRES SET ALM TERM WERE NOT 20GA. IN FIGS D, E, F & G; ZV OPT ADDED, ZX WAS NOT SO DESIG. IN FIG H1 (FR GRD) (AC EG) READ (FR GRD) & (C O GRD) WAS WIRE TO INSIDE CAB. IN NOTE 32, SD-82645-01 READ T-82645-30. IN FIG G NEW CODES FOR CR6 & CR7 ADDED. (ISS 6 CONTINUED)

AT&T TECHNOLOGIES, INC-PROPRIETARY
 USE PURSUANT TO COMPANY INSTRUCTIONS

POWER SYSTEMS RECTIFIER CIRCUIT
 208/240/480 VOLT, 60 HZ, 3 PHASE INPUT
 24 OR 48 VOLT, 200 AMPERE OUTPUT

11 SHEETS
 DIST CODE R410

DWG SIZE 43
 ISSUE 11

AT&T TECHNOLOGIES, INC. T-82605-31 SHEET A1

TABLE B - RECORD OF FIGURES COMPONENTS AND WIRING CHANGE

CHANGE ON ISSUE	SPECIFY IF OFFICE RECORDS	DO NOT SPECIFY THIS OPTION WAS FURNISHED	SEE NOTE	STD	A & M	RD	RATING
10	FIG. 1	YB OR YC OPT	YB OPT		YB	YC	
8	FIG. 1	ZW OR YF OPT	ZW OPT	AVAIL	YF	DA	
8	FIG. 1	YD OR YE OPT	YD OPT	63	YE	ZW	
7	FIG. 1	YB OR YC OPT	YB OPT	62	YB, YC	YD	
	FIG. 1	YA OR ZZ OPT	ZZ OPT		YA	ZZ	
	FIG. D	ZV OR ZX OPT	ZX OPT		ZV	ZX	
	E, F						
	OR G						
	FIG. 1	ZV OR ZX OPT	ZX OPT		ZV	ZX	

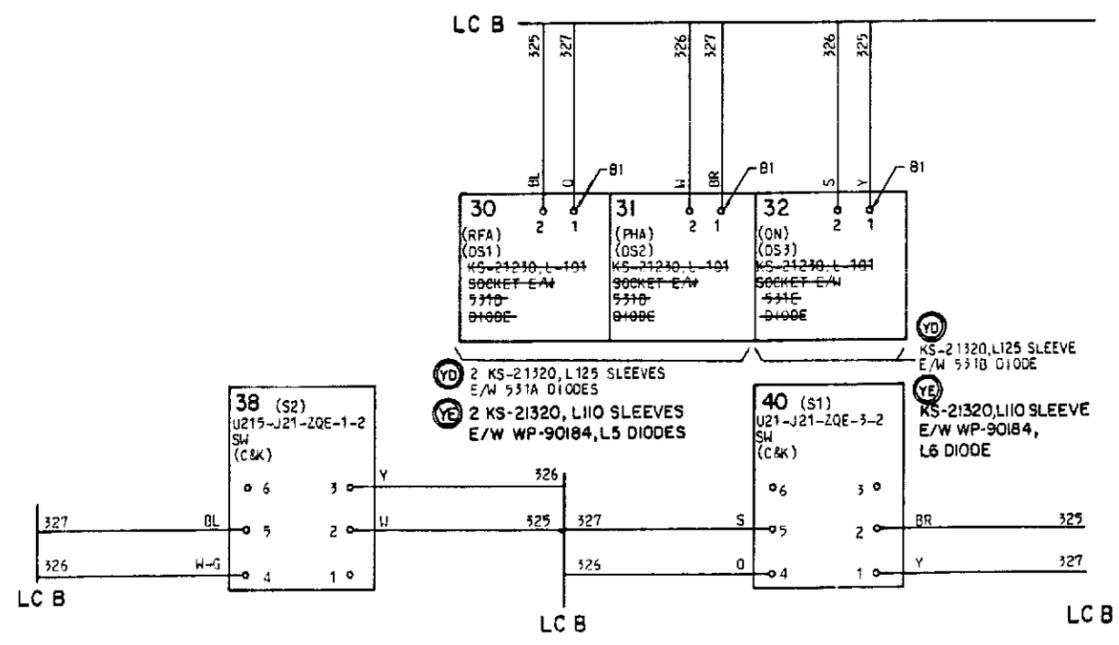
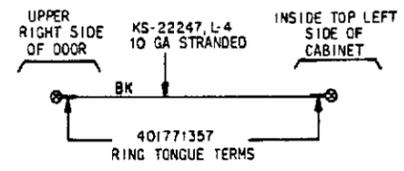
TABLE C - SD T DWG CROSS REFERENCE TABLE

CA	CB	CC	CD	CE	CF

TABLE D - SHEET LOC OF FIGURES & OPTIONS

FIG	OPT	SHEET
1	YF	B4
1	YE	B1
1	YD	B1
1		B3
H, HA, HB		D1
2	R, V, W	B9
1	F, K, M, N	B9
1	YD	B1
3		B3
1		D1
2	L, J, K, L	B9
6	ZV, ZX	B9
F	ZV, ZX	B7
E	ZV, ZX	B6
D	ZV, ZX	B7
1	V, H, Q, S, T	B4
1	ZV, ZX	B4
M, N		
1	ZZ, YA	B2
1	Q, S, T	B2
1	YB, YC	B1, B3
FIG	OPT	SHEET

FIG 1 (CONTINUED)
200 AMP RECTIFIER



T-82605-31
SHEET
B1

AT&T TECHNOLOGIES, INC-PROPRIETARY
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POWER SYSTEMS RECTIFIER CIRCUIT 208/240/480 VOLT, 60 HZ, 3 PHASE INPUT 24 OR 48 VOLT, 200 AMPERE OUTPUT		DWG SIZE 65	ISSUE 8
AT&T TECHNOLOGIES, INC.		T-82605-31	
		SHEET B1	

FIG I (CONT'D)

FIG A
208V AC

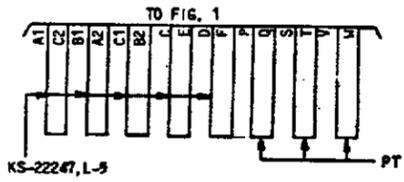


FIG B
240V AC

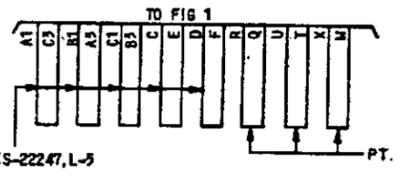
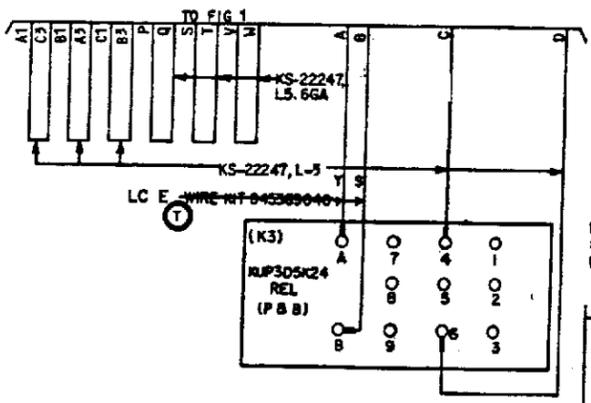


FIG C
480V AC



OPT	ARROW-HART INC CODE
V,Q	ACC430-8070C
V,S	ACC430-8076C
W,Q	ACC430-8076C
W,S	ACC430-8070C
OPT	TELEMECHANIQUE CODE
V,Q	2200EB330BA-63-11-9
V,S	(208/240V COIL)
W,Q	2200EB330BA-9
W,S	(208/240V COIL)-19
Y,T	2200EB330KA-63-11-9
Y,T	(480V COIL)

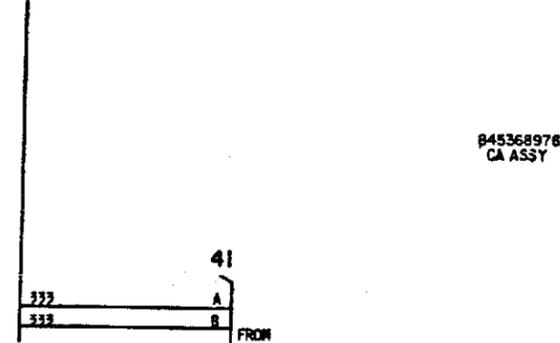
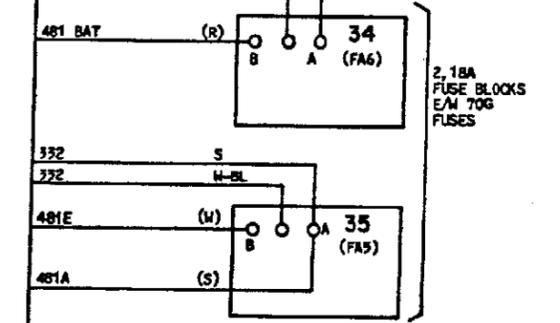
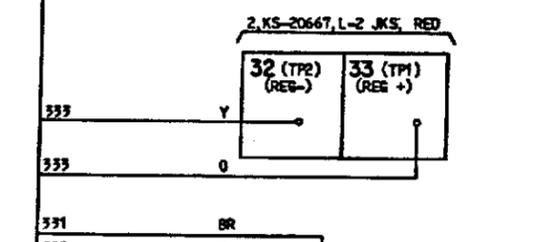
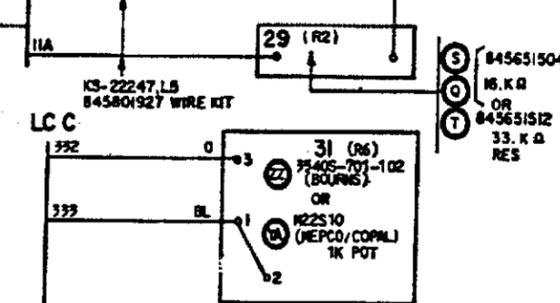
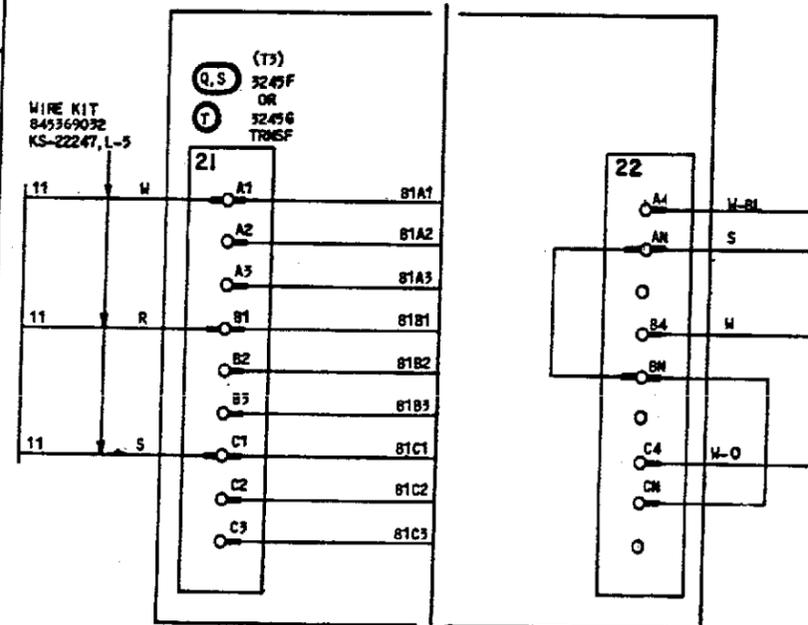
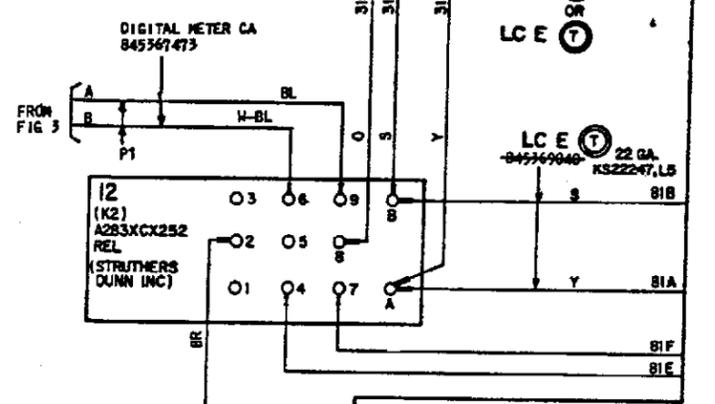
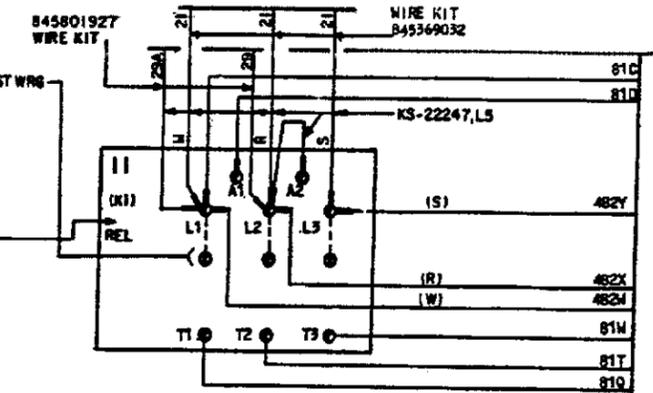


FIG M

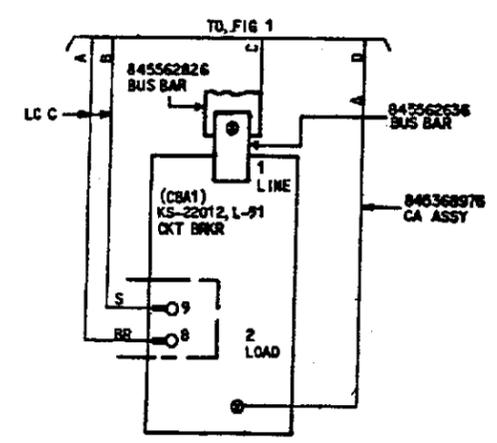
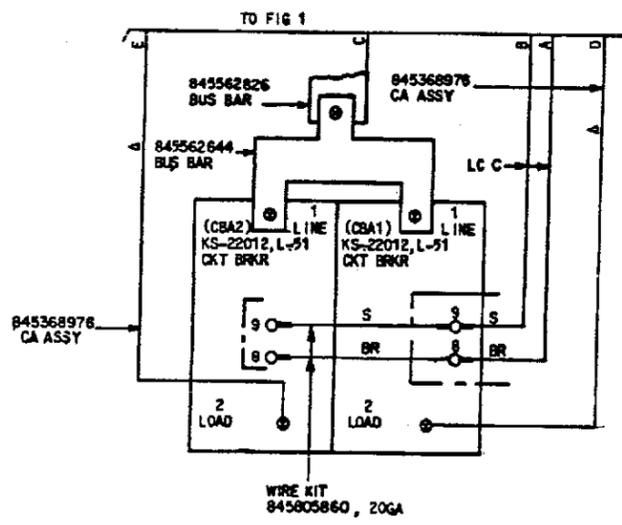
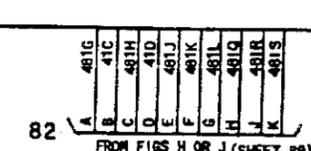
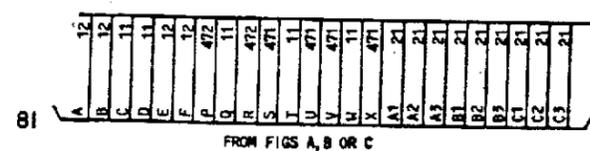


FIG N



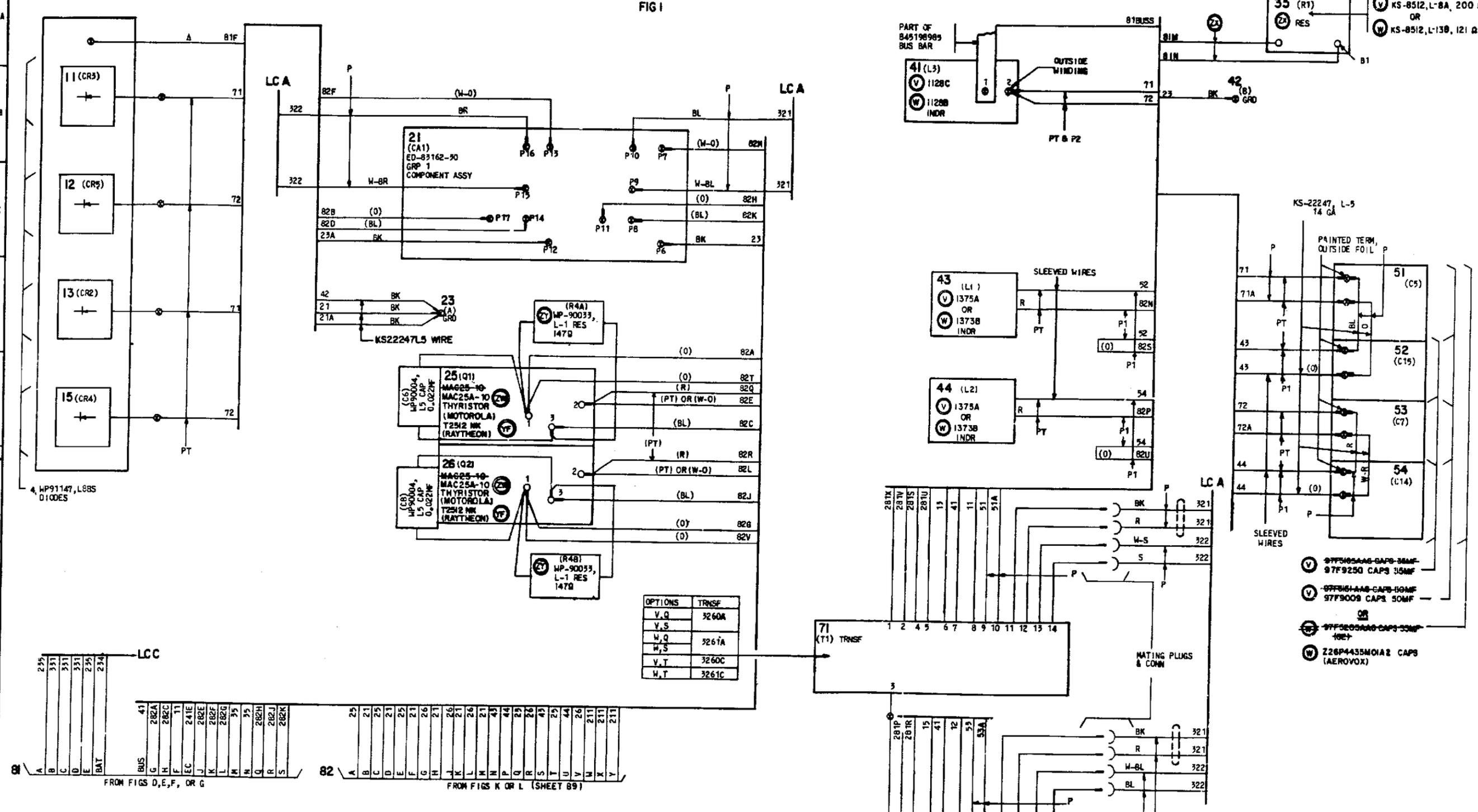
T-82605-31
SHEET B2



AT&T TECHNOLOGIES, INC-PROPRIETARY
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POWER SYSTEMS RECTIFIER CIRCUIT 208/240/480 VOLT, 60 HZ, 3 PHASE INPUT 24 OR 48 VOLT, 200 AMPERE OUTPUT	DMG SIZE 45	ISSUE 11
AT&T TECHNOLOGIES, INC.	T-82605-31	SHEET B2

FIG 1



OPTIONS	TRNSF
V, Q	3260A
V, S	3260B
W, Q	3261A
W, S	3261B
V, T	3260C
W, T	3261C

OPTIONS	TRNSF
V, Q	3260B
V, S	3260B
W, Q	3261B
W, S	3261B
V, T	3260D
W, T	3261D

35 (R1)
RES
KS-8512, L-8A, 200 Ω
OR
KS-8512, L-13B, 121 Ω

KS-22247, L-5
14 GA
PAINTED TERM, OUTSIDE FOIL

- 97F505AAS CAPS-30MF
- 97F9250 CAPS 35MF
- 97F815AAS CAPS-10MF
- 97F900B CAPS 50MF
- OR
- 97F505AAS CAPS-30MF
- 10E7
- 226P4435MOIA2 CAPS (AEROVOX)

AT&T TECHNOLOGIES, INC.—PROPRIETARY
USE PURSUANT TO COMPANY INSTRUCTIONS

POWER SYSTEMS
RECTIFIER CIRCUIT
208/240/480 VOLT, 60 HZ, 3 PHASE INPUT
24 OR 48 VOLT, 200 AMPERE OUTPUT

DWG SIZE
4.5

ISSUE
10

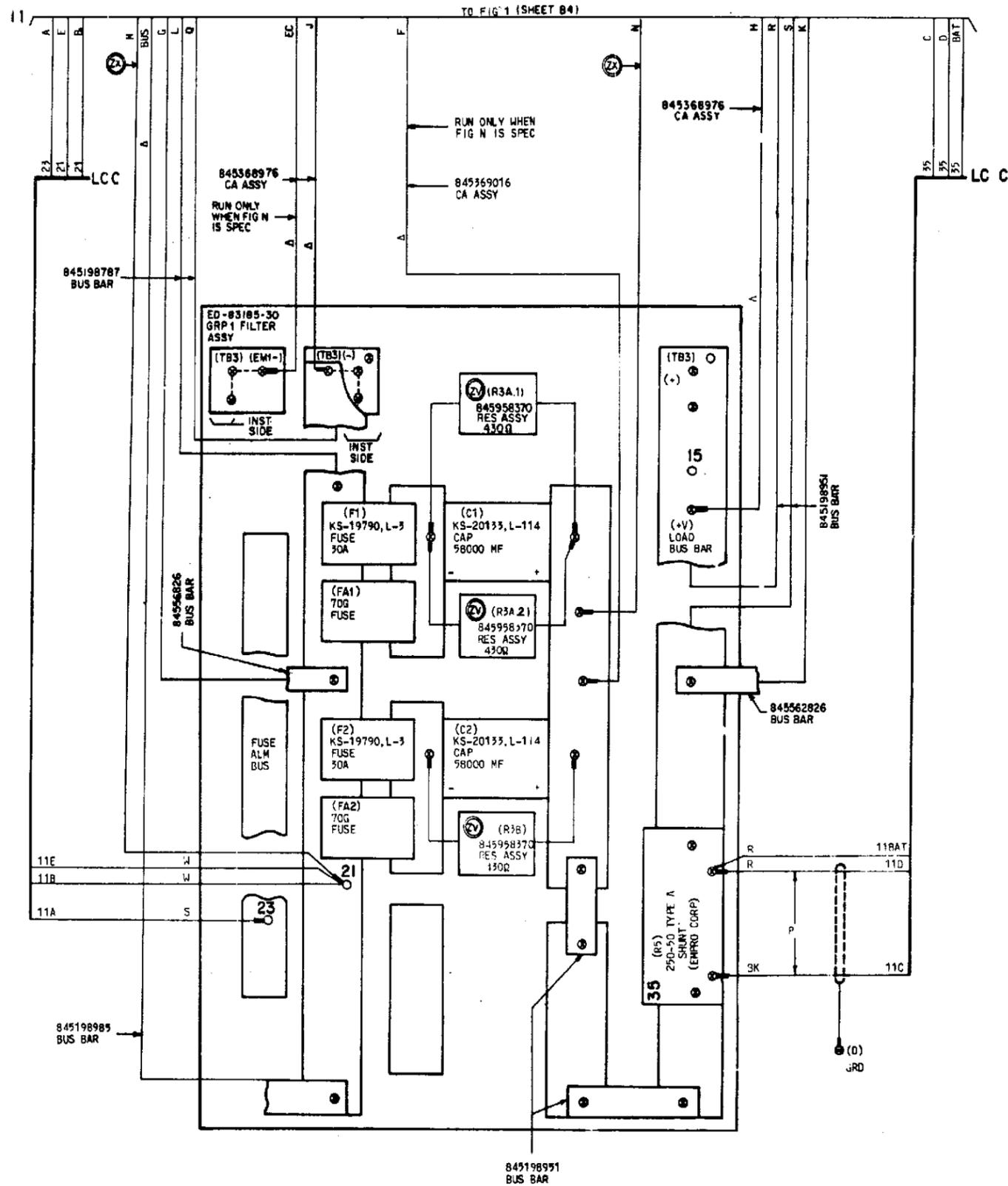
AT&T TECHNOLOGIES, INC. T-82605-31

SHEET
B4

T-82605-31

SHEET
B4

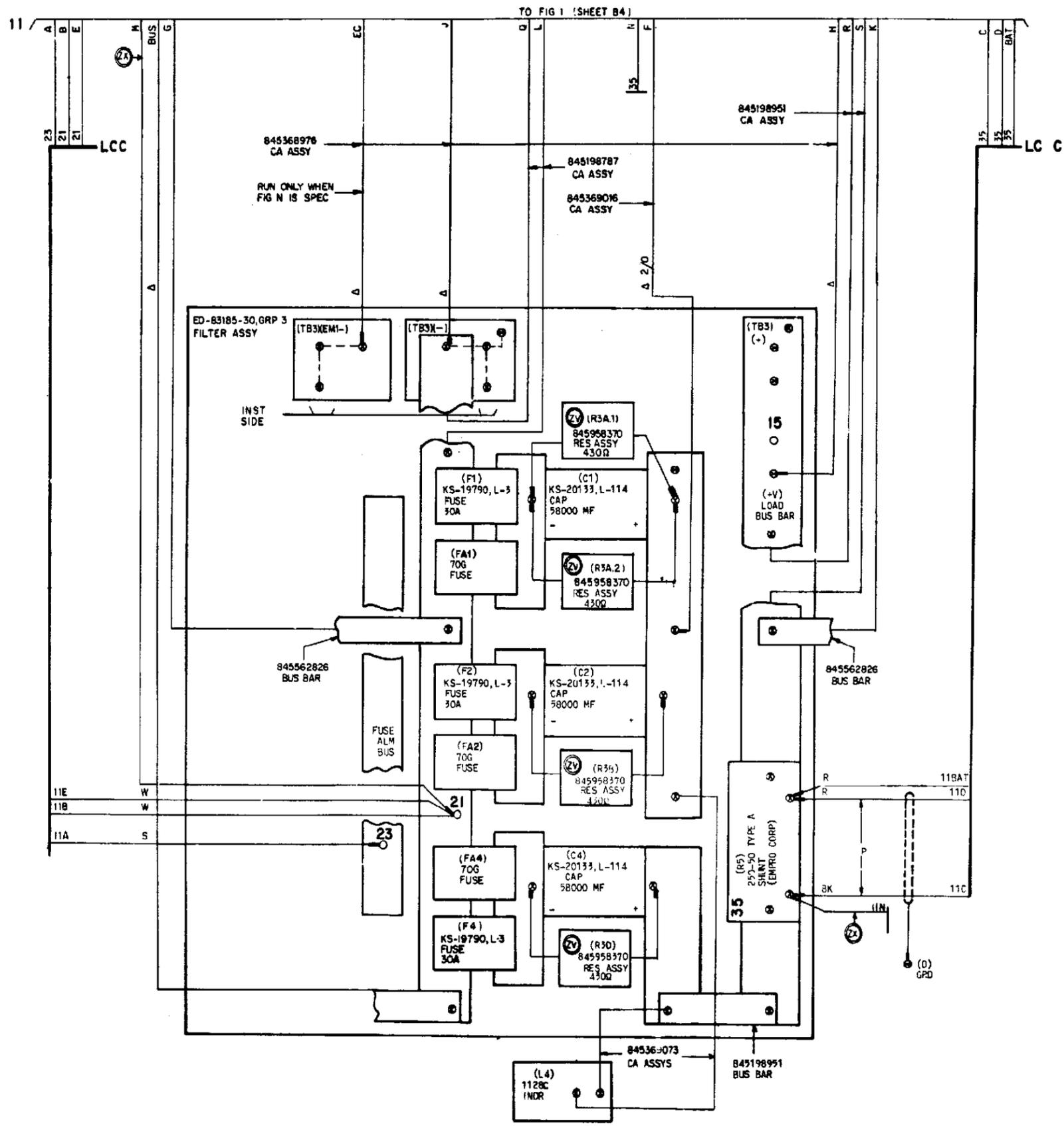
FIG. D
24 VOLT
FILTER ASSY



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POWER SYSTEMS RECTIFIER CIRCUIT 208/240/480 VOLT, 60 HZ, 3 PHASE INPUT 24 OR 48 VOLT, 200 AMPERE OUTPUT		DWG SIZE 65	ISSUE 6
AT&T TECHNOLOGIES, INC. T-82605-31		SHEET 85	

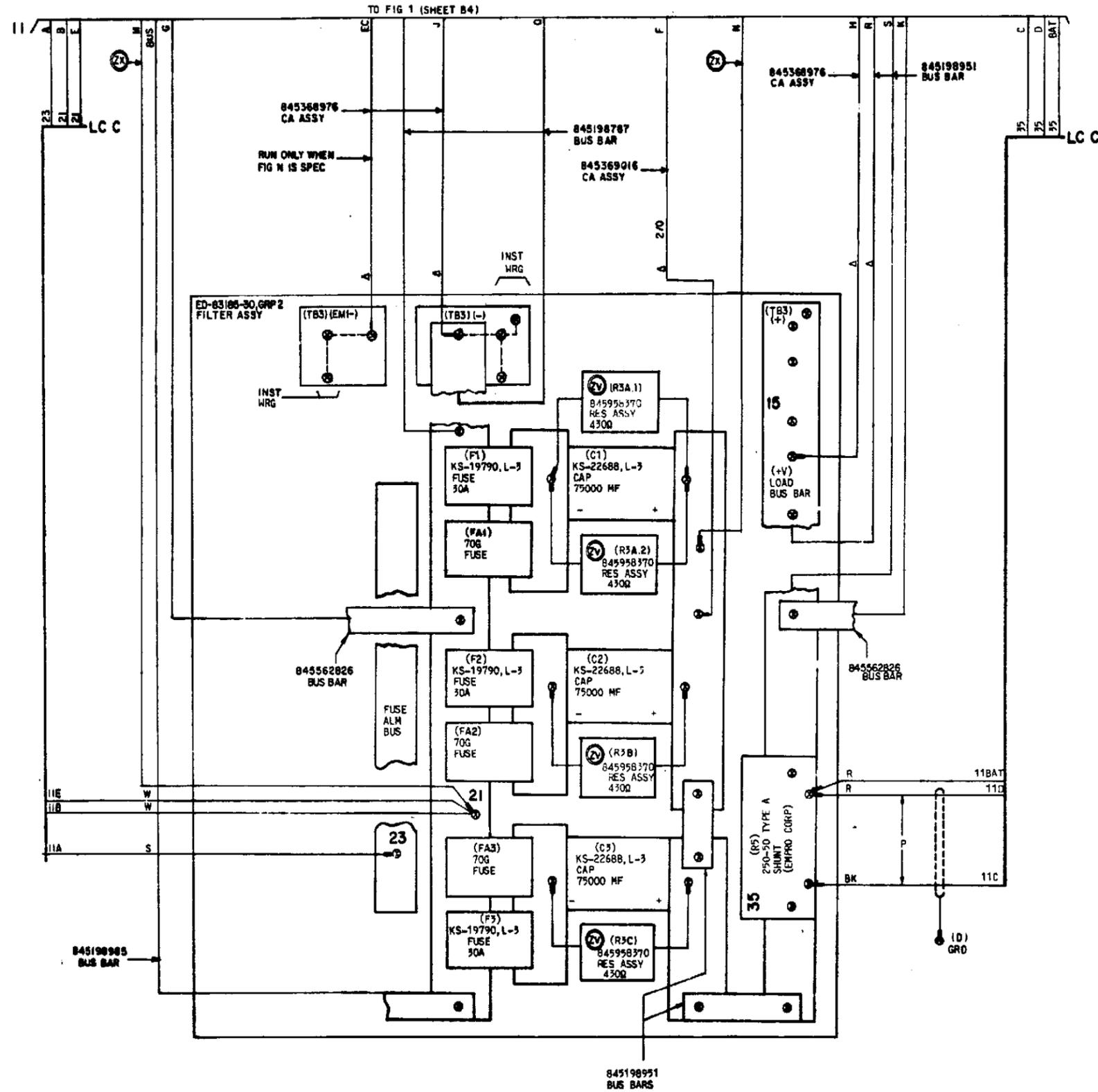
FIG E
24 VOLT FILTER ASSY
WITH ADDITIONAL FILTER



AT&T TECHNOLOGIES, INC-PROPRIETARY
USE PURSUANT TO COMPANY INSTRUCTIONS

POWER SYSTEMS RECTIFIER CIRCUIT 208/240/480 VOLT, 60 HZ 3 PHASE INPUT 24 OR 48 VOLT, 200 AMPERE OUTPUT	DWG SIZE	ISSUE
	65	6
AT&T TECHNOLOGIES, INC.	T-82605-31	SHEET B6

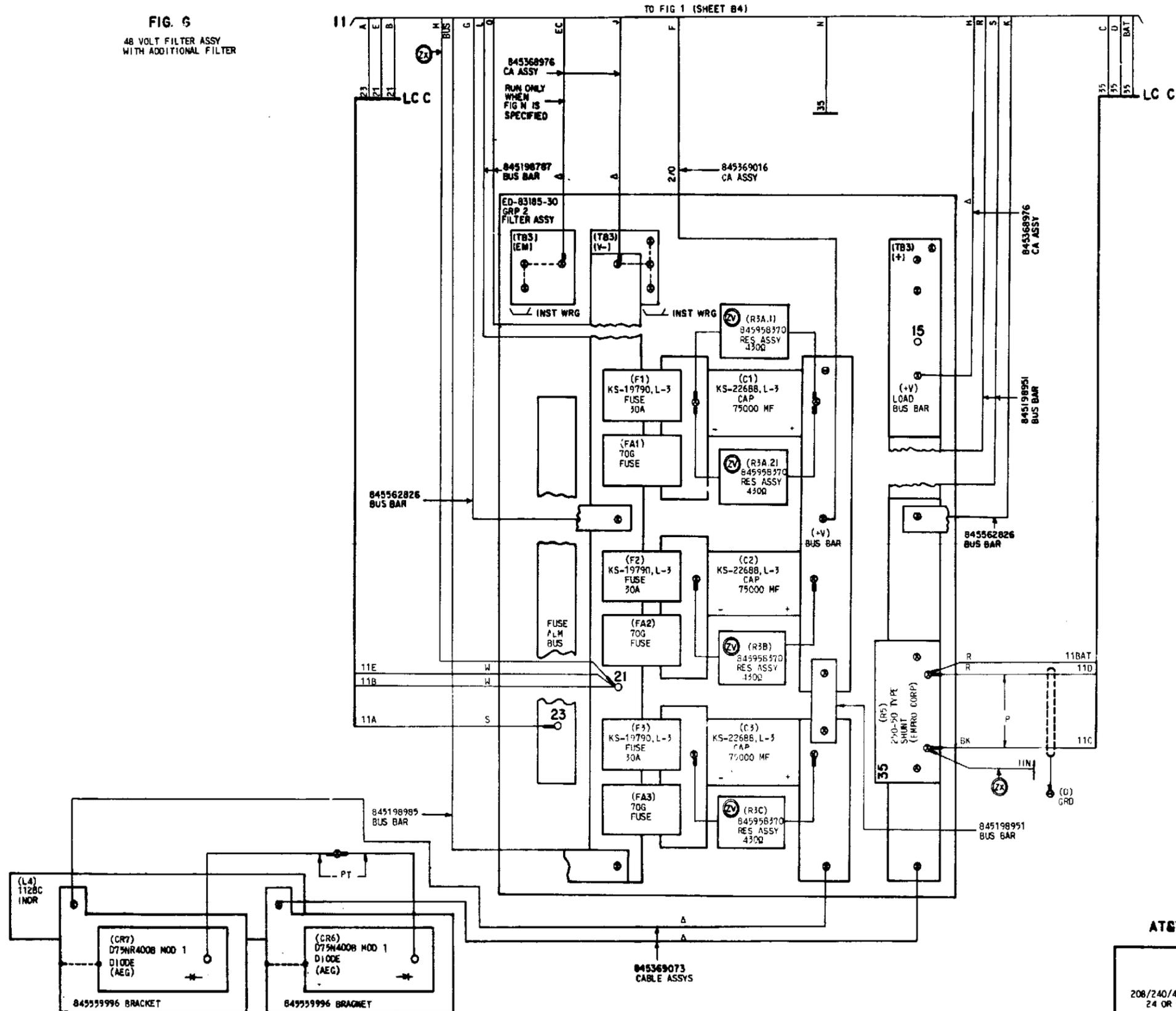
FIG F
48VOLT FILTER ASSY



AT&T TECHNOLOGIES, INC-PROPRIETARY
USE PURSUANT TO COMPANY INSTRUCTIONS

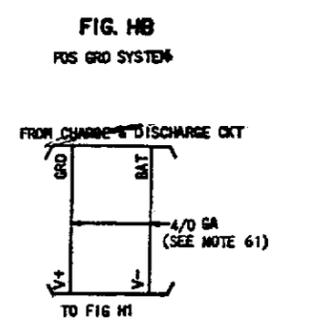
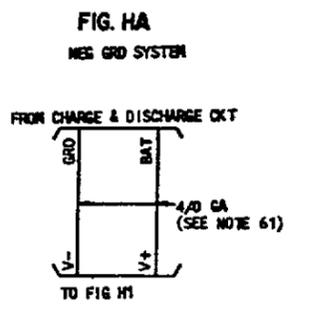
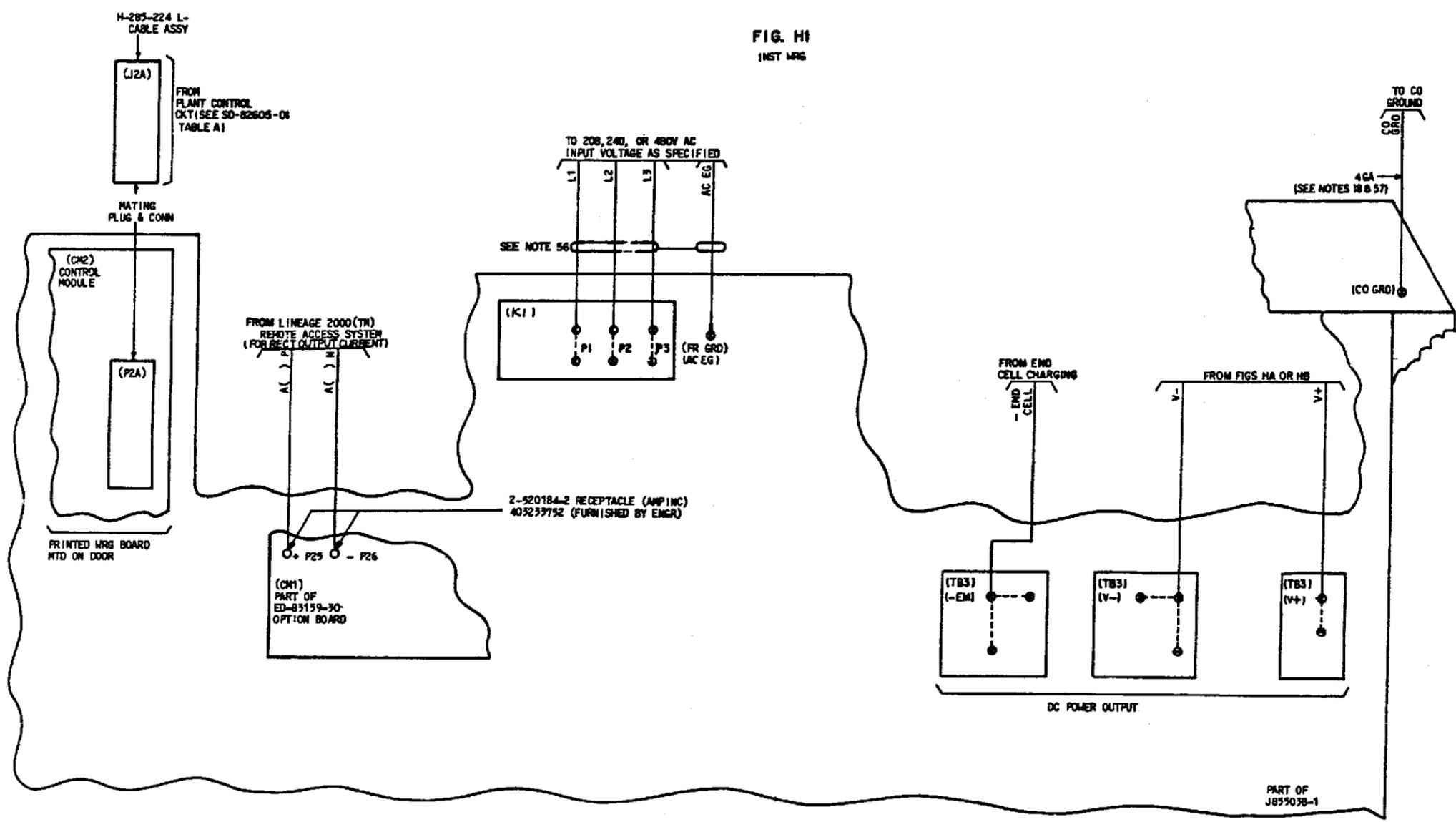
POWER SYSTEMS RECTIFIER CIRCUIT 208/240/480 VOLT, 60 HZ, 3 PHASE INPUT 24 OR 48 VOLT, 200 AMPERE OUTPUT	DWG SIZE	ISSUE
	65	6
AT&T TECHNOLOGIES, INC.	T-82605-31	SHEET B7

FIG. 6
48 VOLT FILTER ASSY
WITH ADDITIONAL FILTER



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POWER SYSTEMS RECTIFIER CIRCUIT 208/240/480 VOLT, 60 HZ, 3 PHASE INPUT 24 OR 48 VOLT, 200 AMPERE OUTPUT		DWG SIZE 65	ISSUE 6
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SHEET 01

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POWER SYSTEM RECTIFIER CIRCUIT 208/240/480 VOLT, 60 HZ, 3 PHASE INPUT 24 OR 48 VOLT, 200 AMPERE OUTPUT	DWG SIZE	ISSUE
	65	11
AT&T TECHNOLOGIES, INC.	T-82605-31	SHEET 01