SHEET INDEX

CONTENTS	SHEET NO.	ISSUE NO.																			
SHEET INDEX SHEET INDEX NOTE SUPPORTING INFORMATION	A1	1	2	3	4	5	6	7	8	9	10	11	12	13M	14B	15M	16M	17M			
OPTION INDEX	A1A	-	-	-	-	-	6	7	7	9	10	10	10	10B	10B	15M	16M	16M			
FS1: RECTIFIER AND CONTROLLER FOR MCS PLANT	B1	1	2	3	4	4	6	7	7	9	10	10	10	10B	10B	10B	16M	16M			
FS2: BATTERY CONFIGURATION SHOWING FIRST BATTERY STRING ONLY	B2	1	2	3	4	5	6	7	7	9	10	11	11	13M	13M	13M	16M	16M			
FS3: DISCHARGE CIRCUIT *	B3A	1	2	3	4	4	6	7	7	9	9	9	9	13M	13M	13M	16M	16M			
*	B3B	-	2	3	4	4	6	7	7	9	10	10	10	10B	10B	10B	16M	16M			
*	B3C	-	-	-	-	-	-	-	-	-	10	10	10	10B	10B	10B	16M	16M			
FS4: MODEM CONNECTION	B4	1	2	3	4	4	6	7	7	9	9	9	9	13M	13M	13M	16M	16M			
FS5: RECTIFIER AND CONTROLLER FOR CONVENTIONAL PLANT	B5	-	2	3	4	4	6	7	7	9	10	10	10	10B	10B	10B	16M	16M			
FS5A: RECTIFIER AND CONTROLLER FOR GALAXY PLANT	B5A	-	-	-	-	-	-	-	-	-	-	-	-	-	14B	14B	16M	16M			
FS6: DISCHARGE CIRCUIT FS7: PLANT APPLICATION AND CAP.,- INH FS8: LOW VOLTAGE DISCONNECT FS9: INVERTER	B6	-	2	3	4	4	6	7	7	9	9	11	11	11M	11M	15	16M	17M			
FS6A: DISCHARGE CIRCUIT	B6A	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	17M			
FS10: BATTERY RESERVE PREDICTOR THERMISTOR ASSEMBLY FS11: BAY ALARM INDICATOR	B7	-	-	-	-	-	6	7	7	9	10	10	10	13M	14B	14B	16M	16M			
FS12: 364A RECTIFIERS FOR GALAXY PLANT	B8	-	-	-	-	-	-	-	-	-	-	-	-	-	-	15M	16M	16M			
APP FIG 1,2,3,4,5	C1	1	2	3	4	4	6	6	8	9	10	10	12	12B	14B	14B	16M	16M			
APP FIG 6,7,8,9,10	C2	-	-	3	4	4	6	7	7	9	9	9	9	9M	9M	15	16M	17M			
CIRCUIT NOTES EQUIPMENT NOTES	D1	1	2	3	4	4	6	7	7	9	10	10	10	13M	14B	15M	16M	16M			
INFORMATION NOTES	D2	-	2	3	4	4	6	6	6	9	9	9	9	9M	9M	9M	16M	16M			
	D3	-	-	3	4	4	6	6	6	9	10	10	12	13M	14B	14B	16M	17M			
CAD1, CAD2 & CAD3	G1	1	2	3	4	4	6	6	6	9	9	9	9	9M	9M	9M	16M	16M			
CAD4-6	G2	-	-	-	-	-	-	7	7	9	9	9	9	9M	9M	9M	16M	16M			
BD 1	H1	-	-	-	4	4	6	6	6	9	10	10	10	10B	10B	10B	16M	16M			

* SECTION B SHEETS WITH SUFFIX A,B & C WERE FORMERLY WITHOUT A SUFFIX LETTER.

DWG ISSUE	CD ISSUE	DATE ISSUED	DWG	APPD
1	1	09-07-83	ZEN FCR	FPH TGG JWM
2B	1 APP 1B	01-03-85	ZEN WF	FPH TGG JWM
3B	1 APP 2B	06-27-85	ZEN WF	FPH TGG JWM
4B	2B	11-21-86	ZEN FCR	FPT WDG JWM
5A	2B APPX 1A	02-18-86		
6B	2B APPX 2B	02-18-86		
7M	2B APPX 3M	09-08-89	JWM	
8M	2B APPX 4M	03-09-90	RLH	RJP
PDI: 92ESDJ9516				CL: M
9M	2B APPX 5M	07-21-92	JDT	MCS
PDI: 92ESDJ9453				CL: B
10B	2B APPX 5M	09-25-92	JDT	GTK MAO
PDI: 92ESDJ9547				CL: M
11M	2B APPX 5M	10-16-92	JDT	CFC MAS MAO
PDI: 92ESDJ9516				CL: B
12B	2B APPX 5M	11-06-92	JDT	KOS CFC MAO
PDI: 94ESDJ0236				CL: M
13M	2B APPX 5M	03-21-94	JDT	HHB CFC
PDI: 94ESDJ1312				CL: B
14B	2B APPX 5M	12-19-94	JDT	HHB ACB
PDI: 96ESDJ0107				CL: M
15M	2B APPX 5M	02-23-96	JDT	GME KOS
PDI: 97ESDJ0082				CL: M
17M	- -	12-16-97	MCN	GME ACB

SUPPORTING INFORMATION

CATEGORY	NO.
CONTROLLER UNITS	SD-82588-01 SD-82588-02 SD-83217-01
EQUIPMENT DESIGN REQUIREMENTS	J85500A1-A2 J85501A, J85504A, J85504B
LUCENT PRACTICE LUCENT PRACTICE LUCENT PRACTICE LUCENT PRACTICE LUCENT PRACTICE LUCENT PRACTICE LUCENT PRACTICE	802-628-001, 167-790-100, 167-790-102, 167-790-103, 169-790-104, 167-790-105, 169-790-106
(DESIGN REQUIREMENTS)	
MANUFACTURING TESTING REQUIREMENTS	X-79941, X-79596

SHEET INDEX NOTES

1. WHEN CHANGES ARE MADE IN THIS DRAWING ONLY THOSE SHEETS AFFECTED WILL BE REISSUED.
2. THIS SHEET INDEX WILL BE REISSUED AND BROUGHT UP TO DATE EACH TIME ANY SHEET OF THE DRAWING IS REISSUED, OR A NEW SHEET IS ADDED.
3. THE ISSUE NUMBER ASSIGNED TO A CHANGED OR NEW SHEET WILL BE THE SAME ISSUE NUMBER AS THAT OF THE SHEET INDEX.
4. SHEETS THAT ARE NOT CHANGED WILL RETAIN THEIR EXISTING ISSUE NUMBER.
5. THE LAST ISSUE NUMBER OF THE SHEET INDEX IS RECOGNIZED AS THE LATEST ISSUE NUMBER OF THE DRAWING AS A WHOLE.

POWER SYSTEMS
"LINEAGE" ®2000
CHARGE AND DISCHARGE CKT
24 OR 48 VOLTS 6400 AMPERES MAXIMUM
J85500A-1,A-2

DIST CODE 8M10
DWG SIZE 2S
ISSUE 17M
21 SHEETS

LUCENT TECHNOLOGIES | DJ | SD-82603-01 | SHEET A1

OPTION INDEX

APP OR WRG	RATED ON ISSUE	SEE NOTE	LOCATION
Z			APP FIG 2,1B1,1B7, 1F2,2A1,2E1,3A/D1, 4F2,4F3,5B1,5B7
Y			1B1,1B2,1B7,2E1, 3A/D8,3A/G8,3B/D5, 3B/A2,3B/F2,5B1, 5C2,5D2,5B7,6A2,6B8 6D2,6E2,6G2,7B5
X			1B1,1B2,1B7,2A1, 2A6,3A/D8,3A/G8, 3B/A2,3B/D5,3B/F2, 5B1,5B2,5C2,5D2, 5B7,6A2,6B8,6C6,6D2, 6E2,6G2,7B5,7C5,7D5
W			APP FIG 2,1B1,1B7, 1C2,1E2,2A6,3A/D1, 4F2,4F3,5B1,5B7, 6C6,7D5
V			APP FIG 2,1B7,1C8, 3A/F7,3A/D7,3A/G7, 3A/D6,3A/E6,3A/E7, 3A/F6,3A/G6
T			1B7,3A/E6,3A/E7, 3A/F6,3A/F7,3B/B1, 3B/E1,6B1,6B2,6C1, 6C2,6E1,6E2,6F1, 6F2
S			APP FIG 2,3A/B6, 3A/C6,3A/E6,3A/F7, 4E2
R			1C7,2A7,2B6,2B7,2C7, 6D8,6E8,1G6,5G6
Q			6F6
P			2A7,2B6,2B7,2C7, 6D8,6E8,1G6,5G6
M			APP FIG 3,4A7
N			APP FIG 8,6C8
G			APP FIG 4 & 6,1C7, 1C8,3B/A1,3B/B1, 3B/E1,3B/F1,6A1, 6A2,6C1,6C2,6D1, 6D2,6E1,6E2,6F1, 6F2,6G1,6G2
F			5A4,5B7
E			1A4,1B7
D			2B7,2G7
C			1C8,3A/D7,3A/D8, 3A/G7,3A/G8,3B/A1, 3B/A3,3B/F1,3B/F3, 6A1,6A2,6A3,6D1, 6D2,6D3,6E1,6E2, 6E3,6G1,6G2,6G3
B			APP FIG 4 & 6, 3B/B1,3B/E1,3B/E2, 6B1,6B2,6C1,6C2, 6E1,6E2,6F1,6F2
A			3A/E6,3A/E7,3A/F6, 3A/F7
ZA			APP FIG 3,4B5
ZB			APP FIG 3 & 9,1A4 1B6,1D8,1F2,4B5, 7A1
ZC			2D1,2D7,2G1
ZD			2F4
ZE			1G6,3A/G2,3A/C7, 3A/G8,3B/C7,3B/D7, 4A2,5G6,6B1,6D1, 7A5
ZF			APP FIG 10,1G6 3A/G2,3A/C7,3A/G8, 3B/C7,3B/D7,4A2, 5G6,6B1,6D1,7A5
ZG			APP FIG 4,3B,2E7, 7E3
ZH			APP FIG 4,3C,2D6, 2E7
H			APP FIG 12
JA			APP FIG 7
JB			APP FIG 7

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT	DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01	SHEET A1A

FS 1

RECTIFIER AND CONTROLLER FOR MCS PLANT

RECTIFIER (SEE APP FIG 1)

Z 24 VOLT
W 48 VOLT
X NEG
Y POS

AC POWER SERVICE 1 ØOR 3 Ø 60 HZ 480V OR 208V/240V, OR 50 HZ 380V/400V (SEE NOTE 4)

V+ — X G; Y B — 2A1,2E1,2A7
V+ — X B
V− — Y G — 2C1,2G1,2D7
R+ — X RG, Y RB−
R− — X RB, Y RG−
BAT−
DPG−
RS−
RSR−
VP−
W HV48− SEE NOTE 2
APG−
VI−
RFAR−
RFA− D5
PH−
CBR−
CB−
TRH−
TP0−
TP1−
TP2−
TP3−
MAN−
W TR48−
Z TR24−
Z HV24−
SR
SRR
ZB EQ−
F
P
SEE NOTE 1
J1A SEE NOTES 109&110
26GA SOLID

26GA SOLID — ZB — J1B — SEE NOTE 202

EQ− RB− RG− BAT− DPG− RS− RSR− VP− HV− APG VI− RFA− PH− CB− TRH− TP0− TP1− TP2− TP3− MAN− TR− RFAR− CBR−

D3

LINEAGE MCS® CONTROLLER SD-82588-01,-02 J85501A1,-A2 SEE NOTE 125

E. E11 — AKC POS
E. E10 — AKC NEG
6B8 SEE NOTE 122
W,Z. X,Y. AND IF REQUIRED V. T.
G,R
SD-82588-01

G G,V SH( ) — TO FS3, FS6 SEE NOTE 3
G G,V SH( )
R CH( )+ FB( )+ 1/2A — C CH( )+
R CH( )− FB( )− 1/2A — C CH( )− — TO FS3,FS6 AND EXTERNAL SHUNTS SEE NOTE 3

P/O J12 13 23
ZB TH
ZB GRD
7B2

7E4,2D3,2F9,2D6,2H3 DISCH GRD
2C7,2G6 DISCH BAT
2C0,2G0,2E4, 2E7,6C9 BATSH
BATSHG
2B1,2F1,2D7 RG
2B1,2F1,2B7 RB

TB2 3 6 7 8 2 1

3BE9 ZP
7D3 ZP

NOTE: IF AN ED83018-31, G17 PANEL IS TIED TO TB2-3, DISCONNECTING OR RECONNECTING DISCHG GND MAY CAUSE THE BREAKERS ON THE PANEL TO TRIP.

SEE NOTE 2

12GA TB1 19 20

4H0 FAN
3A/C8,3A/G3,3A/G8, 3B/D9,4A4,6B0,6E0 FAJ ZP
ZP
7B4 FAJ
6D9 FAJ — SEE NOTE 5 — P,R

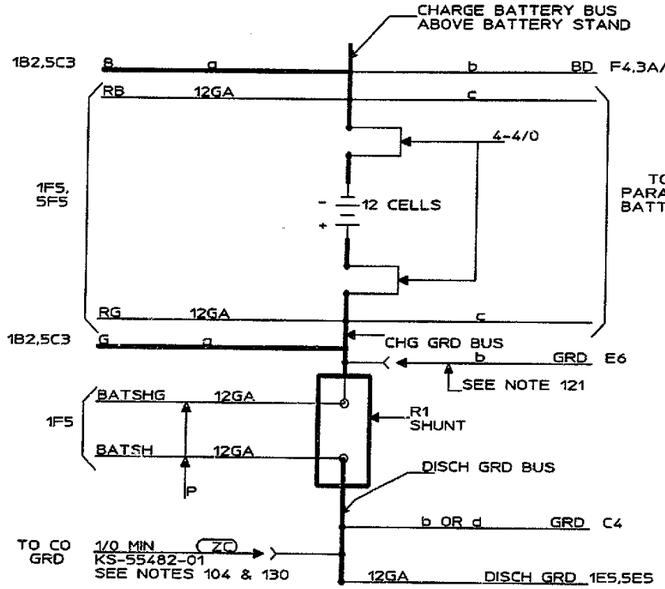
NOTES:

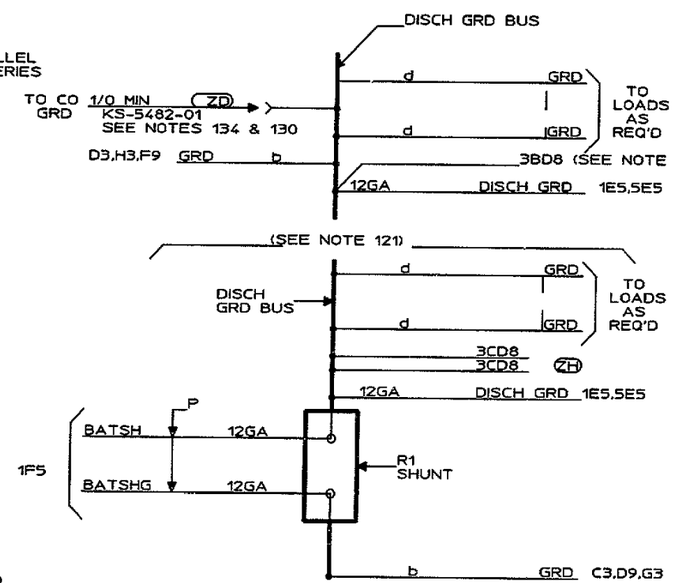
1. WHEN APPLYING A 24 VOLT 35 AMPERE RECTIFIER, PINS F AND P MUST BE STRAPPED. IN THE CABLE.
2. THE RFAR AND CBR LEADS ARE USED WHEN THE J85502 AND J85503 SERIES OF RECTIFIERS ARE APPLIED.
3. THERE CAN EXIST UP TO A TOTAL OF 48 SHUNTS MONITORED BY THE G AND R CONTROL UNIT (SD-82588-01,-02) OPTIONS. SEE SD-82588-01,-02 FOR MORE INFORMATION.
4. A.C. SERVICE CAN BE FUSES OR CIRCUIT BREAKERS, AS REQUIRED BY SPECIFIED RECTIFIER.
5. COMBINE ALL FAJ LEADS BEFORE MAKING THE CONNECTION TO THE CONTROLLER BECAUSE THE CONTROLLER CAN ACCOMMODATE ONLY ONE FAJ LEAD.

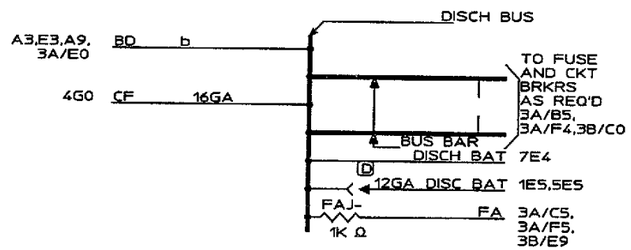
"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT	DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01	SHEET B1

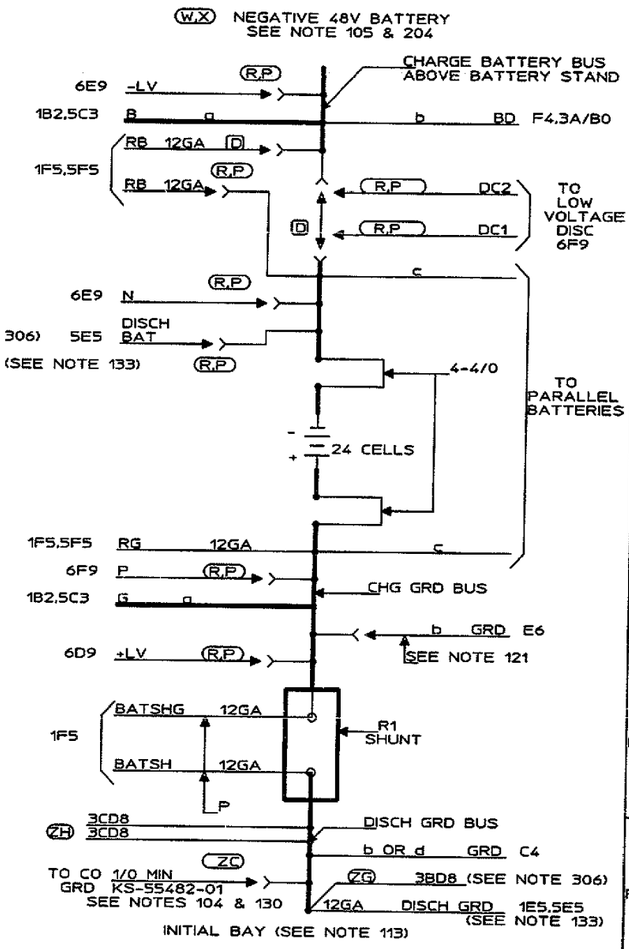
FS 2

BATTERY CONFIGURATION SHOWING FIRST BATTERY STRING ONLY (SEE NOTE 129)







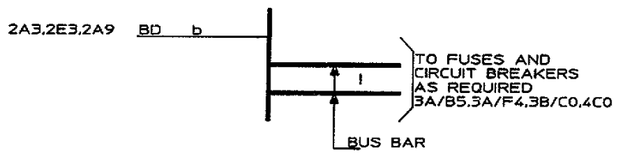


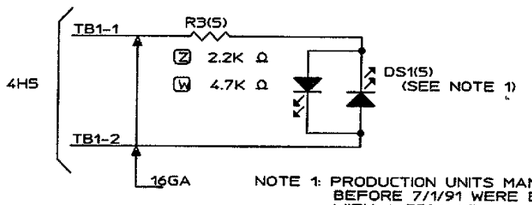
"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET B2

PART OF FS 3

DISCHARGE CIRCUIT
(SEE NOTES 125,127,128 & 135)

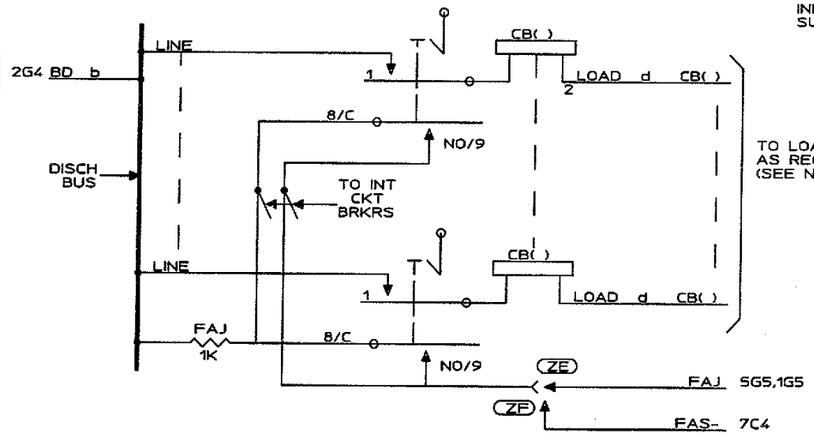
SUPPLEMENTARY BAY(S)
(SEE NOTE 113)





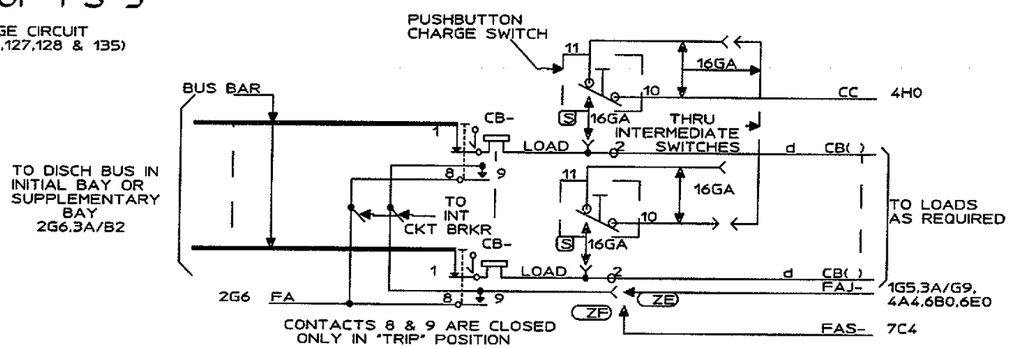
NOTE 1: PRODUCTION UNITS MANUFACTURED BEFORE 7/1/91 WERE EQUIPPED WITH A 558A LED.

SEE NOTES 123,124



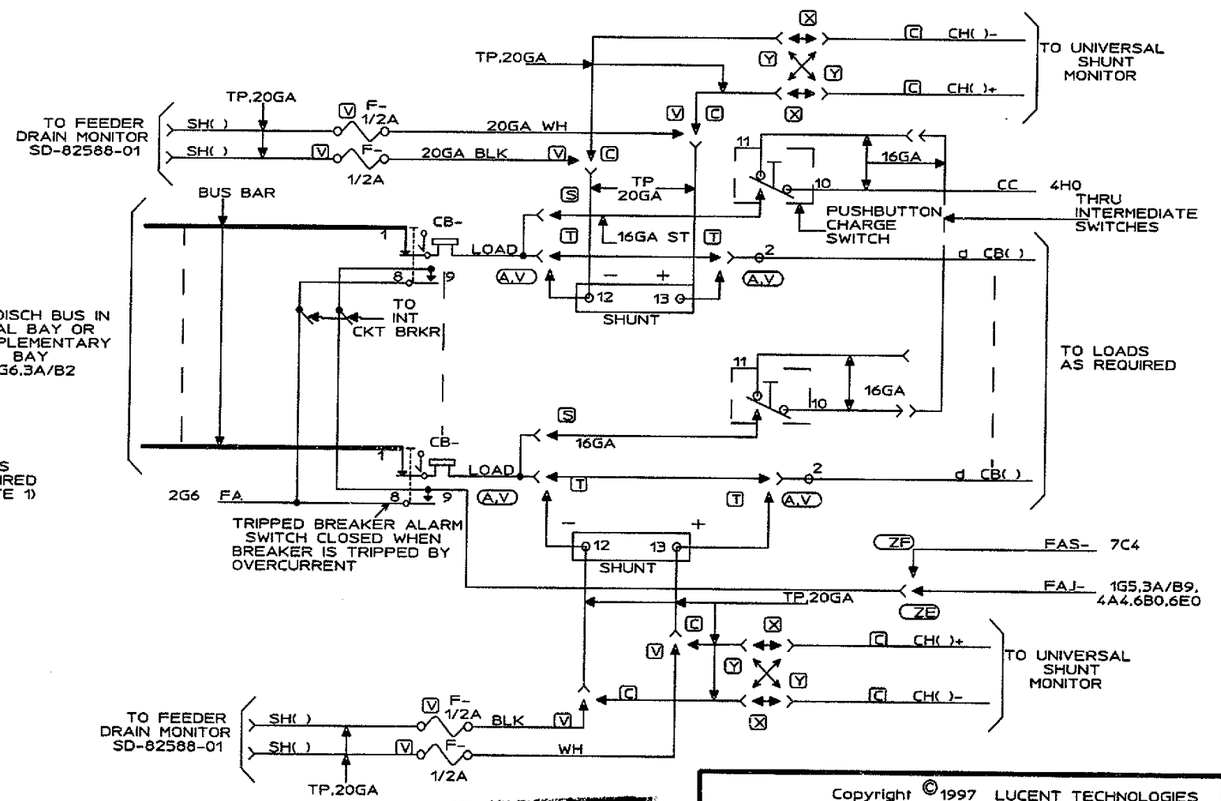
TO DISCH BUS IN INITIAL BAY OR SUPPLEMENTARY BAY 2G6,3A/B2

KS-22010 CIRCUIT BREAKER
(CIRCUIT BREAKER SHOWN IN THE "OFF" POSITION)



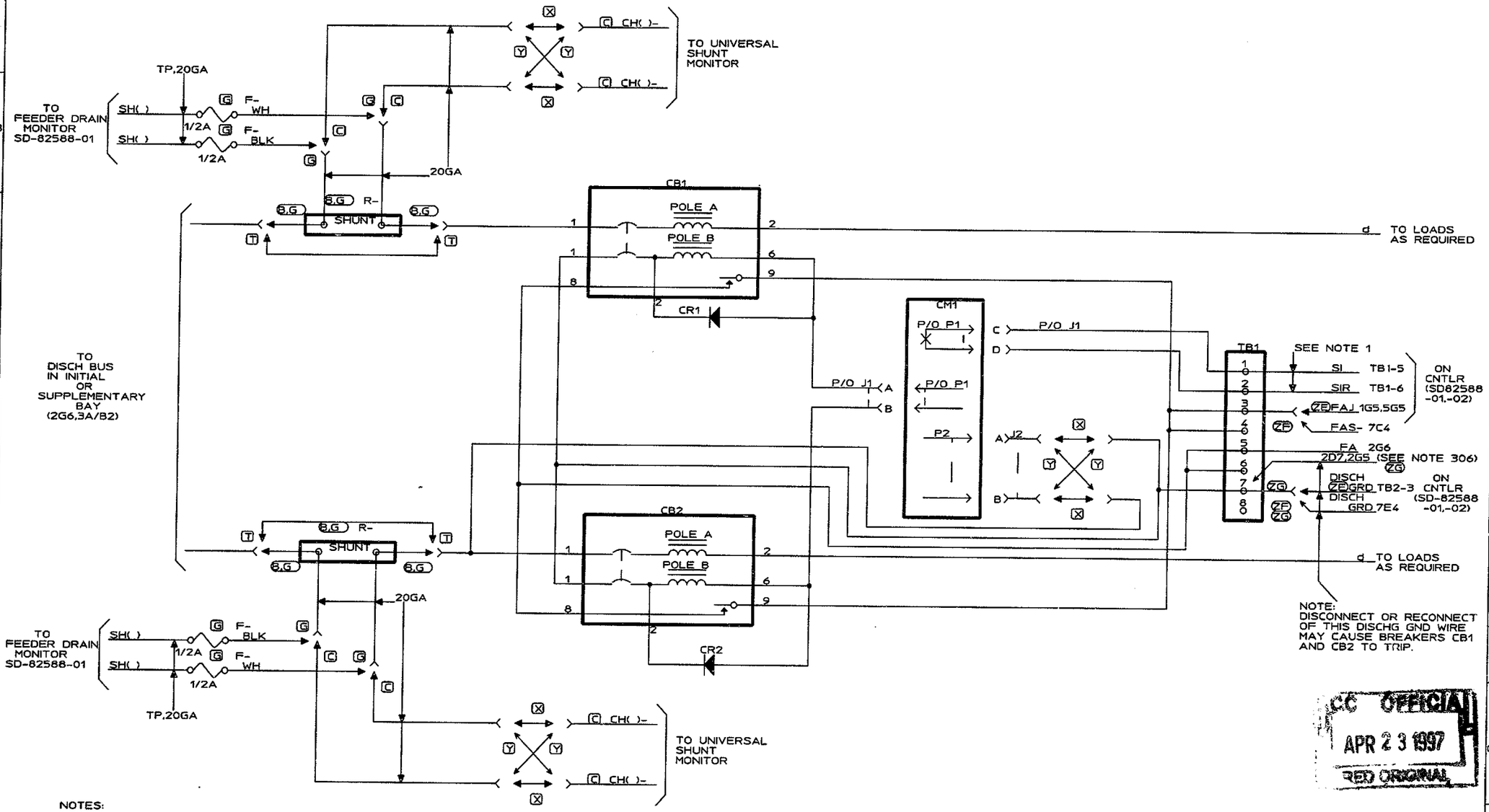
CONTACTS 8 & 9 ARE CLOSED ONLY IN "TRIP" POSITION

KS-22012 CIRCUIT BREAKERS
(CIRCUIT BREAKER SHOWN IN "OFF" POSITION)



"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET B3A

PART OF FS 3
DISCHARGE CIRCUIT (ZG)



NOTES:

1. THESE ALARM LEADS CAN BE CONNECTED ACCORDING TO OFFICE REQUIREMENTS TO THE SI ALARMS ON TB1. FOR THIS APPLICATION THEY ARE CONNECTED TO THE SI(A) LEADS AND UNDER THESE CONDITIONS, PROVIDE A MINOR ALARM ISSUED AS A 9D ALARM. THE LINEAGE 2000 MCS CONTROLLER PROVIDES NO DIAGNOSTICS FOR THIS PARALLEL ALARM.
2. ALL WIRING IS 22GA KS-22247,L4 STRANDED EXCEPT WHERE NOTED.

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT	DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01	SHEET 83B

PART OF FS 3

DISCHARGE CIRCUIT
ED83018-31, GRP 17,CA (ZH)

TO UNIVERSAL SHUNT MONITOR

C CH( )-
C CH( )-

TP,20GA

TO FEEDER DRAIN MONITOR SD-82588-01

SH( )
SH( )
1/2A
1/2A
G F- WH
G F- BLK
G
C
20GA

B,G R-
SHUNT
B,G
B,G
T
T

CB1
POLE A
POLE B
1
1
8
2
2
6
9
CR1

d TO LOADS AS REQUIRED

P/O J1
A
B

CM1
P/O P1
P/O P1
P2
C
D
A J2
B

TB1
SEE NOTE 1
1 SI TB1-5
2 SIR TB1-6
3 (ZE) FAJ 1G5,5G5
4 (ZF) FAS- 7C4
5 FA 2G6 2D7,2G5 (SEE NOTE 306)
6
7
8 DISCHG GND 2D7,2G5 SEE NOTE 306
9
10
11
12

ON CNTLR (SD82588 -01,-02)

NOTE:
DISCONNECT OR RECONNECT OF THIS DISCHG GND WIRE MAY CAUSE BREAKERS CB1 OR CB2 TO TRIP.

TO DISCH BUS IN INITIAL OR SUPPLEMENTARY BAY (2G6,3A/B2)

CB2
POLE A
POLE B
1
1
8
2
2
6
9
CR2

P/O J1.1
A
B

CM1.1
P/O P1
P/O P1
P2
C
D
A J2.1
B

TO FEEDER DRAIN MONITOR SD-82588-01

SH( )
SH( )
1/2A
1/2A
G F- BLK
G F- WH
G
C
20GA

B,G R-
SHUNT
B,G
B,G
T
T

TP,20GA

C CH( )-
C CH( )-

TO UNIVERSAL SHUNT MONITOR

d TO LOADS AS REQUIRED

FCC OFFICIAL
APR 23 1997
RED ORIGINAL

NOTES:

1. THESE ALARM LEADS CAN BE CONNECTED ACCORDING TO OFFICE REQUIREMENTS TO THE SI ALARMS ON TB1. FOR THIS APPLICATION THEY ARE CONNECTED TO THE SI(A) LEADS AND UNDER THESE CONDITIONS, PROVIDE A MINOR ALARM ISSUED AS A BD ALARM. THE LINEAGE 2000 MCS CONTROLLER PROVIDES NO DIAGNOSTICS FOR THIS PARALLEL ALARM.
2. ALL WIRING IS 22GA KS-22247,L4 STRANDED EXCEPT WHERE NOTED.

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET B3C

PART OF FS 3

DISCHARGE CIRCUIT
(SEE NOTES 112, 305 & 135)

LOAD-
F-
1/2 AMP
-AMP
LOAD-
F-
1/2 AMP
22GA STRAP
-AMP
1/2 AMP
22GA STRAP
-AMP
LOAD-
F-
1/2 AMP

BUS BAR

TO DISCH BUS 2G6, 3A/B2

ZF FAS- 7C4
ZE FAJ- 1G5,3A/B9, 3A/G9,5G5, 6B0,6E0
FAJ 1K Ω

d P
d

TO LOADS AS REQUIRED

h OR d
TO DISCHARGE GROUND BUS

S FILTER CHARGER

2G4 CF
3
P/O TB1
CHG ALM
16GA
B
A
1/2 AMP
CHG
10 AMP
C
16GA
1F5 FAN
7
8
R2
2.05K Ω
INITIAL BAY 3A/A9, 3A/D9
CC
4
5
6
16GA
16GA
R1.1-R1.4
ZW 4 8 EACH
16GA
R3
ZW 2.2K 4.7K
DS1 S SEE NOTE 1,3
P/O TB1
2
1
16GA
TO SUPPLEMENTARY BAY(S) DS1(5) 3A/D1

M FS 4

MODEM CONNECTION
SEE NOTES 107 & 108

JACK
TRANSMITTED DATE (BA)
RECEIVED DATA (BB)
DATA TERMINAL READY (CD)
DATA SET READY (CC)
SIGNAL GRD (AB)
CLEAR TO SEND (CB)

ZA 103J-LP DATA SET
ZB 212A-LP DATA SET

26GA SOLID
P1 J1
2 — 3
3 — 13
20 — 1
6 — 12
7 — 2
5 — 15

SEE NOTE 2

J85501
009
109
011
111
100,101
110
P/O CP8 (ED-83014) MC80013B
OPTIONAL BACKPLANE

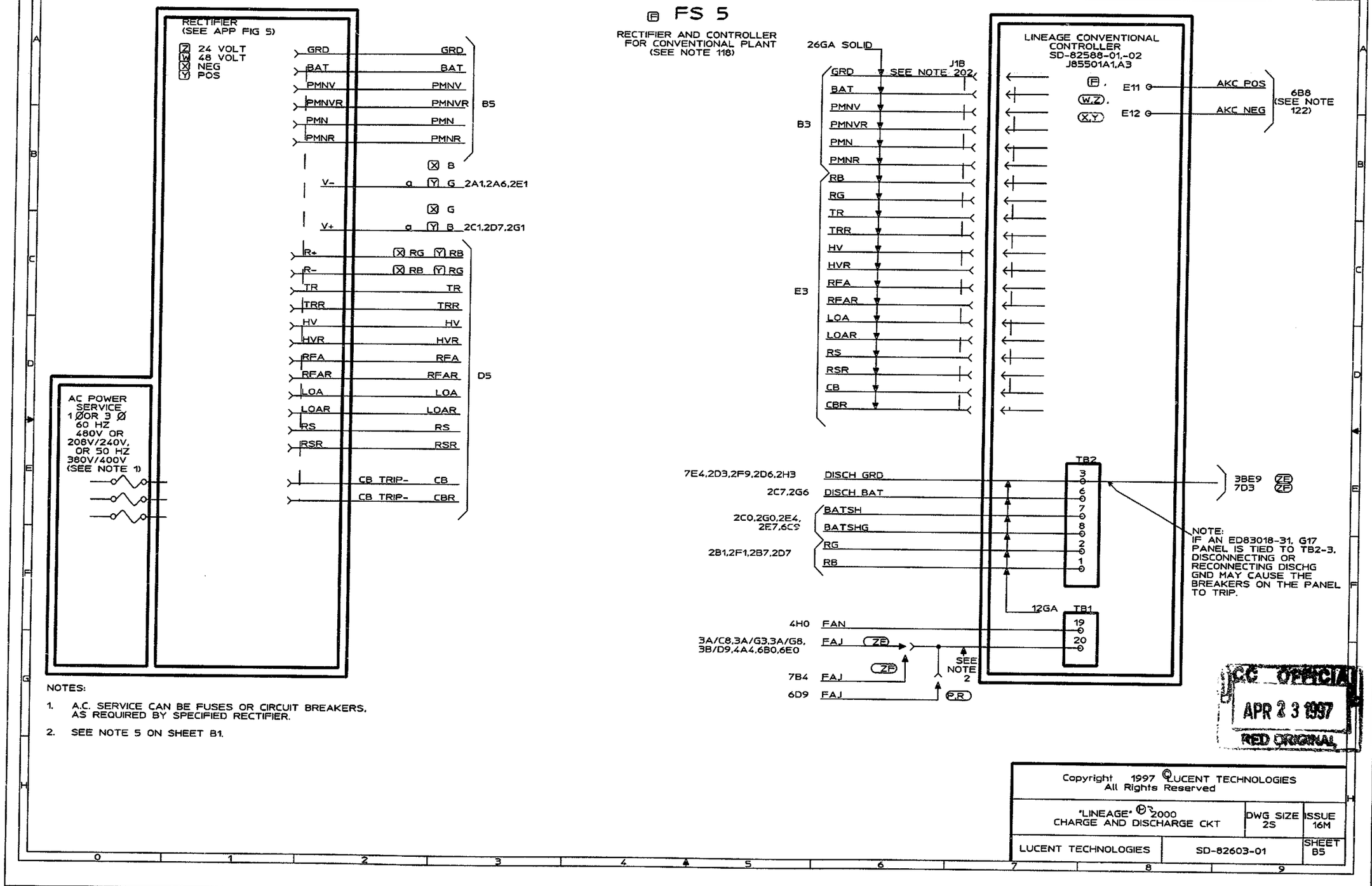
TIP RING
Y G R BK

CUSTOMER PROVIDED PLUG & CORD. PLUG COMPATIBLE WITH RJ11C, RJ12C OR RJ13C. CORD TO BE M4AS OR EQUIVALENT. CORD LENGTH = 25 FT. MAX. THE PHONE JACK SHALL BE MOUNTED MISCELLANEOUSLY NEAR THE INITIAL BAY TO MEET THE 25 FOOT REQUIREMENT.

NOTES:

1. EARLY PRODUCTION UNITS MAY BE EQUIPPED WITH 553A OR 553D LEDs. THE 553 SERIES OF LEDs HAVE THE R3 RESISTOR BUILT INTERNAL TO THE DEVICE.
2. THE (J1) CONNECTOR MUST BE MOUNTED ON THE SAME PIN FIELD AS THE (CP8) BOARD.
3. PRODUCT UNITS MANUFACTURED BEFORE 7/1/91 WERE EQUIPPED WITH A 558A LED.

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET B4



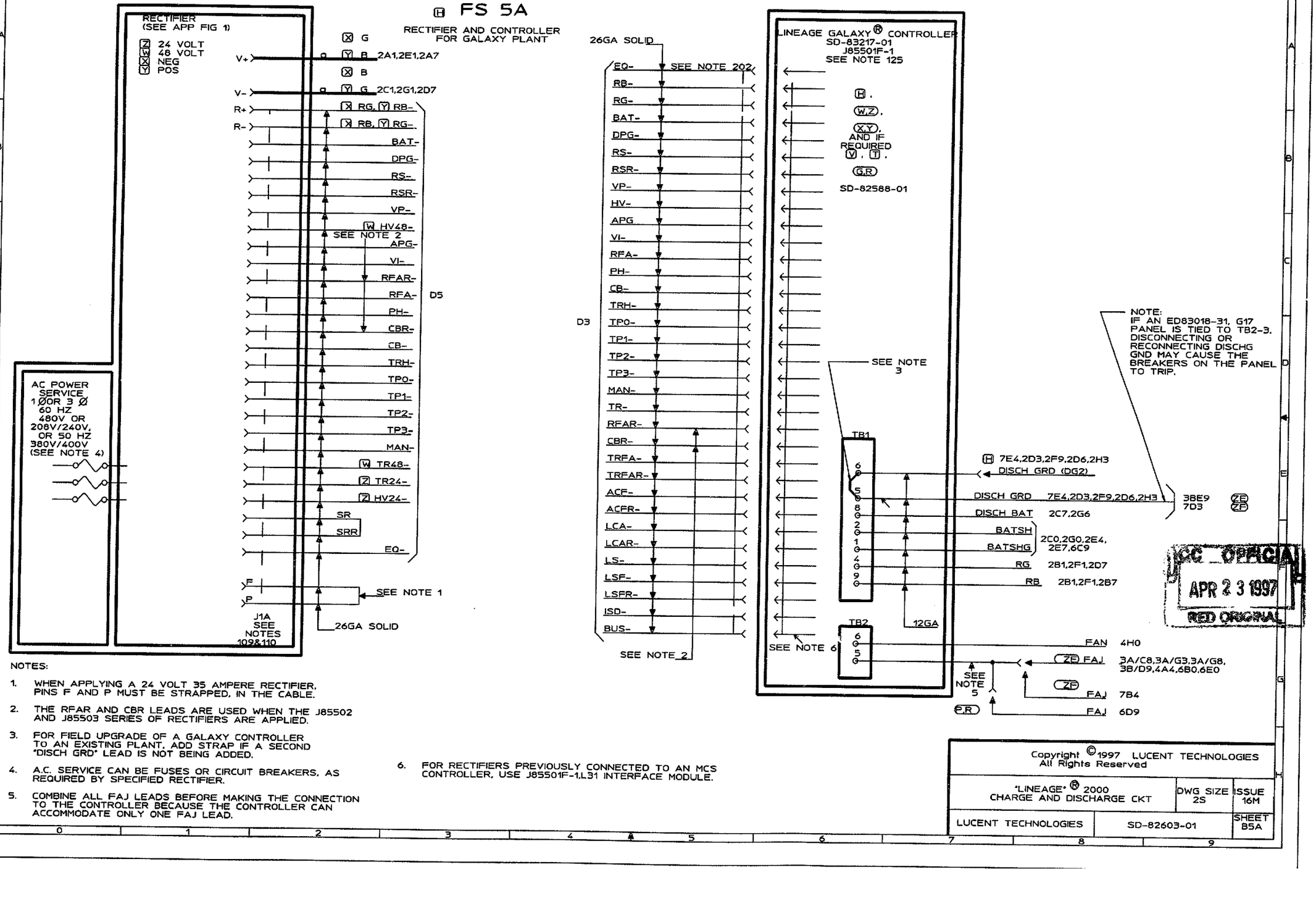
NOTES:

1. A.C. SERVICE CAN BE FUSES OR CIRCUIT BREAKERS, AS REQUIRED BY SPECIFIED RECTIFIER.
2. SEE NOTE 5 ON SHEET B1.

"LINEAGE" 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET B5

(H) FS 5A

RECTIFIER AND CONTROLLER FOR GALAXY PLANT



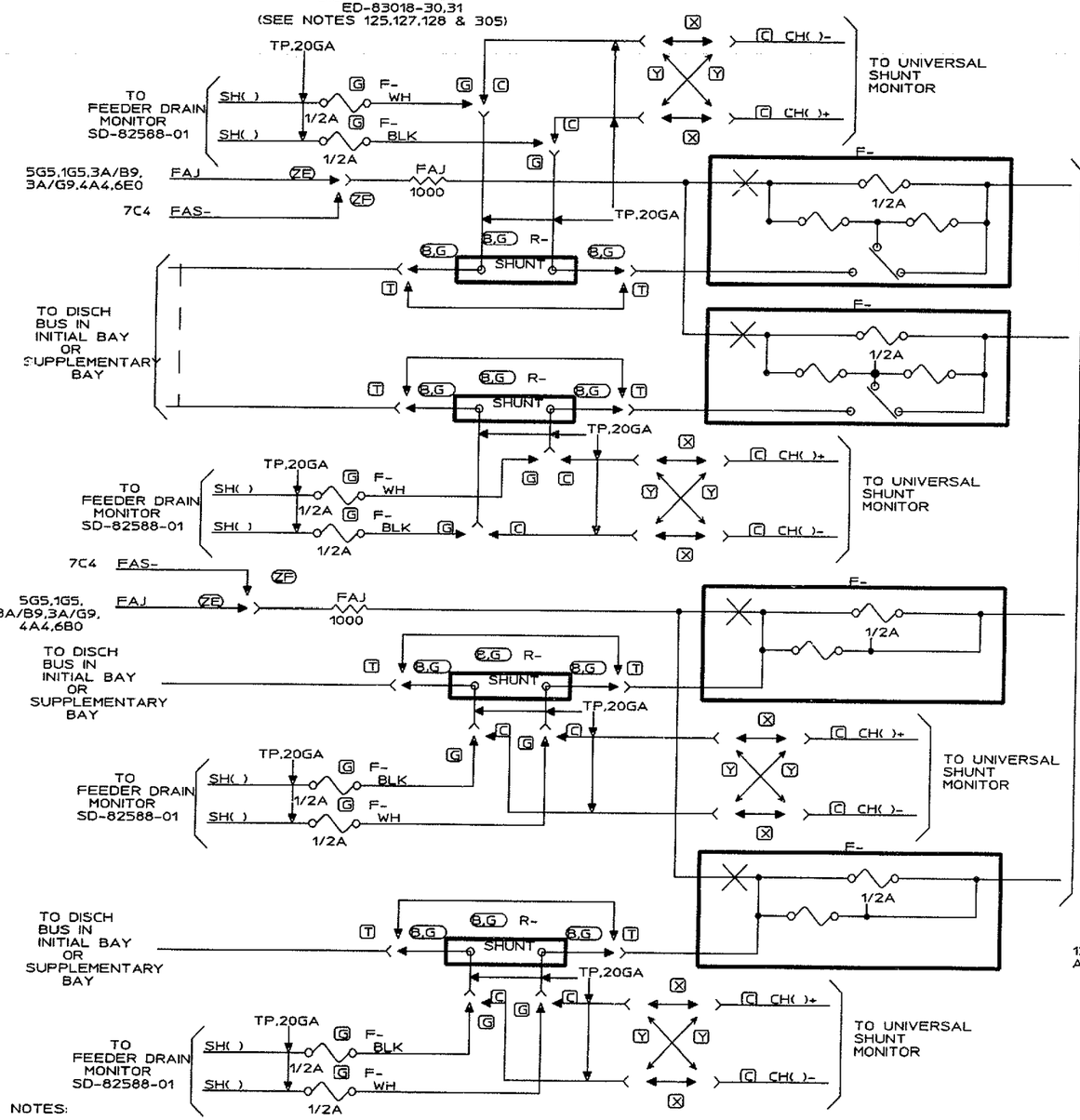
NOTES:

1. WHEN APPLYING A 24 VOLT 35 AMPERE RECTIFIER, PINS F AND P MUST BE STRAPPED, IN THE CABLE.
2. THE RFAR AND CBR LEADS ARE USED WHEN THE J85502 AND J85503 SERIES OF RECTIFIERS ARE APPLIED.
3. FOR FIELD UPGRADE OF A GALAXY CONTROLLER TO AN EXISTING PLANT, ADD STRAP IF A SECOND "DISCH GRD" LEAD IS NOT BEING ADDED.
4. A.C. SERVICE CAN BE FUSES OR CIRCUIT BREAKERS, AS REQUIRED BY SPECIFIED RECTIFIER.
5. COMBINE ALL FAJ LEADS BEFORE MAKING THE CONNECTION TO THE CONTROLLER BECAUSE THE CONTROLLER CAN ACCOMMODATE ONLY ONE FAJ LEAD.
6. FOR RECTIFIERS PREVIOUSLY CONNECTED TO AN MCS CONTROLLER, USE J85501F-1,L31 INTERFACE MODULE.

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT	DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01	SHEET B5A

FS 6 DA

DISCHARGE CIRCUIT
ED-83018-30,31
(SEE NOTES 125,127,128 & 305)

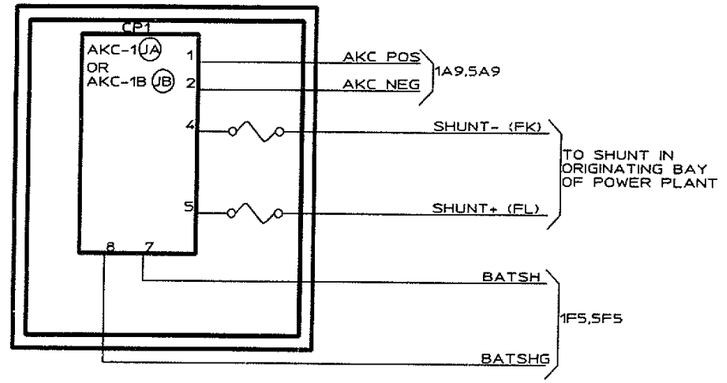


NOTES:

1. IF K2 IS SUPPLIED WITH A DIODE, THE CATHODE END OF THE DIODE IS TO BE ELECTRICALLY COMMON WITH THE + TERMINAL OF K2. THE + TERMINAL IS TO BE STAMPED ON ED-83186-30.

FS 7

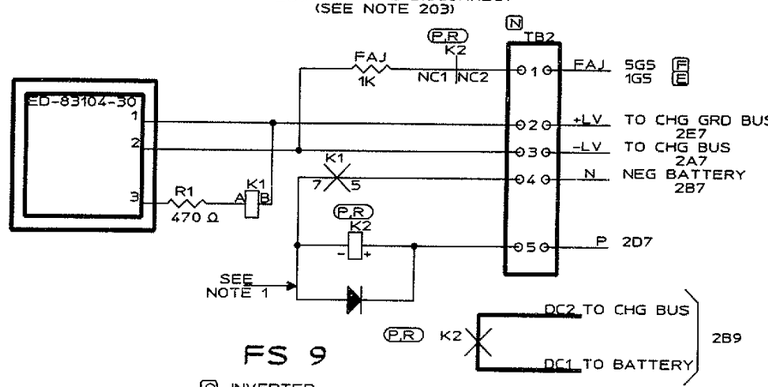
PLANT APPLICATION & CAP. INH
(SEE NOTE 122)



TO LOADS AS REQUIRED

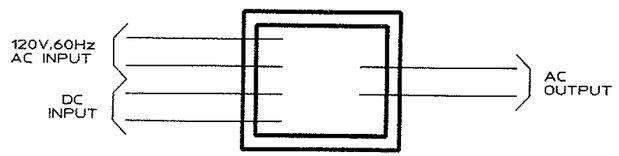
(P), (R), (W,X) FS 8

LOW VOLTAGE DISCONNECT
(SEE NOTE 203)



FS 9

(Q) INVERTER
SEE NOTE 124 & 304



"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 17M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET B6

PART OF FS6A
DISCHARGE CIRCUIT

TO DATALOGGER CKT
TO UNIVERAL SHUNT MONITOR

CH ( ) -

CH ( ) +

ED-83018-31 GRP 33

UNIVERSAL SHUNT FUSES

1/2 A

1/2 A

FAN 1000

FAN

20 GA BK

TO AL OTEHR FAN'S ON ALL OTHER PANELS. (INITIAL OR SUPPL)

ZP FAJ TO ALL OTHER FAJ ON ALL OTHER PANELS

ZP FAS- RUN ONCE PER BAY

FAJ 1000

1/2 A

DISCH BUS IN INITIAL BAY OR SUPPLEMENTAL BAY

R-

SHUNT

F-

TO LOADS AS REQUIRED

F-

PART OF FS6A
DISCHARGE CIRCUIT

TO DATALOGGER CKT
TO UNIVERAL SHUNT MONITOR

CH ( ) -

CH ( ) +

ED-83018-31 GRP 31

UNIVERSAL SHUNT FUSES

1/2 A

1/2 A

FAN 1000

FAN

20 GA BK

TO AL OTEHR FAN'S ON ALL OTHER PANELS. (INITIAL OR SUPPL)

ZP FAJ TO ALL OTHER FAJ ON ALL OTHER PANELS

ZP FAS- RUN ONCE PER BAY

FAJ 1000

1/2 A

DISCH BUS IN INITIAL BAY OR SUPPLEMENTAL BAY

R-

SHUNT

F-

TO LOADS AS REQUIRED

F-

TO DATALOGGER CKT
TO UNIVERAL SHUNT MONITOR

CH ( ) -

CH ( ) +

UNIVERSAL SHUNT FUSES

1/2 A

1/2 A

FAN 1000

FAN

20 GA BK

TO AL OTEHR FAN'S ON ALL OTHER PANELS. (INITIAL OR SUPPL)

ZP FAJ TO ALL OTHER FAJ ON ALL OTHER PANELS

ZP FAS- RUN ONCE PER BAY

FAJ 1000

1/2 A

DISCH BUS IN INITIAL BAY OR SUPPLEMENTAL BAY

R-

SHUNT

F-

TO LOADS AS REQUIRED

F-

TO DATALOGGER CKT
TO UNIVERAL SHUNT MONITOR

CH ( ) -

CH ( ) +

UNIVERSAL SHUNT FUSES

1/2 A

1/2 A

FAN 1000

FAN

20 GA BK

TO AL OTEHR FAN'S ON ALL OTHER PANELS. (INITIAL OR SUPPL)

ZP FAJ TO ALL OTHER FAJ ON ALL OTHER PANELS

ZP FAS- RUN ONCE PER BAY

FAJ 1000

1/2 A

DISCH BUS IN INITIAL BAY OR SUPPLEMENTAL BAY

R-

SHUNT

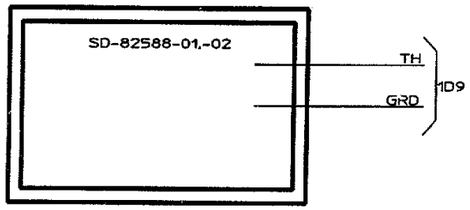
F-

TO LOADS AS REQUIRED

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT	DWG SIZE 2S	ISSUE 17M
LUCENT TECHNOLOGIES	SD-82603-01	SHEET 86A

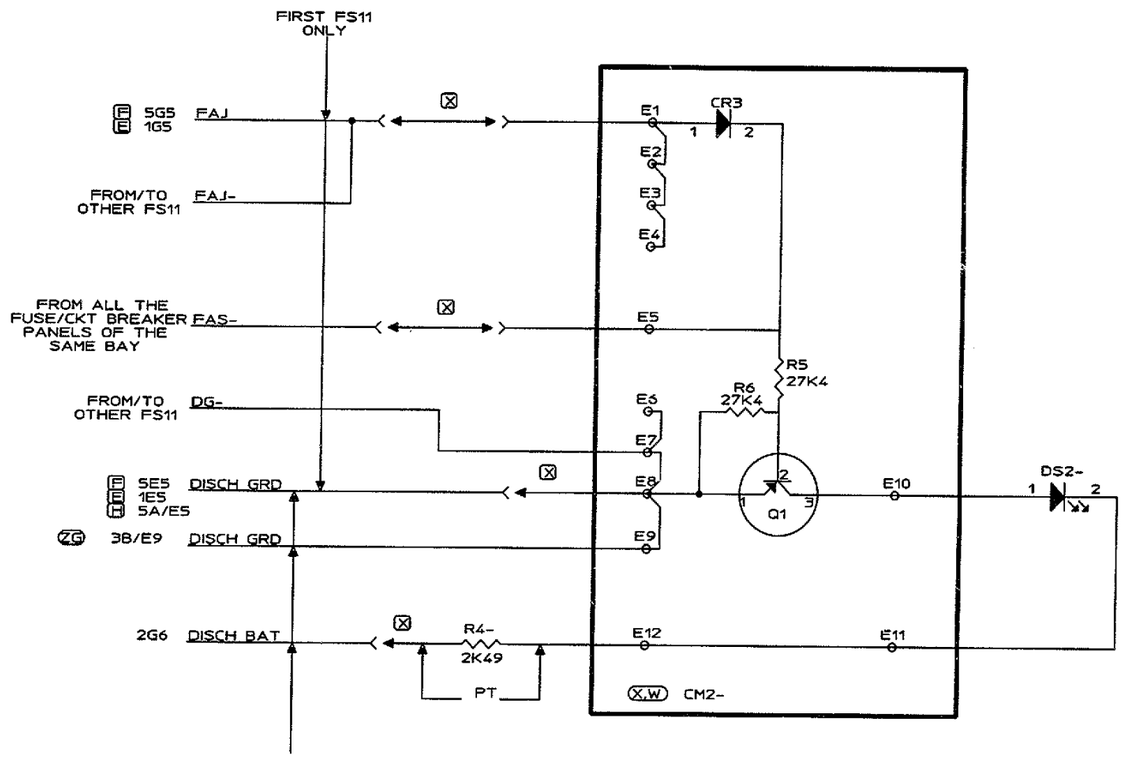
(ZB) FS 10

BATTERY RESERVE PREDICTOR
THERMISTOR ASSEMBLY



(ZP) FS 11 (SEE NOTE 1)

APP FIG 10
BAY ALARM INDICATOR LAMP (NOTE 131)



NOTE:
IF AN ED83018-31, G17 PANEL IS TIED TO TERM E8 OR E9, DISCONNECTING OR RECONNECTING DISCHG GND FROM THE PANEL MAY CAUSE THE BREAKERS ON THE PANEL TO TRIP.

NOTES:

1. "FAL-" LEAD CAN USE TERMINALS E1 THROUGH 34 BASED ON PHYSICAL AVAILIBILITY OF TERMINALS ON PWB AND "DG" LEAD CAN USE TERMINALS E6 THROUGH E8 BASED ON PHYSICAL AVAILIBILITY OF THE TERMINALS ON PWB. (REFER TO CAD 4,5 & 6).

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET B7

FS 12

364A RECTIFIER
FOR GALAXY PLANT

RECTIFIER SHELF
J85702B-2 L5

POWER UNIT 1
364A
50 AMPERE
-48 VOLTS
P790
P795

POWER UNIT 2
364A
50 AMPERE
-48 VOLTS
P790
P795

POWER UNIT 3
364A
50 AMPERE
-48 VOLTS
P790
P795

-V
+V

P790.1 → J1
P790.2 → J2
P790.3 → J3

P795.1
P795.2
P795.3 → J7

J1 → J4
J2 → J5
J3 → J6

J1,J2,J3

RTN2	1
	2
	3
AUX-RS	4
RFAID	5
LS	6
	7
LSR	8
	9
TA	10
TRH	11
STCB	12
	13
BAT	14
	15
RTN1	16
OTR	17
	18
	19
ACF	20
	21
RFA	22
	23
EQ	24
	25
HV	26
R-	27
CH	28
R+	29
RSR	30
	31
RS	32
	33
	34

J7

SH+ (J6)	1
SH- (J6)	2
	3
SH+ (J5)	4
SH- (J5)	5
	6
	7
	8
SH+ (J4)	9
SH- (J4)	10

J4,J5,J6

RTN2	1
R+	2
RFAID	3
R-	4
TRH	5
RS	6
ACF	7
RSR	8
STCB	9
BAT	10
RFA	11
LS	12
TA	13
LSR	14
CH	15
	16
AUX-RS	17
	18
EQ	19
	20
HV	21
	22
QTR	23
	24
RTN1	25
	26
	27
	28
	29
	30
	31
	32
	33
	34
	35
	36
	37
SH+	38
	39
SH-	40

J4,J5,J6 TO FS7 ON CONTROLLER SD-83217-01

PWB 847680659

FROM 208/240 60 Hz AC SINGLE PHASE SERVICE

AC-A1	E401
AC-G1	
AC-B1	E402
AC-A2	E403
AC-G2	
AC-B2	E404
AC-A3	E405
AC-G3	
AC-B3	E406

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET B8

APP FIG. 1
GENERAL POWER PLANT
FOR FS1,FS2, P/O FS3,FS5

CIRCUIT BREAKER

DESIG	LOC	CODE
CB ( )	3A/B6	KS-22010, AS REQ'D
CB ( )	3A/F6	KS-22012, SEE NOTE 102
CB ( )	3A/F2	CD1-Z287-1, 30 AMP HEINEMANN (SEE NOTE 123)
CB ( )	3A/F2	CD1-Z288-11, 40 AMP, HEINEMAN
CB ( )	3A/F2	CD1-Z288-18, 100 AMP, HEINEMAN
CB ( )	3A/F2	GJ1-Z35-35, 175 AMP, HEINEMAN
CB ( )	3A/F2	GJ1P-Z12-1, 400 AMP, HEINEMAN

SEE NOTE 124

CONNECTOR

DESIG	LOC	CODE
J1A	1F1	208770-1, AMP
J1B	1B6	963N-24 -1-102935-9 (AMP)

CONTROLLER

DESIG	LOC	CODE
	1A7	J85501A-1,L1 OR J85501A-2,L1

FUSE BLOCK (SEE NOTE 305)

DESIG	LOC	CODE
LOAD-	4A1	KS-14473,L3 FOR 31 TO 60 AMP FUSES E/W 70G ALM FUSES
LOAD-	4B1	KS16364,L1 FOR 1 TO 30 AMP FUSES E/W 70G ALM FUSES
LOAD-	4B1	25A, FOR 70 TYPE FUSES
LOAD-	4B1	22A, FOR 70 TYPE FUSES
LOAD-	4B1	406686980 FOR 2 TO 60 AMP FUSES E/W GMT ALARM FUSES

RECTIFIER

DESIG	LOC	CODE
-	1A1	J87439A OR B,L1 OR L2
-	1A1	J87438A OR B,L1 OR L2
-	1A1	J87437A OR B,L1 OR L2
-	1A1	J87436A OR B,L1 OR L2
-	1A1	J87435A,L6
-	1A1	J87434A,L6
-	1A1	J85502A,B,C,L1,L2,L3 OR L4 SEE NOTE 119
-	1A1	J85503A,B,C,L1,L2,L3,L4,L5 OR L6
-	1A1	J85603C,L1,L2,L3,L4,L5 OR L6

ALL E/W L8 & LC

RESISTOR

DESIG	LOC	CODE
FAJ	4A2	KS-14603,L1CD, 1K Ω
FAJ	2H5	KS-14603,L1CD, 1K Ω
FAJ	3A/G1	KS-14603,L1CD, 1K Ω

FUSE

DESIG	LOC	CODE
FUSE( )		AGC 1/2A, BUSSMAN

SHUNT (SEE NOTE 115)

DESIG	LOC	CODE
R1	2C2,2G2,2E5,2E8	W-400-50, EMPRO
R1	2C2,2G2,2E5,2E8	W-600-50, EMPRO
R1	2C2,2G2,2E8	W-800-50, EMPRO
R1	2C2,2G2,2E8	C-1200-50, EMPRO
R1	2C2,2G2,2E8	C-2000-50, EMPRO
R1	2C2,2G2,2E8	1424-2600-50, EMPRO
R1	2E5	A-50-50, EMPRO
R1	2E5	A-100-50, EMPRO
R1	2E5	A-200-50, EMPRO
R1	2C2,2G2,2E8	F-4000-50, EMPRO
R1	2C2,2G2,2E8	F-6000-50, EMPRO

APP FIG. 2
CAPACITOR CHARGE CIRCUIT
FOR P/O FS3

DIODE (LIGHT EMITTING)

DESIG	LOC	CODE
(S) DS1(5)	3A/D2,4G5	4301 H1/1 (IDI)

FUSE & CABLE ASSEMBLY

DESIG	LOC	CODE
(V) F-	3A/D6,3A/G6	H285-224,L77-L80 (SEE NOTE 1, SHEET C2) EQUIPPED WITH AGC 1/2A. BUSSMAN, OR EQUIV.

FUSE

DESIG	LOC	CODE
(S) CHG FUSE	4G1	10 AMP BAN
(S) CHG ALM FUSE	4G1	70G, 1/2 AMP

RESISTOR

DESIG	LOC	CODE
(S) [4] R1.1-R1.4	4G3	(W) KS-14175,L3C,8 Ω; (Z) KS-14175,L3C,4 Ω
(S) R2	4H1	KS-20289,L6C,2.05K Ω
(S) R3 (S)	3A/C1,4G4	(W) KS-20289,L6C,4.75K Ω; (Z) KS-20289,L6C,2.21K Ω
(S) FAJ	2G5,4A3	KS-14603,L1CD,1K Ω

APP FIG. 3
DATA SET FOR FS4

CONNECTOR

DESIG	LOC	CODE
(M) P1	4A6	DB-19604-432 CINCH OR CANNON PLUG KS-19088,L2 (DTE CONNECTOR - 25 PIN, RS-232C)
(M) J1	4A7	963N-24 (SEE NOTE 202)

DATA SET

DESIG	LOC	CODE
(M) DATA SET	4A6	(ZA) 103J-LP, (ZB) 212A-LP, UNIVERSAL DATA SYSTEMS P. O. BOX 5266 HUNTSVILLE, ALA 35805

APP FIG. 4 (ZG,ZH)
FOR P/O FS3

CIRCUIT BREAKER

DESIG	LOC	CODE
CB1	3B/C4	GJ2-Z10-3,(48V,125A),HEINEMAN
	3C/C4	GJ2-Z10-4,(48V,150A),HEINEMAN GJ2-Z10-5,(48V,175A),HEINEMAN GJ2-Z10-6,(48V,200A),HEINEMAN GJ2-Z10-7,(48V,225A),HEINEMAN GJ2-Z10-8,(48V,250A),HEINEMAN
CB2	3B/34	GJ2-Z10-3,(48V,125A),HEINEMAN
	3C/C4	GJ2-Z10-4,(48V,150A),HEINEMAN GJ2-Z10-5,(48V,175A),HEINEMAN GJ2-Z10-6,(48V,200A),HEINEMAN GJ2-Z10-7,(48V,225A),HEINEMAN GJ2-Z10-8,(48V,250A),HEINEMAN

CIRCUIT MODULE

DESIG	LOC	CODE	DISCONNECT VOLTAGE
CM1	3B/D6	118A-1	41.39V
(ZH) CM1.1	3C/D6	118A-2	42.25V
		118A-3	43.11V
		118A-4	44.02V
		118A-5	44.95V

CONNECTOR

DESIG	LOC	CODE
J1	3B/D6, 3B/E5	87159-5, AMP
J2	3B/E6	87159-3, AMP
(ZH) J1.1	3C/F7, 3C/F5	87159-5, AMP
(ZH) J2.1	3C/F6	87159-3, AMP

APP FIG. 4 (CONT'D)

DIODE

DESIG	LOC	CODE
CR1	3B/D4	813B
CR2	3B/G4	813B

FUSE & CABLE ASSEMBLY

DESIG	LOC	CODE
(G) F-	3B/B1, 3B/F1	H285-224,L77-L80 (SEE NOTE 1,SHEET C2) EQUIPPED WITH AGC 1/2 A, BUSSMAN, OR EQUIV.

SHUNT

DESIG	LOC	CODE
(B,G) R- AS REQUIRED	3B/C2, 3B/E2	1471-125-25, EMPRO 1472-150-25, EMPRO 1473-175-25, EMPRO 1474-200-25, EMPRO 1475-225-25, EMPRO 1484-250-25, EMPRO

SEE NOTE 120

TERMINAL BLOCK

DESIG	LOC	CODE
TB1	3B/D8	699-8-KT48,(403395312),KULKA

APP FIG. 5
FOR FS5

CONTROLLER

DESIG	LOC	CODE
-	5B7	J85501A-1,L8 OR J85501A-3,L1

RECTIFIER

DESIG	LOC	CODE
-	5A1	J87439A OR B,L1 OR L2 J87438A OR B,L1 OR L2 J87437A OR B,L1 OR L2 J87436A OR B,L1 OR L2
		J87435, J87434 SEE NOTE 119
		J85503A,B,C,L1,L2,L3,L4,L5 OR L6
		J85502A,B,C,L1,L2,L3 OR L4 SEE NOTE 119
		KS20491, KS20493, KS21520, KS21522 SEE NOTE 119
		J85603C,L1,L2,L3 OR L4

APP FIG. 5A
FOR FS5A

CONTROLLER

DESIG	LOC	CODE
(H) -	5A/B7	J85501F-1

RECTIFIER

DESIG	LOC	CODE
-	5A/A1	J87439A OR B,L1 OR L2 J87438A OR B,L1 OR L2 J87437A OR B,L1 OR L2 J87436A OR B,L1 OR L2
		J87435, J87434 SEE NOTE 119
		J85503A,B,C,L1,L2,L3,L4,L5 OR L6
		J85502A,B,C,L1,L2,L3 OR L4 SEE NOTE 119
		KS20491, KS20493, KS21520, KS21522 SEE NOTE 119
		J85603C,L1,L2,L3 OR L4

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT	DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01	SHEET C1

APP FIG. 6 DA
FOR FS6

FUSE & CABLE ASSEMBLY

DESIG	LOC	CODE
(G) F- AS REQ'D	6B1, 6D1, 6F1, 6H1	H285-224,L81-L84(SEE NOTE 1) EQUIPPED WITH AGC 1/2A, BUSSMAN, OR EQUIV.

FUSE HOLDER

DESIG	LOC	CODE
F-	6B4, 6C4	KS-19392,L24 FOR KS-19392,L12, ~~L32~~,225A FUSES KS-19392,L13, ~~L33~~,300A FUSES KS-19392,L14, ~~L34~~,400A FUSES KS-19392,L15, ~~L35~~,500A FUSES KS-19392,L16, ~~L36~~,600A FUSES 70G,1/2A ALARM FUSES
	6E4, 6G4	KS-15858,L1 FOR 100A-200A FUSES 70G,1/2A ALARM FUSE OR KS-15858,L2 FOR 70A-100A FUSES 70G,1/2A ALARM FUSE
	6E4, 6G4	KS-19393,L21 OR L24 FUSE BLOCK(S) E/W 70G,1/2A ALARM FUSE AND EITHER KS-19392,L12, ~~L32~~,225A FUSE LINK OR KS-19392,L13, ~~L33~~,300A FUSE LINK OR KS-19392,L14, ~~L34~~,400A FUSE LINK OR KS-19392,L15, ~~L35~~,500A FUSE LINK OR KS-19392,L16, ~~L36~~,600A FUSE LINK

RESISTOR

DESIG	LOC	CODE
[2] FAJ	6B2,	KS-8512,L3C, 1000
FAJ	6E1	KS-8512,L3C, 1000

SHUNT

DESIG	LOC	CODE
(B,G) R- AS REQ'D	6B2 6C2	1475-225-25 1476-300-25 1477-400-25 1478-500-25 1479-600-25
	6E2 6G2	1470-110-25 1471-125-25 1472-150-25 1473-175-25 1474-200-25 EMPRO (SEE NOTE 120)
	6E2 6G2	1475-225-25 1476-300-25 1477-400-25 1478-500-25 1479-600-25

APP FIG. 6A
FOR FS6

FUSE & CABLE ASSEMBLY

DESIG	LOC	CODE
(G) F- AS REQ'D	6B1, 6D1, 6F1, 6H1	H285-224,L81-L84(SEE NOTE 1) EQUIPPED WITH AGC 1/2A, BUSSMAN, OR EQUIV.

FUSE HOLDER

DESIG	LOC	CODE
F-	6B4, 6C4	KS-19392,L24 FOR KS-19392,L12, ~~L32~~,225A FUSES KS-19392,L13, ~~L33~~,300A FUSES KS-19392,L14, ~~L34~~,400A FUSES KS-19392,L15, ~~L35~~,500A FUSES KS-19392,L16, ~~L36~~,600A FUSES 70G,1/2A ALARM FUSES
	6E4, 6G4	KS-15858,L1 FOR 100A-200A FUSES 70G,1/2A ALARM FUSE OR KS-15858,L2 FOR 70A-100A FUSES 70G,1/2A ALARM FUSE
	6E4, 6G4	KS-19393,L21 OR L24 FUSE BLOCK(S) E/W 70G,1/2A ALARM FUSE AND EITHER KS-19392,L12, ~~L32~~,225A FUSE LINK OR KS-19392,L13, ~~L33~~,300A FUSE LINK OR KS-19392,L14, ~~L34~~,400A FUSE LINK OR KS-19392,L15, ~~L35~~,500A FUSE LINK OR KS-19392,L16, ~~L36~~,600A FUSE LINK

RESISTOR

DESIG	LOC	CODE
[2] FAJ	6B2,	KS-8512,L3C, 1000
FAJ	6E1	KS-8512,L3C, 1000

SHUNT

DESIG	LOC	CODE
(B,G) R- AS REQ'D	6B2 6C2	1475-225-25 1476-300-25 1477-400-25 1478-500-25 1479-600-25
	6E2 6G2	1470-110-25 1471-125-25 1472-150-25 1473-175-25 1474-200-25 EMPRO (SEE NOTE 120)
	6E2 6G2	1475-225-25 1476-300-25 1477-400-25 1478-500-25 1479-600-25

(ZB) APP FIG. 9
FOR FS10

BAT. RES. PRED. THERM. ASSEMBLY

DESIG	LOC	CODE
-	7A1	SD-82588-01,-02

(ZP) APP FIG. 10
FOR FS11

DIODE

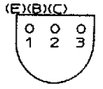
DESIG	LOC	CODE
DS2	7D8	HL MP-M201 (HP)

RESISTOR

DESIG	LOC	CODE
R4-	7E5	KS-20289,L1A, 2490 OHMS

CIRCUIT MODULE

DESIG	LOC	CODE
CM2- E/W	7D6	846404804
Q1 TRANSISTOR -		WP-90021,L2



CR3 DIODE	-	WP-90013,L3
R5,R6 RES	-	WP-90033,L1, 27,400 OHMS

APP FIG. 7
FOR FS7

SHUNT ISOLATOR CIRCUIT

DESIG	LOC	CODE
CP1	6B7	AKC-1 (JA) AKC-1B (JB)

NOTE:

1. THE LIST NUMBERS REPRESENT CABLE LENGTHS:
   L77 & L81 - 9' 11"
   L78 & L82 - 4' 2"
   L79 & L83 - 3'
   L80 & L84 - (SPECIFY LENGTH)

APP FIG. 8
FOR FS8, FS9

INVERTER

DESIG	LOC	CODE
(O) 1 KVA	6G7	5338-44 ~~WP-91652,L20~~
(O) 3 KVA	6G7	6234-44 ~~WP-91652,L40~~
(O) 5 KVA	6G7	6254-44 ~~WP-91652,L50~~
(Q) 10 KVA	6G7	6284-44 ~~WP-91652,L60~~

POWERMARK
3855 RUFFIN RD.
SAN DIEGO, CA
92123-1875

LOW VOLTAGE DISCONNECT

DESIG	LOC	CODE
K1	6F7	KS-21278,L2, AMF POTTER & BRUMFIELD
(P) K2	6E8	800 AMP CONTACTOR, JFA401,1A HB ELECTRIC, MANSFIELD, OHIO
(R) K2	6E8	1200 AMP CONTACTOR, JHA4003D, HB ELECTRIC, MANSFIELD, OHIO

LV DISCONNECT BOARD

DESIG	LOC	CODE
-	6E6	ED-83104-30, GROUP 2

RESISTOR

DESIG	LOC	CODE
FAJ	6D8	KS-8512,L3, 1000 OHMS
R1	6E6	KS-8512,L2A, 470 OHMS

TERMINAL BLOCK

DESIG	LOC	CODE
(N) TB2	6D8	400639340, KULKA

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT	DWG SIZE 2S	ISSUE 17M
LUCENT TECHNOLOGIES	SD-82603-01	SHEET C2

CIRCUIT NOTES:

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER

BATTERY SYMBOL 

GROUND SYMBOL 

VOLTAGE RANGE

102.

FEATURE OR OPTION	APP FIG	PROVIDE APP OR WRG	QUANTITY
22 VOLT PLANT		Z	
48 VOLT PLANT		W	
POSITIVE PLANT		Y	
NEGATIVE PLANT		X	
CKT BRKR E/W INTERNAL SHUNT		V	
CKT BRKR W/O INTERNAL SHUNT		T	
RESISTOR/SWITCH FILTER CHG CKT	2	S	
MODEM	3	M	
MCS CONTROLLER		E,ZB	
GALAXY CONTROLLER		H	
CONVENTIONAL CONTROLLER		F	
SHUNTS FOR USE WITH FEEDER DRAIN MONITOR		G	
LOW VOLTAGE DISC 1200 AMPERES	8	R,W,X	
LOW VOLTAGE DISC 800 AMPERES	8	P,W,X	
INVERTERS	8	Q	
"UNIVERSAL SHUNT MONITORING FEATURE WIRING"		C	
FOR SHUNTS SUPPLIED EXTERNAL TO DEVICES FOR THE UNIVERSAL SHUNT MONITORING FEATURE		B	
FOR SHUNTS SUPPLIED IN CIRCUIT BREAKERS FOR THE UNIVERSAL SHUNT MONITORING FEATURE		A	
BAY ALARM INDICATOR LED	10	ZF	1 PER BAY
J85702B-2 RECTIFIER SHELF	12	H	

103.

RECORD OF APP FIGURES, WIRING & APPARATUS CHANGES

CHANGED ON ISS	IF JOB RECORDS DO NOT SPECIFY	THIS OPTION WAS FURN	SEE NOTE	USE IN CIRCUIT STD	A&M	MD	SEE NOTE
4B	N			N			
			125	A,B,C		G,V	
	R	D		R,D			129
				AVAIL		DA	
6B (SEE NOTE 305)	ZB,ZC	ZA, ZD		ZB, ZC, ZD		ZA, E	130
7B	ZE,ZF	ZE		ZE,ZF			132
10B	ZG,ZH	ZG		ZG,ZH			307
15M	JB	JA		JA,JB			

104. SEE NOTE 134.

CIRCUIT NOTES (CONT):

105. FOR LEAD LENGTHS AND VOLTAGE DROP CALCULATIONS SEE SDM-83103-02 LARGEST LOAD WIRE PERMISSABLE FROM BAY IS 350MCM PER KS-20921. SEE J85500A, DWG FOR LOAD WIRES MAX SIZES PER PANEL AND DISCHARGE AMPACITIES. THE CIRCUIT BREAKER ALARM PATCH CODES ARE ORDERED PER J85500A AND REFERENCED DRAWINGS.

106. RECTIFIER POLARITY OPTIONS SHALL BE FURNISHED TO MATCH PLANT POLARITY OPTIONS.

107. WHEN THE MODEM IS APPLIED, THE FOLLOWING INFORMATION MUST BE FURNISHED TO THE TELCO.
A) RINGER EQUIVALENCE - 1.5B
B) FCC REG NO. AK-396F-67636-DM-E
C) MAKER-UNIVERSAL DATE SYSTEMS
D) (ZA) MODEL NO.-103J-LP, (ZB) MODEL NO. 212A-LP

108. SWITCH SETTINGS ON MODEM AND CONNECTIONS:
FRONT SW SET TO - DATA
REAR SW SET TO - ANS
TELCO CONN - CONNECTION TO TELEPHONE LINE
TELSET CONN - NO CONNECTION REQUIRED
DTE CONN - TO P2-P7 PIN FIELD ON CONTROLLER

109. THE CONNECTOR ASSEMBLY USED FOR EACH RECTIFIER BEING CONNECTED TO THE LINEAGE CONTROLLER AND THE CHARGE DISCHARGE CIRCUIT SHALL BE IN ACCORDANCE WITH NOTE: 108 ON SD-82588-01.

110. THE J1A CONNECTOR COMING FROM A RECTIFIER SHALL BE CONNECTED TO ITS CORRESPONDING CONNECTION ON THE BACKPLANE. THE RECTIFIER DESIGNATED #1 SHALL CONNECT TO RECT 1 CONNECTION ON THE BACKPLANE AND THE NUMBERING SEQUENCE SHALL BE FOLLOWED FOR ALL RECTIFIERS UP TO AND INCLUDING RECTIFIER 16. (SEE NOTE 112 ON SD-82588-01).

111. THE DISCHG GRD BUS LOCATED AT THE INITIAL BATTERY STAND IS EQUIPPED TO HANDLE ONLY LARGE TYPE CONNECTORS. IN PLANTS WHICH REQUIRE TERMINATION OF MANY SMALL GROUND LEADS OR IN WHICH THE NUMBER OF TERMINATION POSITIONS ON THE DISCHG GRD BUS AT THE INITIAL BATTERY STAND IS INSUFFICIENT, IT MAY BE MORE APPROPRIATE TO HAVE A SUPPLEMENTARY DISCHG GRD BUS LOCATED ON THE CABLE RACK NEAR THE INITIAL BAY. THIS BUS WILL BE EQUIPPED TO HANDLE A VARIETY OF LUG SIZES. SEE J85504A,B FOR MORE INFORMATION.

112. EACH FUSE PANEL WILL BE EQUIPPED WITH ITS OWN FAJ RESISTOR.

113. THE b LEAD GOING TO THE SUPPLEMENTARY BAY CAN CONNECT DIRECTLY TO THE CABLE JUNCTION LOCATED AT THE TOP OF THE INITIAL BATTERY STAND THE SUPPLEMENTARY BAY WILL REQUIRE ITS OWN SEPERATE b LEAD. BOTH THE INITIAL BAY AND SUPPLEMENTARY BAY CAN ACCEPT A MAXIMUM OF 6-750MCM CABLES EACH. LOWER CASE LETTERS (I.E. a,b,c,d ETC.) WERE ORIGINALLY DENOTED ON THE DRAWING FOR CROSS REFERENCE TO A VOLTAGE DROP NOTE CONTAINED ON THE DRAWING. THIS NOTE HAS SINCE BEEN REPLACED BY NOTE 105.

114. WHEN E OPTION IS APPLIED, THE RECTIFIER RESTART WILL BE ACTIVATED ONLY WHEN HV OCCURS. WITH F OPTION, THE RESTART CIRCUIT WILL ACTIVATE FOR ANY RFA CONDITION (SD-82588-01).

115. TO INSURE ACCURACY AND EFFECTIVE OPERATION OF THE EFFICIENCY ALGORITHM, THE SHUNT SIZE SHOULD BE SELECTED TO BE APPROXIMATELY 120% OF ACTUAL PLANT LOAD REQUIREMENTS. HOWEVER, SHUNT SIZE CAN BE SELECTED FOR FUTURE GROWTH PURPOSES IF THIS DOES NOT EXCEED TWICE ACTUAL LOAD.

116. RECTIFIERS ARE CONNECTED IN GROUPS OF 4, FOR EXAMPLE 1-4, 5-8, 9-12 AND 13-16. WHEN APPLYING A J87434 AND J87435 RECTIFIER TO A PLANT, THE 35 AMPERE CANNOT BE CONNECTED TO A GROUP CONTAINING J87439, J87438, J87437, J87436, J85503 OR J85502 RECTIFIERS.

117.

118. FS5 SHOWS CONNECTIONS FOR THE J87434-J87439, J85502 AND J85503 SERIES OF RECTIFIERS. FOR OTHER CODES, SEE THE TABLE IN INFORMATION NOTE 302 WHICH SHOWS THE ALARM LEAD CONNECTIONS WHICH ARE COMPATIBLE WITH THE CONVENTIONAL CONTROLLER. ALL OTHER CONNECTIONS SHALL BE DONE IN ACCORDANCE WITH THE APPROPRIATE SCHEMATIC.

119. WHEN THE J85502 SERIES OF 25 AND 50 AMP RECTIFIERS, J87434 AND J87535 SERIES OF 35 AMP RECTIFIERS AND KS20491, KS20493, KS21520 AND KS21522 RECTIFIERS ARE APPLIED, PHYSICAL ANALYZATION MAY BE REQUIRED FOR PLANT COMPATABILITY. WHEN THE J85502C, J85603C OR J85503C RECTIFIERS ARE USED WITH THE MCS CONTROLLER, THE MCS CONTROLLER MUST HAVE AT LEAST ISSUE 3 SOFTWARE INCORPORATED IN ITS CPU BOARD.

CIRCUIT NOTES (CONT):

120. WHEN THE OPTIONAL SHUNTS ARE USED, THE LEADS GOING FROM THE SHUNTS TO THE FEEDER DRAIN MONITOR BOARD MUST BE CONNECTED SO THAT THE LINE SIDE OF THE SHUNTS (BLACK LEAD) CONNECTS TO AN ODD NUMBERED TERMINAL ON THE FEEDER DRAIN MONITOR (ie 1.1,2.1,3.3 ETC.)

121. IF THE PLANT SHUNT IS LOCATED WITH THE DISCHARGE BUS ASSEMBLY AND NOT MOUNTED ABOVE THE FIRST BATTERY STAND THEN THE SHUNT AND DISCHARGE BUS ASSEMBLY FOR ALL BATTERY CONDITIONS SHALL BE AS SHOWN IN FS2.

122. WHEN A PLANT IS CONNECTED TO THE LINEAGE CONTROLLER AND IS EQUIPPED WITH A SHUNT MOUNTED ON THE BATTERY SIDE, IT WILL BE NECESSARY TO USE THE AKC-1 OR AKC-1B SHUNT ISOLATOR CIRCUIT. THE SHUNT ISOLATOR IS NOT REQUIRED FOR THE GALAXY CONTROLLER.

123. THESE BREAKERS ARE PRIMARILY FOR USE WITH THE ATTIS SYSTEM 85 LOADS. THEY ARE RATED AT 30 AMPERES AND HAVE HIGH INRUSH CAPABILITIES.

124. THESE BREAKERS ARE PRIMARILY USED TO FEED ATTIS SYSTEM 85 INVERTER LOADS. THE BREAKERS HAVE HIGH INRUSH CAPABILITIES AND WHEN Q OPTION IS APPLIED. THE SELECTION OF CIRCUIT BREAKERS TO INVERTERS SHALL BE AS SHOWN:

CIRCUIT BREAKER (APP FIG 1)	INVERTER (APP FIG 8)
CD1-Z288-11, 40A	1KVA, 5338-44
CD1-Z288-18, 100A	3KVA, 6234-44
GJ1-Z35-35, 40A	5KVA, 6254-44
GJ1P-Z12-1, 40A	10KVA, 6284-44

125. LOOP LEAD LENGTH OF CABLE ASSEMBLY FOR UNIVERSAL SHUNT MONITORING FEATURE SHALL NOT EXCEED 2000 FEET. THE CABLE ASSEMBLY FOR THE UNIVERSAL SHUNT MONITOR IS SPECIFIED AND CONTROLLED BY SD-82588-01 WITH ASSOCIATED DRAWINGS. THE TERMINATING LOCATION OF THE CABLE ASSEMBLY FOR THE UNIVERSAL SHUNT MONITOR OR THE FEEDER DRAIN MONITOR FEATURE ON THE MCS CONTROL UNIT IS CONTROLLED BY SD-82588-01. IF THE UNIVERSAL SHUNT MONITOR IS USED TO MONITOR SHUNTS NOT SHOWN ON THIS SD, THE FB+ FUSE SHOWN ON SD-82588-01 SHALL BE CONNECTED TO THE MOST POSITIVE TERMINAL OF THE SHUNT AND THE FB- FUSE SHALL BE CONNECTED TO THE MOST NEGATIVE TERMINAL OF THE SHUNT. SEE CD/SD-82500-01 FOR THE EFFECTS OF AN OPERATED SHUNT FUSE ON THE CONTROL UNIT. THE SHUNT FUSES SHOULD BE AS CLOSE AS POSSIBLE TO THE SHUNTS.

126. THE LEADS FROM THE DISCH BUS TO FS6 SHALL BE SIZED PER NOTE 105. THIS IS TO TAKE INTO ACCOUNT AMPACITY AS WELL AS VOLTAGE DROP.

127. THE LOAD LEADS AND GROUND LEADS FROM THE POWER PLANT TO THE LOADS ARE TO BE PAIRED AS MUCH AS REASONABLY POSSIBLE.

128. THE FAJ RESISTOR IS TO BE LOCATED AS CLOSE AS POSSIBLE TO ITS POWER FEED.

129. UTILIZE WIRING OPTION D WHEN OPTION R IS NOT PROVIDED.

130. IF A POWER PLANT IS TO BE USED WITHOUT A SUPPLEMENTARY "DISCHARGE" GROUND BUS, OPTION ZC "CO GROUND" MUST BE USED. WHEN A SUPPLEMENTARY "DISCHARGE" GROUND BUS IS AVAILABLE, OPTION ZD MUST BE USED.

131. ASSIGN DIFFERENT SUFFIX NUMBERS TO VARIOUS APP FIG 10 LEADS AND COMPONENTS DEPENDING ON THEIR LOCATION AS FOLLOWS:

LOCATED ON	SUFFIX
INITIAL BAY	-1
SUPPLEM BAY NO. 1	-2
SUPPLEM BAY NO. 2	-3

(CIRCUIT NOTES CONTINUED ON SHEET D3)

EQUIPMENT NOTES:

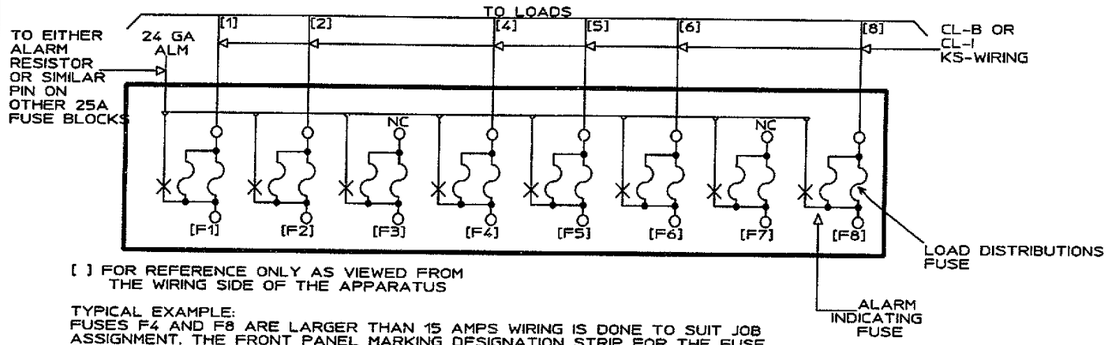
201. ALL WIRING NOT SPECIFIED SHALL BE KS22247, L4, 24GA.
202. WHEN THE 963 TYPE CONNECTORS ARE INSERTED ON THE CONTROLLER, THE BLACK SEGMENT OF THE CONNECTOR MUST BE ON THE LEFT.
203. ALL WIRING ORIGINATING AND TERMINATING IN FS8 IS TO BE A MINIMUM OF 18GA. THE FAJ LEAD IS TO BE A MINIMUM OF 24 GA. THE N AND P LEADS ARE TO BE A MINIMUM OF 14GA. THE +LV AND THE -LV LEADS ARE TO BE A MINIMUM OF 16GA. IF +LV, -LV EXCEED 400 FT IN TOTAL LENGTH, THEIR LEAD SIZE IS TO BE CALIBRATED TO INSURE THAT THEIR TOTAL RESISTANCE DOES NOT EXCEED 2 OHMS.
204. SEE NOTES 105, 111 AND 113 FOR ADDITIONAL WIRING INFORMATION.

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT	DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01	SHEET D1

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. WHEN ASSIGNING FUSES IN 25A FUSE BLOCKS, FOR EACH FUSE OVER 15 AMPERES AN ADJACENT FUSE POSITION IS TO REMAIN UNUSED AND DEDECATED TO ONLY THAT FUSE.



[ ] FOR REFERENCE ONLY AS VIEWED FROM THE WIRING SIDE OF THE APPARATUS

TYPICAL EXAMPLE:
FUSES F4 AND F8 ARE LARGER THAN 15 AMPS WIRING IS DONE TO SUIT JOB ASSIGNMENT. THE FRONT PANEL MARKING DESIGNATION STRIP FOR THE FUSE BLOCKS SHALL SHOW THE FUSES, SUCH AS F3 AND F7 DESIGNATED "NC" (NOT CONNECTED) WITH DUMMY FUSES MOUNTED IN THOSE UNUSED POSITIONS TO HELP RETAIN CAPS.

D THE FUSING ASSIGNMENTS FOR A 25A FUSE BLOCK MUST FOLLOW THE GUIDELINES LISTED BELOW TO PREVENT THE FUSE BLOCK FROM DISSIPATING MORE POWER THAN IS RECOMMENDED (7.65 WATTS PER X-75533):

A. IF THE FUSING SCHEME IS MADE UP OF ONLY 74A,74B,74C,KS-19780-01,L1, L2,L4,L5 OR SMALLER FUSES, ALL POSITIONS (ALLOWING 2 POSITIONS FOR L4,L5) MAY BE ASSIGNED AND THE BLOCK WILL NOT DISSIPATE MORE THAN 7.65 WATTS.

B. IF THE FUSING SCHEME MATCHES ONE OF THE FOLLOWING COMBINATIONS, CHECK THE TOTAL LIST 2 CURRENT DRAIN THROUGH THE FUSES OF THE BLOCK. IF IT IS MORE THAN THE "MAX TOTAL CURRENT" ALLOWED OF THE TABLE BELOW, REASSIGN THE LOADS.

FUSING SCHEME	KS-19780 FUSES						74 TYPE FUSES						MAX TOTAL CURRENT ALLOWED
	L6	L5	L4	L3	L2	L1	F	E	D	C	B	A	
1	4												88 AMPS
2				8									96 AMPS
3							4						61 AMPS
4								8					68 AMPS
5									8				61 AMPS
6	3	1											88 AMPS
7	3		1										88 AMPS
8	3			2									84 AMPS
9	3				2								84 AMPS
10	3					2							80 AMPS
11	1	3											84 AMPS
12		3		1									72 AMPS
13							3	2					61 AMPS
14							3		2				60 AMPS
15							3			2			56 AMPS

FUSE RATINGS: L6 IS 30 AMPS, L5 IS 25 AMPS, L4 IS 20 AMPS, L3 IS 15 AMPS, L2 IS 10 AMPS, L1 IS 5 AMPS. F IS 20 AMPS, E IS 15 AMPS, D IS 10 AMPS, C IS 5 AMPS, B IS 3 AMPS AND A IS 1.5 AMPS.

INFORMATION NOTES: (CONT)

302. (CONT)

C. FOR ALL OTHER POSSIBLE COMBINATIONS THE FUSING SCHEME FOR EACH 25A FUSE BLOCK MUST SATISFY THE FOLLOWING ALGEBRAIC EQUATION:

$$\sum_{n=1}^{8} .0038\, I_n^2 L6 + .0035\, I_n^2 L5 + .0047\, I_n^2 L4 + .0070\, I_n^2 L3 + .0125\, I_n^2 L2 + .025\, I_n^2 L1 + .0082\, I_n^2 F + .0052\, I_n^2 E + .0035\, I_n^2 D + .005\, I_n^2 C + .0065\, I_n^2 B < 7.65\, I_n^2 A$$

WHERE n IS AN INDEXER FOR THE NUMBER OF THE SAME TYPE OF FUSES USED IN THE BLOCK L6 THRU L1 AND F THRU A ARE USED TO IDENTIFY FUSE TYPE e.g.:
I_5^2 L5 IS THE LIST TWO CURRENT DRAIN THROUGH THE SECOND KS-19780, L5 FUSE IN THE FUSE BLOCK.

303. WHEN APPLYING THE VARIOUS COMBINATIONS OF RECTIFIERS TO THE CONVENTIONAL CONTROLLER, CONSULT THE FOLLOWING TABLE FOR PLANT ALARM COMPATABILITY FOR THAT PARTICULAR RECTIFIER. FOR RETROFIT AND RECTIFIER REUSE, ADDITIONAL ANALYZATION MAY BE REQUIRED FOR BOTH CIRCUIT AND PHYSICAL DESIGN COMPATABILITY. CONSULT SD-82588-01,-02 FOR ALARM CABLE AND CONNECTOR INFORMATION.

CONVENTIONAL LINEAGE 2000 RECTIFIER CONTROL

VOLTS / AMPS	RECTIFIERS	RSR	BAT	RB	RG	RFAR	HVR	RS	HV	LOAR	TRR	RFA	PMNV	CB	CBR	LOA	PMU	PMNVR	GRD	TR	LEADS NOT CONNECTED
24 / 100	J87436 SD-82397-01 WITH SP1( )	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SH
48 / 100	J87437 SD-82398-01 WITH SP1( )	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SH
24 / 200	J87438 SD-82399-01 WITH SP1( )	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SH
48 / 200	J87439 SD-82400-01 WITH SP1( )	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SH
48 / 100	KS-20493 SD-81999-02 OR SD-82402-01	X	X	X	X	X		X	X			X								X	CA, CB
24 / 100	KS-20491 SD-81987-01 OR SD-82402-01	X	X	X	X	X		X	X			X								X	CA, CB
48 / 400	KS-21520 SD-82409-01	X		X	X	X		X	X			X								X	PL,EM,CA,CB,HVB,HVG, EMR,S1A,S1AR,S1B,S1BR, S1C,S1CR,S1D,S1DR,S1E, S1ER,S1F,S1FR,S1G, S1GR,S1H,SIHR
48 / 800	KS-21522 SD-82412-01	X		X	X	X		X	X			X								X	
48 / 35	J87435 SD-82396-01 WITH SP3( )	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SH
24 / 35	J87434 SD-82395-01 WITH SP3( )	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	SH

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT	DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01	SHEET D2

INFORMATION NOTES: (CONT)

304. THE INVERTERS HAVE DC AS WELL AS AC INPUTS WITH AC OUTPUT. THE INPUT AND OUTPUT LEADS SHOULD UTILIZE KS-5482 OR EQUIVALENT WIRE. THE FOLLOWING TABLE DELINEATES THE MINIMUM RECOMMENDED BREAKER SIZE AND LEAD SIZE THAT SHOULD BE USED:

LEAD	1 KVA INVERTER LEAD SIZE	BREAKER (AMP)	3 KVA INVERTER LEAD SIZE	BREAKER (AMP)	5 KVA INVERTER LEAD SIZE	BREAKER (AMP)	10 KVA INVERTER LEAD SIZE	BREAKER (AMP)
DC LOAD INPUT	8 AWG	40	2 AWG	100	2/0	175	500 MCM	400
DC GROUND INPUT	8 AWG	-	2 AWG	-	2/0	-	500 MCM	-
AC LOAD INPUT	14 AWG	*10	10 AWG	*30	6 AWG	*50	2 AWG	*100
AC GROUND INPUT	14 AWG	-	10 AWG	-	6 AWG	-	2 AWG	-
AC LOAD OUTPUT	14 AWG	**10	10 AWG	**30	6 AWG	**50	2 AWG	**100
AC GROUND OUTPUT	14 AWG	-	10 AWG	-	6 AWG	-	2 AWG	-

* TO BE PROVIDED BY THE CUSTOMER
** TO BE PROVIDED BY THE INVERTER VENDOR

THE AC INPUT AND THE AC OUTPUT LEADS OF THE INVERTER SHALL BE ELECTRICALLY SHIELDED FROM OTHER LEADS IN THE POWER PLANT BY THE USER AS PER LUCENT PRACTICES. THE AC INPUT SHALL BE FED FROM THE CUSTOMERS AC SERVICE. THE INVERTER IS FED FROM A NOMINAL 120 VOLT SINGLE PHASE SOURCE. THE INVERTERS PRODUCE NOMINAL 120 VOLT SINGLE PHASE AC. THE AC LEADS VOLTAGE DROPS ARE TO BE CONSIDERED BY THE CUSTOMER. THE DC POWER LEAD IS TO FOLLOW THE SAME RULES AS ANY OTHER DC LOAD FEED BY THIS PLANT. THE PLANT WILL ACCOMMODATE UP TO 4 1KVA INVERTERS, 2 3KVA INVERTERS, 1 5KVA OR 1 10KVA INVERTER.

THE CUSTOMER WILL NOT BE ABLE TO PARALLEL THE OUTPUT FROM THE INVERTERS. THE INVERTER VENDOR WILL PROVIDE MOUNTING HARDWARE FOR 25" RACK MOUNTING OF THE INVERTERS.

305. THE FUSE ALARM CIRCUIT CAN BE TESTED WITHOUT REMOVING THE 70 TYPE FUSES. THERE IS AN OPENING IN THE UPPER LEFT CORNER OF THE BLOCK WHERE A PROBE CAN BE INSERTED TO MAKE CONTACT WITH THE FUSE ALARM TERMINAL. THE OTHER CONTACT POINT FOR THE FUSE ALARM CIRCUITRY CAN BE REACHED WITH A PROBE THROUGH THE OPENING IN THE FUSE CAP. IF THESE POINTS ARE CONNECTED, THE OPERATION OF THE INDIVIDUAL INDICATING FUSE POPPING CAN BE SIMULATED WITHOUT REMOVAL OF THE FUSE OR DISRUPTING SERVICE. UNDER NO CIRCUMSTANCES SHOULD THE ALARM FUSE BE REMOVED FOR TEST PURPOSES.
TO TEST THE 406686980 FUSE ALARM CIRCUIT, INSERT A PROBE ALONGSIDE THE GMT FUSE ALARM FLAG PIN SO THAT IT TOUCHES BOTH THE FLAG PIN AND THE CONTACT. THIS CONNECTION SIMULATES FUSE OPERATION.

306. IF A MORE SECURE DISCHARGE GROUND IS DESIRED BY ENGINEER, A SEPARATE WIRE MAY BE RUN FROM NEAREST DISCHARGE GROUND BUS TO ED83018-31, G17, TB1-7. INSTALLER SHALL DISCONNECT AND TIE BACK THE WIRE FROM TB1-7 THEN CONNECT SECURE GROUND WIRE. SEE NOTE 133.

307. OPTION ZG PROVIDES FOR A REDUNDANT LOW VOLTAGE DISCONNECT CIRCUIT ED83018-31, GRP 17, CA. A SECURE GROUND WIRE FROM THE NEAREST DISCHARGE GROUND BUS IS REQUIRED FOR EACH CIRCUIT.

CIRCUIT NOTES: (CONT)

134. CONNECTION OF DISCHARGE GROUND BUS BAR TO CO GROUND IS GOVERNED BY THE FOLLOWING HIERARCHY: (1) CUSTOMER REQUIREMENTS OR SPECIFICATIONS, (2) USING SYSTEMS REQUIREMENTS (ie. 5ESS, 4ESS, ETC.) IF NUMBER (1) ABOVE DOES NOT EXIST, AND (3) IF NEITHER (1) OR (2) ABOVE IS AVAILABLE, USE LUCENT PRACTICE 803-500-410 OR 802-001-193 TO DETERMINE PROPER GROUND CONNECTION. DOCUMENT THE SOURCE OF THE GROUNDING REQUIREMENTS IN THE JOB DRAWINGS.

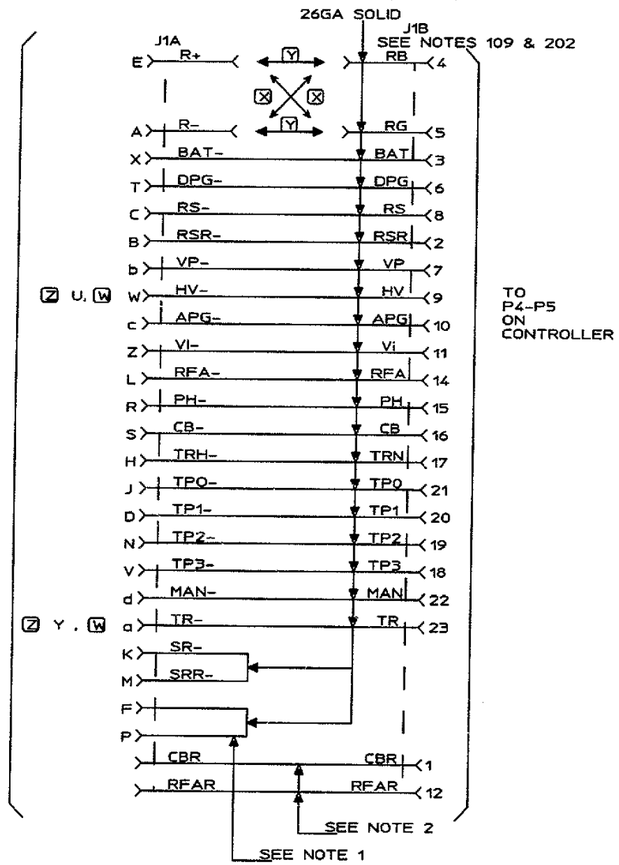
135. ON ISSUE 13 OF THIS DRAWING, "CBA" LEADS ON FS3 WERE CHANGED TO "CC" LEADS.

132. ZF OPTION (BAY ALARM LED) REQUIRES X AND W OPTIONS (NEGATIVE 48V PLANTS). OTHERWISE ZE OPTION MUST BE USED.

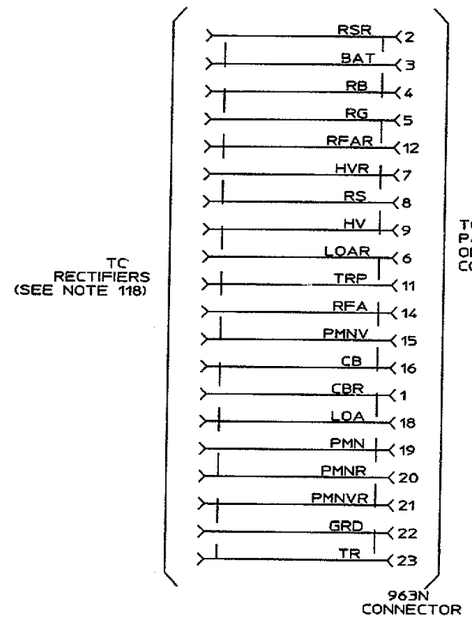
133. IF THE PLANT IS EQUIPPED WITH AN ED83018-31,G17 LOW VOLTAGE DISCONNECT PANEL, DISCONNECTING OR RECONNECTING DISCHG GND MAY CAUSE THE BREAKERS ON THE PANEL TO TRIP AND DISCONNECT THE LOAD. SEE NOTE 306.

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 17M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET D3

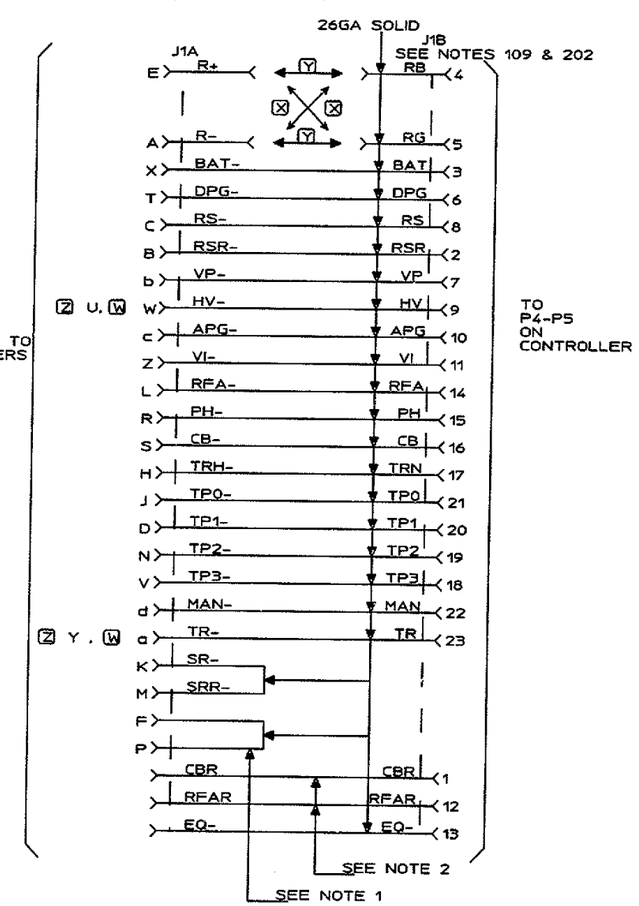
CAD 1



CAD 2



CAD 3



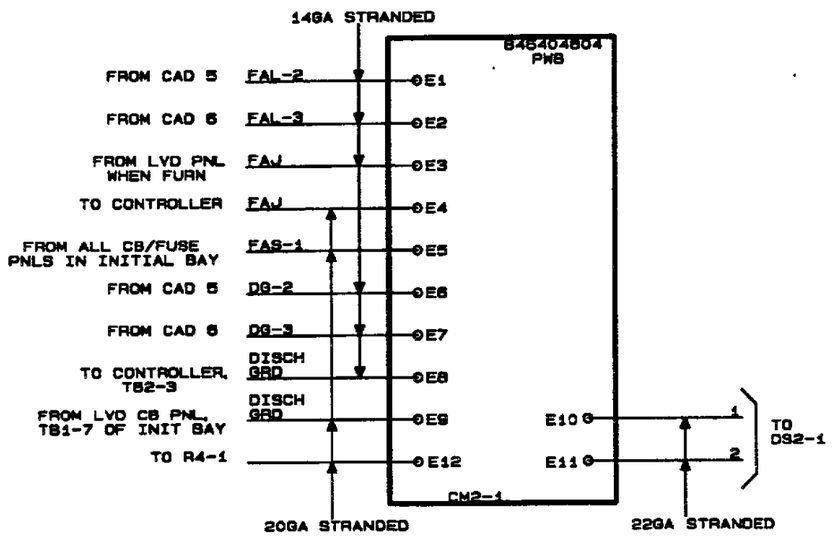
NOTES:

1. WHEN APPLYING A 24 VOLT 35 AMPERE RECTIFIER, PINS F AND P MUST BE STRAPPED, IN THE CABLE.
2. THE CBR AND RFAR LEADS ARE USED WHEN THE J85502 AND J85503 SERIES OF RECTIFIER ARE APPLIED.

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET G1

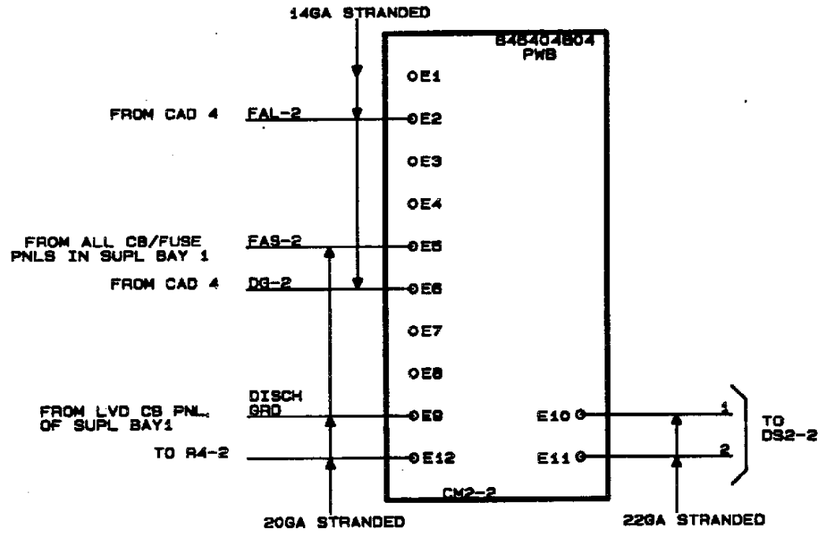
CAD 4

-48V INITIAL BAY



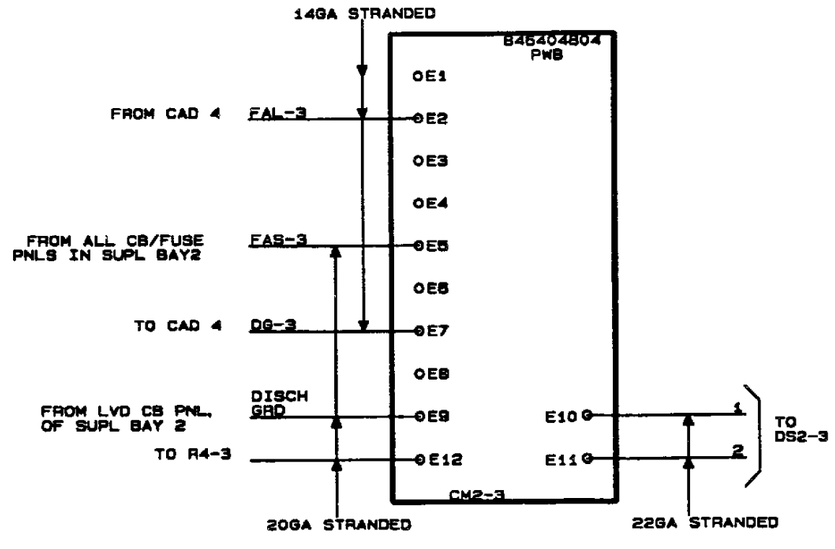
CAD 5

-48V SUPL BAY 1



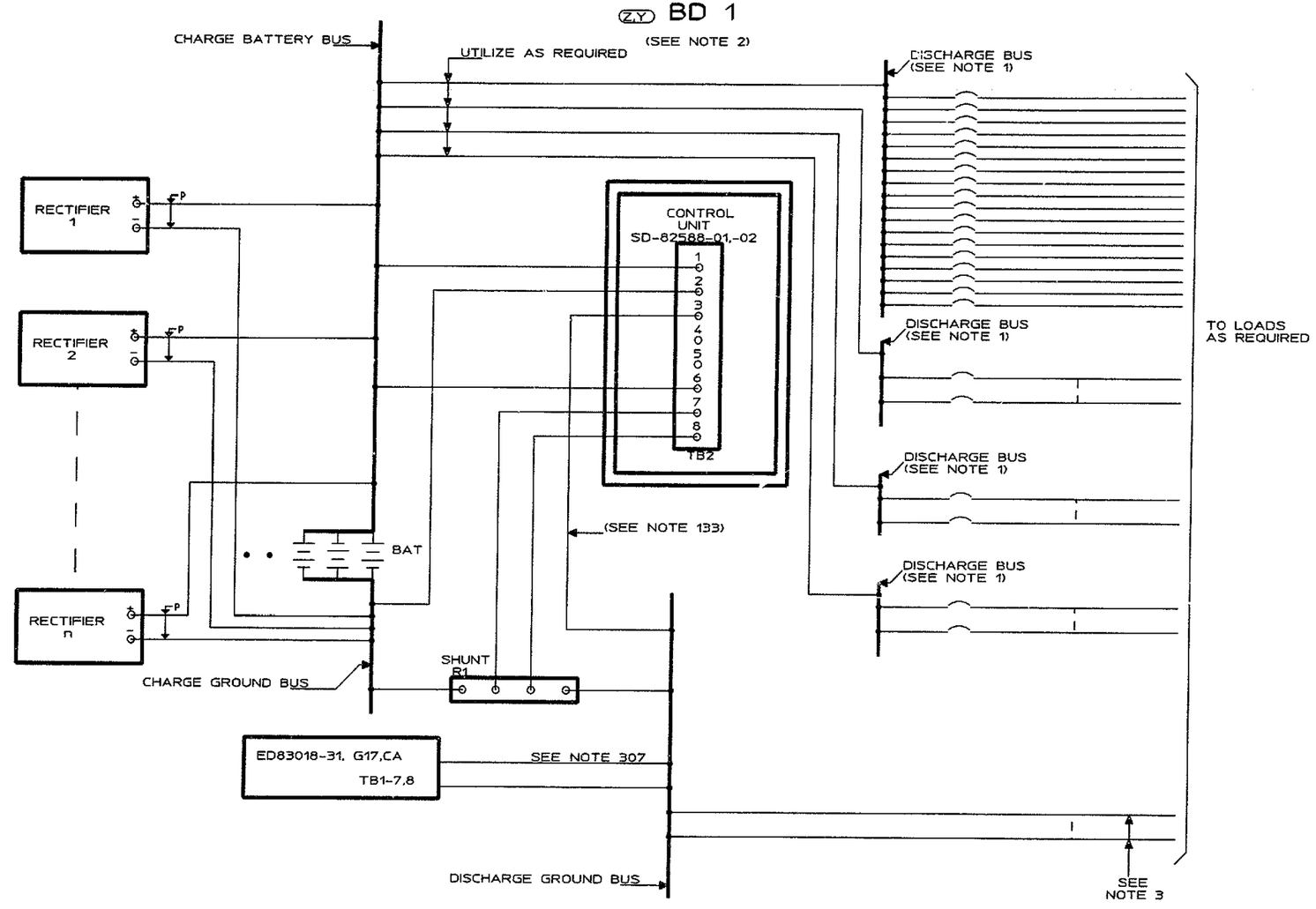
CAD 6

-48V SUPL BAY 2



"LINEAGE" © 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 9M
AT&T	9D-82603-01		SHEET 02

(Z,Y) BD 1



NOTES:

1. PLANT DISCHARGE BUSES: AS REQUIRED, THE CIRCUIT BREAKER ARRANGEMENT SHOWN IS PURELY FOR ILLUSTRATIVE PURPOSES.
2. THE BLOCK DISGRAM SHWON IS FOR +24 VOLT APPLICATIONS. IT IS NOT MEANT TO BE ALL INCLUSIVE, BUT TO SHOW ONE POSSIBLE CONFIGURATION OF THE PLANT.
3. THESE LEADS ARE PAIRED WITH LEADS FROM CIRCUIT BREAKERS.

"LINEAGE" ® 2000 CHARGE AND DISCHARGE CKT		DWG SIZE 2S	ISSUE 16M
LUCENT TECHNOLOGIES	SD-82603-01		SHEET H1