SHEET INDEX

CONTENTS	SHEET NO.	SHEET ISSUE NO.
SHEET INDEX SUPPORTING INFORMATION OPTION INDEX	A1	6
DESIGNATION MNEMONIC LEAD INDEX	A2	6
STAND ALONE MONITOR CIRCUIT	B1	6
ALARM & STATUS CIRCUIT (RISLU)	B2	6
FULLY EQUIPPED ALARM & STATUS UNIT	B3	6
APP FIG. 1, 2, 3	C1	6
CIRCUIT NOTES EQUIPMENT NOTES	D1	6
INFORMATION NOTES	D2	6
CADS 1, 2, 3, 4	G1	6
CAD 5	G2	6
CAD 6	G3	6
CADS 7, 8, 9, 10, 11	G4	6

OPTION INDEX

APP OR WRG	RATED ON ISSUE	REF NOTES	LOCATION
1 (Z)	STD 1	305	B1,G1,G4
1 (Y)	STD 1	305	B1,G1,G4
2	STD 1		B2,G1,G3, G4
3 (Z)	STD 1	305	B3,G1,G3, G4
3 (Y)	STD 1	305	B3,G1,G3, G4
X	DA 2		G2,G3
W	AVAIL 2		G2,G3

DWG ISS	CD ISS	DATE ISSD	DRN	APP
1	1 APPX –	10-10-90		
2M	1 APPX 1M	6-17-92		
3B	1 APPX 2B	11-20-92		
4M	1 APPX 3M	4-6-94		
5B	1 APPX 4B	10-17-94		
6B	1 APPX 5B	09-25-97		

SUPPORTING INFORMATION

SYSTEM USED ON	DESIGN CONTROL	CATEGORY	NO.
5ESS	IH	ALARM & STATUS UNIT MODEL 2 (EQUIPMENT)	ED-5D678-10
		ALARM & STATUS UNIT MODEL 2 (CABLING)	ED-5D678-12,25
		AUDIBLE AND VISUAL ALARM CIRCUIT	SD-5D017-01
		REMOTE APPLICATIONS SCHEMATIC CIRCUIT	SD-5D133-01
		SWITCHING MODULE CONTROL CABINET 2 CIRCUIT	SD-5D160-01
		REMOTED ISLU CABINET	SD-5D123-01
		SWITCHING MODULE CONTROL CABINET	SD-5D188-03
			SD-5D195-02
			SD-5D548-01

SHEET INDEX NOTES

1. ONLY THE LATEST ISSUE, OR ISSUES IF CONCURRENT, ARE SHOWN IN THE INDEX.
2. FOR REISSUES, A CHANGED OR NEW SHEET IS ASSIGNED THE SAME ISSUE NUMBER AS SHEET 1.
3. THE ISSUE NUMBER OF SHEET 1 IS RECOGNIZED AS THE ISSUE NUMBER OF THE WHOLE DRAWING.

BT13

5ESS® SWITCHING EQUIPMENT

ALARM & STATUS UNIT
MODEL 2
CIRCUIT

ASU2

DWG SIZE C2 | ISSUE 6B

Lucent Technologies | SD-5D148-01 | SHEET 12 A1

DESIGNATION MNEMONIC LEAD INDEX

MNEMONIC	DEFINITION
+5V04C(0,1)	+5V FROM LEVEL 04 OF MCTU1 OR SMPU2 (SIDE 0 OR 1)
-48RTN	-48 VOLT RETURN
-48V	-48 VOLTS POWER
-48VABS	-48 VOLTS POWER FROM ALARM BATTERY SUPPLY
ABSRTN	-48 VOLT RETURN TO ALARM BATTERY SUPPLY
CRAUXM	CRITICAL AUXILIARY ALARM MAKE
CRAUXT	CRITICAL AUXILIARY ALARM TRANSFER
FAN-48	-48V OUTPUT FROM FAN UNIT ALARM CIRCUIT
FANRTN	-48V RETURN TO FAN UNIT ALARM CIRCUIT
FUS-48	-48V OUTPUT FROM FUSE/FILTER UNIT ALARM CIRCUIT
FUSRTN	-48V RETURN TO FUSE/FILTER UNIT ALARM CIRCUIT
GRD04086	GROUND FROM EQL 04-086 OF MCTU1 OR SMPU2
ISLURTN	-48V RETURN TO ISLU ALARM CIRCUIT
MJAUXM	MAJOR AUXILIARY ALARM MAKE
MJAUXT	MAJOR AUXILIARY ALARM TRANSFER
MNAUDN	MINOR AUDIBLE NEGATIVE
MNAUDP	MINOR AUDIBLE POSITIVE
MNAUXM	MINOR AUXILIARY ALARM MAKE
MNAUXT	MINOR AUXILIARY ALARM TRANSFER
TBN	TONE BAR NEGATIVE
TBP	TONE BAR POSITIVE
TPCLK	TEST POINT CLOCK
TPRST	TEST POINT RESET
TPSANTIM	TEST POINT SANITY TIMER
(0,1)ALMACTN	ALARM ACTIVE NEGATIVE (S.G 0 OR 1)
(0,1)ALMACTP	ALARM ACTIVE POSITIVE (S.G. 0 OR 1)
(0,1)ALMPWRN	ALARM POWER NEGATIVE (S.G. 0 OR 1)
(0,1)ALMPWRP	ALARM POWER POSITIVE (S.G. 0 OR 1)
(0,1)ALMRETN	ALARM RETIRE NEGATIVE (S.G. 0 OR 1)
(0,1)ALMRETP	ALARM RETIRE POSITIVE (S.G. 0 OR 1)
(0,1)ALMTSTN	ALARM TEST NEGATIVE (S.G. 0 OR 1)
(0,1)ALMTSTP	ALARM TEST POSITIVE (S.G. 0 OR 1)
(0,1)BLDPWR	BUILDING POWER (S.G. 0 OR 1)
(0,1)BLDPWRR	BUILDING POWER (S.G. 0 OR 1) RETURN
(0,1)BPFAO	BACKPLANE FORCE ACTIVE OUTPUT (SIDE 0 OR 1)
(0,1)CIKA	CRAFT INTERVENTION KEY ACTIVATE (S.G. 0 OR 1)
(0,1)CIKN	CRAFT INTERVENTION KEY NORMAL (S.G. 0 OR 1)
(0,1)CRAUD	CRITICAL ALARM AUDIBLE (S.G. 0 OR 1)
(0,1)CRAUDR	CRITICAL ALARM AUDIBLE (S.G. 0 OR 1) RETURN
(0,1)CRLMP	CRITICAL ALARM LAMP (S.G. 0 OR 1)
(0,1)CRLMPR	CRITICAL ALARM LAMP (S.G. 0 OR 1) RETURN
(0,1)GRD	GROUND (+5V) (S.G. 0 OR 1)
(0,1)MAN	MANUAL ALARM (S.G. 0 OR 1)
(0,1)MANR	MANUAL ALARM (S.G. 0 OR 1) RETURN
(0,1)MJAUD	MAJOR ALARM AUDIBLE (S.G. 0 OR 1)
(0,1)MJAUDR	MAJOR ALARM AUDIBLE (S.G. 0 OR 1) RETURN
(0,1)MJLMP	MAJOR ALARM LAMP (S.G. 0 OR 1)
(0,1)MJLMPR	MAJOR ALARM LAMP (S.G. 0 OR 1) RETURN
(0,1)MNAUD	MINOR ALARM AUDIBLE (S.G. 0 OR 1)
(0,1)MNAUDR	MINOR ALARM AUDIBLE (S.G. 0 OR 1) RETURN
(0,1)MNLMP	MINOR ALARM LAMP (S.G. 0 OR 1)
(0,1)MNLMPR	MINOR ALARM LAMP (S.G. 0 OR 1) RETURN
(0,1)MODCYC	MODULE CYCLING NORMAL (S.G. 0 OR 1)
(0,1)MODEN	MODE NGATIVE (S.G. 0 OR 1)
(0,1)MODEP	MODE POSITIVE (S.G. 0 OR 1)
(0,1)MODTBL	MODULE TROUBLE (S.G. 0 OR 1)
(0,1)MSANTIM	MODULE SANITY TIMER (SIDE 0 OR 1)
(0,1)OTHINS	OTHER INSANE SWITCHING MODULE (S.G. 0 OR 1)
(0,1)OTHINSR	OTHER INSANE SWITCHING MODULE (S.G. 0 OR 1) RETURN
(0,1)SA	STAND ALONE (S.G. 0 OR 1)

MNEMONIC	DEFINITION
(0,1)SANTIM	SANITY TIMER (S.G. 0 OR 1)
(0,1)SANTIMR	SANITY TIMER (S.G. 0 OR 1) RETURN
(0,1)SAR	STAND ALONE (S.G. 0 OR 1) RETURN
(0,1)SMTBL	SWITCHING MODULE TROUBLE (S.G. 0 OR 1)
(0,1)SMTBLR	SWITCHING MODULE TROUBLE (S.G. 0 OR 1) RETURN
(0,1)STDALN	STAND ALONE (SIDE 0 OR 1)
(0,1)TIMINH	TIMER INHIBIT (S.G. 0 OR 1)
(0,1)TIMINHR	TIMER INHIBIT (S.G. 0 OR 1) RETURN
(0,1)TSTPRG	TEST IN PROGRESS (S.G. 0 OR 1)
(0,1)TSTPRGR	TEST IN PROGRESS (S.G. 0 OR 1) RETURN

ALARM & STATUS UNIT
MODEL 2

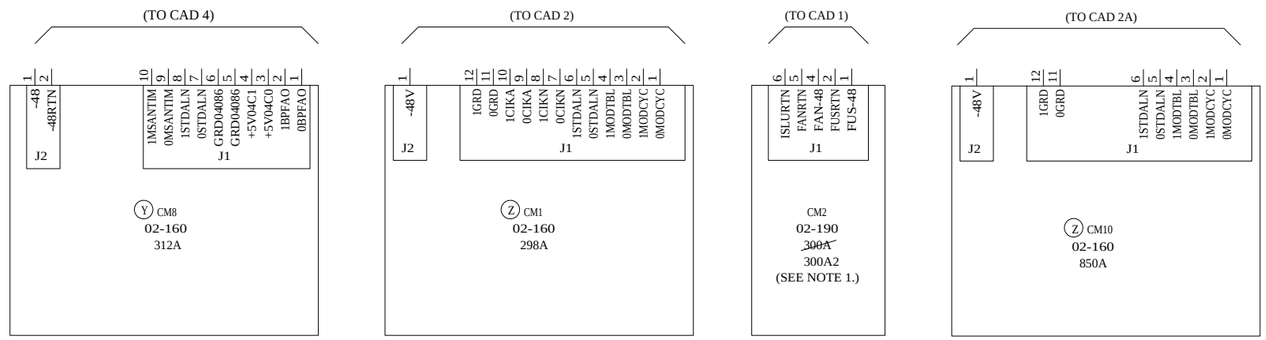
DWG SIZE	ISSUE
C2	6B

Lucent Technologies	SD-5D148-01	SHEET A2

FS 1

ASU2 - STAND ALONE MONITOR CIRCUITS
APP FIG. 1

NOTE:
1. THE ~~300A~~ 300A2 CIRCUIT MODULE IS NOT SPECIFICALLY PART OF THE ASU2. IT IS REQUIRED TO BE EQUIPPED IN ALL CABINETS OF THE SM AND CM.



ALARM & STATUS UNIT
MODEL 2

DWG SIZE	ISSUE
C2	6B

Lucent Technologies	SD-5D148-01	SHEET
		B1

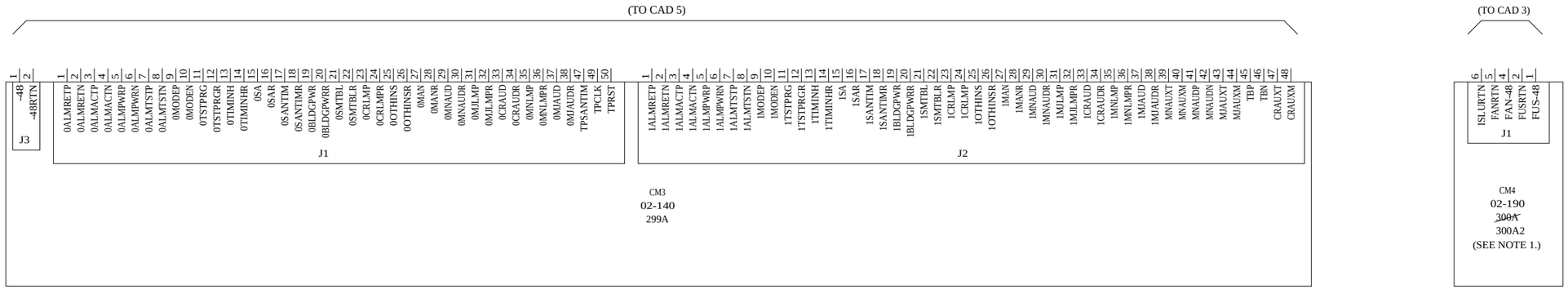
FS 2

ASU2 EQUIPPED WITH ALARM & STATUS CIRCUIT ONLY

APP FIG. 2

NOTE:

1. THE ~~300A~~ 300A2 CIRCUIT MODULE IS NOT SPECIFICALLY PART OF THE ASU2. IT IS REQUIRED TO BE EQUIPPED IN ALL CABINETS OF THE SM AND CM.



ALARM & STATUS UNIT MODEL 2	DWG SIZE C2	ISSUE 6B
Lucent Technologies	SD-5D148-01	SHEET B2

FS 3

ASU2 - FULLY EQUIPPED
APP FIG. 3

NOTE:

1. THE ~~300A~~ 300A2 CIRCUIT MODULE IS NOT SPECIFICALLY PART OF THE ASU2. IT IS REQUIRED TO BE EQUIPPED IN ALL CABINETS OF THE SM AND CM.

(TO CAD 6)

J3: -48, -48RTN

J1: 0ALMRETP, 0ALMRETN, 0ALMACTP, 0ALMACTN, 0ALMPWRP, 0ALMPWRN, 0ALMTSTP, 0ALMTSTN, 0MODEP, 0MODEN, 0TSTPRG, 0TSTPRGR, 0TIMINH, 0TTIMINHR, 0SA, 0SAR, 0SANTIM, 0SANTIMR, 0BLDGPWR, 0BLDGPWRR, 0SMTBL, 0SMTBLR, 0CRLMP, 0CRLMPR, 0OTHINS, 0OTHINSR, 0MAN, 0MANR, 0MNAUD, 0MNAUDR, 0MJLMP, 0MJLMPR, 0CRAUD, 0CRAUDR, 0MNLMP, 0MNLMPR, 0MJAUD, 0MJAUDR, TPSANTIM, TPCLK, TPRST

J2: 1ALMRETP, 1ALMRETN, 1ALMACTP, 1ALMACTN, 1ALMPWRP, 1ALMPWRN, 1ALMTSTP, 1ALMTSTN, 1MODEP, 1MODEN, 1TSTPRG, 1TSTPRGR, 1TIMINH, 1TTIMINHR, 1SA, 1SAR, 1SANTIM, 1SANTIMR, 1BLDGPWR, 1BLDGPWRR, 1SMTBL, 1SMTBLR, 1CRLMP, 1CRLMPR, 1OTHINS, 1OTHINSR, 1MAN, 1MANR, 1MNAUD, 1MNAUDR, 1MJLMP, 1MJLMPR, 1CRAUD, 1CRAUDR, 1MNLMP, 1MNLMPR, 1MJAUD, 1MJAUDR, MNAUXT, MNAUXM, MNAUDP, MNAUDN, MJAUXT, MJAUXM, TBP, TBN, CRAUXT, CRAUXM

CM5
02-102
299A

(TO CAD 4)

J2: -48, -48RTN

J1: 1MSANTIM, 0MSANTIM, 1STDALN, 0STDALN, GRD04086, GRD04086, +5V04C1, +5V04C0, 1BPFAO, 0BPFAO

CM9
02-160
312A

(TO CAD 1)

J1: ISLURTN, FANRTN, FAN-48, FUSRTN, FUS-48

CM7
02-190
~~300A~~
300A2
(SEE NOTE 1.)

(TO CAD 2)

J2: -48V

J1: 1GRD, 0GRD, 1CIKA, 0CIKA, 1CIKN, 0CIKN, 1STDALN, 0STDALN, 1MODTBL, 0MODTBL, 1MODCYC, 0MODCYC

CM6
02-160
298A

(TO CAD 2A)

J2: -48V

J1: 1GRD, 0GRD, 1STDALN, 0STDALN, 1MODTBL, 0MODTBL, 1MODCYC, 0MODCYC

CM11
02-160
850A

ALARM & STATUS UNIT
MODEL 2

DWG SIZE	ISSUE
C2	6B

Lucent Technologies	SD-5D148-01	SHEET
		B3

APP FIG. 1

MODULE, CIRCUIT

OPTION	DESIG	EQUIP LOC	FS LOC	CODE
Z	CM1	02-160	1E4	298A
	CM2	02-190	1E6	~~300A~~ 300A2
Y	CM8	02-160	1E2	312A
Z	CM10	02-160	1O7	850A

APP FIG. 2

MODULE, CIRCUIT

OPTION	DESIG	EQUIP LOC	FS LOC	CODE
	CM3	02-140	2F0	298A
	CM4	02-190	2F8	~~300A~~ 300A2

APP FIG. 3

MODULE, CIRCUIT

OPTION	DESIG	EQUIP LOC	FS LOC	CODE
	CM5	02-160	3E0	298A
Z	CM6	02-190	3F7	298A
	CM7	02-160	3E9	~~300A~~ 300A2
Y	CM9	02-160	3D7	312A
Z	CM11	02-160	3G6	850A

ALARM & STATUS UNIT
MODEL 2

DWG SIZE: C2
ISSUE: 6B

Lucent Technologies | SD-5D148-01 | SHEET C1

CIRCUIT NOTES:

101.

DESIG	FUSE AMP	POTENTIAL	ONE PER
-48VABS	1.33A	-48V	APP FIG. 1,2,3

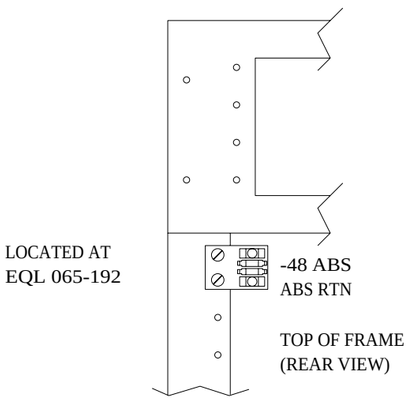
BATTERY SYMBOL	VOLTAGE RANGE
-48	-42.75 TO -52.50

102. THE DESIGNATION -48VABS SPECIFIES THAT THE -48 VOLTS IS SOURCED FROM THE ALARM BATTERY SUPPLY (ABS).

103.

VOLTAGE	CURRENT DRAIN			
	APP FIG.	APP FIG.	APP FIG.	APP FIG.
-48	1 0.04A	2 0.08A	3 0.12A	

104.



-48V ABS AND ABS RTN CONNECTION TERMINAL STRIP LOCATION.
(ON CABINETS EQUIPPED WITH THE MFFU J5D003FJ)

EQUIPMENT NOTES:

201.

ALARM & STATUS UNIT
MODEL 2

DWG SIZE: C2
ISSUE: 6B

Lucent Technologies | SD-5D148-01 | SHEET: D1

INFORMATION NOTES:

301. UNLESS OTHERWISE SPECIFIED, ALL RESISTANCE VALUES ARE IN OHMS, CAPACITANCE VALUES ARE IN MICROFARADS, AND VALUES PRECEEDED BY THE SYMBOL + (PLUS) OR - (MINUS) ARE IN VOLTS.

302.

FEATURE OR OPTION	PROVIDE		
	APP FIG.	APP OR WRG	QUANTITY
ASU2 - STAND ALONE MONITOR (SAM) ONLY 298A OR 850A CM FOR USE WITH MCTU2 (OR LATER SMP VERSION)	1	Z	1
312A CM FOR USE WITH MCTU1 OR SMPU2 AND ~~300A~~ 300A2 CM		Y	
ASU2 - ALARM & STATUS CIRCUIT (ASC) ONLY 299A CM AND ~~300A~~ 300A2 CM	2	X,W	1
ASU2 - FULLY EQUIPMENT (SAM & ASC) 298A OR 850A CM FOR USE WITH MCTU2 (OR LATER SMP VERSION)	3	Z	1
312A CM FOR USE WITH MCTU1 OR SMPU2 299A CM AND ~~300A~~ 300A2 CM		Y	

303.

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	LA	DA
1		Z, Y	305	1,2,3 Z, Y		
				AVAIL		DA
2M SEE NOTE *	W			W		X

NOTE * - PRIOR TO ISSUE 2M, COLUMNS HEADED 'STD', 'LA', ECT., CONVEYED APPLICATION INFORMATION. AT ISSUE 2M, COLUMNS HEADED'AVAIL' AND 'DA' NOW INDICATE THE AVAILABILITY OF THE PRODUCT.

INFORMATION NOTES: (CONT)

304. WHEN THE ALARM & STATUS UNIT MODEL 2 (ASU2) IS EQUIPPED AS A PART OF A MULTI-MODULE REMOTE SWITCHING MODULE (MMRSM) OR A CO-LOCATED OPTICALLY REMOTED MODULE (ORM), ONLY THE FIRST SWITCHING MODULE CONTROL (SMC) CABINET IS REQUIRED TO HAVE THE 299A ALARM & STATUS CIRCUIT. THIS CABINET IS THEN REFERRED TO AS THE 'RESOURCE MODULE'.

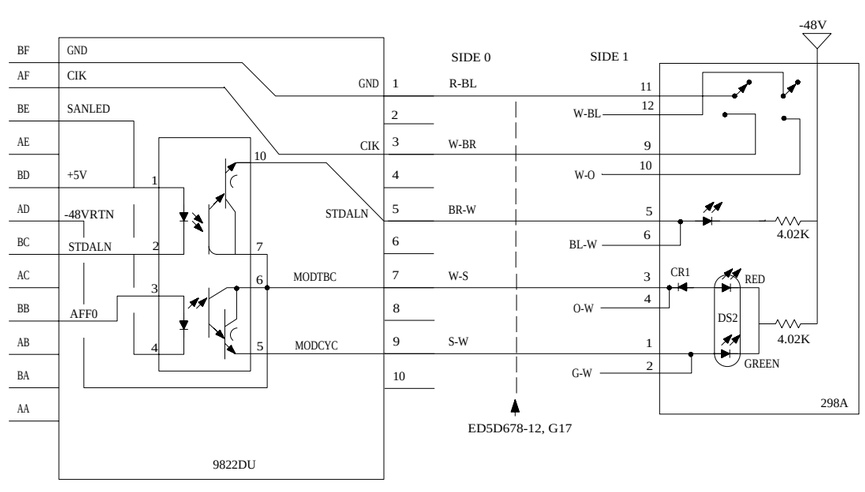
305. OPTION (Z), THE 298A OR 850A CIRCUIT MODULE, IS TO BE SPECIFIED WHEN THE SWITCHING MODULE PROCESSOR (SMP) IS A MCTU2 (SD-5D151-01), (OR LATER SMP VERSION). OPTION (Y), THE 312A CIRCUIT MODULE, IS TO BE SPECIFIED WHEN THE SMP IS A MCTU (SD-5D094-01) OR A SMPU2 (SD-5D129-01).

306. WHEN THE 298A CIRCUIT MODULE IS SPECIFIED FOR THE SWITCH MODULE PROCESSOR MODEL 4 (SMPU4) (SD5D195-01). USE THE ED5D678-12, GRP 17 CABLE ASSEMBLY. THIS CABLE ASSEMBLY PLUGS INTO THE 9822DU PADDLEBOARD LOCATED ON THE REAR OF THE SMPU4 BACKPLANE.

307. WHEN THE 850A CIRCUIT MODULE IS SPECIFIED FOR THE SWITCH MODULE PROCESSOR MODELS (SMPU5) SD5D545-01. USE THE ED5D678-12, GRP 20 CABLE ASSEMBLY. THIS CABLE ASSEMBLY PLUGS INTO THE 9822DU PADDLEBOARD LOCATED ON THE REAR OF THE SMPU5 BACKPLANE.

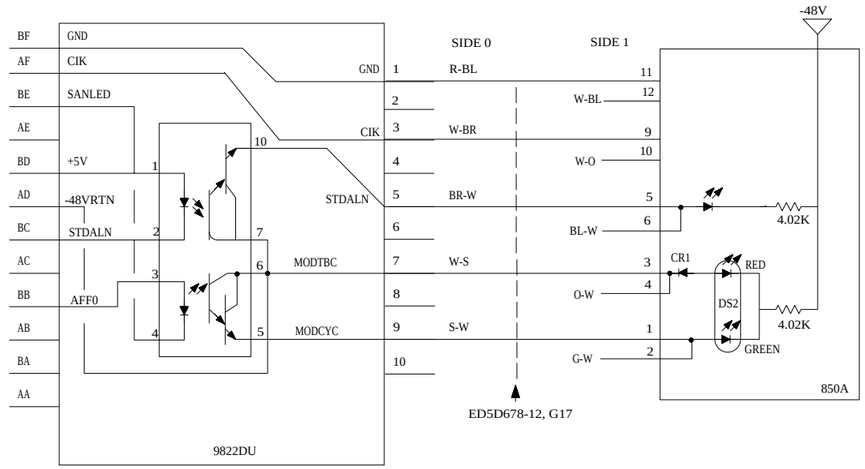
308. FOR CIRCUIT INFORMATION OF 850A SEE, SD5D195-02, FOR SMPU4 AND SD5D545-01 FOR SMPU5.

309. EXM-2000 ALARM STATUS UNIT, ASU INTERFACE TO 298A CIRCUIT MODULE.



INFORMATION NOTES: (CONT)

309. EXM-2000 ALARM STATUS UNIT, ASU INTERFACE TO 850A CIRCUIT MODULE.



ALARM & STATUS UNIT
MODEL 2

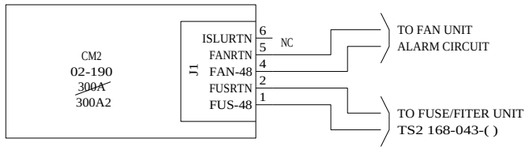
DWG SIZE	ISSUE
C2	6B

Lucent Technologies | SD-5D148-01 | SHEET D2

CAD 1

CABINET FAN/FUSE INDICATOR CIRCUIT

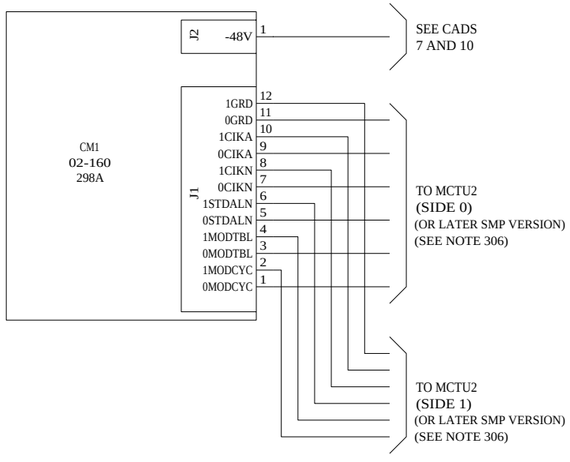
APP FIG. 1 OR 3



CAD 2

STANDALONE MONITOR DISPLAY CIRCUIT

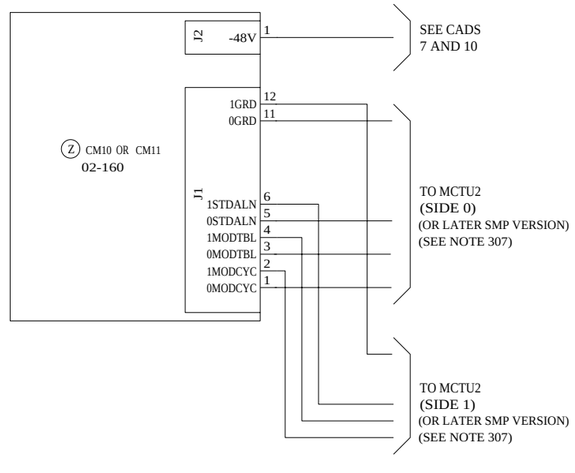
(Z) APP FIG. 1 OR 3



CAD 2A

STANDALONE MONITOR DISPLAY CIRCUIT

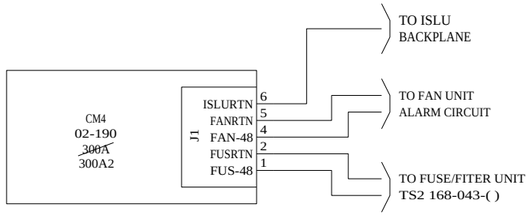
Z APP FIG. 1 OR 3



CAD 3

CABINET FAN/FUSE INDICATOR CIRCUIT

APP FIG. 2



NOTE:

300A2

1. PIN-HEADER J1 ON THE ~~300A~~ CIRCUIT MODULE IS A 3M SHK-1006-L04A10-THA (1 X 6)

   PIN-HEADER J1 ON THE 298A OR 850A CIRCUIT MODULE IS A 3M 3314-5202 (2 X 7)

   PIN-HEADER J2 ON THE 298A OR 850A CIRCUIT MODULE IS A 3M SHK-1002-L04A10-THA (1 X 2)

   PIN-HEADER J1 ON THE 312A CIRCUIT MODULE IS A 3M 3314-5202 (2 X 7)

   PIN-HEADER J2 ON THE 312A CIRCUIT MODULE IS A 3M SHK-1002-L04A10-THA (1 X 2)

CAD 4

STAND ALONE MONITOR CIRCUIT

(Y) APP FIG. 1 OR 3

ALARM & STATUS UNIT
MODEL 2

DWG SIZE	ISSUE
C2	6B

Lucent Technologies	SD-5D148-01	SHEET G1

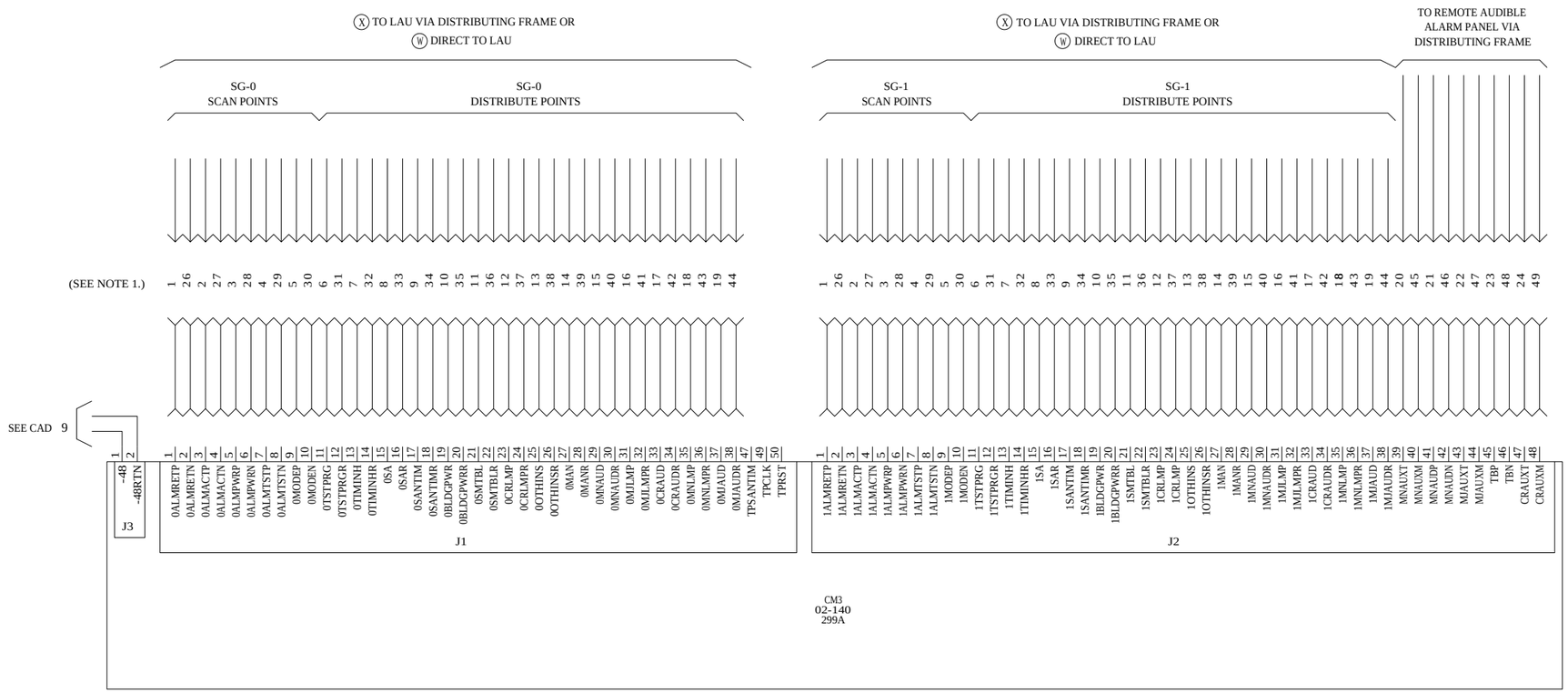
CAD 5

ALARM & STATUS CIRCUIT
(RISLU)

NOTES:

1. THIS CONNECTION IS MADE IN THE CABLE RACK.
2. PIN-HEADERS J1 AND J2 OF THE 299A CIRCUIT MODULE ARE 3M 3433-5202 (2 X 25)

   PIN-HEADER J3 OF THE 299A CIRCUIT MODULE IS A 3M SHK-1002-L04A10-THA (1 X 2)



ALARM & STATUS UNIT MODEL 2		
	DWG SIZE: C2	ISSUE: 6B
Lucent Technologies	SD-5D148-01	SHEET: G2

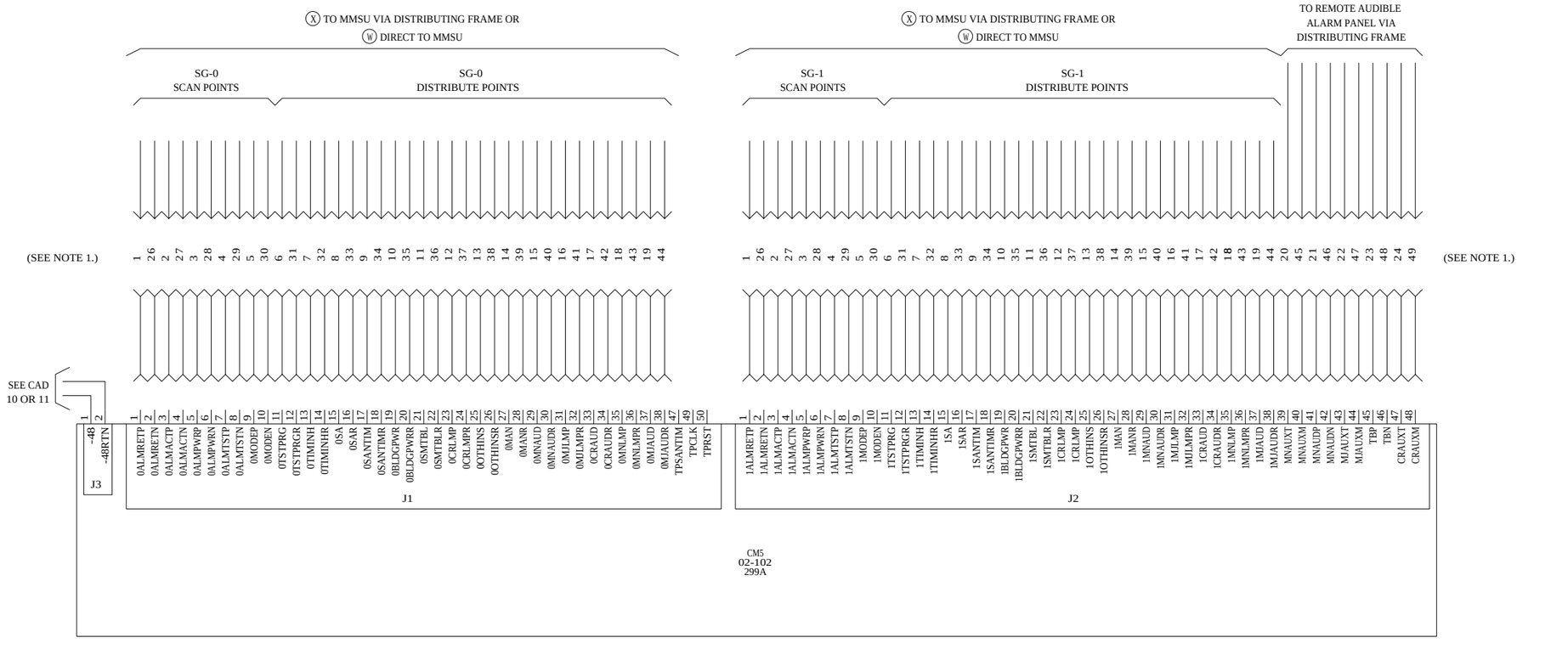
CAD 6

ALARM & STATUS CIRCUIT
(RSM, ORM, TRM, AWS)

NOTES:

1. THIS CONNECTION IS MADE IN THE CABLE RACK.
2. PIN-HEADERS J1 AND J2 OF THE 299A CIRCUIT MODULE ARE 3M 3433-5202 (2 X 25)

   PIN-HEADER J3 OF THE 299A CIRCUIT MODULE IS A 3M SHK-1002-L04A10-THA (1 X 2)

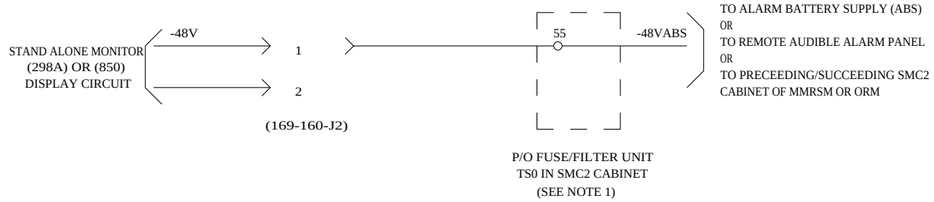


ALARM & STATUS UNIT MODEL 2		DWG SIZE C2	ISSUE 6B
Lucent Technologies	SD-5D148-01		SHEET G3

CAD 7

STAND ALONE MONITOR DISPLAY CIRCUIT POWER

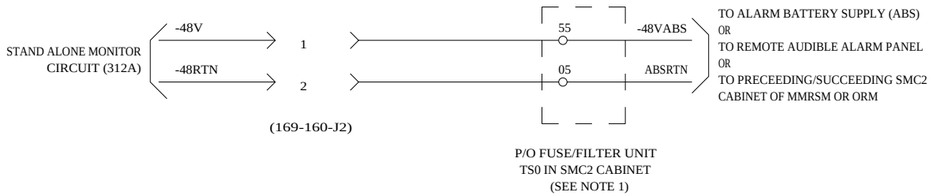
(Z) APP FIG. 1



CAD 8

STAND ALONE MONITOR CIRCUIT POWER

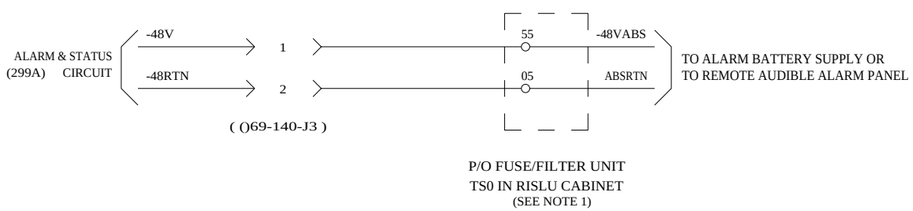
(Y) APP FIG. 1



CAD 9

ALARM & STATUS CIRCUIT POWER FOR RISLU

APP FIG. 2



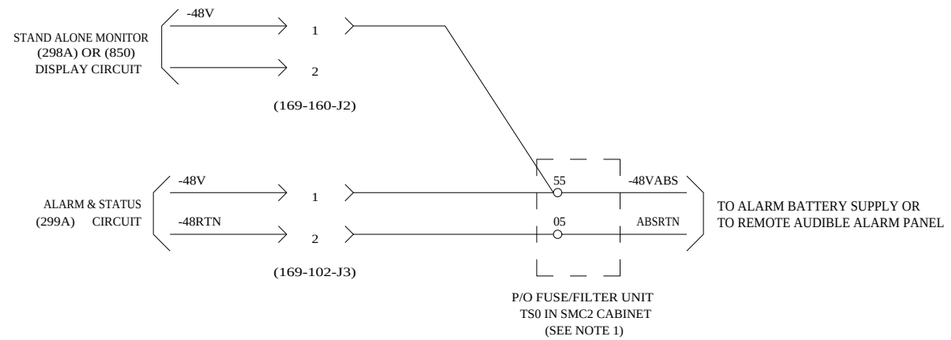
NOTES:

1. ON CABINETS EQUIPPED WITH THE J5D003FJ MODULAR FUSE/FILTER UNIT THE ASU POWER LEADS TERMINATE ON A TERMINAL STRIP LOCATED ON THE REAR OF THE FRAME. (SEE CIRCUIT NOTE 104)

CAD 10

FULLY EQUIPPED ASU2 POWER

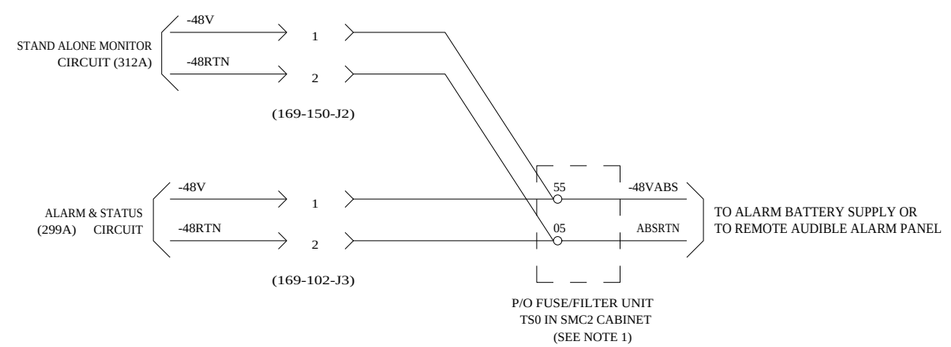
(Z) APP FIG. 3



CAD 11

FULLY EQUIPPED ASU2 POWER

(Y) APP FIG. 3



ALARM & STATUS UNIT
MODEL 2

DWG SIZE	ISSUE
C2	6B

Lucent Technologies	SD-5D148-01	SHEET
		G4